THE CLINTON TOWNSHIP NATURAL RESOURCE INVENTORY (NRI)

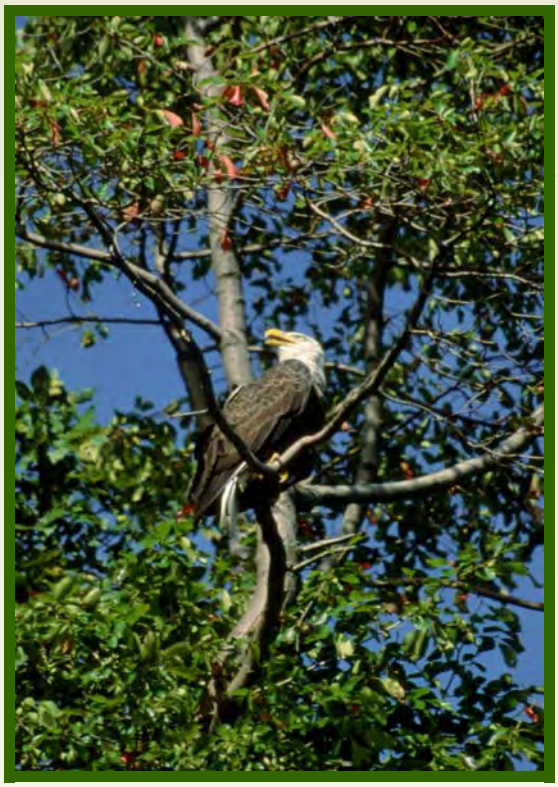

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TABLE OF CONTENTS

Subject **Page Number**

Introduction

Section I ~ Resource Planning and Protection Overview

TABLE OF CONTENTS

Subject **Page Number**

Section II ~ The Natural Resources Inventory

TABLE OF CONTENTS

Subject **Page Number**

Section II ~ The Natural Resources Inventory ~ Continued

Section III ~ Natural Resource Vulnerability

TABLE OF CONTENTS

Subject **Page Number**

Section IV ~ Natural Resources Management Plan

TABLE OF CONTENTS

A List of Illustrations

Subject **Page Number**

Tables

Maps

TABLE OF CONTENTS

A List of Illustrations ~ Continued

Other Illustrations/Figures

Photographs

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TABLE OF CONTENTS

A List of Illustrations ~ Continued

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Ms. Debbie Newcomb, Secretary
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Introduction

The South Branch Raritan River at Gray Rock Road

Certainly the most valuable application of (ecological) inventories is to determine locations for land uses and most particularly for urbanization…Let us ask the land where are the best sites. Let us establish criteria for many different types of excellence responding to a wide range of choice.

~ Ian McHarg, Design With Nature, 1969 ~

Introduction to Natural Resources Inventory (NRI) & Study Update

Introduction, Goals & Objectives ~

Clinton Township is located in northwestern New Jersey in Hunterdon County between 40°73'30" north latitude and 74°52'30" west longitude, and is approximately 34.12 square miles in area. (Map 1 & Map 2). The Township of Clinton falls within both the Highlands and Piedmont Physiographic regions (see section on *Geology* for full description of these regions).

Interstate 78 (I-78), State Route 31, and U.S. Route 22 converge in the Township, with traffic volumes increasing significantly in recent years. Other major county roadways (Routes 623, 629, 639 and 641) meander throughout Clinton Township. Municipalities bordering the Township of Clinton include Tewksbury, Lebanon, Union, Readington, Raritan, and Franklin Townships as well as the Town of Clinton, Boroughs of Lebanon and High Bridge and the South Branch of the Raritan River. The Township was established in 1841. In 1881 the Township had a population of 2,133 and approximately 170 farms. Individual sites and villages of historic interest are located throughout the Township and are discussed in greater detail in Section II of this Natural Resources Inventory.

Nestled between Round Valley and Spruce Run reservoirs, Clinton Township's surface and groundwater resources are of paramount importance. The reservoirs were originally constructed by the State of New Jersey in the 1960s for water supply. The 1958 Water Supply Law and its companion Water Bond Act authorized the construction of reservoirs.

Through the years, the Township has shown a keen interest in understanding and protecting its finite groundwater and surface water resources. Past studies indicate the existence of unique limestone features and groundwater zones necessitating judicious land-use and development density decisions. Section II of this study includes information on aquifers, recharge areas, and the quality and quantity of water resources.

In addition to valuable water resources, Clinton Township has a variety of other resources that are worthy of protection efforts. Examples include significant wetland, forest, and grassland habitat associated with threatened and endangered wildlife, as well as scenic roadways providing the "rural character" important to local citizens. There are many other resources described throughout this inventory. Despite the existence and significance of the Township's natural resources, statewide, county and local data indicate continued development pressure since the early 1980's.

Recognizing growth and development trends, the Clinton Township Planning Board (CTPB) requested the Clinton Township Environmental Commission (CTEC) to update the Natural Resources Inventory (NRI), because the state and local information base had evolved considerably since the completion of the last two inventories (South Branch Watershed Association, 1976 & Open Spaces Biological Inventory, 1995). This was especially true in the area of Geographical Information Systems (GIS). In fact, the importance of having digital

environmental information and GIS-proficient municipal officials and staff were stressed throughout the project.

Primary project goals included a) obtaining updated, digital natural resources information from the Hunterdon County Planning Board, NJDEP, past and current consultants; and b) using the GIS mapping and associated databases as a resource inventory and resource vulnerability determination tool. Obtaining GIS equipment and providing GIS education for Township staff were also important goals of this project. Overall, the Township's intent was to locate significant remaining resources in Clinton Township in order to provide an updated, and useful comprehensive planning tool. Specifically, this NRI is to be used to review development plans, guide future development, and recommend best management practices for the Township (e.g., Planning Board, Environmental Commission, and Township professionals), local landowners, and interested citizens.

Plan Components ~

The Clinton Township NRI is a comprehensive compilation of text, maps, charts, and geographical information system (GIS) data that fully describe the location and extent of environmental resources in the Township. The body of the plan contains an overview of resource protection tools currently in place, a comprehensive resource inventory, a resource vulnerability analysis, and a resource management plan with goals, objectives, and recommendations for resource preservation, conservation, and management.

The NRI also includes the most updated GIS mapping and database technology available through federal, state and local sources. All GIS data contained in this inventory is available at the Township planning office. The updated information may now be used to produce color images depicting the natural resources and other spatial distribution throughout the Township. Environmentally sensitive areas are highlighted on these maps to provide the user with additional information about the relative importance of the resources.

Plan Methodology~

To complete the NRI, Princeton Hydro, LLC interviewed local citizens, naturalists, historians, Township officials, Township employees, local agencies, current engineering and planning consultants, and past environmental consultants. Several public meetings and work sessions were held with both the Environmental Commission and Planning Board to provide a framework for current and future environmental needs.

Many information sources were used to obtain the most updated natural resource and land development data for Clinton Township. Information sources for environmental planning and protection efforts included the Clinton Township Master Plan, Land Use Regulations and Zoning Ordinance, the Clinton Township and Hunterdon County Open Space Inventories, and recent Conservation, Natural Resources and Agriculture Element amendments to the Township Master Plan.

Information sources for the resource inventory included federal, state, and local agencies and non-profit groups including the United States Environmental Protection Agency (EPA), the United States Department of the Interior (USDA), the United States Fish and Wildlife Service (USFWS), the New Jersey Office of State Planning, and the New Jersey Department of Environmental Protection (NJDEP). Local agencies such as the Hunterdon County Planning Board, Hunterdon County Soil Conservation District, and Hunterdon County Department of Parks & Recreation were also contacted for updated resource information. Non-profit groups contacted included the South Branch Watershed Association, New Jersey Audubon, and the Nature Conservancy.

Digital GIS mapping information was obtained from the NJDEP GIS Data Website, the Hunterdon County Planning Board, and private firms working for Clinton Township. Digital (GIS) overlay analyses were completed in order to determine the location of vulnerable natural resources within the Township. For instance, a Township map showing areas experiencing development between 1986 and 1995 was overlaid with a map illustrating areas of habitat supporting threatened and endangered species. This particular GIS exercise provided information on the location, type and extent of lost habitat. Several additional overlay exercises were completed in order to create the resource vulnerability maps contained in Section III.

