

FILE COPY

**MASTER PLAN REEXAMINATION REPORT
INDEPENDENCE TOWNSHIP
WARREN COUNTY, N.J.**

**INDEPENDENCE TOWNSHIP
PLANNING BOARD**

Adopted: March 18, 2002

**P. DAVID ZIMMERMAN, P.P./A.L.C.P.
Community Planning Consultant
21 Western Avenue
Morristown, NJ**

Tel. 973-539-9616

MASTER PLAN REEXAMINATION - 2002

Township Committee:

Walter Brandt
Robert Giordano
Bonnie Kelsey
Peter Miller
Christina Saville, Mayor

William R. Edleston, Esq.
Jodee Inscho, Administrator

Township Planning Board (2002):

Frank Arch
Robert Best
Walter Brandt
Jean Greco
James Kelsey
George Rowe
Christina Saville, Mayor
Robert Saville
George Ulmer
Thomas Varro
Ronald Zuckerman, Chairman

Joanne George, Clerk
Michael S. Finelli, P.E.
Walter Wilson, Esq.
P. David Zimmerman, P.P.

Township Planning Board (2001):

Frank Arch
Robert Best
Robert Giordano
Jean Greco
Tom Hartnett
James Kelsey
Christina Saville, Mayor
Robert Saville
George Ulmer
Thomas Varro
Ronald Zuckerman, Chairman

Adopted On: March 18, 2001

TABLE OF CONTENTS

INTRODUCTION	1
REEXAMINATION	2
Park	6
Hackettstown Regional Center	6
Environmentally Sensitive Planning Area (PA5)	7
Rural/Environmentally Sensitive (PA4B)	7
POPULATION	10
Population History - Warren County Population	10
Population History - Independence and Surrounding Municipalities	10
Population History - Independence Township	10
Future Population	17
LAND USE	18
Agricultural	18
Residential	18
Industrial	19
Public Land	19
Quasi Public Land	19
Business	19
EXISTING ZONING	20
EXISTING LAND USE - ZONING	23
ECONOMIC BASE	24
Property Tax Characteristics	24
TOPOGRAPHY	26
HYDROGEOLOGIC PLAN ELEMENT	27
Conclusions	28
Recommendations	31
Land Use Plan Recommendations	33
UTILITIES	34
RECYCLING	35

TABLE OF CONTENTS (Continued)

HISTORIC	36
Historic Recommendations	38
LAND USE PLAN ELEMENT	39
Recommendations	39
Development Regulations Review	40
Centers: Vienna and Great Meadows	41
Future Plan Elements	41
New Ideas and Trends	42
Housing	43
Fair Share Plan	43

TABLE OF TABLES

TABLE 1: POPULATION 1970 - 2000 WARREN COUNTY AND SELECTED NEW JERSEY COUNTIES	12
TABLE 2: POPULATION GROWTH COMPARISONS 1970 - 1990 INDEPENDENCE TOWNSHIP, SURROUNDING MUNICIPALITIES AND WARREN COUNTY	13
TABLE 3: POPULATION HISTORY INDEPENDENCE TOWNSHIP, NJ 1940 - 2000	14
TABLE 4: INDEPENDENCE TOWNSHIP AND WARREN COUNTY POPULATION CHANGE 1960 - 2000	15
TABLE 5: SEX AND AGE DISTRIBUTION INDEPENDENCE TOWNSHIP AND WARREN COUNTY - 2000	16
TABLE 6: COMPARISON OF CENSUS POPULATION DATA WITH COUNTY PLANNING BOARD PROJECTIONS	17
TABLE 7: ULTIMATE RESIDENTIAL DEVELOPMENT OF EXISTING ZONING INDEPENDENCE TOWNSHIP, WARREN CO., NJ 2001	22
TABLE 8: COMPARISON OF TAX PARCELS AND ASSESSED VALUE 1993 AND 2001, INDEPENDENCE TOWNSHIP, NJ	24
TABLE 9: EQUALIZED TAX RATES AND RANK FOR INDEPENDENCE AND SURROUNDING MUNICIPALITIES 1994 AND 2001	25

TABLE OF MAPS

	Following Page:
State Development And Redevelopment Plan	9
Existing Land Use - Zoning	23
Topography	26
Residential Carrying Capacity Based On Groundwater Recharge & Nitrate Dilution	33
Utilities	35

MASTER PLAN REEXAMINATION

INTRODUCTION

The Municipal Land Use Law ("MLUL") requires that all New Jersey municipalities reexamine their master plans every six (6) years. The last Independence Township Master Plan Reexamination was adopted April 17, 1995. The MLUL requires each municipality in this reexamination process to assess its planning objectives, problems, etc. by addressing the following four (4) topics in the reexamination report.

- a. The major problems and objectives relating to land development in the municipality at the time of the adoption of the last reexamination report.**
- b. The extent to which such problems and objectives have been reduced or have increased subsequent to such date.**
- c. The extent to which there have been significant changes in the assumptions, policies and objectives forming the basis for the master plan or development regulations as last revised, with particular regard to the density and distribution of population and land uses, housing conditions, circulation, conservation of natural resources, energy conservation, and changes in State, County and Municipal policies and objectives.**
- d. The specific changes recommended for the master plan or development regulations, if any, including underlying objectives, policies and standards, or whether a new plan or regulations should be prepared.**

This reexamination document is the result of a coordinated and comprehensive effort undertaken by the Township Planning Board, its professionals, township officials and the public.

In concert with these joint efforts, the Planning Consultant undertook several planning and zoning studies necessary to complete this Master Plan Reexamination. First, a survey of land use of the municipality was completed, consisting of noting the use of each property in the Township. This information has been tabulated and is contained in both narrative, table and map form in this document. Second, the Consultant undertook various population and housing studies using information recently published by the 2000 Census. Third, special studies for several areas of concern in the Township were undertaken by the Planning Consultant, Township Engineer and

Hydro geologic Consultant in this reexamination report.

The Master Plan Reexamination process undertakes to synthesize all this information and present it in an organized fashion. This report consists of a series of chapters concerning particular elements of this process, such as housing, population, etc. The last chapter is the land use plan for the Township. It is the objective of this last chapter to present policies and recommendations that express the goals and objectives of the Township as they relate to land; its use and development.

REEXAMINATION

The first element in this reexamination report addresses the first two (2) of the four (4) topics required of a Master Plan Reexamination by the MLUL.

- a. **The major problems and objectives relating to land development in the municipality at the time of the adoption of the last reexamination report.**
- b. **The extent to which such problems and objectives have been reduced or have increased subsequent to such date.**

Comment: The following problems and objectives (*in italics*) were itemized in the 1995 Master Plan Reexamination. This 2001 reexamination responds and comments as to the extent these problems and objectives have been reduced or have increased.

1. *Concern was expressed regarding impact of development on wetlands.*

Response: The township maintains its concern regarding the impact of development on wetlands. It typically addresses this concern by requiring an environmental impact statement or a letter of interpretation from the NJ Department of Environmental Protection for development applications. The township thus relies upon State regulatory oversight to identify wetlands, its resource value and extent of use and/or development of land proximate to wetlands.

2. *Concern was expressed over development near stream corridors which may impact their ability to sustain wildlife, protect water resources and maintain landscape beauty.*

Response: The township continues to be concerned over development near stream corridors.

Reliance upon an environmental impact statement is a useful indicator of potential degradation of a stream corridor. In addition, it may be appropriate in the future to require a non-disturbance buffer bordering the stream corridor in the form of a conservation easement as an appropriate regulatory safeguard.

3. *Concern was expressed about the maintenance of quality and quantity of the Township's groundwater resources.*

Response: The township continues to be concerned about the maintenance of groundwater quality and quantity. Older potable water wells serving individual single family homes are typically shallow. There is a potential for pollution from nearby individual septs and infiltration of contaminated surface water. The quality of the township groundwater resources has become a major problem in the Asbury Road area due to groundwater contamination by Area Lighting, an electronic industry located on that road.

The groundwater contamination problem in the Asbury Road area is being addressed jointly by both the Township and NJDEP. As a result, the groundwater impact area was identified and all homes in that area are now being served by public water from the Hackettstown Municipal Utilities Authority. The NJDEP maintains monitoring wells immediately outside the groundwater impact area. To date, there is no clean-up program to eliminate the contamination.

To address township wide ground water quality and quantity issue, the Township Planning Board has retained the services of a hydrogeologist and their recommendations are included in a separate chapter of the reexamination.

4. *A percentage of the Township's population, about 18 percent were estimated to be "overhoused" due to the lack of small housing options available within the community.*
5. *Future housing policy should recognize that demographic and economic forces will continue to move in the direction of a demand for small homes.*

Response: Since these problems and objectives were enunciated, there has been substantial changes to the housing stock of Independence Township. Oak Hill PRD consisting of 570 townhouses is substantially built out. Towpath apartments fronting Route 517 was recently approved for an additional 74 apartments: to date not built. There is zoning (PRD-IH) in place for ±230 multifamily units fronting Route 46 (Stonemill); also unbuilt. A portion of these units are to be built for low and

moderate income households. In addition, since 1995 the township rezoned a parcel fronting Old Allamuchy Road for 275 senior age-restricted housing, nursing beds and congregate care facilities.

These actions by the Planning Board and Township Committee have significantly broadened the range of housing choices in Independence.

6. *Concern was expressed regarding the loss of farms to development and the means to retain agricultural land.*

Response: The township environment committee surveyed all owners of farmland assessed property to interest them in the various state and county farmland preservation programs. Unfortunately, there was no interest. This issue remains one of deep concern to the township as there is a continuing loss of farmland as a consequence of development.

7. *The Plan expressed a need for more acreage of municipal parkland.*

Response: The township has acquired parkland acreage and the current policy is to concentrate active parkland and athletic fields in a central location next to the elementary school. Adding to this parkland remains highly desirable.

8. *Sidewalks should be required in all developments of a density of one or more units per acre.*

Response: This objective is consistent with the State's regulations contained in the Residential Site Improvement Standards ("RSIS"). The RSIS governs all major subdivision site improvements: roads, drainage, sidewalks, etc. To date, no new sidewalks have been built.

With larger lots and low density development which characterize most residential development in the township, sidewalks may conflict with the rural character of the neighborhood. The exception is the need for sidewalks in proximity to schools to provide safe pedestrian access.

