

V. CIRCULATION PLAN

V. CIRCULATION PLAN

INTRODUCTION

This section presents an overview of the current circulation system, including road jurisdiction, traffic volumes, functional road classification system and planned road improvements for Vernon Township based on County and State Plans.

Regional System

Vernon Township is served by one State road, Route 94, and nine County roads. These roads traverse the Township in a north-south direction respective of the existing topography. Regional east-west access is very limited due to the existence of Wawayanda State park to the east. The only access to the west is by way of the Route 642 bridge into Wantage Township. Route 94 connects into State Highway Route 15 which is a dualized road and provides the major regional access to the community. Route 23 in Hamburg also serves in this capacity although it is not a dualized road. Regional access therefore is adequate but limited by the current two lane design of Route 94 and the two lane county roads. This system is sufficient to handle the current level of rural-suburban development although the traffic generated from the resort-commercial uses during peak hours strains the capacity of these roads. Any future proposals for intensive land uses should be cognizant of the limited regional access system serving one of the northernmost municipalities in New Jersey.

Road Jurisdiction

Most of the major traffic bearing roads in the Township are under the jurisdiction of the County or in the case of Route 94, the DOT of New Jersey, as shown on Map V-1. All other streets are under municipal jurisdiction or, as indicated, are private roads within the Lake Communities or part of the State Wawayanda Park. The total mileage of the public roads in the Township is as follows:

PUBLIC STREETS AND ROADS

In Vernon Township, public roads include:

a. State Highways	8.7 miles
b. County Roads	30.7 miles
c. Township Streets	<u>85 miles</u>
Total	124.4 miles

State Roads

Route 94 is a two lane State Highway with a traffic light at Vernon Road and McAfee Road and a pedestrian overpass at the Vernon Valley Ski Resort and Action Park. This highway is limited in its traffic carrying capacity by the lack of adequate pavement width which varies between 25 to 35 feet, curve design and the overall design of the road. The New Jersey Department of Transportation (NJDOT) does not have any current plans for improving Route 94, except through the implementation of the State Highway Management Access Code.

County Roads

The Sussex County Roads in Vernon include the following:

1. County Road 515, Vernon-Stockholm Road; Prices Switch Road
2. County road 517, McAfee-Glenwood Road; Rudetown Road
3. County Road 565, Glenwood Road
4. County Road 642, Owens Station Road
5. County Road 665, Bassetts Bridge Road
6. County Road 667, Lake Wallkill Road (in part only)
7. County Road 641, Drew Road (in part only)
8. County Road 644, Vernon Crossing

9. County Road 638, Highland Lakes Road.

Private Roads

The Lake Communities of the Township are all served by private roads with the exception of Highland Lakes Country Club. This community is served by five miles of public roads including Highland Lakes, Breakneck, Wawayanda, and Canistear Roads. The remaining Lake Communities are served by 26 miles of private roads which is part of the privacy and restricted access characteristics of these communities.

There are also private roads which are maintained by the condominium association of the newer recreational-resort housing developments including Great Gorge Village, Stonehill, Mountainside and Hidden Valley.

Pavement Width

Pavement width varies considerably in Vernon Township due to the age of development and the age of the collector roads. The newer roads in the Township are of uniform width usually with a 50 foot right-of-way, a 30 foot curb to curb paved travelway and with proper drainage. This is a result of the current land use and subdivision regulations that govern new development application.

Traffic Volumes

A review of traffic volumes from 1992 as set forth in the previous Master Plan study indicates that the greatest traffic volumes occur at the intersection of Route 94 and 515 in Vernon. In fact, the highest average daily traffic volume occurs north of the intersection on Route 94 with a volume of 16,044 vehicles per day. Route 515, south of this intersection, had a 1990 volume of 13,690 while Route 94 had a volume of 11,660.

As indicated by these volumes, the intersection of Route 94 and Route 515 should be monitored on an annual basis in order to determine if improvements to this intersection are needed. The State Highway Management Access Code will also address this intersection and applications for higher intensity uses are required to submit traffic studies in order to assess the impact of the proposed development on the capacity of the two roads.

Roadway Classification

A roadway classification system is necessary to develop standards for rights-of-way and roadways, such as widths and improvements. Roadway classification is shown on Map V-2. Efficient and safe operation of the system requires that facilities be designed to serve a specific purpose within the street hierarchy. For example, a freeway is not intended to carry local traffic, while the cul-de-sac is not designed for through traffic.

Classification of roadways should be made according to the movement served on the roadway and based on the functional classifications of roads as established by the respective jurisdiction. The functional classification for Route 94 was established by New Jersey DOT.

Table V-1
FUNCTIONAL CLASSIFICATION OF ROADS

Freeway/Expressway	Primary function is to serve through traffic and provide high speed mobility. Access provided from major streets at interchanges. Limited or no access to abutting land uses.
Major Arterial	Intended to provide a high degree of mobility and serve longer trips than minor arterials. Principal function is movement, not access. Should be excluded from residential areas.
Minor Arterial	Interconnects and augments the major arterial system. Operating speeds and service levels are lower than major arterials. Should be excluded from identifiable residential neighborhoods.
Collector	Provides both land access and movement within residential, commercial and industrial areas. Penetrates but should not continue through residential areas.
Local Access	Provides land access and can exist in any land use setting. Movement is incidental and involves travel to and from a collector facility.

Source: Transportation and Land Development. Institute of Transportation Engineers, 1988.

The County has indicated that it requires a right-of-way width of 66 feet for all County Routes as listed in Table V-1.

Any local road that has been designated a collector road should have a right-of-way width of 60 feet.

State Highway Access Management Code

The purpose of the State Highway Access Management Code is to improve coordination between transportation and land use planning. The Access Code is a set of uniform standards to manage vehicular access to and from all State highways. The Code was adopted in early 1992 and became fully effective in September 1992.

The NJDOT has assigned an "access level" and a "desirable typical section" (DTS) to each State highway. The access level refers to the allowable turning movements to and from access points on a State highway segment. The DTS reflects the NJDOT's long range plan for State highway configurations showing the number of through lanes.

Route 94 in Vernon Township has been designated an access level "4" with a DTS classification of 4C. Access level "4" permits vehicles to access nonresidential uses. A DTS classification of 4C calls for a four (4) lane undivided cross-section, with shoulders and desirable rights-of-way of 102 feet. The Access Code classification for Route 94 requires that this roadway be upgraded, depending on the traffic generated by the proposed adjacent land use. A diagram from the New Jersey State Access Management Code is presented herein. Based on estimated traffic counts, all major applications along Route 94 that generate 500 trips per day or 200 peak hour trips are required to prepare a traffic impact study for DOT review. However, all applications along Route 94 will have to file for an access permit.

The Clean Air Act

The Federal Clean Air Act Amendments of 1990 set new goals and requirements aimed at bringing New Jersey's air quality into compliance with federal health standards. State officials are currently developing the State Implementation Plan (SIP) which will identify the measures New Jersey will implement. The Clean Air Act Amendments dictate penalties that may be imposed on the State which fail to develop an adequate SIP or meet air quality goals.