Throughout the process, the CTEC was involved in formulating the planning process, participating in public outreach efforts, completing the necessary research, providing historical documents, and reviewing drafts. A comprehensive list of references obtained for this project is included in the bibliography.

Inventory Findings ~

Clinton Township contains a wealth of valuable environmental and cultural resources including preserved open space, recreational and ecologically significant rivers and lakes, prime agricultural soils, unique flora and fauna, historic villages, scenic roadways, and state classified critical grassland, forest, and wetland areas. However, additional efforts should be taken to protect Clinton Township's remaining resources. The following sections provide an overview of the findings, existing constraints, vulnerabilities, and management recommendations included in the Clinton Township NRI:

- **Climate ~** Climate greatly influences environmental features. The climate in Clinton Township is categorized as continental, and has an average annual precipitation of 45-46 inches. Winter temperatures average 28-32^0 F with summer averages of 69-73^0 F.

- **Air Quality ~** Increases in commuter and truck traffic are related to air quality degradation. The closest air quality monitoring station (Flemington, NJ) indicates that carbon monoxide standards were not exceeded, but ozone health standards were exceeded 21 times during the summer season (1988-2000).

- **Terrain ~** Sloping terrain and fluctuating elevations characterize the Township. Seventy-three percent (73%) contains slopes in the 3-15 % range. The majority of steeply sloping land (15- > 40%) is located in the Round Valley reservoir and along Route 639 bordering Lebanon Township and the Borough of High Bridge.

- **Geological Resources ~** Major geologic formations in the Township include the Losee, Hardyston, Kittatinny, Jacksonburg, Stockton, Locatong, Brunswick and Byram formations. Significant geological features such as eskers, drumlins, cavernous limestone formations, historic limestone kilns, and caves are located throughout the Township.

- **Soil Resources ~** Approximately 31% of the soils in Clinton Township present severe or moderately severe (33%) limitations to the placement of individual, on-lot septic systems. Some soil types within the Township are severely erosive (2%) or moderately erosive (37%). The Township contains 20 of the 23 prime farmland soils listed by the Hunterdon County Soil Conservation District as well as 40 soils of statewide importance. The total land area in Clinton Township contains 28% prime agricultural soils and 21 soils of statewide importance.

- **Important Habitats & Species ~** The NJDEP has identified approximately 4, 000 acres of grassland, 500 acres of forest, and 800 acres of wetland habitats throughout Clinton Township. These habitats are classified as "high priority", because they support rare plant and animal communities including: 1 endangered and 3 threatened bird species; 1 endangered and 3 threatened amphibian species; 2 significant invertebrate species; and over 30 endangered plant species. Sensitive ecosystems listed on the state database include 1cave terrestrial community and bat hibernacula. Local agencies report numerous non-threatened birds and mammals that may soon be threatened due to loss of habitat.

- **Historic & Cultural Resources ~** Archeologists have unearthed arrow points, spear points, knives, scrapers and other articles in Clinton Township fashioned and used by Lenapi Indians. The following registered Historic Districts are located in Clinton Township; Allerton, Annandale, Cokesbury, Hamden, Potterstown, and Turnpike. There are 72 registered and over 200 locally significant Historic Sites in Clinton Township.

- **Water Resources ~** Clinton Township is located in the NJDEP-designated, Upper Raritan Watershed Management Area (WMA 8)**.** This includes the Allerton Creek, Beaver Brook, Cramers Creek, South Branch Rockaway Creek, Prescott Brook, and the South Branch Raritan sub watersheds. There are over 60 miles of streams and tributaries within the Township. They are all classified as Category 2 freshwater waterways (FW-2) and therefore require that water quality be maintained in order to continue meeting the state water quality standards. The biological and chemical water quality reports prepared by the NJDEP indicate the majority (73%) of monitored streams are classified as non-impaired. The aquifers beneath Clinton Township are federally designated Sole Source Aquifers and the groundwater wells monitored by NJDEP indicate that they are well within the NJDEPs specific groundwater quality standards (Class IIA).

- **State Planning ~** The environmentally sensitive state planning areas (PA4/5 & PA5) designation is assigned to approximately 46% of the land area in Clinton Township.

- **Local Population & Land Use ~** Between 1960 and 2000, Clinton Township's population has more than tripled. Although the rate of growth has declined, population projections for the Township indicate an additional 28% increase by 2010. Land use in Clinton Township is comprised of 38% agricultural land, 36% open space and recreational land, 18% residential, 7% commercial land, and 1% industrial land. Common nonpoint source pollutants associated with previously listed land uses include: eroded soil, phosphorus, nitrogen, heavy metals and chemicals associated with fertilizers and pesticides, salts, animal and human waste pathogens, and thermal energy. The majority of the Township (over 13,000 acres or 82%) is zoned as Single Family Residential (R-1 through R-4) Zoning Districts.

- **Impervious Surface ~** Approximately 6% of Clinton Township land area contains surfaces prohibiting the movement of water from the land surface into the underlying soil (e.g., impervious surface/impervious cover). Increases in impervious surfaces generally result in increased stormwater flows.

- **Township Development Patterns ~** Land developed before 1986 was primarily located adjacent to, or in proximity to, Clinton Township's primary travel corridors. Single-family dwelling units and attached housing within developments in the western half of Clinton Township comprise the bulk of development and population growth since 1986. Pockets of sprawling development have also occurred throughout the Township.

- **Township Environmental Protection Efforts ~** The Clinton Township Land Development Ordinance contains over 30 environmental resource and land development protection tools. Through a dedicated open space municipal tax first levied in 1997, the Township has successfully preserved 705 acres of open space and farmland, and close to 1,200 additional acres are under contract or negotiation. The Township's Open Space Committee has developed a list of *proposed* open space acquisitions covering over 3,500 acres of land.

- **Municipal & Hazardous Waste ~** There are no Superfund sites, registered hazardous waste generators, transporters or disposers of hazardous waste in Clinton Township. However, there is one transfer station as well as 61 regulated storage tanks, 14 confirmed state hazardous waste contamination sites, and 41 chemical storage facilities in the Township.

- **Vulnerability Analysis ~** The Geographical Information System (GIS) overlay analysis performed for this study indicates the following land classifications: Class A Critical Areas (High Vulnerability)- 36% of Land Area (7,611 acres); Class B Critical Areas (Intermediate Vulnerability)- 54% of Land Area (11,425 acres); Class C Critical Areas (Moderate Pollution Vulnerability)- 10% Land Area (2,654 acres).

Framework for Resource Management Recommendations

The following goals provide the framework for the management recommendations included in the NRI:

- Maintain large, intact areas of native vegetation and prevent fragmentation by development.
- Establish and implement scientifically based criteria for native species and habitat protection.
- Protect rare features and guide development away from rare features.
- Maintain connections among habitat, by protecting corridors for movement.
- Maintain significant ecological processes in protected areas.
- Contribute to the regional persistence of rare species by protecting associated habitat.
- Balance the opportunity for economic development with the habitat needs of wildlife and the recreational needs of the public.

Environmental Planning Recommendations

Environmental planning recommendations were based upon the goals previously stated, recommendations included in the Clinton Township Master Plan, updated information included in the New Jersey State Plan, and information gathered for this study. Planning recommendations include:

- The *Conservation Plan*, *Land Use and Management*, and *Natural Resource* elements of the updated Master Plan should include new objectives relating to resource protection and agricultural and open space preservation. All related objectives should note the development of an updated NRI, updated GIS maps, and the critical area classification system included in the Natural Resources Inventory.

- The *Conservation Plan*, *Land Use and Management*, and *Natural Resource* elements of the updated Master Plan should incorporate relevant recommendations and findings of this NRI.

- The *Land Use and Management* and *Natural Resource* elements of the updated Master Plan should include objectives relating to the desirability of controlled development throughout the Township. The plan should recommend a variety of controls and should be based upon the vulnerability classifications included in this inventory.

- The *Land Use and Management* and *Natural Resource* elements of the updated Master Plan should include an objective emphasizing the importance of the environmental standards in the ordinance, the value of wellhead protection programs, the need for

environmental impact assessments, and the implementation of required best management practices.