9. *There should be bicycle paths through the Township.*

Response: This remains a goal and objective of the township although none have to date been developed. Areas which have the potential to accommodate bicycle paths include: major subdivisions proximate to schools and parks, along stream corridors, abandoned rail line rights-of-way and the Morris Canal.

10. *There is a need for an Historic District Commission and a Historic Preservation Plan Element to recognize and protect the significant historic resources of Independence.*

Response: To date the township has not established an historic district committee although this remains an important township goal.

An Historic chapter is contained in this Master Plan Reexamination.

11. *All future higher density residential developments in either the PRD or RM zones should contain amount of low and moderately priced units.*

Response: This goal has been implemented as the PRD-IH (Stonemill) zone, and a proposed amendment that all senior housing also require some low and moderately priced housing units.

12. *The Township should allow intra-family housing arrangements, allow congregate care and communal care housing and accessory housing in certain non-residential situations.*

Response: The township has implemented these goals by allowing ECHO housing for the elderly plus nursing and congregate care housing in the PRD-SC zone fronting Old Allamuchy Road.

13. *Pristine streams should be protected by creating buffer setbacks for development or grading along stream corridors of 50 to 150 feet.*

Response: This remains an important land use goal.

14. *Creation of a Town Center of 160 acres to be located in the Village of Vienna was recommended.*

Response: This objective is no longer operational. The size of the Town Center and its component land uses as outlined in the earlier 1988 Master Plan was too large. In retrospect, it would overburden the areas infrastructure and dramatically change the village and hamlet character of the Vienna community.

A subsequent proposal for a more scaled down, all age-restricted residential planned development in this same area was, upon review by the governing body, not approved as appropriate

to that village or township.

15. *Strip commercial type of development should be avoided.*

Response: This remains a valid township land use objective.

- c. **The extent to which there have been significant changes in the assumptions, policies and objectives forming the basis for the master plan or development regulations as last revised, with particular regard to the density and distribution of population and land uses, housing conditions, circulation, conservation of natural resources, energy conservation, collection, disposition and recycling of designated recyclable materials, and changes in State, County and Municipal policies and objectives.**

1. The recently adopted "State Development And Redevelopment Plan" (March, 2001) designates four planning areas for Independence Township:

- Rural/Environmentally Sensitive Planning Area (PA4B),
- Environmentally Sensitive Planning Area (PA5),
- Hackettstown Regional Center, and
- Park

Each designation is briefly described below and its meaning for planning and zoning to Independence.

Park. The State Park identifies Jenny Jump Park as just that: a park. This area is thus "for resource preservation and the provision of recreational opportunities" and "tracts of land that have been dedicated for public benefit" (page 198).

Response: This "Park" designation should remain in the Master Plan Reexamination.

Hackettstown Regional Center. Regional centers such as Hackettstown "serve as major employment centers", and the "primary focus for commercial, industrial, office and residential uses..." "Providing the widest range of jobs, housing, government, educational and cultural facilities in the region.." (Page 214).

Response: This is the area within which the State seeks to promote growth to be built upon existing infrastructure systems. As a Center, public improvements will receive a priority when utilizing State resources.

Presently, land use policies in Independence are consistent with the State Plan for this Center. It is the area within which business and multifamily housing exist and can be expanded. Also, allowing small scale senior housing in this area, when served by public sewer and water and having direct access to a major roadway is consistent with the State's policies for a Center.

Environmentally Sensitive Planning Area (PA5). "Environmentally Sensitive Planning Areas are characterized by watersheds of pristine waters, trout streams and drinking water supply reservoirs; recharge areas for potable water aquifers; habitats of endangered and threatened plant and animal species; coastal and freshwater wetlands; prime forested areas; scenic vistas; and other significant topographical, geological or ecological features... These resources are critically important not only for the residents of these areas, but for all New Jersey citizens." (page 185)

In the Environmentally Sensitive Planning Area, the State Plan's intention is to:

- Protect environmental resources through the protection of large contiguous areas of land;
- Accommodate growth in Centers;
- Protect the character of existing stable communities;
- Confine programmed sewers and public water services to Centers; and
- Revitalize cities and towns. (page 186)

Response: The State Plan envisions low if not very low density residential in PA-5. Techniques should be used to preserve environmentally sensitive areas such as, clustering and transfer of development. Introduction of growth inducing infrastructure like sewers is discouraged by the State Plan and DEP.

Reducing the density of single family development in the PA-5 zone consistent with the carrying capacity of the land is consistent with the State Plan.

There are no Centers in the PA-5 areas of the Township.

Rural/Environmentally Sensitive (PA4B). "Some lands in the Rural Planning Area (PA4) have one or more environmentally sensitive features qualifying for delineation as PA4B. This sub-area contains valuable ecosystems or wildlife habitats" (page 184). In the Rural Planning Area, the State Plan's intention is to:

- Maintain the Environs as large contiguous areas of farmland and other lands;
- Revitalize cities and towns;
- Accommodate growth in Centers;
- Promote a viable agricultural industry;
- Protect the character of existing, stable communities; and
- Confine programmed sewers and public water services to Centers.

The State Plan lists Vienna and Great Meadows as possible Centers (Hamlets). Although, to have them officially designated, the township will have to submit a petition requesting same and provide a plan for their future.

Response: The State Plan envisions low if not very low density residential in PA5. Techniques should be used to preserve environmentally sensitive areas such as, clustering and transfer of development. Introduction of growth inducing infrastructure like sewers is discouraged by the State Plan and DEP in PA5 areas except to serve Centers.

Reducing density of single family development in the PA5 area consistent with the carrying capacity of the land conforms to the goals and objectives of the State Plan.

Maintaining the AR Special Agriculture zone is consistent with and promotes the goals and objectives of the State Plan.

General Comment: The State Plan is a document most relevant to State agencies and offices as a guide for their programs and resources. It is not a substitute for local planning and zoning. Although, it is an important document and can be helpful in formulating local land use policies.

2. Warren County Planning Board. Since the publication of last Master Plan Reexamination Report (1995), the following planning document has been produced by the County Planning Board:

- a. Warren County Open Space Plan. This plan identifies the following existing open space in Independence Township: 967 acres of Jenny Jump Forest (State), 79 acres of township owned open space, 132 acres of New Jersey Audubon Society (private) and Camp Merry Heart, 86 acres of Easter Seal Society of New Jersey. Presently, there is no county parkland in Independence.

Throughout the county, the report concludes there is a net deficit of all open space. The county-wide open space supply stands at 30,896 acres while the goal is 46,007 acres; a deficit of 15,111 acres.

There is one historic site in the township: Great Meadows Railroad Station on Cemetery Road. This site is listed on both the State and National Registers of Historic Places.

The Plan divides this deficit into three regions or parts of the county: North, Central and South. Independence is located in the Central region. Within this region there is a deficit of Federal, State, County and Municipal open space amounting to 9,991 acres. Most outstanding is a deficit of 3,253 acres of needed County open space and 1,029 acres of needed municipal space.

The Plan recommends the following open space additions in Independence Township:

- stream corridor along the Pequest River,
- open space corridor along the Leigh & Hudson River railroad bed, and
- open space corridor along the Morris Canal

The Plan also identifies the following as important open space assets: steep slopes, prime farmland, freshwater wetlands, lakes and streams, stream corridors, aquifer recharge areas and wellhead protection zones, endangered and threatened species habitat areas, undisturbed forest tracts and scenic vistas.

General Comment:

This Open Space Plan provides a valuable guide for both the County and Independence Township. Its recommendations can be integrated into this reexamination report and Land Use Plan.

ZONE DISTRICT MAP

STATE DEVELOPMENT AND
REDEVELOPMENT PLAN



- PRD-IH PLANNED RESIDENTIAL DEV -
EXCLUSORY HOUSING
- R-3 RESIDENTIAL
- O / LI OFFICE - LIGHT INDUSTRY
- R-2 LOW DENSITY RESIDENTIAL
- R-1 MEDIUM DENSITY RESIDENTIAL
- R-M HIGH DENSITY RESIDENTIAL
- R-1/2 RESIDENTIAL VILLAGE
- AR SPECIAL AGRICULTURAL
- PRD PLANNED RESIDENTIAL DEVELOPMENT

- PRD-4 PLANNED RESIDENTIAL DEV.
- OR OFFICE - RESEARCH
- COM / PROF COMMERCIAL - PROFESSIONAL
- PRD-SC PLANNED RESIDENTIAL DEV - SENIOR CITIZEN
- H-1 HEAVY INDUSTRY
- I INDUSTRY
- L-I LIGHT INDUSTRY
- B BUSINESS

BASE MAP PREPARED BY WARREN COUNTY PLANNING OFFICE
WARREN COUNTY REGIONAL PLANNING BOARD BELVIDERE, N. J.
P DAVID ZIMMERMAN, TOWNSHIP PLANNER

TOWNSHIP OF
INDEPENDENCE
WARREN COUNTY, N. J.

SM
STUDER AND
MCDOWNEY, P.A.
CIVIL ENGINEERS
LAND DEVELOPMENT
PLANNERS
100 HIGHTWAY 2
CLARK, N.J. 07066
(609) 325-0001

REVISIONS

DECEMBER 5, 1991
NOVEMBER 4, 1990
AUGUST 10, 1989
OCTOBER 3, 1989
OCTOBER 20, 1987
JULY 13, 1987
JUNE 8, 1987
DEC.30, 1985
MARCH 22, 1984
JAN.8, 1984
DEC.27, 1983
NOV.28, 1983
NOV.22, 1983

POPULATION

The foundation for planning—public and private—is based on people: the number to be served both now and in the future. Knowing the extent of the future population is important in determining future needs for various land uses. Business men need to know the size for future markets. Utilities have to know how many people will require service. Governments must know how many people will be needing schools, sewers, hospitals, water, parks, highways and other public services.

Recently, the US Bureau of Census published 2000 Census data and that information is presented and analyzed herein.

Population History - Warren County Population

Examining 2000 Warren County population and comparing its population growth to other counties in northwestern New Jersey is shown on Table 1, "Population 1970-2000 Warren County and Selected Northwestern New Jersey Counties." The table shows steady population growth since 1970. The greatest numerical growth occurred in 1990-2000 when the County grew 10,830 persons. Growth in 1980-1990 was 7,178, a lesser number than in previous decades. Of the five counties shown in the table, Warren County had the lowest numerical growth. The larger growth amounts in Somerset and Hunterdon Counties are a function, in part of the accessibility provided by I-78. Growth in Morris County was substantial due again, in part, to the accessibility then provided by I-80 and I-287.