The NJDOT has established regulations that require an employer with more than 100 employees to file a Trip Reduction Plan indicating the methods and incentives that will be utilized to reduce employee trips in conformance with State standard for the area. This may include car pooling, van transportation or telecommuting (working at home). The Township should be aware of this requirement with regard to any prospective establishment that would meet the State requirement.

Public Transportation

Public transportation is very limited. Although a rail line exists, no passenger service is available in that the line only handles limited freight. With regard to bus transportation, the County offers a limited bus service and the Township provides a bus service for senior citizens.

Passenger Rail Service In Vernon Township

New Jersey Transit is currently studying the feasibility of implementing rail service on the New York-Susquehanna-Western rail line. One option being considered is for the line to end as far west as Warwick, New York. Vernon would be one of the stops on this line. Other options would result in rail service beginning east of Vernon. The final decision on which of the options, if any, will be implemented, is not expected until late 1995 or early 1996.

If approved, the rail line would use the existing, but upgraded rail line, running parallel to Route 94. The line would run to Hawthorne where it would merge with New Jersey Transit's main line that goes to Hoboken. The main line would stop at the Hackensack Meadowlands where transfers to New York City and Trenton bound trains will be available.¹

Rail service would help alleviate Vernon's existing traffic congestion; it would offer transportation options to both commuters and visitors. Rail service would be a bonus for the resort industry. Of course, a rail stop in Vernon would require the construction of a train station. An appropriate location for the station would be in the McAfee section of the Township. The rail line passes through this area and tracts of land which front on the tracts are currently available. Furthermore, this area is in the proposed McAfee center as is outlined in the Land Use Element. Centers are the appropriate locations for rail stations. Route 94 and Route 517 provide good access to this area for commuter train connections.

¹ Source: New Jersey Transit.

Local Road Proposals

Due to the existing traffic volumes and the development of the C-2 zone, it is recommended that as future site plans are filed for this zone, a study be undertaken on the location of two new roads. One would be a parallel service road on the east side of Route 515 with the objective of providing for traffic movement among various commercial facilities that may locate on either side of the existing shopping center. The objective would be to connect the service road to Pond Eddy Road.

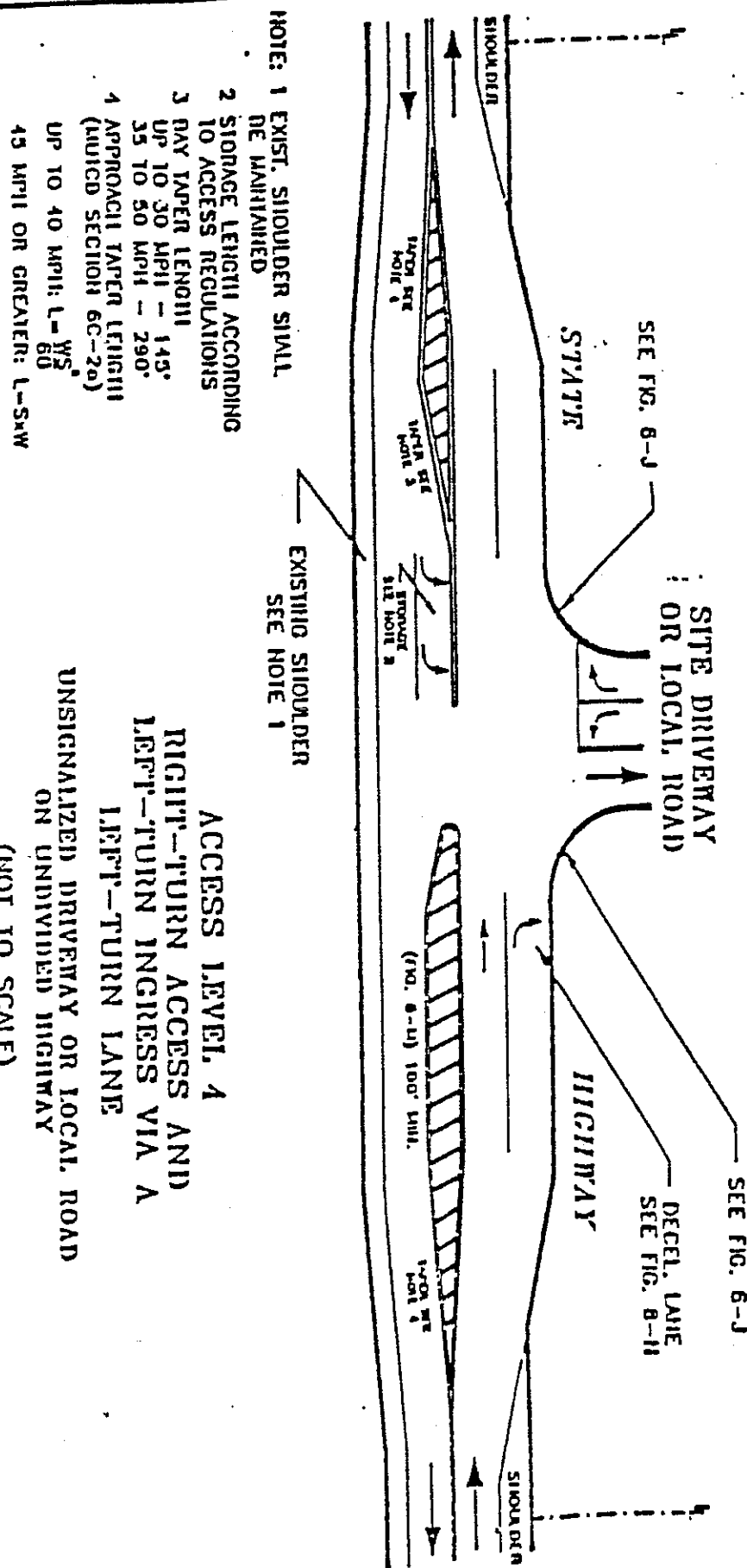
The second road is proposed to run behind the Firemans Pond and then exit onto Route 94 near the ice cream store.

Official Map

The Township should consider an official map if a future road location or park site is designated and the Township would like to protect the site from development. This can be done by use of an official map as outlined herein.

The official map is a legal document, adopted by the governing body of the municipality, designating lands which shall be reserved for future streets, drainage rights-of-way and parks and playgrounds. It also serves as the official statement of the governing body as to which streets, drainage rights-of-way and parks and playgrounds it has accepted for maintenance. Areas may be reserved for a period of one year or for such further time as is agreed to by a prospective developer. If during this period the municipality has not instituted condemnation proceedings or entered into a contract to purchase the land, the developer is entitled to just compensation for the actual loss found to be caused by such temporary reservation and deprivation of use.

The official map is legally binding upon the governing body. The official map must be an engineered document with detailed, measured dimensions and must be produced and certified by a licensed engineer or land surveyor.