- The *Recreation and Open Space* element of the updated Master Plan should include an objective relating to the value of, and the need for, public and private recreational opportunities. Pertinent objectives included in the State Open Space and Recreation Plan update should be incorporated. Additional parks and recreational opportunities should be provided to residents. However, the level of recreational development should be based upon the land vulnerability classification of the parcel.

- The *Land Use and Management*, *Natural Resource*, *and Water and Sanitary Sewer Utility* elements of the updated Master Plan should be revised to include site suitability objectives for lots served by on-lot septic systems (e.g., specific minimum lot size, soil suitability, depth to water table), the need for adequate treatment capacity in all zoning districts, and the importance of stormwater management.

- The *Land Use Management* element of the updated Master Plan should include objectives for Cluster Developments and Planned Development Overlays based upon the physical characteristics and environmental vulnerability of the parcel.

- The *Circulation Plan* element should be revised to incorporate findings in the Route 78/Route 31 Corridor Study (Hunterdon County Planning Board) and the Scenic Road Study. The importance of reducing auto emissions should be highlighted as well as the importance of providing landscape buffering and site improvement standards to protect scenic vistas.

- The Master Plan should incorporate open space, recreation, noise control, wellhead protection, and architectural review standards recommended by the Clinton Township Planning Board and included in the Master Plan Reexamination Report; Land Use & Circulation Plan Elements (Banisch Associates, 1999).

Environmental Regulations & Best Management Practices

The following recommendations are designed to support existing environmental protection efforts, local zoning and regulatory recommendations included in the Clinton Township Master Plan (Banisch Associates, 2000), and to build upon existing zoning and land development regulations based upon findings contained in this study.

- The elected and appointed officials in Clinton Township should continue enforcing resource protective regulations currently included in the Township's development ordinances.

- Land Development proposal review comments should be based upon findings included in the updated NRI, and should be based upon the GIS mapping and critical area classification system included in the NRI.

- Development regulations should be revised to provide a specific minimum lot size for a lot served by a septic system in the R-4 and R-5 Districts. Zoning and land development regulatory revisions should be based upon septic suitability.

- The Residential (R-3) Zoning District in the Blossom Hill Road and Deer Hill Road areas should be changed from R-3 to R-2. Adequate community sewage treatment is not available in this area and the lots should be larger to allow for adequate on-lot sewage treatment facilities.

- The following Planning Board recommendations should be incorporated into the Clinton Township Land Development Ordinance: revised noise control standards, revised wellhead protection standards, and architectural (and historical) review standards.

- The Township should consider implementing a riparian buffer area not currently required by the Land Development Ordinance.

- Environmental Impact Assessments should be completed for all development proposals; especially those located in Class A and Class B Critical Areas, vulnerable areas noted in Part III of the Natural Resources Inventory.

- Consideration should be given to implementing additional wetland buffer protection provisions.

- Best management practices should be required for all development proposals including requirements for stormwater quality treatment, adequate stormwater recharge, and the elimination of in-stream stormwater discharge.

- Proposed golf courses should include impact information, particularly their effect upon water quality and groundwater supply.

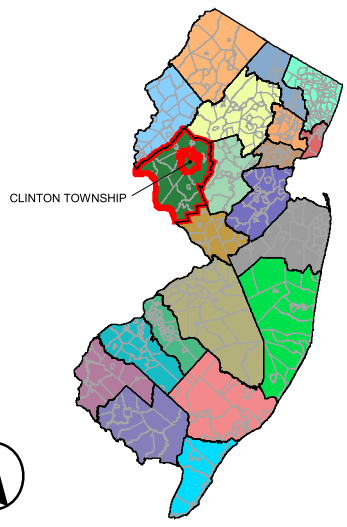
- The Township should implement recent revisions to water quality management rules in order to protect surface and groundwater resources.

- More restrictions to the amount and location of impervious surfaces should be considered in light of the Townships existing 6% impervious surface.

- Additional open space funding should be considered, particularly in Class A and Class B Critical Areas noted in Part II of the NRI.

- Increased capital should be set aside and grants obtained to complete additional analysis and to revise current regulations in order to be more protective of valuable natural resources.

The following updated NRI contains more in-depth information about the resource protection approaches currently implemented in the Township, the significant natural and cultural resources present in the Township, vulnerable natural resources, and management recommendations for the protection of remaining natural resources.



NEW JERSEY TOWNSHIP MAP

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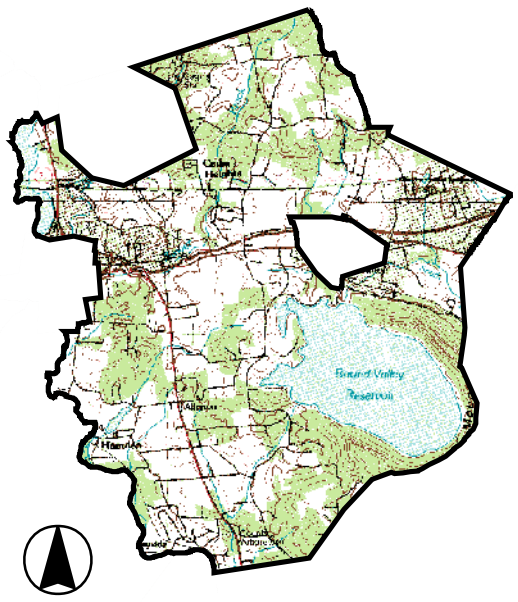

USGS FEATURE MAP

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SCALE 1:175,000

LEBANON TWP.

TEWKSBURY TWP.

BOROUGH OF HIGH BRIDGE

SPRUCE RUN RESERVOIR

UNION TWP.

MOUNTAINVIEW YOUTH CORRECTIONAL FACILITY

LEBANON BOROUGH

READINGTON TWP.

TOWN OF CLINTON

FRANKLIN TWP.

ROUND VALLEY RESERVOIR

SOUTH BRANCH RARITAN RIVER

HUNTERDON CO. ARBORETUM

RARITAN TWP.

BEAVER BROOK

TROUT PRODUCTION

SOUTH BRANCH RARITAN RIVER

SOUTH BRANCH ROCKAWAY CREEK

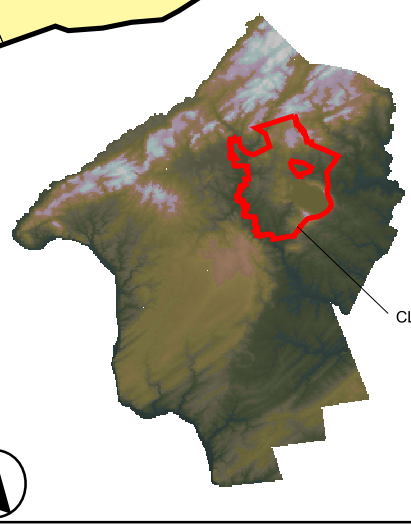
CRAMERS CREEK

PRESCOTT BROOK

639 31 641 22 623 629 78

SYMBOL KEY

- TEXT Significant Place Names
- Primary Roads
- Tax Parcel Boundaries
- Lakes
- Networked Streams



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Study Area

HUNTERDON COUNTY

SCALE 1:800,000

CLINTON TOWNSHIP, NRI, 2001

2000 0 2000 4000 6000 8000 Feet

SCALE 1: 45,000

Map Projection: State Plane of New Jesey, NAD 83, Feet

New Jersey, Department of Interior, Geologic Survey, GIS data Downloads, Monochromatic Bitmap Geographic Images of Hunterdon County, New Jersey.
Scale 1:24,000
New Jersey, Department of Environmental Protection, GIS data Web Site Downloads State Municipalities of New Jersey
Scale 1:100,000
TMP supplied by Clinton Township
Scale: Unknown

NOTES:
1. DATA ACCURACY IS LIMITED TO THE ACCURACY AND SCALE OF THE ORIGINAL DATA SOURCES.

2. THESE MAPS ARE PART OF A RESOURCE INVENTORY CONDUCTED FOR CLINTON TOWNSHIP AND SHOULD BE USED IN CONJUNCTION WITH THE COMPILED TEXT.