Population History - Independence and Surrounding Municipalities

The population growth in Independence has proceeded faster than its surrounding municipalities in the 1970-2000 decade. The substantial growth is in both percent and numerical terms. Table 2 shows that in comparison to its surrounding municipalities, Independence experienced the highest percent growth: 28.1 and the second highest numerical growth 1,663 persons. This Independence population growth represented 21.1 percent of all growth in Warren County. The population density for Independence is similar to that of the County. It is somewhat higher than Liberty and Mansfield and significantly higher than both Allamuchy and Frelinghuysen.

Population History - Independence Township

The decade 1990-2000 witnessed the largest population growth in Independence Township: both numerical growth and percent growth. Indeed, the population of the Township has just about doubled in twenty years since 1980. This information is shown on Table 3.

This growth is a function of several major factors. In the latter years of the 1980's, two multifamily projects, Oak Hill and Hills of Independence, were introduced and were built out in the

1990's. Throughout the 1990's decade many single family homes were also developed.

The Township has been discovered as a very desirable living environment as it still contains a substantial amount of open space and farmland, it is proximate to shops and stores in Hackettstown and is in commutation distance to employment in Morris and Somerset Counties.

**TABLE 1:
POPULATION 1970 - 2000
WARREN COUNTY AND SELECTED NEW JERSEY COUNTIES**

<u>County</u>	<u>1970 Number</u>	<u>1980 Number</u>	<u>Change 1970-1980</u>		<u>1990 Number</u>	<u>Change 1980-1990</u>		<u>2000 Number</u>	<u>Change 1990-2000</u>		<u>Population Density Persons Square Mile</u>
			<u>Number</u>	<u>Percent</u>		<u>Number</u>	<u>Percent</u>		<u>Number</u>	<u>Percent</u>	
WARREN	73,879	84,429	10,550	14.3	91,607	7,178	8.5	102,437	10,830	11.82	280.6
Hunterdon	69,718	87,361	17,643	25.3	107,776	20,415	23.4	121,989	14,213	13.19	283.9
Morris	383,813	407,630	23,817	6.2	421,353	13,723	3.4	470,212	48,859	11.60	981.0
Somerset	198,372	203,129	4,757	2.4	240,279	37,150	18.3	297,490	57,211	23.81	975.4
Sussex	77,528	116,119	38,591	49.8	130,943	14,824	12.8	144,166	13,223	10.10	269.4

Source: U.S. Census of Population, 1970, 1980, 1990 and 2000.

**TABLE 2:
POPULATION GROWTH COMPARISONS 1970 - 1990
INDEPENDENCE TOWNSHIP, SURROUNDING MUNICIPALITIES AND WARREN COUNTY**

	<u>Sq. Miles</u>	<u>1970 Number</u>	<u>Percent Change</u>	<u>1980 Number</u>	<u>Percent Change</u>	<u>1990 Number</u>	<u>Numeric Change</u>	<u>Percent Change</u>	<u>2000 Number</u>	<u>Numeric Change</u>	<u>Percent Change</u>	<u>Population Density (Persons/ Square Mile)</u>
Allamuchy	20.10	1,084	11.4	2,560	131.2	3,484	+924	36.1	3,877	393	11.3	192.9
Frelinghuysen	23.60	1,118	32.3	1,435	28.4	1,779	+344	23.9	2,083	304	17.1	88.3
Hackettstown	3.30	9,436	78.8	8,850	-6.2	8,120	-730	-8.2	10,403	2,283	28.1	3,152.4
Hope	18.80	1,140	36.9	1,468	28.8	1,719	+251	17.1	1,891	172	10.0	100.6
INDEPENDENCE	19.10	2,057	36.6	2,829	37.5	3,940	+1,111	39.3	5,603	1,663	42.2	293.4
Liberty	12.40	1,229	61.7	1,730	40.8	2,493	+763	44.1	2,765	272	10.9	222.9
Mansfield	30.10	3,546	66.5	5,780	65.0	7,154	+1,374	23.8	6,653	(501)	-7.0	221.0
Warren County	362.00	73,879	16.9	84,429	14.3	91,607	+7,178	8.5	102,437	10,830	11.8	292.9

**TABLE 3:
POPULATION HISTORY
INDEPENDENCE TOWNSHIP, NJ 1940 - 2000**

<u>Year</u>	<u>Population</u>	<u>Numerical Change</u>	<u>Percent Change</u>
1940	1,046	—	—
1950	1,169	+123	12.0
1960	1,509	+340	29.1
1970	2,057	+548	36.3
1980	2,829	+772	37.5
1990	3,940	+1,111	39.3
2000	5,603	+1,663	42.2

SOURCE: U.S. Census of Population, 1940, 1950, 1960, 1970, 1980, 1990 and 2000.

The above Table 3 shows the dramatic increases in Township population in recent years. For example, the population increased by 1,663 in the 1990-2000 decade; this increase is more than the total population in 1960 (1509). These increases are the Township's share of westward suburbanization with employment opportunities now in commutation distance to communities like Independence. New housing was built in response to the demand. In Independence both multifamily and single family housing units rose dramatically: an increase of 635 units for example in the 1990-2000 decade.

The Table 4 compares Independence Township to Warren County and shows significantly higher percent increases in Township population versus County growth. In addition, as a function of higher Township growth, the percent of the Township's population to that of the County has doubled to 5.47 (2000) from 2.39 (1960).

Independence's 2000 population of 5,603 was spread among 2,146 households for an average household size of 2.61 persons per household. In 1990, the Township had a population of 3,977 persons spread among 1,435 households for an average household size of 2.77.

TABLE 4:
INDEPENDENCE TOWNSHIP AND WARREN COUNTY
POPULATION CHANGE
1960 - 2000

	<u>Independence Township</u>			<u>Warren County</u>		
	<u>Number</u>	<u>Numerical Change</u>	<u>Percent Change</u>	<u>Number</u>	<u>Numerical Change</u>	<u>Percent Township of County</u>
1960	1,509	340	29.08	63,222	8,846	2.39
1970	2,057	548	36.3	73,960	10,740	2.78
1980	2,829	772	37.5	84,429	10,469	3.35
1990	3,940	1,111	39.3	91,607	7,178	4.30
2000	5,603	1,663	42.2	102,437	10,830	5.47

**TABLE 5:
SEX AND AGE DISTRIBUTION
INDEPENDENCE TOWNSHIP AND
WARREN COUNTY - 2000**

<u>Sex</u>	<u>Independence Number</u>	<u>Percent</u>	<u>Warren County Number</u>	<u>Percent</u>
Male	2,710	48.4	49,870	48.7
Female	2,893	51.6	52,567	51.3
<u>Age</u>				
Under 5	364	6.5	7,032	6.9
5 - 9	430	7.7	7,752	7.6
10 - 14	465	8.3	7,672	7.5
15 - 19	328	5.9	6,434	6.3
20 - 24	205	3.7	4,261	4.2
25 - 34	804	14.3	13,089	12.8
35 - 44	1,150	20.5	18,947	18.5
45 - 54	917	16.4	14,929	14.6
55 - 59	299	5.3	5,426	5.3
60 - 64	190	3.4	3,689	3.6
65+	<u>451</u>	<u>8.0</u>	<u>13,206</u>	<u>12.9</u>
TOTAL	5,603	100.0	102,437	100.0

Comparison between the Township and County show a similar population distribution by age except in two categories; as shown in Table 5. The first shows the Township has higher percentages in the 25 - 54 age cohort and the second shows the Township has lower percentages in the 65+ age cohort. These figures reflect the larger number of townhouse units in the Township which yields higher numbers in the 25 - 54 home buying age cohort. The higher percentage of senior citizens in the County reflects a stable elderly population and the existence of senior citizen housing in the County.

The median age of local residents is 36.8 years. This is similar to the Warren County population, which had a 2000 median age of 37.6 years, the State median age of 36.7 years.

Future Population

The population projections presented in the 1995 Master Plan Reexamination seriously underestimated the 2000 population of both Warren County and Independence Township. These figures were prepared by the Warren County Planning Board in 1993. The Table below shows this information.

**TABLE 6:
COMPARISON OF CENSUS POPULATION DATA
WITH COUNTY PLANNING BOARD PROJECTIONS**

	1990 <u>Census</u>	2000 <u>Census</u>	County 2000 <u>Projection</u>	<u>Differences Between Census And Projection</u>	
				<u>Number</u>	<u>Percent</u>
Independence	3,940	5,603	4,767	836	17.5
Warren County	91,607	102,437	99,530	2,907	2.9

The 1995 Master Plan Reexamination report developed a “recent growth trend line” which projected the 2000 township population to be 5,270; a much closer number to the actual 5,603 figure than the County projection.

Review of the County figures shows they may have been influenced by the economic recession in New Jersey during the early 1990's and their figures could not have anticipated the robust growth in the latter part of the decade.

The recently published “State Development And Redevelopment Plan” (March 1, 2001) contained population, employment and household projections to the year 2020. The Warren County population is projected to 131,227 (2020) from 102,437. Analysis of these figures when plotted on a graph show a 2010 population for the County of 117,000 persons. If the township population remains at 5.47 percent of that of the County, Independence will have a population of 6,400 persons. This would be a 797 person or 14.2 percent increase. In comparison, the township grew by 1,663 persons or 42.2 percent in the 1990-2000 decade.

It is extremely difficult to project the population of Independence Township due to the many variables that typically influence growth. Several major factors are the economy, the labor market and the infrastructure (highways and sewers, for example). Zoning in Independence allows substantial new housing development: both detached and attached housing units. Thus, assuming there are no major economic downturns housing and population growth will continue at a healthy pace in the township. Indeed, the above population figure of 6,400 may be achieved earlier than in 2010.

LAND USE

Agricultural

Independence Township is a rural-suburban municipality. As such, the majority of the land use in the Township is agriculture. This category of land use is located throughout the Township, however several areas are noteworthy due to their uniqueness. The main agriculture area is in Great Meadows on either side of the Pequest River. Due to the unique fertile soils in this area, intensive farming methods produce a variety of vegetable and special produce crops. Active farming in remaining areas of the Township is devoted to field crops. The third category is land assessed as farmland but limited in farm use and production.