- NOTE: 1 EXIST. SHOULDER SHALL BE MAINTAINED
- 2 STORAGE LENGTH ACCORDING TO ACCESS REGULATIONS
 - 3 RAY TAPER LENGTH UP TO 30 MPH - 145° 35 TO 50 MPH - 290°
 - 4 APPROACH TAPER LENGTH (MUTCD SECTION 6C-20) UP TO 40 MPH: L-YS 60 45 MPH OR GREATER: L-SxW

ACCESS LEVEL 4
 RIGHT-TURN ACCESS AND LEFT-TURN INGRESS VIA A LEFT-TURN LANE
 UNSIGNALIZED DRIVEWAY OR LOCAL ROAD ON UNDIVIDED HIGHWAY (NOT TO SCALE)

NOTE: ACTUAL NUMBER OF LANES ON EACH APPROACH WILL VARY DEPENDING UPON CONDITIONS AT THE SPECIFIC INTERSECTION INVOLVED

ALL REFERENCES TO ROADWAY DESIGN MANUAL EXCEPT WHERE NOTED

FIGURE C-18

VI. UTILITY PLAN

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SEWERED AREAS AND SEWAGE TREATMENT PLANTS

Vernon Township has prepared a comprehensive Wastewater Management Plan (WMP). The WMP has been submitted to the New Jersey Department of Environmental Protection and Energy for approval so that it may be incorporated into the Sussex County 208 Water Quality Management Plan. The plan provides for the protection of water quality and the natural environment while permitting appropriate residential, commercial and industrial development.¹ This information presented herein is taken from this Waste Water Management Plan.

Presently, there are four sewer areas with separate sewage treatment facilities in Vernon Township comprising only a small portion of the Township. The sewer service areas include:

1. The Great Gorge / Vernon Valley / Action Park recreation areas and Great Gorge Village residential developments that are served by the Mid-Atlantic Utilities Corporation. (formally Vernon Valley Sewer Company). Mid-Atlantic Utilities Corporation pumps the wastewater via a force main to the Sussex County Municipal Utilities Authority facility in Hardyston Township, New Jersey;
2. The Seasons Resort Hotel Facility;
3. Vernon Township High School; and
4. Rolling Hills School / Lounsberry Hollow School / Cedar Mountain School.¹

These locations and areas served by each treatment facility are shown on Map VI-1.

As the map indicates, the south central or Vernon Valley portion of the community is serviced by the sewer service area of the Seasons Resort facility and the sewer service area of Sussex County

¹ Wastewater Management Plan, Township of Vernon, Sussex County, New Jersey, dated October 1992, revised to August 1995.

Municipal Utility Authority (S.C.M.U.A.) which connects via a pumping station as an interceptor to the Upper Wallkill Valley Water Pollution Control Plant in Hardyston Township.

The Mid-Atlantic Utilities Corporation (formerly Vernon Valley Sewer Company) sewer service area presently processes 79,500 gallons per day which would include 35,000 gallons from the Evergreen Campground. The S.C.M.U.A. sewer area has a capacity of 380,000 gallons per day to be piped to the Hardyston Plant. This capacity is committed to various industrial and commercial projects as more specifically outlined in Wastewater Management Plan. The 208 Wastewater Management Plan should be amended to include the two centers that have been designated in the Master Plan.

NON-SURFACE DISCHARGE AREAS

The existing development outside these service areas is served by Non-Surface Discharge Systems. Various areas of Vernon Township contain soils that present difficulties to non-surface discharge systems. These are shallow depth to bed rock, shallow depth to the seasonal high water table, areas of frequent flooding, highly permeable or highly impermeable soils. According to N.J.D.E.P., soils are identified and rated by category I, II and III with the higher the numeric symbol, the more severe the limitation. Generally, the soils for a majority of the Township fall within the Level III severity limitations classification within Vernon Township. Areas of level I and II exist in the central portion of Vernon. Extra care should be taken in reviewing any Environmental Impact Statement (EIS) for proposed subdivisions to ensure proper soil conditions with regard to septic suitability.

Since a majority of Vernon Township is proposed to remain unsewered, the WMP suggests that a septic system management plan should be undertaken by the Township through a joint effort of the governing body and Township Health Department. There are a number of monitoring and enforcement requirements outlined in the revised Chapter 199 (N.J.A.C. 7:9A) "Standards for Individual Subsurface Disposal Systems." These requirements include registration of

homeowners as licensed operators of their system, inspection, pumping and alteration requirements.

The Township may wish to strengthen the Septic Ordinance in order to reflect the requirements of Chapter 9A and more clearly define septic management principles. The County of Sussex would also be able to assist the Township in developing a Septic Management Plan.

WATER SUPPLY SYSTEM

Various developments in Vernon Township are supplied by a number of water companies as listed in the table below which also indicates the number of units served. Homes or businesses not served by these systems rely on individual wells.

WATER COMPANIES

<u>Public Community Water Companies</u>	<u>No. of Units</u>
Mid-Atlantic Utilities (Stonehill Condos)	1200±
Vernon Water Company	146±
Barry Lakes Water Company	44±
Sunset Ridge Water Company	78±
Highland Lakes Improvement Company	20±
Oak Hills (now owned by Vernon Water Co.)	18±
Sussex County Water Company:	
1) Aspen Woods	37±
2) Cliffwood Lakes	27±
3) Grandview Estates (Andrea Estates)	20±
4) Sussex Hills #1 & #2	40±
D.C. Water Company	13±
Baldwin Water Company:	
1) Predmore Estates	14±
2) Sammis Road	21±
3) Lake Conway	27±
4) Omega Drive	17±
5) Vernon Heights:	
a) Cortland Road Well	64±
b) Mott Road Well	
6) Vanderhoof Court	6±
7) Warren Drive	6±
White Swan	10±
 <u>Public Individual Water Companies</u>	
Lake Walkkill Seasonal System	110±
Highland Lake I. Co. Seasonal System	130±

The companies obtain the water from wells within Vernon Township. New Jersey DEP has determined that the wells within the Township rely on a sole source aquifer. Although wells

capable of yielding sufficient water for individual homes, can be drilled almost anywhere in the Township; higher yields can be obtained from large diameter wells located in the Wallkill and Black Creek Valley. The WMP states that:

"About 30 percent of the bedrock aquifers underlying Vernon Township consist of carbonate bedrock. The carbonate aquifers are vulnerable to contamination. Extensive solutioning of fractures leads to the formation of channels, which short circuit the natural flow and swiftly spread contamination. Future commercial, industrial and residential development should be constructed to avoid significant increases in contaminant loading to the aquifer system."

Great care, therefore, should be taken to properly design and maintain septic systems.

WELL HEAD PROTECTION PROGRAM PLAN

The 1986 Federal Safe Drinking Water Act Amendments (Section 1428)² requires that all states develop a Well Head Protection Plan. In response, the New Jersey Department of Environmental Protection developed a Well Head Protection Plan for the State in order to ensure the quality of public water supply wells. The WHPP states that:

The purpose of the WHPP is to minimize the risk of water supply well pollution due to discharges of ground water pollutants. Controls on both potential pollutant sources and the location of new wells, at all levels of government and by the private sector, comprise the heart of the program. Pursuant to state laws, "discharges" included both point and nonpoint discharges that are intentional, accidental or incidental to an activity.

This program focuses on prevention of new discharges that may impair well water quality. However, efforts to mitigate ground water pollution will benefit from and be integrated with the WHPP; easier identification of well pollution sources and higher priorities for pollution cases in well head protection areas will result.