MAP 1: REGIONAL LOCATION

DRAWN BY:	KJM
CHECKED BY:	CK, SF

Project No.: 215.01

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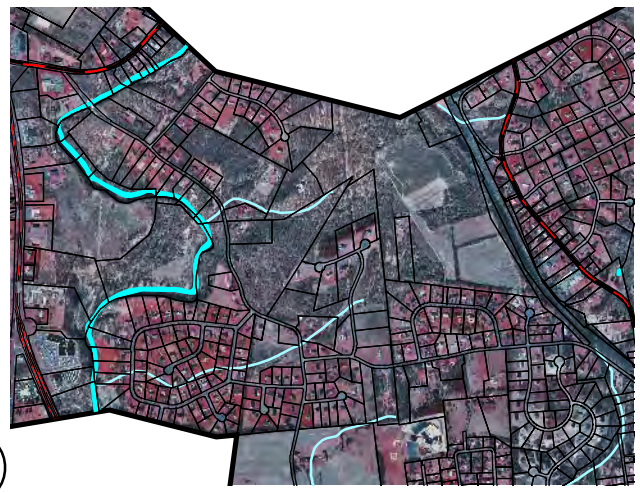

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SPRUCE RUN COMPLEX DETAIL MAP
SCALE 1:30,000

LEBANON TWP.
TEWKSBURY TWP.
LEBANON TWP.
BOROUGH OF HIGH BRIDGE
639
BEAVER BROOK
TROUT PRODUCTION
TEWKSBURY TWP.
639
SPRUCE RUN RESERVOIR
31
641
MOUNTAINVIEW YOUTH CORRECTIONAL FACILITY
SEE DETAIL INSET
UNION TWP.
641
BEAVER BROOK
78
78
LEBANON BOROUGH
READINGTON TWP.
22
22
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FRANKLIN TWP.
CRAMERS CREEK
31
629
ROUND VALLEY RESERVOIR
SOUTH BRANCH RARITAN RIVER
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629
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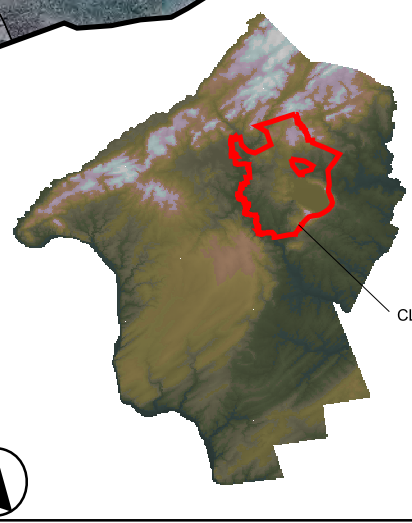

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New Jersey, Department of Environmental Protection, GIS data Web Site Downloads State Municipalities of New Jersey
Scale 1:100,000
NJDEP, Bureau of Geographic Information and Analysis, 1995/97 Color ilfrared Digital Imagery, disc 6, plates 573,464 & disc 2, plates 581,582,471, 473, 474

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MAP 2: AERIAL PHOTOGRAPH

DRAWN BY:	KJM
CHECKED BY:	CK, SF

Project No.: 215.01

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Section I ~
Resource Planning and Protection Overview

Round Valley Reservoir

"We are, it is clear, moving from an age of resource abundance to an age of resource shortages. By choice or by necessity, we are going to have to learn to live within our limits. We are going to have to come to grips with the problems of growth."

~ Honorable Russell E. Train, Administrator, 1976
United States Environmental Protection Agency ~

Resource Planning And Resource Protection Overview

Introduction ~

Clinton Township contains a diversity of natural resources, however the area has experienced a significant amount of development in recent years, and increased development results in varying degrees of environmental impact. In fact, development has a variety of direct and indirect impacts upon natural resources, which are reflected in the ecological stability of a given area. For instance, when land is developed, existing wildlife are displaced to remaining open areas. There is also a well-documented correlation between increased development and increased nonpoint source pollution. Surface runoff, erosion, and sedimentation are natural occurrences, however they are accelerated when land is developed. For instance, when vegetated soils are replaced with impervious surfaces (e.g., roads, homes, and parking lots), stormwater runoff, erosion, and sedimentation increase.

In addition, there is also a relationship between the ways land is used, and the type and amount of pollutants resulting from a particular land use. Since the early 1960's the United States Department of Agriculture has applied the Universal Soil Loss Equation (USLE) to estimate expected soil loss based on land use practices (Donahue, Miller & Shickluna, 1983). For example, a forested area will contribute approximately 220 pounds of soil per acre per year to local streams and lakes. Adhering to the soil particles is approximately a quarter pound of phosphorus and over 2 pounds of nitrogen. Conversely, residential land contributes almost 500 pounds of soil, over one pound of phosphorus, and over seven pounds of nitrogen per acre per year. While soils, wetlands, woodlands, lakes, and streams have natural pollutant filtering capabilities, their ability to absorb pollutants is diminished as the density of development and the amount of pollution increases.

Clinton Township feels it is important to identify the location of remaining natural resources and understand their ecological significance. The following section addresses the planning and regulatory framework that is currently in place in an effort to protect Clinton Township's natural resources.

State & Local Natural Resource Regulations & Planning Policies ~

New Jersey has one of the most comprehensive sets of environmental regulations in the nation. The state also has a long tradition of mandated planning procedures. The following sections address the State Planning Act, the State Development and Redevelopment Plan, the Municipal Land Use Law, and other environmental regulations directly and indirectly pertaining to natural resource protection in Clinton Township.

The *New Jersey State Planning Act* was adopted in 1985 and requires sound land use planning to conserve natural resources, provide housing and public services and promote economic growth. The guiding natural resource protection principle of the State Planning Act is

that natural resources should be conserved because the protection of environmental qualities are "vital to the quality of life and economic prosperity."

The New Jersey State Planning Act requires the state to prepare and periodically update *The State Development and Redevelopment Plan* and include, among other planning objectives, actions addressing land use and resource conservation. The current Plan, adopted March 1, 2001, contains five planning areas, five planning "centers" (e.g., urban, regional, town, village, and hamlet), and a variety of goals and strategies addressing development intensity and resource protection. The most recent update (2001) includes the category of "Environs", or the areas just outside of Center Boundaries that contain large contiguous areas of farmland, open space and large forest tracts.

The criteria for the development of planning centers is based upon development density, available infrastructure, population, land area, and proximity to suburban centers. Of the eight statewide goals included in the State Development and Redevelopment Plan, half of them directly address conservation of natural resources, environmental protection, and preservation of cultural and open space areas.

The *New Jersey Municipal Land Use Law* (MLUL), enacted in 1975, is the enabling legislation that assigns state land use regulatory authority (e.g., zoning) to the municipalities. The purpose of the MLUL is to encourage land use and land development procedures that ensure public health, safety, welfare, and morals.

Enhancement and preservation of the natural, cultural, historic, and visual environment are primary goals included in the MLUL. In addition, the MLUL enables Clinton Township to produce and periodically update the Master Plan, Official Map, Land Use Regulations, and all other development review procedures.

State Planning Area Boundaries ~

The state planning area boundaries within Clinton Township are illustrated as Map 3. They include the State Park (P), Suburban (PA 2), Fringe (PA 3), Environmentally Sensitive Rural (PA 4/5), and the Environmentally Sensitive (PA 5) planning areas.

The *Suburban Planning Area* (PA 2) comprises approximately 24% of the land area in the Township. The PA2 area is defined by an availability of vacant, developable land, an almost exclusive reliance upon automobile transportation, the provision of public sewage and water facilities, and a lower density of land development than a metropolitan area is characterized by this boundary.

State Park Planning Area (P) and *Fringe Planning Area* (PA3) comprise approximately ten percent (10%) and eight percent (8%) respectively, of the total land in Clinton Township. Parklands, areas creating contiguous park systems, and active and passive recreational facilities characterize the park planning area. The *fringe state planning area* is characteristic for areas

situated at the edges of suburban development areas, and is predominantly rural landscape with small, freestanding developments served by on-site water and sewage facilities. The transportation network in the fringe state planning area is generally a rural two-lane roadway.