It is not likely that the Great Meadows farmland will or even can be used for anything but farming due to both the continued viability of the farming industry in that area and the unique soils of that area. Elsewhere however, farmland can more easily be developed for suburban uses.

Residential

Most land not used and/or assessed as agriculture is used for single family residential. This use category has developed, over time, in one of two ways. First, as subdivisions, both major and minor, and second fronting existing roadways. The second major trend is that most housing is located in the southeastern half of the Township. This area is closer to major highways, concentrated shopping and employment.

Full development of all single family residential zones will add an additional 3,000 housing units or three times the present number. For the immediate future (next 10 years), there will be continued single family housing development in the southeastern portion of the Township. The Housing Plan Element (September 17, 2001) assumed the development of an additional 500 single family units to the year 2010.

Multifamily residential has developed in the southeastern corners of the Township within that area of Independence served by public water and sewers. They also front the two major roadways in the Township: Route 46 and 517. There are two undeveloped multifamily properties and zones. The PRD-IH (Stonemill) property fronting Route 46 is an inclusionary housing zone mandated to provide at least 27 low and moderate income housing units. The number of market units developable is undetermined as new wetlands regulations will influence a new layout and the consequent housing count. The second undeveloped multifamily property fronting Old Allamuchy Road is zoned PSCRD (Planned Senior Citizen Residential Development) and allows 275 senior units plus nursing beds and assisted living units.

The Housing Plan Element (September 17, 2001) assumed an additional 580 multifamily units to the year 2010.

Industrial

The number of uses within the Township that are classified as industrial are quite limited with the major facility being the vacant Southland Chemical site in the northeastern portion of the Township near the Allamuchy Township boundary. This industrial use is inoperative due to major pollution problems.

The second industry is Area Lighting Research which occupies about seven acres on Asbury Road. This facility is also inoperative and has been identified as a source of groundwater pollution which has contaminated local residential potable water wells.

Public Land

The total amount of land devoted to public use is 484 acres or 3.9 percent of the Township. Of that total, most or 301 acres (62.2 percent) is part of Jenny Jump State Park at the northern border of the Township. The remainder is municipal land (94.3 acres), Board of Education land (24.6 acres) and green acres land (64.1 acres).

Quasi Public Land

The total acres in this category is 267 acres. The largest quasi public parcel is 99 acres owned by the Audubon Society. The second largest is land owned by the NJ Society of Crippled Children (a summer camp) at the Mansfield border (86.06 acres). The third largest is 42.0 acres owned by the Pequest Union Cemetery. The remainder of quasi-public land is used by various houses of worship, utility companies and quasi-public groups such as first aid and fire engine station.

Business

Business land use is generally found in two locations. Many small retail businesses are located along Route 46 with a clustering in the Township's villages or hamlets, namely Vienna and Great Meadows. The second location is on Route 517 which has witnessed a new small shopping plaza in addition to existing business and office uses. There are approvals in this area for an Exxon Service Station, a self-service storage facility and a second small shopping plaza. Given the locational advantage of this area, proximity to populations and immediate roadway access, it is expected to be fully developed for permitted uses within the next 10 years.

The Route 46 area is not expected to be developed for more business uses in the near future due to that Route's low population over a large land area.

EXISTING ZONING

Independence Township is divided into residential, multifamily, commercial and industrial zone districts. Each is herein described.

1. Residential. The Township contains four single family detached residential zone districts: R-1/2, R-1, R-2 and R-3. The main differences are the minimum lot size which varies from ½ acre to 3 acres. Most of the Township is in the R-2 zone district.
2. Agricultural - Residential. This zone district describes an area of the Township characterized by unique soils and topography that are devoted, almost exclusively, to specialized farming and soil processing. The minimum lot size is 10 acres. This zone permits single family dwellings also on 10 acre lots.
3. Multifamily. There are 5 multifamily zone districts in Independence:
 - PRD-IH (Stonemill). This district allows for a housing development containing both market and inclusionary housing (27 units). It was introduced to satisfy the Mt. Laurel housing obligation of the Township for low and moderate income housing and this property remains in this zone to continue to satisfy that State mandate.
 - PRD-4 (Hills of Independence). This project of townhouse type homes is built out and contains 124 units.
 - PRD-SC (Oak Hill). This zone district containing 570 townhouse type units is substantially built out.
 - PSCRD. This zone district of 40 acres fronts Old Allamuchy Road and allows 275 senior housing units. It also allows a nursing home or assisted living facility. It remains vacant.
4. Commercial. There are 4 commercial zone districts in Independence:
 - B Business. This district describes the frontage along Route 46 and 517 wherein a variety of retail sales and services are allowed. Single family homes on one acre lots is also permitted. This district has substantial development potential along Route 46. B property fronting Route 517 is substantially developed for retail uses.
 - OR. There is one large Office Research district which fronts Route 46 in the Vienna area. It is undeveloped for office use. It permits offices, laboratory and nursing and convalescent homes.
 - Com/Prof. There is one Commercial Professional zone district which is proximate

to Route 46 in the Great Meadows area. It allows retail sales and services plus offices. It remains undeveloped.

- B/IL/V-WT. This Business/Light Industrial-Warehousing Terminal zone district describes property at the northwest corner of Route 46 and Johnson Road (Barkers Corner). It is used, in the main, by a trucking establishment.
5. Industrial. There are three industrial zone districts in Independence.
- H-I. There is one Heavy Industry zone in the Township which fronts the Leigh and Hudson River Railroad and abuts Allamuchy Township. It is an abandoned industrial superfund site.
 - I. There is one Industry zone which describes property between the Pequest River and the Leigh and Hudson River Railroad. It abuts Liberty Township and is used for an earth extraction enterprise and cemetery.
 - L-I. There are two Light Industry zones in Independence. One is at the border with Hackettstown fronting Bilby Road. This district is undeveloped. The second is likewise a small zone fronting Asbury Road. It contains a vacant industrial use.

**TABLE 7:
ULTIMATE RESIDENTIAL DEVELOPMENT OF EXISTING ZONING
INDEPENDENCE TOWNSHIP, WARREN CO., NJ 2001**

<u>Zone District</u>	<u>Minimum Lot Size</u>	<u>Acres In Zone</u>	<u>Ultimate Dwelling Units</u>	<u>Ultimate Population</u>
AR	10.0 ac.	3,109	233	608
R-3	3.0 ac.	818	204	532
R-2	2.0 ac.	6,619	2,482	6,478
R-1	1.0 ac.	50	38	99
R-1/2	20,000 s.f.	29	44	115
PRD-IH	5 units/acre	45	230	464
PRD-4	4 units/acre	31	124	250
PRD-SC	8 units/acre	76	570	1,151
RM	8 units/acre	46	368	743
PSCRD	275 units	<u>40</u>	<u>275</u>	<u>481</u>
		10,863	4,568	10,921

Population is based on:

1. Loss factor of 25% for oversized lots, critical areas factor, waterways, road rights-of-way, lot suitability and other environmental factors.
2. Single family housing population is calculated at 2.61 persons per unit from the 2000 Census median household size.
3. Multiple family housing population is calculated at 2.019 persons per unit from "The New Practitioner's Guide To Fiscal Impact Analysis" (1986).
4. Public and semi-public land has not been accounted for in the above acreage figures.
5. The numbers for the PSCRD zone in the table exclude allowed nursing beds and assisted living units.
6. Senior housing population is calculated at 1.75 persons per unit.

EXISTING LAND USE - ZONING

The following map shows existing land use with a zoning overlay.

The map clearly shows the overwhelming majority of the Township is farmland and vacant. Residential single family development is concentrated along the major roadways: Route 46, Russling Road, Johnson Road, Barkers Mill Road, Asbury Road and in the hamlets of Petersburg, Vienna and Great Meadows. Multifamily is located in the southeastern end of the Township. Except for development along Route 46, residential development north of Water Street is extremely sparse.

Future residential development is expected to continue to hug the major roadways in the southeastern portion of the Township: below Water Street.

P.DAVID ZIMMERMAN
PROFESSIONAL PLANNER

SOURCE: CONSULTANT SURVEY OF 2001



- | | | | |
|-------------------|-------------------------|---|-------------------------|
| ● | SINGLE FAMILY RESIDENCE | ▲ | BUSINESS |
| ● ₂ | MULTI FAMILY RESIDENCE | ▲ | BUSINESS WITH RESIDENCE |
| ● _{APT.} | APARTMENT | ■ | INDUSTRIAL |
| T | TRAILER | ■ | PUBLIC |
| + | CEMETERY | + | CHURCH |
| ● | FARM | | VACANT |

**TOWNSHIP OF
INDEPENDENCE
WARREN COUNTY, N.J.**

ECONOMIC BASE

The economic characteristics of a community are an important consideration in a Master Plan Reexamination study. This section of the Master Plan Reexamination deals with the employment and property tax characteristics of the Township as two significant economic base issues.

Property Tax Characteristics

**TABLE 8:
COMPARISON OF TAX PARCELS AND ASSESSED VALUE
1993 AND 2001, INDEPENDENCE TOWNSHIP, NJ**

<u>Tax Class</u>	<u>1993 Number Of Parcels</u>	<u>1993 Valuation (Percent)</u>	<u>2001 Number of Parcels</u>	<u>2001 Valuation (Percent)</u>
1. Vacant	368	\$ 14,146,000 (5.3)	189	\$ 8,709,000 (2.7)
2. Residential	1,517	214,505,600 (80.6)	1,802	269,483,200 (84.8)
3a. Farm (Reg.)	79	10,257,700 (3.9)	86	11,877,800 (3.7)
3b. Farm (Qual.)	163	1,502,560 (0.6)	201	2,091,680 (0.7)
4a. Commercial	51	12,502,600 (4.7)	50	12,886,400 (4.1)
4b. Industrial	4	1,731,700 (0.7)	6	2,003,100 (0.6)
4c. Apartment	9	10,851,100 (4.1)	8	10,747,700 (3.4)
	2,191	\$265,932,360 (100.0)	2,342	\$317,798,880 (100.0)

Source: Township tax lists for 1988 and 2001.