The WHPP focuses on protection of water resources within a specific geographic area. Most NJDEPE programs regulate categories of pollutant sources in all parts of the state. The technique of "geographic targeting" is a critical mechanism for

² New Jersey Well Head Protection Program Plan, New Jersey Department of Environmental Protection and Energy, December 1991.

addressing myriad smaller pollutant sources. These sources may not pose a major risk to general ground water resources but can pollute nearby wells.

PROGRAM SUMMARY

The WHPP will rely on state, county and local regulatory authorities to regulate the location and operation of potential and actual sources of significant pollutant discharges, and to regulate the location and operation of new wells. Nonregulatory actions also will play crucial roles. Several key steps in developing the WHPP are:

1. Definition of the Affected Wells

As noted above, the NJDEP has determined that all public water supply wells (community and noncommunity) will be included. Public community systems provide piped, potable water to a regular consumer base of at least 25 individuals or 15 service connections throughout the year. Public noncommunity wells provide the same service for at least 60 days of the year but not for the full year.

2. Delineation Method for Well Head Protection Areas

Well Head Protection Areas (WHPAs) are portions of the Zone of Contribution that are close to the wells. It is within the WHPAs that pollutant sources are most likely to cause well pollution.

3. WHPA Delineation

Maps will be prepared by NJDEP for all public community water supply maps and for 200 of the largest public noncommunity water supply systems. For all other public noncommunity wells, narrative regulations will be established. Steps 4, 5 and 6 will consist of: Identification of Potential Pollutant Sources, Management of Potential Pollutant Sources and Regulations of New Wells. There is also a Planning and Outreach Program and Evaluation

and Revision procedure. Vernon Township should ensure that all well heads will be prohibited from pollution through this program.

VII. COMMUNITY FACILITIES PLAN

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INTRODUCTION

Community facilities are an important component to the quality of life in a community. A thorough knowledge of their overall condition and capacity is necessary to determine future needs for the growth and development of Vernon Township. Specifically, this element addresses Municipal services, emergency services, the library and public schools. These facilities are shown on Map VII-1. This plan also evaluates existing resources and service levels as well as potential deficiencies and considers future community facilities and service needs.

COMMUNITY FACILITIES INVENTORY

Municipal Services

All of Vernon Township's administrative offices are contained in the Municipal Building located at 21 Church Street. At the present time, there are 33 employees who work in the building. The building houses the following municipal functions:

1. Administration
2. Township Clerk
3. Finance Department, which includes the Treasury, Collection and Assessment Divisions
4. Municipal Court
5. Public Services, which consists of the Construction, Planning/Zoning, Health, Public Assistance, and Fire Inspection Divisions

The Municipal Building also houses the Township's Senior Center and Police Department. Vernon's Municipal Building was constructed in 1978 and expanded in 1992 to its current size of 31,520 square feet. The expansion effectively doubled the building's space. The Municipal

Building conforms to the requirements of the Americans with Disabilities Act in that barrier-free access is provided.

Police Services

The Vernon Township Police Department consists of 32 sworn police personnel, nine full-time civilian employees and four part-time communications operators. The Vernon Township Police Department headquarters is located in the lower level of the Municipal Center. The equipment used by the department consists of nine patrol cars, three four-wheel drive patrol vehicles used during poor weather, seven unmarked cars and two police boats.

The Vernon Police Department performs a myriad of functions in addition to the customary daily functions of police departments. These duties include: cooperation and coordination with local security forces, forensic photography, trained identification of criminal suspects with composites, arson investigation, the Fatal Accident Investigation Team, a full-time Juvenile Officer and a School Resource Officer Program.

The department's main need is an all-weather firearm practice facility in that an enclosed pistol range would best serve the department's firearm practice needs.

Standards

State and national standards are often used to determine the appropriate number of police officers per population. The Federal Bureau of Investigation's (FBI) standards are two police officers per 1,000 individuals. Based on a 1990 Census population of 21,211 persons, Vernon should have 42 officers; the Township currently has 32. In addition, the State of New Jersey averages 2.4 officers per 1,000 individuals. Using this standard, Vernon should have 51 officers.

Public Works

The Department of Public Works is located at 2 Riggs Way. The department employs a total of 28 personnel. The crew is responsible for road maintenance, street sign production and

installation, municipal vehicle and ancillary services. The Public Works facility needs additional garage space and enclosed storage space for vehicles and equipment.

Animal Control

The Animal Control facility is located on Church Street. It currently houses an animal shelter and employs three full time and one part time employees.

Township Parks And Recreation Facilities

The Township has three park facilities, Veterans Memorial Park, Old Orchard Park, and Hunter Ridge. Township parks and open space facilities, including the Township's recreation needs, are discussed in detail in the Parks, Recreation and Open Space Element of this Master Plan.

Fire Department

Vernon Township is served by four fire companies: the Highland Lakes Fire Department, the Pochuck Valley Fire Department, the Vernon Fire Department Company Number One and the McAfee Fire Department.

The firehouses are fairly evenly dispersed throughout the Township. However, the northwestern section of the Township may need its own firehouse and fire company as development occurs in this area. This is presented as a long term recommendation. Currently, the Township is adequately served by its existing fire stations.

Highland Lakes Fire Department

The Highland Lakes Fire Department operates out of the Highland Lakes Firehouse, located on Canistear Road . The company consists of 36 members. The equipment used by the department consists of one Chief's car, one 1,250 gallons per minute 1,000 gallon pumper, one 1,000 gallons per minute 1,000 gallon pumper, one 1,250 gallon per minute 2,500 gallon tanker pumper, and one 14 foot boat.

The fire company indicated the following future needs. First, the department needs a fire support vehicle which could be used to transport manpower and equipment to and from fires. The department also needs a four-wheel drive mini pumper for access to areas that the larger vehicles are physically unable to reach, such as forested areas and steep driveways. Lastly, a building addition is needed at the department's headquarters.

Pochuck Valley Fire Department

The Pochuck Valley Fire Department operates out of the firehouse on Lake Wallkill Road and Woodland Terrace. This 38 member company primarily serves the Pochung Mountain section of the Township. The equipment used by the department consists of one 1,000 gallon per minute 3,500 gallon Mack tanker-pumper, one 1,000 gallon per minute 750 gallon Mack pumper, one 1,000 gallon per minute 1,000 gallon Mack pumper, and one Chief's car.

The company' identified its future needs as a mini pumper and an addition to the existing firehouse.

Vernon Fire Department

The Vernon Fire Department Company Number One's headquarters is on Route 94 near the Route 515 intersection. The fire company recently received site plan approval for the conversion of the existing pavilion at Firemen's Pond to a five-bay garage. The building will be used to store firefighting equipment and hazardous material equipment.

The Vernon Fire Department is the largest fire company, consisting of 48 members. The equipment used by the company consists of a 1954 American LaFrance Pumper, a 1979 Ford Tanker with a 2,500 gallon tank, a 1988 Grumman Pumper with a 1,000 gallon tank, and a 1990 Grumman Pumper with a 1,000 gallon tank.