Six percent (6%) of the land in Clinton has been designated as *Environmentally Sensitive, Rural State Planning Area* (PA 4/5). This boundary is categorized based on a combination of environmental and rural characteristics, including the protection of agricultural uses and land containing valuable ecosystems, wildlife habitats, and other significant natural features. The land area table on Map 3 shows that approximately 89% of land in Clinton Township has been provided with state planning category land designation. The remaining 11% is land covered by water (e.g., Round Valley Reservoir), and water is not a planning area delineated by the state.

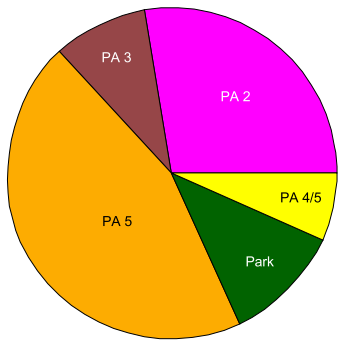
The *Environmentally Sensitive Planning Area* (PA 5) is the most extensive area in the Township, comprising almost forty percent (40%) of the total land area. The primary intent of this designation is protection of existing large, contiguous tracts of land containing valuable ecosystems, wildlife habitats, prime forest lands, scenic vistas, significant geologic, topographic or hydrologic features.

Round Valley Reservoir Dam and Swimming Area, Clinton Township

PLANNING AREA BOUNDARIES SYMBOL LEGEND

KEY	DESCRIPTION	ACREAGE	PERCENTAGE*
	Park	2240.35	10.33
	PA 2 - Suburban	5297.31	24.42
	PA 3 - Fringe	1773.50	8.18
	PA 4/5 - Environmentally Sensitive Rural	1272.69	5.87
	PA 5 - Environmentally Sensitive	8650.22	39.88
TOTAL		19234.07	88.68

* PERCENTAGE CALCULATIONS ARE BASED ON TOTAL TOWNSHIP LAND AREA. THE PLANNING AREAS INCLUDE ONLY AREAS NOT COVERED BY WATER BODIES.



PERCENTAGE OF TOWNSHIP BASED ON LAND AREA

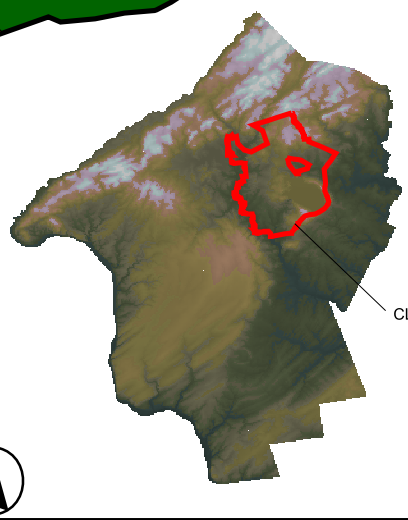
PLANNING AREA NOTES:
1.) GAPS AND OVER-RUNS OF PLANNING AREA DATA INFORMATION ARE ATTRIBUTED TO THE VARYING SOURCES, SCALES AND ACCURACIES COMBINED IN TO THIS MAPING AREA.

2.) REFER TO NOTE NUMBER 1, LOCATED IN THE FOOTER OF THIS MAP.

LEBANON TWP.
TEWKSBURY TWP.
LEBANON TWP.
BOROUGH OF HIGH BRIDGE
TEWKSBURY TWP.
SPRUCE RUN RESERVOIR
MOUNTAINVIEW YOUTH CORRECTIONAL FACILITY
UNION TWP
LEBANON BOROUGH
READINGTON TWP.
TOWN OF CLINTON
FRANKLIN TWP.
ROUND VALLEY RESERVOIR
SOUTH BRANCH RARITAN RIVER
HUNTERDON CO. ARBORETUM
FRANKLIN TWP.
RARITAN TWP.
READINGTON TWP.
BEAVER BROOK
BERNER BROOK
TROUT BROOK
CRANES CREEK
SOUTH BRANCH ROCKAWAY CREEK
SOUTH BRANCH RARITAN RIVER
639
641
31
22
78
623
629

SYMBOL KEY

- TEXT Significant Place Names
- Primary Roads
- Tax Parcel Boundaries
- Lakes
- Networked Streams



30000 0 30000 Feet

Study Area

HUNTERDON COUNTY
SCALE 1:800,000

CLINTON TOWNSHIP, NRI, 2001

2000 0 2000 4000 6000 8000 Feet

SCALE 1: 45,000
Map Projection: State Plane of New Jesey, NAD 83, Feet

Planning Areas supplied by New Jersey Office ot State PlAnning.
Scale: unknown
TMP supplied by Clinton Township
Scale : unknown

NOTES:
1. DATA ACCURACY IS LIMITED TO THE ACCURACY AND SCALE OF THE ORIGINAL DATA SOURCES.

2. THESE MAPS ARE PART OF A RESOURCE INVENTORY CONDUCTED FOR CLINTON TOWNSHIP AND SHOULD BE USED IN CONJUNCTION WITH THE COMPILED TEXT.

MAP 3: STATE PLANNING AREA BOUNDARIES

DRAWN BY:	KJM
CHECKED BY:	CK, SF

Project No.: 215.01

pH

The Clinton Township Master Plan ~

The Clinton Township Master Plan is comprised of background studies, updated plan elements and the most recent Reexamination Report (1991, 1992, 1994, 1999, 2000 Clinton Township Planning Board & Banisch Associates, Inc.). The studies and elements contain planning and development information as well as explicit policy statements intended to guide future development and to protect the Township's resources.

The Township Master Plan is very important as it contains the policy basis for the regulations contained in the municipal zoning ordinance and zoning maps. The Master Plan contains the following planning elements intended to guide the physical, economic and social development of Clinton Township:

- Land Use Plan (2000)
- Circulation Plan (1999)
- Water and Sewer Utility Plan (1992)
- Community Facilities Plan (1992)
- Recreation and Open Space (1992)
- Conservation Plan (1992)
- Historic Preservation Plan (1992)
- Recycling Plan (1992)
- Housing Plan (1999)
- Fair Share Plan (1999)
- Background Studies (1991)
- Reexamination Report (1999)

An overview of the entire Master Plan is beyond the scope of this NRI. However, *major* natural resource protection policies included within the planning elements provide a useful framework. Therefore, the following sections include an overview of the most pertinent resource protective information included in the Clinton Township Master Plan.

Resource Management and Protection Approaches

The resource management and plan background study (1991 Banisch & Associates) culminated in the 1992 Conservation element of the Clinton Township Master Plan (1992, Banisch & Associates). The study recommended environmental performance standards designed to incorporate resource functions and resource limitations into the land use planning process. Performance standards for aquifer recharge areas, water quality, slopes, and threatened and endangered species were among the recommendations included in the background studies. Other resource protective recommendations were based primarily on the 1976 Natural Resources Inventory (South Branch Watershed Association), the nitrate dilution model (Preliminary State Development and Redevelopment Plan, Rogers, Goldern & Halpern, 1988), surface water classifications (1986, NJ Water Quality Report), wetland resource classifications and regulations (NJ Freshwater Wetlands Protection Act), the existence of threatened and endangered species (NJ Natural Heritage Program), and other local environmental efforts (e.g., view sheds).

The Open Space and Recreation Background Study included an intensive inventory of the open space and recreational lands owned and maintained by local schools, the State of New Jersey, Hunterdon County, Clinton Township, and other private entities (e.g., churches, cemeteries, easements). Acquisition and park development recommendations are included in the background studies and are based on state and national open space and recreational standards. Methods and funding opportunities to obtain additional land were included in the background study.

The 1991 Land Use Plan Element

Information included in the land use plan element of the 1991 Master Land Plan notes that the *dominant theme in the planning process was the retention of the Township's rural, agricultural character while the continuing objective was the conservation of natural resources and sensitive natural features.* The land use plan also notes that Clinton Township's location, at the intersections of State Route 31, U. S. Route 22 and Interstate 78, assures that local development pressures will increase. Despite the existence of numerous state and federal environmental regulations, the goals and objectives in the land use element recommended additional resource protective land use planning initiatives, including those protecting biological diversity, maintaining the groundwater supply, unique resources, best management practices, and establishing development densities that do not exceed the carrying capacity of the land (e.g. cluster development, open space requirements, stream buffer protection). Similar planning language is referenced in the Land Use Element of the most recent Master Plan (Banisch, 2000).