The above Table shows several important shifts in parcels and assessed valuations. The most important change is the increase in residential parcels and valuation. There was a 285 increase in residential parcels or housing units and a 25.6 percent increase in their valuation. The increase in valuation is on average \$192,900 per unit. A majority of these new residential parcels or housing units are multifamily units in Oak Hill.

The rateable base composed of commercial, industrial and apartment parcels has not changed in the eight year period. Vacant parcels decreased significantly. The number of farm parcels increased 18.5 percent.

**TABLE 9:
EQUALIZED TAX RATES AND RANK FOR
INDEPENDENCE AND SURROUNDING MUNICIPALITIES
1994 AND 2001**

	<u>1994</u>	<u>(Rank)</u>	<u>2001</u>	<u>(Rank)</u>
Allamuchy	2.157	(1)	2.202	(1)
Frelinghuysen	2.398	(6)	2.655	(4)
Hackettstown	2.522	(7)	3.322	(7)
Hope	2.271	(4)	2.553	(2)
Liberty	2.207	(3)	2.722	(5)
Mansfield	2.353	(5)	2.847	(6)
INDEPENDENCE	2.164	(2)	2.616	(3)

Source: Warren County Abstract of Rateables for 1994 and 2001.

In comparison to its surrounding municipalities, Independence has a relatively lower equalized tax rate. It has maintained the number 2 or 3 rank over the years studied. Most of the rateable base in Independence is residential. The multifamily and apartment portion of that base is a net tax rateable. It is important for the township to continue its diverse housing stock yet also increase where reasonable, its non-residential tax rateable base to maintain its lower equalized tax rate.

TOPOGRAPHY

The enclosed Topography/Zone District map shows the relationship between topography/slopes and zone districts. Historically, the steeper sloped areas are zoned for the lowest densities: R-3. This is the scheme in the southern most area next to Mansfield Township. Consistent with its policy, two additional areas are appropriate for lower density designation:

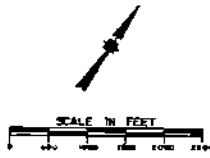
- The area north of Shades of Death Road, and
- The area immediately south of Alfano Road to the Pequest River and Pyles Road

The topographic information should also be coordinated with the hydrogeologic information. Topography is in part reflected in the zoning ordinance in that the present critical areas section requires adjustments for steep slopes which has the effect of modifying the size of lots characterized by steep slopes.

TOPOGRAPHY



NOTE: MAP SHOWS 20' CONTOURS
— DENOTES STREAMS AND DRAINAGE PATTERNS
— DENOTES SWAMPS



HYDROGEOLOGIC PLAN ELEMENT

The source of drinking water for the majority of residents of the Township is groundwater. Groundwater is primarily supplied to the residents from wells completed in fractured bedrock aquifers. The Township has recognized that groundwater is a critical resource that is necessary for the support of development, for sustaining the health and well-being of the residents, and for maintaining the ecology of the environmentally sensitive watersheds in this region. The density of development along with the addition of improvements can impact the bedrock aquifers and may result in reduced recharge, diminished yields, increased well interference, and degradation of groundwater quality. The Township of Independence wants to protect its' valuable groundwater resources for current and potential residents and businesses, as well as the ecological needs of the Pequest and Musconetcong River watersheds.

As a consequence, this Master Plan Reexamination report obtained the services of Converse Consultants experts in hydrogeologic matters. Their task was to first, analyze the soil and geologic characteristics of Independence Township. Second, based upon these characteristics to estimate available safe yield of groundwater. Basically, they evaluated the potential impact to groundwater due to subsurface wastewater disposal for the entire Township. This issue is the main limiting factor with regards to allowable residential density.

Converse utilized the NJGS Draft Technical Guidance entitled "A Model of Residential Carrying Capacity for New Jersey - Based on Water Quality" dated May 30, 2000. This document presents methodology that enables the user to estimate the carrying capacity of land in New Jersey for on-site subsurface wastewater disposal systems. The model was developed to provide estimates of appropriate residential lot sizes to meet state water-goals for nitrate-nitrogen (nitrate) in non-sewer regions.

This model requires that the total groundwater recharge rates be estimated across the entire Township. In order to do this Converse used the technique from the NJGS Geological Survey Report GSR-32 (1993) entitled "A Method for Evaluating Ground-Water Recharge Areas in New Jersey". This method required that the entire Township be divided into parcels by overlaying the Warren County soil survey and the land use/land cover map. Then the appropriate recharge factor and recharge constant were read from tables in GSR-32 and assigned to each parcel. Finally, recharge (inches/year) was calculated using the recharge factor, recharge constant, basin factor, and a municipal climate factor in the recharge formula.

The results of these studies form the basis for developing the ranges in the Residential Carrying Capacity based on Groundwater Recharge and Nitrate Dilution (i.e., minimum lot size) across the entire Township. This information is presented in spread sheet and map form. To

generate this map, Converse made the following assumptions:

- The Safe Drinking Water Act specifies a 10 mg/l standard for nitrates in water. Because shallow groundwater in this area generally discharges to a nearby surface water body, the NJDEP has recommended the use of the surface water standard of 2 mg/l for state category 1 surface waters as the water quality target in ecologically sensitive areas. To provide a conservative estimate of safe sustainable yield, therefore, the water quality standard for nitrates used herein was 2 mg.
- Converse assumed a per capita water use rate of 100 gallons per day (gpd). This water use rate should be considered conservative since the NJDEP allowable water requirements have been lowered to 75 gpd per person to reflect reductions in water usage from the now mandatory low flow water fixtures. Converse also assumed a residential density of 3.0 persons per dwelling unit based on estimated development trends in developable areas of Independence Township. Based on these assumptions, the average daily demand per dwelling unit will be about 300 gpd.

Conclusions

- The current land use within Independence Township is mainly agricultural and residential. The agricultural land use category amounts to 55.5 percent of the land area within the Township, whereas residential uses account for 19.9 percent of the land area. Almost 15 percent of the Township is classified as vacant. The vacant areas typically have steep slopes and are forested.
- Three major watersheds are located within Independence Township. Approximately 75% of the Township is located within the Walkill/Pequest River Regional Water Resource Planning Area (RWRPA), also referred to as RWRPA No. 3. The Pequest River is the major drainage and most critical watershed within the Township. Most of the southeastern portion of the Township (about 20% of the Township) is located in the Musconetcong River Regional Water Resource Planning Area (RWRPA), also referred to as RWRPA No. 8. The significance of this is that all water in Independence Township that is located within RWRPA No. 8 will drain towards the Musconetcong River. The far southeast portion of the Township (about 5% of the Township) near the southern boundary with adjacent Mansfield Township is located within the Pohatcong Creek RWRPA, also referred to as RWRPA No. 7.

- The source of drinking water for the majority of residents of the Township is groundwater. Groundwater is primarily supplied to the residents from wells completed in fractured bedrock aquifers.
- Independence Township is located entirely within the Highlands Physiographic Province of New Jersey. In northwestern New Jersey, the Highlands are characterized by rounded to flat-topped ridges separated by narrow, steep-walled valleys.
- The bedrock underlying Independence Township can be divided into two (2) main groups based on age and rock type. The ridges are generally composed of erosion-resistant crystalline igneous and highly metamorphic rocks. The valleys are underlain by more easily eroded dolomites, limestones, and rocks of sedimentary origin.
- Approximately 65% of the Township is underlain by Precambrian (older than 570 million years) crystalline rocks consisting mainly of granite and gneiss. These crystalline rocks have been extensively deformed and folded. These crystalline rocks that underlie the ridges and form a series of 3 southwest to northeast trending bands.
- In the Precambrian crystalline bedrock, the rock essentially has no primary porosity. The groundwater is stored and transmitted through secondary fractures, and joints, typically within the upper 300 feet of the formation. Well yields depend on the number and size of intersecting fractures. The Precambrian crystalline rocks are considered a poor aquifer.
- Approximately 35% of Independence Township is underlain by Ordovician-Cambrian (440 to 570 million years ago) dolomites and limestones which are part of the Kittatinny Group. These rocks underlie the Pequest River valley in the northwest portion of the Township, and also underlie a relatively small area in the far eastern corner of the Township, north of Hackettstown these Formations. These carbonate rocks, especially those associated with the Leithsville Formation, are susceptible to the formation of solution cavities, sinkholes, and caverns.
- The carbonate rocks of the Kittatinny Group also have no primary porosity, and all

groundwater storage and movement is through joints, fractures, bedding planes, and most importantly, solution cavities within the rock. These carbonate aquifers can store and transmit large quantities of groundwater. The carbonate aquifers are considered to be the most prolific in the state.

- Based on the population and demographics from the 2000 Census, together with the rural character of Independence Township, a density of 3 persons per dwelling unit should be used to determine the average demand from a single family residence. A per capita water use rate of 100 gallons per day (gpd) for residential self-supplied demand has been assumed by the NJDEP as per N.J.A.C. 7:10-12.1 et seq and N.J.A.C. 7:10-3.32. The peak day demand should be defined as twice the average daily demand. Based on these assumptions, the average daily demand per dwelling unit would be about 300 gpd, and the peak daily demand would be about 600 gpd.
- The technique from the NJGS Geological Survey Report GSR-32 (1993) entitled "A Method for Evaluating Ground-Water Recharge Areas in New Jersey" should be used for estimating the total groundwater recharge for a given development. The total recharge value using this technique can then be used to estimate usable groundwater recharge to the bedrock aquifer. In addition, if on-site septic systems are planned, then the total groundwater recharge value for a given development can be used as input into the Nitrate Dilution model described herein to estimate the minimum required recharge area per development. This method requires that a site be divided into parcels by overlaying the Warren County soil survey and the land use/land cover map. Then the appropriate recharge factor and recharge constants are read from tables in GSR-32 and assigned to each parcel. Finally, recharge (inches/year) can be calculated using the recharge factor, recharge constant, basin factor, and a municipal climate factor in the recharge formula. Recharge from surface water bodies, wetlands and hydric soils are not evaluated using this method; these areas are eliminated from the assessment.
- The New Jersey Statewide Water Supply Plan (1996) defines the concept of dependable yield as "the water yield maintainable by a groundwater system during projected future conditions, including both a repetition of the most severe drought of record and long-term withdrawal rates, without creating undesirable effects". Because dependable yield values are not available in all regions of New Jersey

(including Independence Township), the NJDEP recommends the use of a planning threshold to serve as a surrogate value for the dependable yield of aquifers. The NJDEP has assumed that twenty percent of the "total groundwater recharge" to a given planning area is available for human use. It is our professional opinion, that the Township of Independence use the NJDEP recommended planning threshold value of 20% to estimate the usable groundwater recharge that would be available for consumption within areas underlain by the Precambrian crystalline bedrock aquifer. A planning threshold value of 30% within areas underlain by the carbonate aquifers is considered conservative and appropriate for this area.