The company has two major needs. First and foremost, the company needs a new tanker truck with a 3,500 gallon holding capacity. Second, the department's five portable radios also need upgrading.

McAfee Fire Department

The McAfee Fire Department headquarters is located at the intersection of Routes 517 and 94. The fire company consists of 36 total members. The equipment used consists of one 1,250 gallon per minute 1991 International Pumper which holds 750 gallons of water, one 1989 Pierce Aerial ladder with a 105 foot height which also has a 1,500 pumper that holds 2500 gallons of water, and one 2,000 gallon per minute 2,500 gallon Hahn Pumper Tanker.

The company identified two needs. First, the 1982 pumper-tanker needs to be replaced with a newer model. Second, the firemen need new fire gear.

Volunteer Ambulance Services

The Township is served by two volunteer ambulance companies, the Vernon Township Ambulance Squad and the Glenwood-Pochuck Ambulance Squad.

The Vernon Township Ambulance Squad

The Vernon Township Ambulance Squad was established in 1964 and has 70 members. The squad serves 62 square miles of Vernon Township. The squad has two buildings; one is located on Route 94 and the other is on Breakneck Road in the Highland Lakes Section of the Township.

The company has six main functions: first aid education, rescue services, lending services, transport services, stand-by services and mutual aid. The first aid education consists of cardio-pulmonary resuscitation (CPR) and Emergency Medical Technicians (EMT) training, as well as Red Cross First Aid Certification. The rescue functions are performed by a rescue team consisting of 15 active members of the ambulance squad. These members receive special certification to perform these functions. The company's lending services involves the lending of

items such as wheelchairs and crutches. The transport services involves transporting Vernon residents to and from the hospital and home, or from one hospital to another hospital. The stand-by services include support services to the Fire Departments, Police Departments and the community on an as needed basis. The mutual aid services are extended to surrounding towns when needed.

The Glenwood-Pochuck Ambulance Squad

The Glenwood-Pochuck Ambulance Squad was established in 1980 and consists of 48 members. This squad serves the western section of the Township. The Glenwood-Pochuck Ambulance Corps provides four basic functions: first aid education, lending services, stand-by services and mutual aid. The first aid education includes cardio-pulmonary resuscitation (CPR) and Emergency Medical Technicians (EMT) training, as well as Red Cross First Aid Certification. The company's lending, stand-by and mutual aid services are similar to those provided by the Vernon Township Ambulance Squad.

Library

The Dorothy Henry Memorial Library is located on Route 94 in Vernon Township. This the Vernon Branch of Sussex County's library system. The County maintains a main library in Frankford Township as well as five branch libraries. The Vernon Branch serves Vernon, Wantage and Hardyston Townships as well as Hamburg Borough.

The library is located on a 4.5 acre tract in a building constructed in 1981. The library contains a circulation area, a staff work area, the reference desk and reading area, study carrels, micro film readers, an adult reading area, a children's section, a periodical reading room, and a community meeting room. The staff consists of six full-time and five part-time employees.

The library has 25,000 books, 80 periodicals, 200 audio tapes and 600 video tapes available for circulation. In addition, the library contains a variety of reference sources. The library also

provides services to the communities it serves, such as adult and children's programs and inter-library loans.

The library's three main needs. First and foremost, a building expansion and/or additional floor space is required as the library's services and collections continue to expand. The library also needs access to computerized information as well as a new computerized and automated Circulation System to replace the current library card catalogue and filing system. The latter should be a county-wide database instituted by the Sussex County Library system.

School Facilities

The Vernon Township Public School District employs 538 individuals and operates a grades K-12 education program. The program consists of six schools as shown in Table VII-1.

Table VII-1

VERNON TOWNSHIP PUBLIC SCHOOLS BY GRADE AND LOCATION:

1995

Vernon, New Jersey

<u>Name</u>	<u>Grades</u>	<u>Location</u>
Walnut Ridge Primary School	K-1	625 Route 517
Cedar Mountain Primary School	2-4	17 Sammis Road
Rolling Hills Primary School	2-4	60 Sammis Road
Glen Meadow Middle School	7-8	7 Sammis Road
Vernon Township High School	9-12	1834 Route 565
Lounsberry Hollow Middle School	5-6	30 Sammis Road

Source: Vernon Township Superintendent of Schools' Office.

At this time, the Vernon School District is not planning to construct another school. However, 1992 construction referendum approved the following additions:

1. Construction of six additional classrooms at Walnut Ridge Primary School.
2. Construction of six additional classrooms at Lounsberry Hollow Middle School.
3. Conversion of the metals and auto shop at the High School to three full-size classrooms.
4. Replacement of the High School's roof.

The above additions have been completed and are now being used. In addition, a September, 1993 addition at the High School resulted in the construction of two new classrooms and a training room for the athletic program.

The Vernon Township Public School District also maintains separate administrative offices on Route 515 and office space for the Department of Special Services on Route 94.

Enrollment History

Table VII-2 shows the enrollment history for the Vernon Township public schools from the 1991/1992 school year to the 1994/1995 school year. Table VII-3 shows the special education enrollment history. The enrollments have generally been increasing with the exception of the 1994-1995 special education classes which declined by 52 students from the 1993-1994 school year. Approximately half of this decline can be attributed to the absence of high school special education students in self-contained classrooms. There were, however, students who received special services such as the resource center and in-class support for classified students; these students are included in the public school enrollment data as they were not in self-contained classrooms.

Table VII-2
PUBLIC SCHOOL ENROLLMENT HISTORY, 1991-1995
 Vernon Township, Sussex County, New Jersey

<u>Grade</u>	<u>1991- 1992</u>	<u>1992- 1993</u>	<u>1993- 1994</u>	<u>1994- 1995</u>
K	444	468	419	476
1	440	468	516	443
2	398	443	484	493
3	400	404	441	459
4	345	396	404	443
5	384	360	387	407
6	349	390	355	410
7	403	353	375	357
8	334	401	345	381
9	333	317	386	360
10	309	311	309	349
11	259	305	313	310
12	<u>291</u>	<u>238</u>	<u>281</u>	<u>292</u>
Totals	4,689	4,854	5,015	5,180

Source: Vernon Township Superintendent of Schools' Office.

Table VII-3
ENROLLMENT HISTORY: SPECIAL EDUCATION CLASSES, 1991-1995
 Vernon Township Public Schools

<u>Grade</u>	<u>1991- 1992</u>	<u>1992- 1993</u>	<u>1993- 1994</u>	<u>1994- 1995</u>
K-4	119	122	129	109
5-8	62	76	86	83
High school (9-12)	<u>34</u>	<u>41</u>	<u>22</u>	<u>0</u>
Totals	215	239	244	192

Source: Vernon Township Superintendent of Schools' Office.

Enrollment Projections

The Vernon Township Board of Education has prepared a long range facility plan for Vernon, which includes enrollment projections for the Township. Table VII-4 details Vernon's projected enrollment by grade level for the years 1996-2000. The projected enrollment shows an increase of 364 school children over the next four years.