In this particular planning effort, the "conservation density bonus" planning concept was explored, however legal uncertainties led to the adoption of a more conventional zoning strategy. The resulting land use map shows reduced residential densities throughout un-sewered portions of the municipality. Residential densities were also reduced to protect groundwater and surface water quality and to implement rural and scenic attribute conservation goals. In addition, non-residential districts replaced the commercial-residential and commercial-industrial district concepts applied in previous land use plans.

The Recreation and Open Space Plan Element

In 1992 open space in Clinton Township amounted to 5,197 acres of State land, 537 acres of County, and 350 acres of local open space. Pertinent recommendations included in the 1992 Recreation and Open Space Plan element included obtaining additional land dedications and easements to complete a system of greenways.

The Historic Preservation Plan Element

The 1992 Master Plan also contains an element addressing historic preservation. The element contains an updated list of historic places included in the federal, state, and county registers of historic places. Recommendations include pursuing State and National Register listings for several tracts and historic areas in the Township (e.g., Austin Tract, eight hamlets and historic areas).

The Conservation Plan Element

The Conservation Plan Element of the 1992 Master Plan (Banisch & Associates) notes the wealth of resources still present in the Township. The plan also states that the rural countryside is "defined by the natural resources on which the Township's land tenure system is based".

The conservation element is intended to supplement the land use plan, and to reduce the potential impacts of new development in the rural and agricultural portions of the Township. It contains recommendations to protect agriculture, air quality, forests, groundwater, scenic areas, steep slopes, stream corridors, surface water, threatened and endangered wildlife species, and wetlands resources.

The 2000 Master Plan Re-examination Report Plan Element

As required by the Municipal Land Use Law, the Master Plan should be reexamined, and updated every six years. Between 1991 and 1999, Clinton Township had undertaken a number of activities including participating in the Hunterdon County Agricultural Preservation Program, adopting a "Right to Farm" ordinance, established an approved Eight-Year Farmland Preservation Program, and approving a public referendum establishing an open space tax for open space and critical natural resource acquisition. They also received three million dollars from the NJ Green Acres Program, and acquired the ninety-two-acre Brays Hill Preserve.

The 2000 reexamination report (Banisch & Associates) contains recommended amendments to the underlying objectives, policies, and standards of the 1991 Clinton Township Master Plan. The Land Use Plan element was expanded to include more resource protective objectives.

Of the nine objectives the first objective of the Land Use Plan element states the following:

> ***To maintain the special character of the countryside that has made the Township an attractive place for many generations, and manage future development to preserve the rural character, including the Township's meandering brooks, open fields and pastures, tree shaded streets, and rolling landscape.***

Of the ten objectives included in the Natural Resource Element of the 2000 re-examination report, the first objective states the following:

> ***To protect environmental resources including steep slopes, ridgelines, pristine watersheds, trout streams, wetlands, stream corridors, potable water reservoirs, aquifers, rivers, habitats of threatened and endangered species and unique natural systems.***

The 2000 Master Plan Re-examination report suggests refining and expanding the objectives of the 1992 Conservation Element of the Master Plan to address open space acquisition, resource management standards, and standards for wellhead protection. The recommendations for an updated Natural Resource Plan include:

- Promote the protection of biological diversity through the maintenance of large, continuous tracts and corridors of recreation, forest, floodplain and other open space lands.

- Continue the acquisition of important open space through the use of the Township's open space tax and other sources of funding.

- Promote the development and adoption of resource management standards to manage land use activities in a manner that protects and maintains natural resources for the future use and enjoyment of generations to come.

- Identify and manage stream corridor buffer areas adequate to maintain undisturbed vegetation and to maintain and improve water quality, wildlife corridors and opportunities for passive and active recreation.

- Ensure that development involving steep slopes is required to meet design standards that enhance the attractiveness of the site.

- Promote the maintenance of groundwater supply and quality through the adoption of aquifer management programs, including relevant standards for wellhead protection programs.

- Limit new development served by on-site waste disposal systems to locations and densities where surface and groundwater sources are protected.

- Preserve significant masses of contiguous land, which contribute to the rural and agricultural character of the Township.

- Protect and enhance opportunities for agricultural activities on lands appropriate for such uses.

It is important to note that the reexamination report references a 1989 public opinion survey commissioned by Clinton Township and the Conservation Foundation's Successful Communities Program. The survey was created to help local officials and leaders create and implement land use planning tools based on the desires of local residents. The survey found that Township residents ranked maintaining a clean, natural environment as *the most* important planning objective. The residents also noted that they found Clinton Township to be a desirable place to live, however they were concerned that development was happening in ways they felt would negatively affect the desirability of their community.

Although the public opinion survey is somewhat dated, the Planning Board felt that the findings were conclusive, remained valid today, and were reaffirmed by the 2000 Mayors Task Force. The survey findings continue to guide the planning and land use regulations for Clinton Township.

The Clinton Township Land Use Regulations ~

Zoning governs "the nature and extent of the uses of land and of buildings and structures thereon". In other words, zoning is a set of standards controlling the location, type, and intensity of development *on the site* (Barnes, 1997).

Pursuant to the most recent re-examination plan, the Planning Board of the Township of Clinton adopted a resolution (Resolution 231-99) to amend the Township Zoning Map and the land use regulations within the Township.

The seventeen (17) Zoning Districts in Clinton Township are illustrated on Map 4. General information illustrating how the districts regulate land use, limit and restrict the use of buildings and structures to permitted uses and other information is provided in Table 1 on the next page.

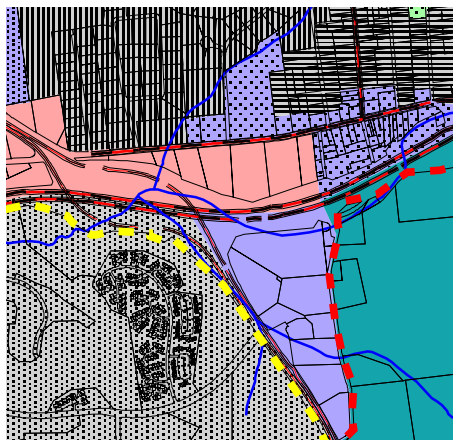
Table 1, 1999 Zoning Districts & Related Information

Zoning District	Acreage (% Of Total)	Pertinent Use Notes
Residential Districts (R-1)	61	**R-1-** Conventional lots, clustered lot or average lot, planned residential developments.
Residential Districts (R-2)	13	**R-2-** One family dwellings, conventional lot, clustered lot or average lot.
Residential Districts (R-3)	7	**R-3-** One family dwellings, conventional lot, clustered lot with sewer, clustered lot or average lot with septic systems.
Residential Districts (R-4)	1	**R-4-** One-family dwellings, conventional lot, clustered lot.
Residential District (R-5)	1	**R-5-** One and two family dwellings.
Affordable Housing District	1	**AH-1 -** Regulations included in Article XXVIII.
Affordable Housing District	1	**AH-2-** Regulations included in Article XXIX.
Affordable Housing District	1	**AH-3-** One-family, two-family, three and four family dwellings.
Commercial District	2	**C-1-** Commercial only.
Commercial District	1	**C-2-** Commercial only.
Office Building District	2	**OB-1-** Office buildings only.
Office Building District	.50	**OB-2-** Offices, shops etc. One and two family dwellings.
Office Building District	.50	**OB-3-** Office buildings only.
Research, Office & Commercial	1	**ROC-** Commercial uses.
Research, Office and Manufacturing District	3	**ROM-1-** Research, office, and manufacturing.
Research, Office & Manufacturing District	3	**ROM-2-** Research, office and manufacturing.
Research, Office & Manufacturing District	1	**ROM-3-** Research, office and manufacturing.
Totals	**100 %**	**17 Zoning Districts**

Source: Clinton Township Land Use Regulations & Zoning Map & Schedule of Requirements: Amended 5-1-87, Provided by Banisch Associates, 2001.

The Clinton Township Land Use Regulations (Ordinance #589-95) contain the administrative procedures, subdivision and site plan review procedures, plan and plan details, design standards, zoning regulations and other provisions (e.g., conditional uses, variance procedures). The provisions, restrictions, and requirements that pertain to natural resource protection are listed below and are included in the Clinton Township Land Use Regulations.