- Nitrate is a highly soluble and mobile compound in groundwater that typically is introduced through on-site septic systems, fertilizers, animal wastes and decomposing plants. The NJGS Draft Technical Guidance entitled "A Model of Residential Carrying Capacity for New Jersey - Based on Water Quality" dated May 30, 2000 should be utilized to evaluate the potential impact to groundwater from on-site subsurface wastewater disposal. This document presents a current methodology that enables the user to estimate the carrying capacity of land in New Jersey for on-site subsurface wastewater disposal systems. The model was developed to provide estimates of appropriate residential lot sizes to meet state water-goals for nitrate-nitrogen (nitrate) in non-sewer regions. The Safe Drinking Water Act specifies a 10 mg/l standard for nitrates in water, however, the NJDEP has recommended that a target water quality standard of 5 mg/l be used. Because shallow groundwater generally discharges to a nearby surface water body, the NJDEP has further recommended the use of the surface water standard of 2 mg/l for state category 1 surface waters as the water quality target in ecologically sensitive areas. To provide the most conservative estimate for a minimum recommended recharge area, therefore, it is our professional opinion that the Township use the 2 mg/l water quality standard for nitrates, unless it can be demonstrated that the 5 mg/l criterion is warranted and will not result in degradation of the environment.

Recommendations

It is the intent of this section to provide recommendations that will provide the Township with more local control with regard to development issues. Well head protection and septic system management are important management initiatives, since the Township's aquifers are susceptible to contamination. In addition, the Township must exercise caution to limit depletive water uses that

could result in local stream flow reductions.

- The Township should develop and implement an ordinance that will require an Aquifer Test and Analysis Plan for every proposed residential and non-residential development to be served by on-site wells. The purpose of the Aquifer Test and Analysis Plan would be to obtain pertinent information of the hydrogeologic characteristics and water supply potential of the ground-water system that underlies a targeted area. The ordinance would require that aquifer testing be performed to verify the capability of the aquifer to supply water to a proposed development with adversely affecting the aquifer or neighboring property well supplies.
- The Township should develop and implement an ordinance that will require the plans for all proposed commercial developments to be submitted for planning board review and approval. The purpose of this review would be to identify environmental concerns that could adversely impact the quality of the groundwater, surface water, soils, and air within the Township, and to make ensure that the Best Available Technology (BAT) and proper controls will be utilized. We envision that this review would encompass spill prevention and control, underground storage tanks, fugitive dust control, toxic air releases, sanitary disposal systems, and emergency response issues.
- The Township should perform an inventory of all known and potential sources of groundwater contamination within the Township. Such an inventory would be used as part of the development of Well Head Protection Areas for known and potential public wells in the Township.
- The Township should consider expansion of the Independence Municipal Authority (IMU) to include the completion of several high yield wells within the carbonate aquifer underlying the Pequest River Valley. As discussed in this Report, this aquifer is considered one of the most prolific in New Jersey. For example, the well field associated with the Pequest Fish Hatchery in adjacent Liberty Township is capable of over 8,600,000 million gallons of groundwater per day (6,000 gpm). Under average stream flow and recharge conditions, the maximum yield of the carbonate aquifer in the vicinity of the hatchery has been estimated to be about 30,000,000 gpd (nearly 21,000 gpm). Under severe drought conditions and

extremely low stream flow, the maximum yield should be reduced to about 20,000,000 gpd (nearly 14,000 gpm).

Land Use Plan Recommendations

The import and consequence of these hydrogeologic findings is a townwide modification of the minimum density of development. Overlaying the present zone district map on the "Residential Carrying Capacity..." map shows, in general, a close correlation between carrying capacity minimum lot size, categories and zone districts. The major differences, however, are the existing zone districts allow for a higher density of residential development than recommended by the various carrying capacity lot sizes.

To bring the zone densities into closer conformance to the land's carrying capacity and environment, this reexamination is recommending the minimum lot sizes, throughout the Township, be modified and increased. There are two major residential zone categories: R-2 and R-3, which characterize most of the Township and have substantial growth potential. The R-1/2 and R-1 zones are for all practical purposes fully developed. Thus, the present R-2 zone will become R-3 and the present R-3 zone will become R-4; a 4 acre minimum lot size.

The development of the more rugged and environmentally constrained land in these zones will be tempered by the "critical areas" requirements presently in the Land Development Ordinance.

FRELINGHUYSEN

TOWNSHIP

ALLAMUCHY

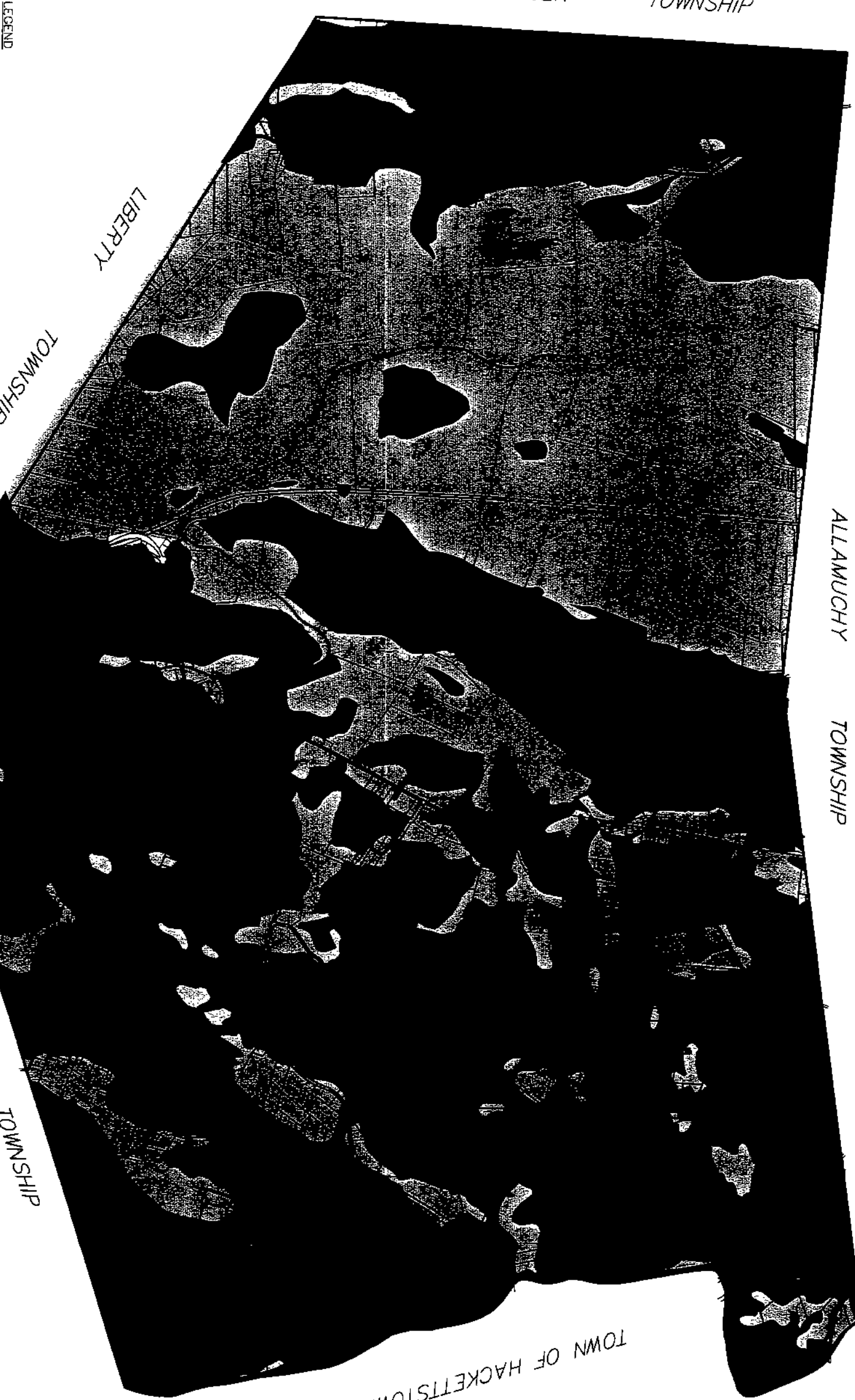
TOWNSHIP

TOWN OF HACKETTSTOWN

LIBERTY
TOWNSHIP

MANFIELD

TOWNSHIP



LEGEND

- 3.0 TO 3.5 ACRES
- 3.6 TO 4.0 ACRES
- 4.1 TO 4.5 ACRES
- HYDRIC SOIL - SEVERE LIMITATIONS
- QUARRY OR UNKNOWN SOIL TYPE
- SURFACE WATER BODY

NOTE:

THE RESPECTIVE RESIDENTIAL CARRYING CAPACITIES AS SHOWN ARE TAKEN FROM INFORMATION SUPPLIED BY CONVERSE CONSULTANTS, 2001. LIMITS OF EACH AREA ARE APPROXIMATE.

2001-2002
2003-2004
2005-2006
2007-2008
2009-2010
2011-2012
2013-2014
2015-2016
2017-2018
2019-2020
2021-2022
2023-2024
2025-2026
2027-2028
2029-2030
2031-2032
2033-2034
2035-2036
2037-2038
2039-2040
2041-2042
2043-2044
2045-2046
2047-2048
2049-2050
2051-2052
2053-2054
2055-2056
2057-2058
2059-2060
2061-2062
2063-2064
2065-2066
2067-2068
2069-2070
2071-2072
2073-2074
2075-2076
2077-2078
2079-2080
2081-2082
2083-2084
2085-2086
2087-2088
2089-2090
2091-2092
2093-2094
2095-2096
2097-2098
2099-2100

2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	2019-2020	2021-2022	2023-2024	2025-2026	2027-2028	2029-2030	2031-2032	2033-2034	2035-2036	2037-2038	2039-2040	2041-2042	2043-2044	2045-2046	2047-2048	2049-2050	2051-2052	2053-2054	2055-2056	2057-2058	2059-2060	2061-2062	2063-2064	2065-2066	2067-2068	2069-2070	2071-2072	2073-2074	2075-2076	2077-2078	2079-2080	2081-2082	2083-2084	2085-2086	2087-2088	2089-2090	2091-2092	2093-2094	2095-2096	2097-2098	2099-2100
-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

FINELLI
CONSULTING ENGINEERS
MICHAEL S. FINELLI, P.E.