The enrollment projections are consistent with the 2000 population projection of 24,391 persons estimated in this Master Plan. There were 5,372 enrolled school children in the 1994-1995 school year as is indicated in Tables VII-2 and VII-3. This is approximately 23 percent of Sussex County's 1995 population projection of 23,100 persons for Vernon Township. Assuming that the percentage of the population comprised of school children remains at 23 percent for the year 1000, an estimated 5,610 students, out of a total estimated population of 24,391, would be enrolled in Vernon's public schools. The Superintendent of Schools is projecting a 1999-2000 enrollment of 5,632 students. Both figures are consistent.

The Superintendent of Schools has indicated that the increase in school children will not result in the need for a new school. Instead, the construction approved in the 1992 referendum will provide sufficient space for the next five years. In addition, the Board of Education has created a standing Housing Review Committee that continuously monitors enrollment trends and school capacities.

Table VII-4
ENROLLMENT PROJECTIONS, 1996- 2000

Grade	1995-1996 *		1996-1997		1997-1998		1998-1999		1999-2000	
	Reg.	Spec. Ed.	Reg.	Spec. Ed.	Reg.	Spec. Ed.	Reg.	Spec. Ed.	Reg.	Spec. Ed.
K	483	0	439	0	442	0	401	0	444	0
1	466	0	493	0	448	0	451	0	409	0
2	398	0	458	0	484	0	440	0	443	0
3	425	0	394	0	453	0	479	0	435	0
4	416	0	425	0	394	0	453	0	479	0
5	419	0	420	0	429	0	398	0	457	0
6	388	0	422	0	423	0	432	0	401	0
7	410	0	402	0	437	0	438	0	447	0
8	362		413	0	405	0	440	0	441	0
9	376	0	356	0	406	0	399	0	433	0
10	330	0	354	0	335	0	382	0	376	0
11	337	0	324	0	348	0	329	0	376	0
12	<u>284</u>	<u>174</u>	<u>317</u>	<u>178</u>	<u>305</u>	<u>180</u>	<u>327</u>	<u>181</u>	<u>309</u>	<u>182</u>
Totals	5,094	174	5,217	178	5,309	180	5,369	181	5,450	182

Source: Vernon Township Superintendent of Schools' Office.

* Actual enrollments for the 1995-1996 school year were not available at the time of this writing.

Functional Capacity

The Vernon Township School District's total functional capacity is 5,700 students. This represents a 432 student surplus when compared to the projected 1995 enrollment of 5,268 students. Functional capacity of schools is based on a statistical formula and not on the required educational space needed at the specific grade levels. The functional capacity figure addresses the plumbing and ventilation needs of the school and not its curriculum and education needs. The functional capacity of Vernon's public schools is detailed in Table VII-5 .

Table VII-5

FUNCTIONAL CAPACITIES OF
VERNON PUBLIC SCHOOLS: 1995

<u>School</u>	<u>Functional Capacity</u>
Walnut Ridge Primary School	795
Rolling Hills Primary School	827
Cedar Mountain Primary School	814
Lounsberry Hollow Middle School	907
Glen Meadow Middle School	899
Vernon Township High School	<u>1,458</u>
Total	5,700

Source: Vernon Township Superintendent of Schools' Office.

Table VII-6 shows the projected school building needs through a comparison of capacities and projected enrollment. As shown in the table, there is a projected deficit in the Walnut Ridge School from the current school year through the 1999/2000 school year. The Superintendent indicated that this possible capacity problem at Walnut Ridge School is an ongoing concern of the Housing Review committee. The committee reviews this situation on an ongoing basis.

Table VII-6

PROJECTED SCHOOL BUILDING NEED

Vernon Township Public Schools

<u>School</u>	<u>1995 - 1996</u>			<u>1996 - 1997</u>			<u>1997 - 1998</u>			<u>1998 - 1999</u>			<u>1999 - 2000</u>		
	<u>Proj Enr</u>	<u>Surplus Cap</u>	<u>Deficit</u>	<u>Proj Enr</u>	<u>Surplus Cap</u>	<u>Deficit</u>	<u>Proj Enr</u>	<u>Surplus Cap</u>	<u>Deficit</u>	<u>Proj Enr</u>	<u>Surplus Cap</u>	<u>Deficit</u>	<u>Proj Enr</u>	<u>Surplus Cap</u>	<u>Deficit</u>
Vernon Twp High	1327	1458	131	1351	1458	107	1394	1458	64	1437	1458	21	1494	1458	-36
Cedar Mountain School	644	814	170	662	814	152	693	814	121	714	814	100	713	814	101
Glen Meadow	813	899	86	858	899	41	886	899	13	924	899	-25	935	899	-36
Lounsberry Hollow	851	907	56	888	907	19	898	907	9	876	907	31	905	907	2
Rolling Hills	644	827	183	665	827	162	691	827	136	712	827	115	717	827	110
Walnut Ridge	988	795	-193	971	795	-176	927	795	-132	888	795	-93	889	795	-94

Source: Vernon Township Superintendent of Schools' Office.

**VIII. PARKS, RECREATION
& OPEN SPACE**

VIII. PARKS, OPEN SPACE & RECREATION PLAN

INTRODUCTION

Parks, open space and recreation facilities are important components of the quality of life within a community. Vernon Township has an abundance of open space areas which provide passive recreation opportunities to its residents. It is particularly important, however, to evaluate how the entire park and recreation inventory meets local demands for both passive and active recreation.

INVENTORY OF PARK & RECREATIONAL FACILITIES

Vernon contains approximately 11,967 acres of open space, parks and recreation areas. This includes national, state, and local parks and facilities. In total, these areas comprise approximately 27 percent of the Township. The locations of the existing park and recreation facilities are shown on Map VIII-1.

Approximately 11,861 acres of the Township's parkland are comprised of national and state owned parkland. These include 8,968 acres of Wawayanda State Park, approximately 903 acres of the Appalachian Trail, 1,579 acres of the Wallkill River Wildlife Refuge, and 411 acres of the Hamburg Mountain Wildlife Management Area. The Appalachian Trail, the Wallkill River Wildlife Refuge, and the Hamburg Mountain Wildlife Management Area will be discussed in greater detail in this element.

Township owned facilities comprise 106 acres, which is less than one percent of Vernon's total parkland. The Township parks include Veterans Memorial Park (67 acres), Old Orchard Park (11 acres), and Hunter Ridge (28 acres). Hunter Ridge is undeveloped parkland. Table VIII-1 provides a summary of Township owned parkland.

Table VIII-1
TOWNSHIP PARK FACILITIES
Vernon Township

<u>Park Name</u>	<u>Location</u>	<u>Acreage</u>	<u>Passive/Active</u>
Veterans Memorial Park	Vernon Crossing Rd.	67	Active
Old Orchard Park	Route 565	11	Active
Hunter Ridge	Route 565, near High School	28	Passive
Totals		106 acres	2 active; 1 passive

Source: Land Use & Community Facilities: Master Plan Report #3, prepared by Dorram Associates, Inc., 1993.