- Agricultural Easement Provisions
- Aquifer Testing Requirements
- Buffer Size and Landscaping Requirements
- Bulk Storage Restrictions
- Conservation Easement Requirements
- Critical Geologic Formation Zone
- Deed Restriction Requirements (Open Space & Agricultural Preservation)
- Development Density Standards
- Environmental Impact Statement Requirements
- Erosion and Sedimentation Control
- Establishment of Open Space Organization
- Floodway, Flood Fringe, Floodplain, and Flood Hazard Restrictions
- Height Restrictions
- Maximum Impervious Surface Restrictions
- Minimum Contiguous Land Requirements
- Noise Restrictions
- Odor Restrictions
- Open Space Requirements (Less floodplains, wetlands, and steep slopes) & Listed Conservation Priorities
- Percolation Test Requirements
- Planning Board Referral to Environmental Commission
- Proof of Drinking Water, Water Potability and Wastewater Treatment Availability
- Residential Cluster & Planned Development Provisions
- Setback Requirements
- Sign Regulations
- Steep Slope (Critical Area) Regulations
- Stormwater Treatment Requirements
- Stream Corridor Protection Regulations
- Top Soil Removal Restrictions (SSR Zone)
- Waste Disposal & Storage Restrictions
- Wastewater & Water Supply Requirements
- Wetland (Critical Area) Regulations
- Woodland Protection
- Cell Tower Construction/Placement



1000 0 1000 Feet

DETAIL INSET
SCALE 1:25,000

ZONING AREAS SYMBOL LEGEND

KEY	ZONE	DESCRIPTION	ACREAGE	% OF TOTAL
	AH-1	Affordable Housing District	312.32	1.44
	AH-2	Affordable Housing District	66.51	0.31
	AH3	Affordable Housing District	43.16	0.20
	C-1	Commercial	340.28	1.57
	C-2	Commercial	299.90	1.38
	OB-1	Office Building	329.85	1.52
	OB-2	Office Building	53.54	0.25
	OB-3	Office Building	48.15	0.22
	R1	1 Family Residential	13138.10	60.57
	R2	1 Family Residential	2742.44	12.64
	R3	1 Family Residential	1582.41	7.30
	R4	1 Family Residential	295.03	1.36
	R5	1 & 2 Faimily Residential	79.04	0.36
	ROC	Research, Office & Commercial	201.62	0.93
	ROM1	Research, Office, & Manufacturing	1449.05	6.68
	ROM2	Research, Office, & Manufacturing	542.85	2.50
	ROM3	Research, Office, & Manufacturing	167.45	0.77
Total			21691.70	100.0

LEBANON TWP.
TEWKSBURY TWP.
BEAVER BROOK
TROUT PRODUCTION
639
639
LEBANON TWP.
BOROUGH OF HIGH BRIDGE
SPRUCE RUN RESERVOIR
31
641
SOUTH BRANCH RIVER
MOUNTAINVIEW YOUTH CORRECTIONAL FACILITY
TEWKSBURY TWP.
639
UNION TWP.
641
BEAVER BROOK
78
LEBANON BOROUGH
READINGTON TWP.
22
22
SEE DETAIL INSET
SOUTH BRANCH ROCKAWAY CREEK
TOWN OF CLINTON
623
FRANKLIN TWP.
31
629
ROUND VALLEY RESERVOIR
SOUTH BRANCH RARITAN RIVER
PRESCOTT BROOK
31
629
READINGTON TWP.
629
31
HUNTERDON CO. ARBORETUM
CLINTON TWP.
FRANKLIN TWP.
RARITAN TWP.
READINGTON TWP.

SYMBOL KEY

- TEXT Significant Place Names
- Primary Roads
- Tax Parcel Boundaries
- Lakes
- Networked Streams
- PLANNED UNIT DEVELOPMENT
- PLANNED DEVELOPMENT OVERLAY

30000 0 30000 Feet

Study Area

HUNTERDON COUNTY
SCALE 1:800,000

CLINTON TOWNSHIP, NRI, 2001

2000 0 2000 4000 6000 8000 Feet

SCALE 1: 45,000
Map Projection: State Plane of New Jesey, NAD 83, Feet

Zoning Coverage collected from Zoning Ordinance
Clinton Township, Hunterdon County, New Jersey.
Scale : unknown
New Jersey, Department of Environmental Protection, GIS data
Web Site Downloads State Municipalities of New Jersey
Scale 1:100,000

NOTES:
1. DATA ACCURACY IS LIMITED TO THE ACCURACY AND SCALE OF THE ORIGINAL DATA SOURCES.

2. THESE MAPS ARE PART OF A RESOURCE INVENTORY CONDUCTED FOR CLINTON TOWNSHIP AND SHOULD BE USED IN CONJUNCTION WITH THE COMPILED TEXT.

MAP 4: TOWNSHIP ZONING

DRAWN BY:	KJM
CHECKED BY:	CK, SF

Project No.: 215.01

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Clinton Township Resource Protection Efforts ~

There are a variety of state regulations and programs intended to protect natural resources. Examples include but are not limited to the Freshwater Wetlands Protection Act, the Flood Hazard Area Control Act, the Stormwater Management Rules, Soil Erosion and Flood Hazard Control Regulations, the Reality Improvement and Sewerage Facilities Act, and many others. Clinton Township has chosen to create an Environmental Commission to help local officials implement environmental regulations locally and an Open Space Committee to prioritize open space parcels and to plan for open space acquisition and maintenance.

Through the years, volunteer members have helped complete resource protection studies, agricultural/open space and resource inventories and other environmentally protective studies (e.g., scenic road study). These efforts have served to strengthen the Clinton Township Master Plan and the Land Use Regulations. The following section provides an overview of some recent resource protection efforts.

Open Space Preservation Program

Open space preservation is a concept that has gained increased philosophical support. Government funding support has increased as well. Funding is now available for farmers *and* for communities looking to preserve environmental amenities (e.g. significant habitat). In recent years, Clinton Township has undertaken a number of activities to preserve existing farmland, significant habitat, and vulnerable aquifer recharge areas.

With regard to agricultural preservation, in the mid 1990's the Township petitioned the Hunterdon County Agricultural Development Committee to have active farmland designated as "Agricultural Development Areas". The designation enables farmers to apply for farmland preservation funding as well as other financial benefits. More recently, the Township has actively negotiated with several farmers for land acquisition, adopted a "Right to Farm" Ordinance, and has established a municipally approved Eight-Year Farmland Preservation Program.

In 1994, Clinton Township voters approved an open space acquisition referendum. In 1995 the Township established an Open Space Trust Fund. Also in 1995, an ad hoc Open Space Committee formed and was assigned the following tasks:

- Inventory and evaluate open space properties in the Township;
- Recommend an initial list of properties for possible acquisitions;
- Summarize potential strategies for acquisition or protection of such properties; and
- Recommend ways to implement the open space acquisition program.

In 1996, the Committee completed the aforementioned tasks and prepared an initial report for the Township Council. The Report contained a list of 23 prioritized parcels for acquisition. The Open Space Committee used a variety of criteria to select these properties. Criteria included an owner's willingness to sell; environmental, scenic, agricultural, and historic significance; potential for recreational uses; and proximity to existing preserved properties. Next, the parcels were also compared with the Township's open space and recreation plan, natural resources inventory, and scenic corridor map. Environmental, recreational and other amenities were then verified in the field.

The most recent list of *proposed* open space acquisitions, containing 48 properties (3,588.83 acres), was generated in 2000. According to the Open Space Committee Chair, 6 properties are preserved (705 acres) in Clinton Township. The properties were preserved by purchasing development rights and through outright purchase. Funding originated from the NJ Green Acres Program and the Clinton Township Open Space Trust. In addition, 342 acres of land are currently under contract and 845 additional acres are under negotiation.

The Clinton Township Open Space Committee will continue to review and amend the priority parcel list and to advise the Township Council. The Committee will also develop management plans for parcels acquired by the Township and educate property owners interested in participating in the open space program.

