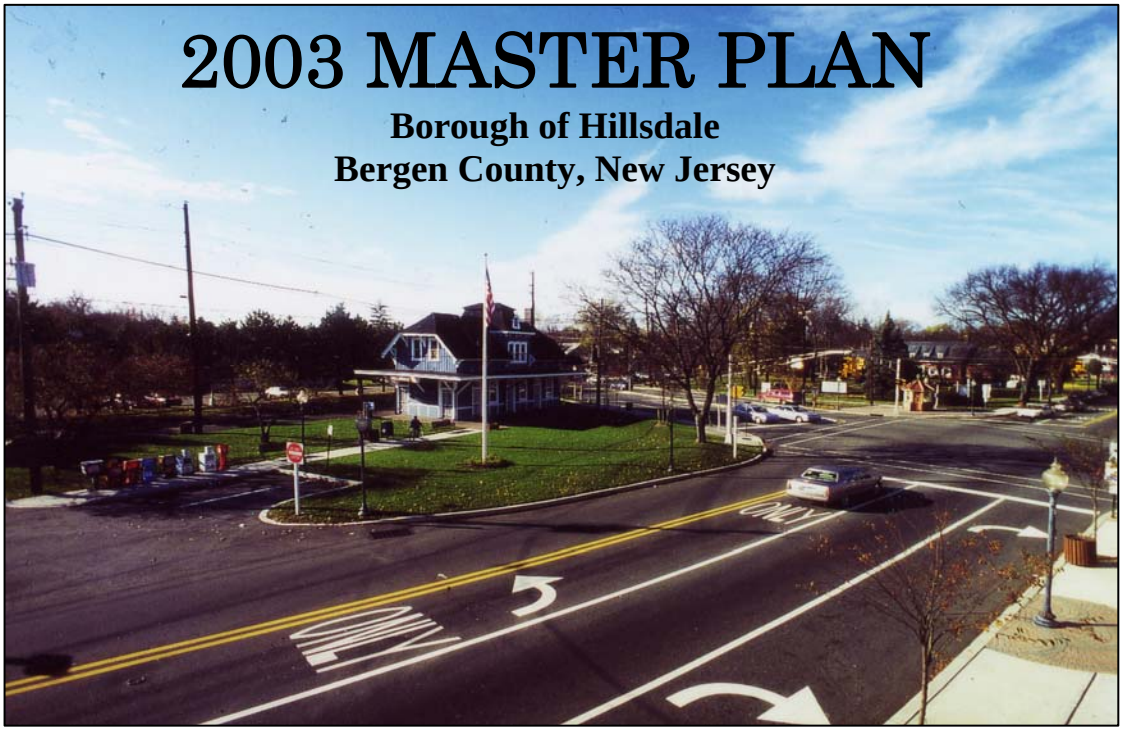

2003 MASTER PLAN

Borough of Hillsdale
Bergen County, New Jersey

Hillsdale Depot — 1870

Prepared by:

C.P. STATILE, P.A.

Consulting Engineers & Planners

3 Fir Court • Oakland, NJ 07436

February 2003
revised through December 16, 2003

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INTRODUCTION

The Borough of Hillsdale is an almost fully developed suburban community in Bergen County as shown on the Regional Location Map. It borders seven municipalities: Woodcliff Lake Borough, Park Ridge Borough, River Vale Township, Borough of Westwood, Washington Township, Ho-Ho-Kus Borough and the Borough of Saddle River. Hillsdale is characterized by an established commercial downtown center located around the Hillsdale train station.

The first train pulled into Hillsdale on Christmas Eve, 1869. Many of the initial settlers in the Hillsdale area worked on the rail line as engineers, conductors, brakemen and firemen. The trains stopped in Hillsdale at night, making it a convenient home for train workers.

Hillsdale separated from Washington Township in 1898 and formed Hillsdale Township, which included the area that is currently Hillsdale and River Vale. In 1906 River Vale Township left Hillsdale to form its own municipality, leaving the area of Hillsdale as it is today. In 1922 the Hillsdale Township Committee adopted a resolution to switch to the borough form of government. The first Mayor of the Borough of Hillsdale was Henry J. Werner.

Today, Hillsdale's population exceeds 10,000 residents. The dominant land use is residential, with over 70 percent of the Borough comprised of single family dwellings. Public or exempt properties comprise almost 15 percent of the Borough's acreage, and commercial uses comprise over seven percent of Borough properties. Less than five percent of the Borough consists of vacant land.

Hillsdale's Borough government provides a high level of services to the community, including refuse and recycling collection, police services and a recreation program. Fire and first aid services are provided on a voluntary basis. The Bergen County Utilities Authority provides sewer service and United Water New Jersey provides water service to Borough residents.

The Borough maintains a comprehensive park and recreation system, with areas of active and passive recreation. Hillsdale also is home to the Stonybrook Swim Club, a popular swimming club for residents and non-residents.

The Borough completed a Housing Element/Fair Share Plan and filed with the New Jersey Council on Affordable Housing (COAH) for substantive certification in October 1999. COAH granted substantive certification on November 7, 2001. The Plan did not result in any new construction in the Borough and provides a 20-unit surplus that will be applied to the next round of COAH requirements.

Although Hillsdale is characterized as a suburban community, it has a viable and active downtown with a variety of commercial uses. The train station and Veterans' Park are located downtown. The downtown area has a quaint appearance, with brick paver sidewalks and ornamental lighting, providing Hillsdale residents with a sense of place and community.