ACTIVE RECREATION

The Vernon Township Recreation Department provides a variety of recreation programs. Veterans Memorial Park contains two basketball courts, two baseball fields, one soccer field, one softball field, one football field, one pavillion/gazebo, one tot lot for pre-school aged children, and one playground equipped for use by handicapped children. Old Orchard Park contains the Little League fields and soccer fields.

The Township's private lake communities also have recreation areas available for their residents. This provides the residents of the lake communities with a wonderful amenity. However, these lands are not available to the remainder of Vernon's residents. In addition, they are not used for organized Township recreation activities such as Little League.

Township Recreation Needs

The Township is lacking in playing fields for soccer, baseball, and football. Ames Rubber, a business located on Vernon Crossing Road, provides playing fields for the soccer program. In

addition, the fields on the two developed parks are used as well as the fields at the public schools. A total of 13 fields are used at Vernon's five public schools. However, these playing areas are inadequate and cannot accommodate the large numbers of children who participate in the recreation programs. The fields are also limited in size and thus the type of sports that can be played on them is also limited. For example, one field at the Walnut Ridge School is small enough to be limited to "pee-wee" soccer. The field at the Rolling Hills School is also limited to "pee-wee" softball and baseball. Older children cannot play organized sports on these fields. Lastly, the public schools' fields are all one dimensional, meaning that they can be used for one sport at a time. For example, some of the soccer fields may be used for softball or baseball in the spring. However, the fields can accommodate one game at a time. A multi-dimensional field would allow two or more games to be played simultaneously. The Kittatinny High School has such a facility; six games can be played at the same facility at once.

The use of fields on Board of Education lands and on Ames Rubber property is not a long term, permanent solution. The Township needs to identify fields appropriate for active recreational use and move toward acquiring those lands. Specifically, the Township Recreation Board recommends that the Township obtain three or four new baseball fields, four or five soccer fields and two basketball fields. Some of these fields can be used for two sports, such as football in the fall and baseball in the spring. The Recreation Board also recommends that the fields have lights and adequate parking for spectators. A multi-dimensional facility is also recommended. Lastly, the board also recognizes that there are no active recreation facilities for the Township's senior citizens such as shuffleboard and tennis and has identified this as another of Vernon's recreation needs. Reviewing the community facilities map, it is notable that the southern and the western portions of the community are in need of recreational areas and facilities.

PASSIVE RECREATION

Open space areas are a source of passive recreational activities, including nature trails, jogging paths, and bicycle paths. The benefits of open space, however, extend far beyond its recreational

value. Open space protects resources, whether natural, cultural or historic, and provides visual relief in populated areas.

Vernon is fortunate to have the Wallkill National Wildlife Refuge, the Wawayanda State Park, 12 miles of the Appalachian Trail, and 411 acres of the Hamburg Mountain Wildlife Management Area within its borders. These parks provide open space opportunities for Vernon's residents and visitors.

Wallkill National Wildlife Refuge

The Wallkill River National Wildlife Refuge is located along nine miles of the Wallkill River in Sussex County, New Jersey and Orange County, New York. Currently, approximately 2,649 acres of the refuge have been acquired by the federal government. Approximately 60 percent (1,578 acres) of the acquired land is located in Vernon Township. A total of approximately 6,438 acres exist within the refuge's approved acquisition boundary which contains the maximum limits of acquisition for the refuge. Approximately 2,934 acres (46 percent) of this land is in Vernon Township.

The Wallkill River National Wildlife Refuge, which was established in 1990, is one of approximately 500 refuges in the National Wildlife Refuge system operated by the United States Fish and Wildlife System. The National Wildlife Refuge System is an almost 92 million acre land and water network which serves to protect wildlife and wildlife habitats and a secondary benefit in that it preserves environmentally sensitive lands. Refuges are located nationwide, as well as the Caribbean and South Pacific. They boast a diverse natural inventory and represent the most comprehensive wildlife management program worldwide.

The Wallkill Refuge is a considerable ecological resource. It surrounds two important migration paths for waterfowl traveling between eastern Canada and the Atlantic Coast, and the Delaware River and Hudson River corridors. Waterfowl traveling both routes often relax and feed in the Wallkill River's wetland network. In fact, the Wallkill River bottomland is one of the few, large areas of high quality waterfowl habitat remaining in northwestern New Jersey. It supports a

diverse range of species, including nineteen of the state's documented threatened and endangered species and five of New York's registered species. The refuge itself hosts over 225 different bird species, including 21 species of waterfowl, 32 species of water birds, 24 species of raptors, and 125 species of songbirds. The refuge is also home to many different mammals, including the cottontail rabbit, gray squirrel, raccoon, beaver, muskrat, red fox, gray fox, coyote, white-tailed deer, and the occasional black bear. Lastly, the river is also an exceptional warm water fishery for largemouth bass, pickerel, perch, sunfish, and bullheads. Most of the land within the Refuge delineation line consists of wetlands and flood plains.

The Hamburg Mountain Wildlife Management Area

The Hamburg Mountain Wildlife Management Area is located in both Hardyston and Vernon Townships. Approximately 83 percent of this 2,442 acre wildlife management area is in Hardyston; only 411 acres are located in Vernon Township.

The New Jersey State Division of Fish, Game and Wildlife administers and maintains the approximately 210,000 acres contained in the 86 wildlife management areas located throughout the state. The wildlife management areas offer wildlife oriented recreation. This includes various low intensity uses, such as hunting, fishing, hiking, cross-country skiing and bird-watching.

The main wildlife habitats found in the Hamburg Mountain Wildlife Management Area are deer and upland game, such as squirrels and grouse. The Hamburg Mountain Wildlife Management Area basically maintains itself. The State Division of Fish, Game and Wildlife provides signs which indicate the wildlife management area's boundaries, maintains the parking area, and collects the garbage generated on-site. The tract is mountainous and forested; unfortunately, the rough terrain limits access to and parking at the management area.

The Appalachian Trail

The Appalachian National Scenic Trail is a 2,144 mile continuously marked footpath that extends from Maine to Georgia. The Appalachian Trail (the "Trail") traverses the crest of the

Appalachian mountain range to form a linear park. The Trail crosses 14 states, including New Jersey, which contains seventy Trail miles. Vernon Township contains seventeen percent, or 12 miles, of New Jersey's section of the Trail. Visitors traveling along the Vernon section of the Trail are exposed to a variety of natural wonders ranging from waterfalls and streams to black bears.

The Trail is the largest recreational resource in the country that the federal government does not supervise; volunteers maintain it nationwide. In 1984, the United States Department of the Interior, National Park Service, declared the Appalachian Trail Conference responsible for managing those portions of the Trail and its corridor lands which are outside official park and forest areas. The Conference is a nonprofit volunteer organization which was established in 1925. The Appalachian Trail Conference subsequently delegated the day-to-day maintenance and development of New Jersey's 70 miles of the Trail to the New York - New Jersey Trail Conference. The New York - New Jersey Trail Conference is another nonprofit organization, which was founded in 1920.

Trail History

Volunteers completed the first continuous Appalachian Trail in 1937. Unfortunately, the Trail's quality declined in the following years due to hurricane damage and lack of public attention. However, public interest in the Trail soon peaked again, and the entire Trail was relocated, opened and marked for all to enjoy by 1951. In 1968 Congress adopted the National Trails System Act which officially established the Appalachian Trail as a linear national park. The legislation also authorized funds to purchase the land surrounding the Trail in an effort to buffer the Trail from conflicting land uses.