The Township Open Space Preservation Program is expected to continue well into the future, and will continue to *augment* land previously preserved through other programs (e.g., Hunterdon County Open Space, Farmland, and Historic Preservation Trust, Municipally Approved Farmland Preservation Program "Eight Year Program"). Land currently preserved through other programs includes 56 acres of active farmland currently in the "Eight Year Program". Map 5 illustrates preserved land, land with contracts pending, additional open space areas, and the proposed open space acquisitions listed by the Open Space Committee (2000).

The Exxon Property, From Route 31, Exxon Jughandle

Scenic Roadways

Clinton Township understands that roads are the networks that hold our communities together and proclaim the character of the community. More than mere transportation corridors, roads determine the quality of travel trips for both safety and pleasure. A straight road is the shortest distance from here to there, but curves add interest with a different view around each bend.

In the 1991 Master Plan (Banisch, 1991), scenic resources were noted as an important element in the overall perception of the quality of life in Clinton Township. The Master Plan also notes that scenic resources are increasingly valued in the community, since it has experienced substantial suburban development. The Master Plan recommended the protection of scenic vistas, particularly those seen from public rights-of-way, and those that serve to maintain the Township's rural character.

Upon direction of the 1991 Master Plan, Clinton Township prepared a *Roadway/Right-Of-Way and Scenic Road Study* (Lechner, Feldman, Papa, 1994). The scenic roadways delineated in the study were based upon previously developed definitions for *Scenic Corridor* and *Scenic Roadway* (Somerset County, Scenic Corridor and Roadway Study, July 1992). The definitions are noted below, and a complete listing of scenic roadway classifications is noted as Table 2.

Scenic Corridor ~ The area of influence is generally extended beyond the properties immediately adjacent to the road and includes the entire landscape visible from the right-of-way.

Scenic Roadway ~ The area of influence is generally limited to the adjacent property or right-of-way and concentrates on the visual foreground adjacent to the roadway edge. The road designations are included on Map 5.

View From Sand Hill Road, Designated Scenic Road, Clinton Township

Table 2, Roadway Corridor & Scenic Roadway Classifications

Classification	Scenic Corridor	Scenic Road
Class I		
Allerton Road east of Route 31	X	
Cokesbury-Califon Road		X
David Post Road		X
Lilac Drive north of Payne Rd		X
Mount Grove Road		
Old Clinton Road		
Class II		
Haytown Road		X
Herman Thau Road		X
Lilac Drive south of Payne Rd		X
Molasses Hill Road	X	
Regional Rd west of High School		X
Southerly leg of Stanton Mt Rd		X
Woods Road		X
Class III		
Old Mountain Road		X
Payne Road (east of 31)		
Red School House Rd		X
Sand Hill Road		X
East leg of Stanton Mountain	X	X
Valley Crest Road	X	
County Roads		
Co. 626 (Beaver Ave)	X	
Co. 629 (west of Round Valley Res.)	X	X
Co. 639 (Cokesbury Road)	X	X
Co. 641 (West Street in Annandale)	X	
Co. 623 (Oak Knolls to Parasi)		X
Rt. 31 (Cratetown to end of Township)		X
Rt. 31 (Valley Crest to Annandale)	X	
State Roads		
Rt. 22 (Round Valley entrance East)	X	

Source: Clinton Township Roadway/Right-Of-Way and Scenic Study, 1994.

OPEN SPACE SYMBOL LEGEND

KEY	DESCRIPTION	ACREAGE	PERCENTAGE*
	UNDER NEGOTIATION	490.49	2.26
	PRESERVED OPEN SPACE	910.21	4.19
	PROPOSED OPEN SPACE	2120.15	9.77
	TOTAL	3520.85	16.22

* PERCENTAGE CALCULATIONS ARE BASED ON TOTAL TOWNSHIP LAND AREA. THE OPEN SPACE AREAS INCLUDE ONLY AREAS DESIGNATED IN KEY.

OPEN SPACE KEY

TOWNSHIP PARKS

- EXISTING PARKS
- PROPOSED PARKS

SCENIC LOCATIONS

- SCENIC CORRIDORS

TYPES OF OPEN SPACE

- WHOLLY UNDEVELOPED
- PARTIALLY DEVELOPED
- PERSERVED UNDER THE 8 YEAR PROGRAM
- PRESERVED WITH GREEN ACRES
- COUNTY OWNED
- TOWNSHIP OWNED

LEBANON TWP.

LEBANON TWP.

TEWKSBURY TWP.

TEWKSBURY TWP.

BOROUGH OF HIGH BRIDGE

MOUNTAINVIEW YOUTH CORRECTIONAL FACILITY

UNION TWP.

LEBANON BORDUGH

READINGTON TWP.

TOWN OF CLINTON

FRANKLIN TWP.

ROUND VALLEY RESERVOIR

SPRUCE RUN RESERVOIR

SOUTH BRANCH RARITAN RIVER

FRANKLIN TWP.

RARITAN TWP.

READINGTON TWP.

HUNTERDON CO. ARBORETUM

CLINTON TWP.

SYMBOL KEY

- TEXT Significant Place Names
- Primary Roads
- Tax Parcel Boundaries
- Lakes
- Networked Streams
- Proposed Open Space Aquisitions, 2000 (48 Total Parcels)

30000 0 30000 Feet

Study Area

HUNTERDON COUNTY

SCALE 1:800,000

CLINTON TOWNSHIP, NRI, 2001

2000 0 2000 4000 6000 8000 Feet

SCALE 1: 45,000

Map Projection: State Plane of New Jesey, NAD 83, Feet

New Jersey, Department of Interior, Geologic Survey, GIS data Downloads, Monochromatic Bitmap Geographic Images of Hunterdon County, New Jersey.
Scale 1:24,000
New Jersey, Department of Environmental Protection, GIS data Web Site Downloads State Municipalities of New Jersey
Scale 1:100,000
Banisch Associates, Inc., 8/01, Open Space Tabulated Listing.
Adapted by Princeton Hydro.

NOTES:
1. DATA ACCURACY IS LIMITED TO THE ACCURACY AND SCALE OF THE ORIGINAL DATA SOURCES.

2. THESE MAPS ARE PART OF A RESOURCE INVENTORY CONDUCTED FOR CLINTON TOWNSHIP AND SHOULD BE USED IN CONJUNCTION WITH THE COMPILED TEXT.

MAP 5: OPEN SPACE RESOURCES & SCENIC ROADWAYS

DRAWN BY:	KJM
CHECKED BY:	CK, SF

Project No.: 215.01

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Natural Resources Protection Program

In addition to the efforts described in the previous Open Space Preservation Program section, resource studies have been compiled for the Township in order to update the Master Plan and to strengthen environmentally protective development regulations. For instance, past Master Plan Re-examination reports recommend policy and land use map amendments based upon findings included in wellhead protection studies, groundwater recharge studies, scenic road studies, geologic studies, geographic information studies, and biological inventories. Study efforts were completed by environmental consultants, and under the management of the Clinton Township Environmental Commission.

An environmental commission is a municipal advisory board created pursuant to the New Jersey Municipal Land Use Law (40:55-1 et seq). According to the Association of New Jersey Environmental Commissions (ANJEC), *for more than 25 years, environmental commissions throughout New Jersey have been working to preserve important natural resources in their communities* (ANJEC Report, Summer 2000). The Clinton Township Environmental Commission (CTEC) was formed in the early 1980's.

The Clinton Township Environmental Commission feels that the backbone of a successful natural resource protection program is an updated Natural Resources Inventory (NRI). The Commission has also noticed that statewide, county and local data indicate increased development pressure as well as a loss of environmentally significant resources. Recognizing growth and development trends, the Clinton Township Environmental Commission requested an updated Natural Resources Inventory (NRI). The Commission also felt that the state and local information base had evolved considerably since the completion of the last two inventories (South Branch Watershed Association, 1976 & Open Spaces Biological Inventory, 1995), especially in the area of Geographic Information Systems (GIS). The importance of having digital environmental information and GIS-proficient municipal officials and staff is another focus of the Environmental Commission.

The following section of the study contains an updated Natural Resources Inventory. The inventory contains narrative, tables and maps describing and locating significant remaining resources in Clinton Township. Where data were available, natural resource impact trends are noted.