RESIDENTIAL CARRYING
CAPACITY BASED ON
GROUNDWATER RECHARGE
& NITRATE DILUTION
HACKETTSTOWN TOWNSHIP
HACKETTSTOWN, NEW JERSEY

UTILITIES

Since 1982, approximately 1,975 acres within Independence Township are within the jurisdiction of the Hackettstown Municipal Utilities Authority ("HMUA"). The service area of HMUA in Independence is located in the southern portion of the Township from the Hackettstown border up to an elevation of 750'. HMUA supplies both public water and public sewer services. With minor exceptions, all other areas of the Township are served by individual wells and septic systems.

These individual systems normally function well for residences on lots of two acres or greater. Unfortunately, the groundwater serving the residences and uses around Asbury Road has been found to be contaminated. With the assistance of the State Department of Environmental Protection, this area is now served with public water by the HMUA.

The Independence Municipal Utilities Authority ("IMUA"), has the jurisdiction to construct and manage sanitary sewer systems throughout the Township not served by HMUA. However, there are no IMUA public sewer systems at the present time. There is an IMUA well system in the Highlands which a number of homes are tied into and which could handle additional connections, and a well system at the Rockefeller Estates, near Vienna, which could not handle additional connections. IMUA regulations require the provision of a water supply system for any subdivision which, when added to contiguous properties, would add up to 50 or more units. If less than 50 homes are proposed, a connection to or construction of a public water supply system will be required when a public system is within reasonable distance and capacity is available, untreated groundwater is not potable, or an individual well cannot produce at least 5 gallons per minute. If the supply is entirely derived from groundwater, duplicate wells and pumping equipment will be required.

Expansion of the IMUA water system, and provision of IMUA sewer systems is not anticipated in the near future.

RECYCLING

The goals of the Recycling promote the collection, disposition and recycling of all recyclable materials. The objectives of recycling require the collection and disposition of recyclable materials in any development proposal for the construction of 50 or more units of single-family residential housing or 25 or more units of multi-family residential housing and any commercial or industrial development proposal for the utilization of 1,000 square feet or more of land.

Consistent with these goals and objectives, the Township adopted a recycling ordinance on June 25, 1988. This ordinance requires all occupants of both residential and non-residential property to separate recyclable material for the purpose of their collection, disposition and recycling.

It is recommended that recycling regulations be incorporated into the Township site plan ordinance to be applicable to development proposals that come before the Township Boards.

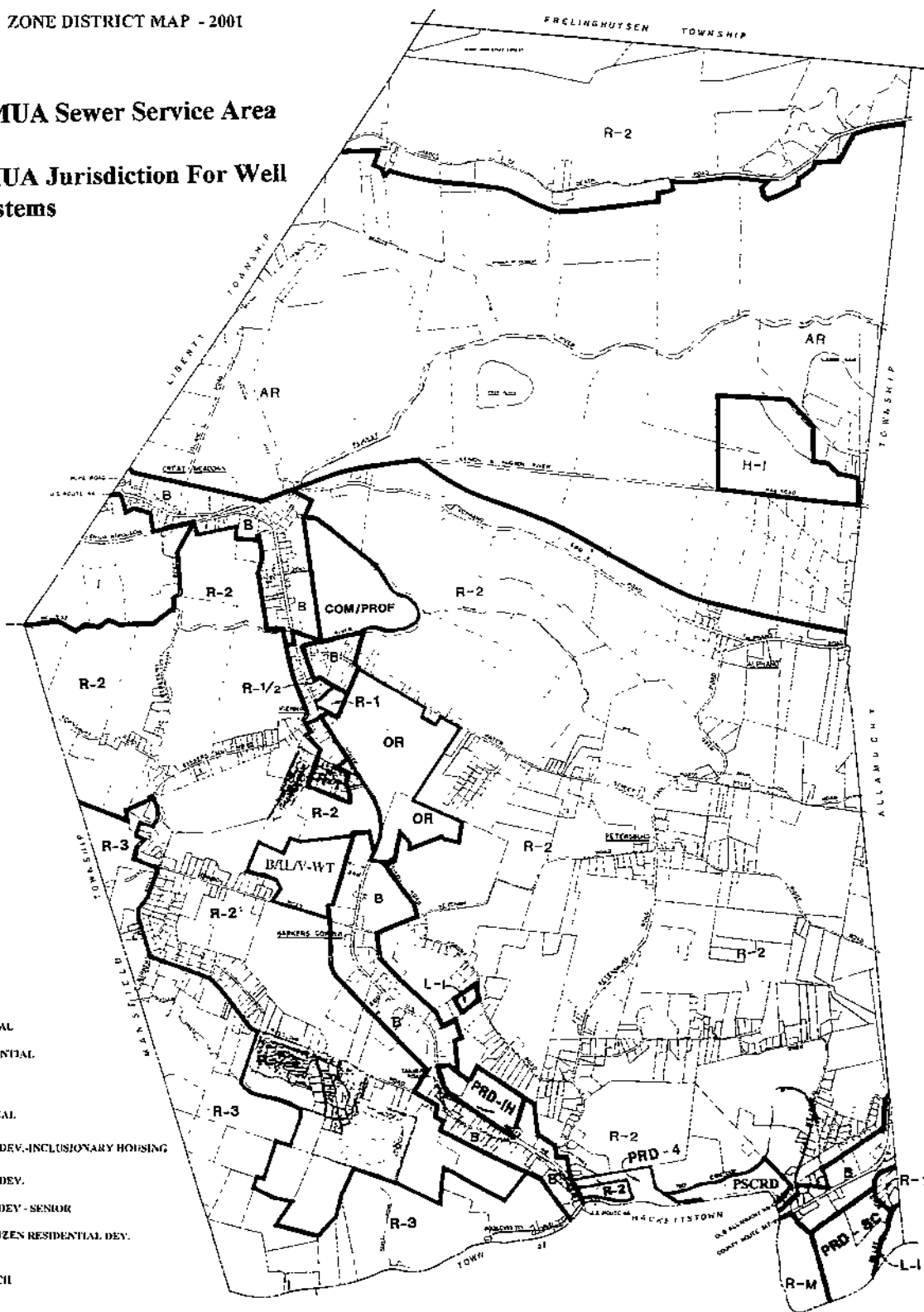
UTILITIES

ZONE DISTRICT MAP - 2001

HMUA Sewer Service Area

IMUA Jurisdiction For Well Systems

- AR SPECIAL AGRICULTURAL
- R-3 RESIDENTIAL
- R-2 LOW DENSITY RESIDENTIAL
- R-1 MEDIUM DENSITY RESIDENTIAL
- R-1/2 RESIDENTIAL VILLAGE
- R-M HIGH DENSITY RESIDENTIAL
- PRD-III PLANNED RESIDENTIAL DEV. INCLUSIONARY HOUSING
- PRD-4 PLANNED RESIDENTIAL DEV.
- PRD-SC PLANNED RESIDENTIAL DEV. SENIOR
- PSCRD PLANNED SENIOR CITIZEN RESIDENTIAL DEV.
- OR OFFICE - RESEARCH
- COM/PROF COMMERCIAL - PROFESSIONAL OFFICE
- H-1 HEAVY INDUSTRY
- I INDUSTRY
- L LIGHT INDUSTRY
- B BUSINESS
- B/L/V-WT BUSINESS/LIGHT INDUSTRIAL/WAREHOUSING TERMINAL



**TOWNSHIP OF
INDEPENDENCE**
WARREN COUNTY, N.J.

P. DAVID ZIMMERMAN, PP/AICP
TOWNSHIP PLANNER

HISTORIC

There is one property in Independence that is listed in both the State and National Register of Historic Places: Great Meadows Railroad Station on Cemetery Road. Additionally, although not officially listed as a historic place in Independence, the Morris Canal is on the State and National Register of Historic Places for Mansfield and Hackettstown. It is also listed as a Historic Place in numerous other municipalities throughout its route from Jersey City to Phillipsburg. It should also be included as a Registered Historic Place in Independence.

There are numerous unregistered places of historic interest throughout Independence. There include, but are not limited to the following:

1. The Shades of Death Road is located between the southern base of the Jenny Jump Mountain and "The Great Meadows". It connects the Great Meadows-Hop Road with the road from U.S. Route #46 to Longbridge and Johnsonburg. There are many legends concerning the name given to the road and the area surrounding it. One reason may be that the dense growth of trees and the closeness of glacial boulders prevented the sunshine from ever reaching a large section of the area even at midday, thus "The Shades".
2. The first Saints Peter and Paul Roman Catholic Church. This church was the old one room school building at Great Meadows. The building was converted into a church and the first Mass was celebrated on the Feast of the Assumption on August 15, 1921. The present edifice was dedicated on August 27, 1967.
3. The Saint Nicholas Ukrainian Catholic Church. This church was built on land donated by Mr. And Mrs. Andrew Nykun, Sr. It was completed in the Spring of 1923. A grand opening of a Parish Hall was held on July 12, 1936.
4. Independence Hall. This building was formerly the Danville Presbyterian Church which was erected in 1824. In 1955 the church was closed when the parish merged with its parent congregation at Hackettstown. The building was not used until 1962 when the members of the Holy Cross Orthodox Catholic Church leased it for worship services for five years. It is presently a Township building used for a senior citizen center and other municipal functions.

The cemetery behind the church is the resting place of many of the people who were prominent in church work and in the early history of Independence Township. Some of the family names are Vliet, Fleming, Albertson, Freeland, Leigh, and Runyon.