Ten years later the Appalachian Trail Amendment was signed into law which required that a corridor of land to act as buffer for the Trail be established. The amendment authorized ninety million dollars for the purchase of the corridor. Subsequent to the adoption of the amendment, the State of New Jersey utilized Green Acres funds to purchase a land corridor for the Trail's permanent location.

The Corridor

The National Park Service established a 1,000 foot wide corridor standard to insulate and protect the Appalachian Trail and its environs from nearby non-wilderness uses. The National Park Service has been acquiring supplemental property in critical areas as a protection program. Still, in many places where the National Park Service has acquired corridor lands, existing land uses prevent the achievement of a the 1,000 foot wide corridor.

Fortunately, the State of New Jersey owns the full 12 mile length of the Trail located in Vernon Township thereby guaranteeing it will remain a permanent public open space. One of Vernon's current challenges is the need for further buffering of the Trail, which will insulate its wilderness character from adjacent developments. Local planning can help achieve additional protection for this national resource in Vernon Township; examples of these planning techniques are discussed at the end of this section.

RECREATION STANDARDS

The Wallkill River National Wildlife Refuge, Appalachian Trail, the Hamburg Mountain Wildlife Management Area and the Wawayanda State Park provide Vernon's residents with over 11,000 acres of passive recreation. This is sufficient for a Township with a population of 21,211 individuals.

However, Vernon does not have adequate local park facilities, which are especially needed to serve the recreation demands of the existing population. The National Recreation and Parks Association (NRPA) suggests that a park system consist of at least 6.25 to 10.5 acres of "close-to-home" developed parkland per 1,000 people. Based on a 1990 population of 21,211, this places the range of minimum parkland for Vernon Township at between 132.6 and 222.7 acres. Vernon's 78 acres of developed parkland is 54.6 acres less than the minimum recommended amount.

Other NRPA recommendations include the following.

1. One and one-half acres of tot lots and playgrounds per 1,000 residents. These facilities are primarily used by preschool age children and younger children and have a minimum recommended size of 4,000 square feet with a service radius of one-eighth of a mile. Based on a 1990 Census population of 21,211 persons, Vernon would need approximately 32 acres of these types of facilities.
2. One acre of neighborhood parks and playgrounds per 1,000 population. Based on a 1990 Census population of 21,211 individuals, Vernon would need approximately 21 acres of these facilities.
3. Five acres of neighborhood and community parks per 1,000 residents. These facilities serve all age groups. Based on its 1990 Census population, Vernon needs approximately 106 acres of these facilities.
4. One and one-half acres of playfields per 1,000 residents. As with the tot lots and playgrounds, Vernon should have approximately 32 acres of these facilities.

Regardless of whether Vernon's facilities fall within the NRPA's minimum standards, the true measure for a park system's adequacy is community satisfaction. The NRPA standards only reflect the number of facilities, ignoring the location of the parks and the quality of the parks in terms of apparatus, design, access and other important factors. As has been explained, the Township Recreation Board considers Vernon to have a deficit of recreational space.

Proposed Parks And Recreation Facilities

The lack of "close to home" park facilities and active recreation facilities signifies the need for a greater variety of recreational resources in Vernon. In addition, new residential and commercial development will increase the demand for recreational facilities. The following actions are recommended to increase the quality and availability of parks and recreation facilities:

1. New residential development are an appropriate place to employ subdivision techniques which will create open space and parks. Developers of residential subdivisions should be encouraged to utilize development techniques which could result in the creation of open space that is easily accessible to the residents of the development. Methods for obtaining these open space areas are discussed below.
2. Developers of industrial parks and other nonresidential uses that employ a large number of people should be encouraged to provide recreational facilities or open space, such as walking or bicycle trails which connect to other open space/recreational facilities.

Proposed Open Space Areas

Vernon's residents are fortunate to have four large open space systems within their Township. These open spaces provide recreational opportunities for Vernon's residents as well as providing a resource which can be used to promote eco-tourism. However, the Township could also benefit from an internal open space network, such as a local greenway system. Such a system would consist of walking or bicycle trails which would connect residential areas with open space and recreational facilities, such as the Walkkill National Wildlife Refuge. The proposed greenway system could appear on the Township's official base map as a guide for developers who are donating land as part of the development process.

A variety of techniques to acquire these open space areas as well as to supplement the Appalachian Trail Corridor and to obtain land within the Walkkill National Wildlife Refuge are recommended. These are as follows.

Easements

Easements provide an economic approach to open space acquisition. They cost less than direct purchase and are advantageous to landowners since the land is still owned and may be used by them. Several types of easements are proposed to preserve open space. A scenic easement limits development to preserve a view or scenic area. Scenic easements may be used to protect important scenic views, such as along the Appalachian Trail. The conservation map indicates the

areas of the Appalachian Trail that should have additional land as buffer areas. These easements could connect to other open space or recreational facilities to create a greenway park system throughout the Township. A conservation easement precludes the additional development of an area in order to preserve existing natural conditions.

Conservation easements are appropriate to preserve the land along Vernon's stream corridors and to create the greenway park system. Vernon's current Zoning Ordinance requires that buildings be set back at least 50 feet from the edge of any pond or lake. This section could be updated with more stringent requirements. For example, Vernon could require that the 200 foot area from the center line of all stream corridors to be preserved. Another option is to require that the 75 feet from the edge of a stream or other water body be preserved.

Cluster Subdivision Ordinance

Vernon currently has a cluster subdivision ordinance which allows a modest reduction in the minimum lot size permitted in the zone district and thereby creates an area to be used for open space purposes. The open space is either dedicated to the Township or owned by a neighborhood association. The cluster subdivision ordinance does not involve a density bonus; the number of units produced under a cluster subdivision is the same as if the development were constructed as a conventional subdivision. The ordinance requires a minimum tract size of 20 acres for a cluster subdivision and a minimum open space requirement of 20 percent of the total tract size.

The cluster subdivision provides many benefits. First, a new open space area is created. This tract is easily accessible to the residents of the development from which the land originated. Second, the infrastructure costs and maintenance is lower in a cluster subdivision as the dwelling units are "clustered" close together thereby reducing the development's sprawl effect. Lastly, the open space preservation not only ensures an open space tract for Vernon but also provides environmental benefits as less of the land in the development is disturbed therefore it produces less impervious coverage, run-off and other negative polluting effects.

There are ways to update Vernon's cluster subdivision ordinance to provide the Township with different types of open space tracts. For example, the Township could increase the amount of land to be reserved for open space within a subdivision. Under the current regulations, a 20 acre tract would yield 4 acres of open space. The Planning Board should instead consider an open space yield of 25 percent.

Another possible revision to the ordinance pertains to the type of land which is donated to the Township or a neighborhood association. Specifically, the ordinance could restrict the percentage of open space that contains a detention basin or severe environmental constraints. Such lands could be the minority of the open space land while the majority could be open space suitable for active recreation.