5. The Vienna Methodist Church, U.S. Route #46. The church originated when the famed Bishop Asbury preached at the home of Philip Cummins in 1789. A church building was begun in 1810, and was completed in 1824. In 1854 the old church was torn down and the present structure replaced it. From 1864 to the present it has been sharing a common pastorate.
6. The Cummins House, U.S. Route #46, Vienna. Philip Cummins and his brothers, Christian and John, were the first settlers in what is now Independence Township. It was Philip who cleared the valley and built the stone house in 1794. It is believed that the stone barn was built prior to the house and that the family lived in a log cabin near the present driveway while the house was being erected. The sand stone and iron ore stone used in construction were from the local area. The walls of the home are two feet thick in the basement and a little more than a foot on the second floor. Once two rooms with corner fire places in each, the present living room is now one large room. All of the ceilings of the stone portion are of hand-hewn beams. Between 1860 and 1870, a fire partially destroyed the house and the repairs resulted in a Victorian style which it still reflects. The house is still occupied by Cummins family members.
7. The old Vienna School, U.S. Route #46, Vienna. On March 19, 1838 the inhabitants of Pequest met to propose the building of a schoolhouse for the village of Vienna. It was completed the following summer at a cost of \$391, including the land, a stone, an outhouse, and a gate. Its use as a school was discontinued in 1919. In the 1930's Father John Kata organized the church of the Resurrection of Christ (according to the rite of the Old Catholic Church) and used the old school for worship services. It is now a private home.
8. Site of the Morris Canal near Hackettstown. On November 4, 1831 the first boat trip on the Morris Canal from Newark to Philipsburg was completed. In 1836 it was extended to Jersey City, making the canal 102.15 miles long. The canal through Independence was chosen as the dividing line when Hackettstown was separated from Independence Township in 1853. In 1924 the State of New Jersey authorized the closing and drainage of the canal.
9. Meadville (Alphano) School, Meadville. The one-room stone school was probably built in the second quarter of the 19th century when several other stone buildings were erected in the area. Church services and the Singing School were conducted in the last quarter of the century. The school was closed around 1918. After renovation and enlargement it became

a private home.

10. Mastodon Pond, Asbury Road. This is the site where the skeleton of an extinct animal was found. In 1844 during a severe drought Abraham Ayers found the complete remains of a large mastodon while digging marle from the bottom of a pond that had gone dry. The skeleton is now called the Cambridge Mastodon and is on display in the Harvard Museum of Comparative Anatomy.
11. An Old Barn, also known as the Heaslip House. This building is located north of the junction of Asbury and Petersburg Roads. At one time it was the home William J. Heaslip, a prominent artist. Tradition states that during the American Revolution the large stone structure was once occupied by Hessian prisoners of war on their march from Boston to the South. It is now a private home.

Historic Recommendations

The sites discussed herein are of particular historic and/or architectural interest to Independence Township. It is recommended that the Township encourage the continued use of historic properties in keeping with their original purpose or in the alternative a suitable and appropriate adaptive reuse. The Township should explore means to implement this recommendation. The Township should also encourage ways by which these historic structures and houses are not diminished by activities in the immediate environment within which they are located.

LAND USE PLAN ELEMENT

The Land Use Plan Element is the basis for the future development of Independence Township. This reexamination report has examined the recently published State Development And Redevelopment Plan (March, 2001) and recommendations of a special hydrogeologic study commissioned by the Planning Board. The State Plan and hydrogeologic study recommend lower densities for the Township than presently permitted. As a consequence, this Township Reexamination - Land Use Plan Element makes the following findings and recommendations:

Recommendations

1. The present R-2 zone permitting one single family home on a lot of 2 acres be modified to require a 3 acre minimum lot size.
2. The present R-3 zone permitting one single family home on a lot of 3 acres be modified to require a 4 acre minimum lot size.
3. The area north of Shades of Death Road, presently R-2 be modified to require a 4 acre minimum lot size. This change recognizes both the hydrogeologic study recommendation of lot size 4.1 - 4.5 acres and the severe slopes that characterize most of this district.
4. The area between Alphano Road and the Pequest River presently zoned R-2 be modified to require a 4 acre minimum lot size. This change recognizes both the hydrogeologic study recommendation of lot size 4.1 - 4.5 acres and the severe slopes that characterize this district.
5. Rezone the present LI zone district fronting Asbury Road to residential consistent with the surrounding neighborhood. The single user of this property has vacated the site. When operational in the past, the traffic from employees and trucks conflicted with the rural/residential character of Asbury Road and the area. Similarly, industrial use and activity conflicts with proximate residential use.
6. Maintain the PRD-IH inclusionary housing zone fronting Route 46 as the major means of satisfying the low and moderate housing obligation as mandated by the NJ Council On Affordable Housing.

7. Maintain the residential densities as presently allowed in the R-1 and R-1/2 zones. Similarly, maintain the one acre single family density in the B zone. The two residential zones are substantially built-out with only a few in-fill opportunities. Similarly, while the B zone allows one acre homesites relatively few are anticipated in the near future.
8. A presentation was made to the Planning Board for age-restricted housing on property fronting Route 517 (between Route 517 and Oak Hill). This area is in the B Business zone district. The Board at the time was receptive to the concept, wherein this type housing would be allowed on property that:
 - a. Fronts a major arterial: Route 46 or Route 517,
 - b. Is served by public water and public sewers, and
 - c. Is wholly in the B Business zone district

Given the size of properties in the B zone satisfying these criteria, it is anticipated the development or developments will be modest in size and density.

9. The Planning Board adopted a Housing Plan Element And Fair Share Plan on September 17, 2001. That document recommended an amendment to the PSCRD Planned Residential Development - Senior Citizen zone wherein 5% of all units and/or beds be low and moderate units and/or beds. Second, the plan recommended rezoning the Liberty House property at the corner of Route 46 and Petersburg Road to a category wherein the present senior units are permitted plus allowing for modest expansion.

Development Regulations Review

The reexamination report requires an examination of Township development regulations. The following recommendations are presented:

1. Review the critical areas (116-79.1) section of the ordinance. In particular, the "shallow depth to bedrock" adjustment may be redundant to percolation testing and as such should be eliminated. Recent court decisions appear to disallow a 0.0

adjustment for wetlands areas. Similarly, there may have to be some “credit” for “flood hazard” and “stream, pond or lake” areas, which presently have a 0.0 adjustment.

2. Review driveway ordinance to eliminate common driveways as a permitted access alternative to the construction of a minor and or local street.
3. Review entire ordinance.
4. Review buffer requirements where non-residential and residential uses and zones abut.
5. Review environmental recommendations pertaining to ordinance protection of ridge lines and stream buffers.

Centers: Vienna and Great Meadows

The State Development and Redevelopment Plan identify Vienna and Great Meadows as hamlets. This designation has no official weight at the State or local level until the municipality petitions the State for such official designation. The State naturally encourages such petitions as they serve to integrate municipalities into the State planning process and its goals, objectives and policies. The advantage to the municipality is priority in State funding and resources and verification of the municipality’s planning and zoning. Such a petition is entirely optional.

Presently, Hackettstown is an accepted regional center which includes the sewer service area of Independence as well as portions of Mansfield, Mount Olive and Washington (Morris County). In Warren County, Phillipsburg is the other regional center. Alpha and Belvidere are town centers.

Future Plan Elements

The reexamination report requires the municipality identify new plan elements which should be prepared. This reexamination recommends the following plan element be reviewed and brought current:

1. Circulation Plan Element. The Garman Associates plan was prepared in 1987. There have been several events which require review of this document:
 - a. After the passage of 14 years , are the recommendations still appropriate?

- b. Review of several development applications in the path of proposed new roadways have revealed the proposed new roadways to be unfeasible. The plan should be modified to reflect these practical realities.
 - c. The publication of the Residential Site Improvement Standards ("RSIS") which mandate street and roadway classifications and right-of-way standards conflict with those recommended in the Garman Plan.
 - d. A proper circulation plan element can be used to assess impact fees on development which generates additional traffic volumes.
2. Storm Water Management Plan. The MLUL (40:55D-93) requires that "every municipality in the State shall prepare a storm water management plan and a storm water ordinance or ordinances to implement said plan." Independence does not have such a plan.

New Ideas and Trends

Several municipalities are introducing new ideas and concepts to address issues similar to those found in Independence. The following is a brief outline of several trends that warrant future study:

- 1. Mandatory cluster. All major subdivisions and minors which have the potential to become majors in the future are required to develop as an open space cluster. Creating open space and channeling development away from environmentally critical areas are the major objectives of this type development.
- 2. Agricultural Cluster. To preserve prime farmland the ordinance would allow very tight clustering on large farmland properties. For example, if a 100 acre parcel had a conventional single family development potential of 30 homes, these homes could be clustered on small lots or even be built as attached housing wherein the majority of the parcel: $\pm 80\%$ will remain deed restricted as farmland. The homes would have to be serviced by a common sewer facility.
- 3. Identify scenic corridors and roadways which contribute to the rural and aesthetic character of the Township. Protection of critical features which contribute to their

scenic quality is important. Means to achieve this objective should be explored.

Housing

The Housing Plan Element And Fair Share Plan was adopted by the Independence Township Planning Board on September 17, 2001. The plan acknowledged the NJ Council On Affordable Housing ("COAH") 1993 - 1999 fair share number for Independence to be a total need for 48 low and moderate income housing units. Against this number, COAH gave the Township credits including the existing senior housing: Liberty House and the inclusionary multifamily PRD-IH zoning for "Stonemill" fronting Route 46. This reduces the total calculated need to 5 units.

Fair Share Plan

This 5 unit indigenous need can be addressed in several ways. The Township retains the PRD-IH inclusionary housing zone district (Stonemill) which is mandated to develop 27 low and moderate income housing units. The Township has already received credit by COAH of this 27 unit provision.

The Township proposes to modify the Planned Senior Citizen Residential Development zone (PSCRD) fronting Old Allamuchy Road to include 5 percent of all units to be for low and moderate income senior citizens as defined by the New Jersey Council On Affordable Housing.

Lastly, the zone ordinance and zone district map will be amended to create a new zone district describing the Liberty House property. Presently, the property accommodates 40 subsidized senior citizen households. The new zoning will allow it to expand to 48 units. This property is at the corner of Route 46 and Petersburg Road and can accommodate an additional building and parking.

P. DAVID ZIMMERMAN, P.P./A.I.C.P.
Township Planner

March 18, 2002