Hillsdale is attempting to maintain its sense of community while single family residential development is planned or occurring on many of the remaining vacant parcels in the Borough. The Borough is challenged in balancing the new development, which tends to consist of larger homes on small lots, with the existing developed community. To that end, the Master Plan proposes a new, larger lot single family residential zone and the introduction of a Floor Area Ratio ordinance. The Plan strongly recommends farmland preservation of the operational Demarest Farm. Additionally, the Plan provides guidelines for new uses in the industrial zone and a set of regulations for fast food restaurants in the commercial zones.

The Master Plan strives to maintain the positive characteristics of Hillsdale and provide a framework to meet future challenges without sacrificing the diversity and amenities that are essential to the Borough's viability.

Regional Location

Borough of Hillsdale

Bergen County, New Jersey

Prepared by: Christopher P.Statile, P.A.

GOALS AND OBJECTIVES

The 2003 Master Plan includes as its general goals and objectives all of the purposes of zoning contained in N.J.S. 40:55D-2.

The specific goals and objectives are as follows:

Land Use Plan

1. Achieve a balance between the developed community and new development.

2. Encourage the adoption of a Floor Area Ratio (FAR) Ordinance to limit the bulk of new homes.

3. Create a new residential land use zone with a 40,000 S.F. minimum lot size. The new zone will permit larger lot residential development in Hillsdale.

4. Expand the permitted uses in the Industrial zone to include offices and recreation uses that will support the Borough's strong and viable business community.

5. Recognize that flag lots are not accepted forms of development and should be prohibited.

6. Encourage the Planning Board to reduce the number of bulk variances granted with major subdivision approvals.

7. Ensure that the Code Compliance Department closely monitors dwellings with two kitchens so that they are not converted into two-family homes.

8. Develop new regulations for fast food restaurants in the Commercial zone. The regulations should include a specific definition of fast food restaurants, as well as requirements that newly constructed fast food restaurants are in character with downtown Hillsdale.

9. Permit offices as conditional uses for those properties fronting along or in contact with the Broadway right-of-way lines, between Cross Street and Knickerbocker Avenue. The conditions should include requirements detailing that an office must be residential in appearance with minimal parking to be in character with the existing residential dwellings.

Circulation Plan

1. Follow NJ TRANSIT recommendations that encourage nontraditional uses in and around the train station. Consider active use of the train station area during commuter hours for appropriate food and/or retail uses.

2. Promote alternate modes of transportation and support efficient transportation systems.

3. Improve the route from the commuter parking lots to the rail platform so that it is more pedestrian-friendly.

4. Monitor the availability of commuter parking in the Borough.

Community Facilities Plan

1. Plan community facilities to accommodate anticipated future population growth.

2. Maintain appropriate emergency services for Township residents.

3. Ensure adequate educational facilities for Borough children.

4. Consider the development of a Community Center to serve the needs of all Hillsdale residents, from children to senior citizens.

Parks, Open Space & Recreation

1. Address the Borough's open space and recreation needs with an emphasis on preserving the Borough's limited open space.

2. Ensure that adequate active and passive recreation areas exist to serve the Borough's existing and projected population.

3. Utilize the Farmland Preservation program to preserve Demarest Farm on a voluntary basis.

4. Investigate utilizing the Borough owned areas of Vorrath Place for passive recreation.

5. Consider the Recreation Commission's recommendations for active recreation facilities.

Conservation Plan

1. Protect environmentally sensitive areas and the Borough's natural resources.

Economic Plan

1. Encourage job formation and retention in the Borough and for Borough residents.

2. Support business development where appropriate in the Commercial and Industrial zones.

Historic Preservation Plan

1. Encourage development of a local museum in the train station.

2. Research the older homes in the Borough to determine if they are eligible for formal placement on the State and National Historic Registers.

Recycling Plan

1. Ensure compliance with state and county recycling requirements.

2. Adopt an ordinance addressing the collection, disposition and recycling of recyclable material in development proposals for 50 or more units of single-family residential housing, 25 or more units of multi-family residential housing and commercial or industrial developments of 1,000 square feet or more of land as is required in the Municipal Land Use Law.

LAND USE PLAN ELEMENT

INTRODUCTION

The Land Use Plan guides the future development of the Borough of Hillsdale in a manner consistent with the goals and objectives of this Plan. The Land Use Plan will show the existing and proposed location and intensity of land to be used in the future for residential, commercial, industrial and other uses. The plan is developed while considering several components, such as Hillsdale's existing land use pattern, natural environment and infrastructure.

The Land Use Plan first examines Hillsdale's existing land use pattern and then makes recommendations as to any proposed changes. Current land use is shown on the Existing Land Use Map.

EXISTING LAND USE

Table 1 details the Borough's existing land use by acreage. The information is from the current tax records. The residential category includes properties that are developed with single family residential dwellings.

As shown, over 71 percent of the Borough's properties are improved with single family residences. The next largest category is public/exempt properties, which includes Borough, county, school and church and charitable properties. Almost 15 percent of the Borough is developed with public/exempt properties. Commercial properties comprise more than 7 percent of the Boroughs' land. Finally, almost 5 percent of Hillsdale's properties are vacant.

Table 1
Existing Land Use
Borough of Hillsdale

Land Use	Acreage	Percent
Residential	1,080.97	71.32
Apartment	0.67	0.04
Commercial	109.47	7.22
Industrial	9.96	0.66
Farmland	22.65	1.49
Public/Exempt	225.09	14.85
Vacant	66.78	4.41
Totals	1,515.59	100.00

Source: Borough of Hillsdale Tax Assessor.

BOROUGH OF HILLSDALE, BERGEN COUNTY
2003 MASTER PLAN

Prepared By:

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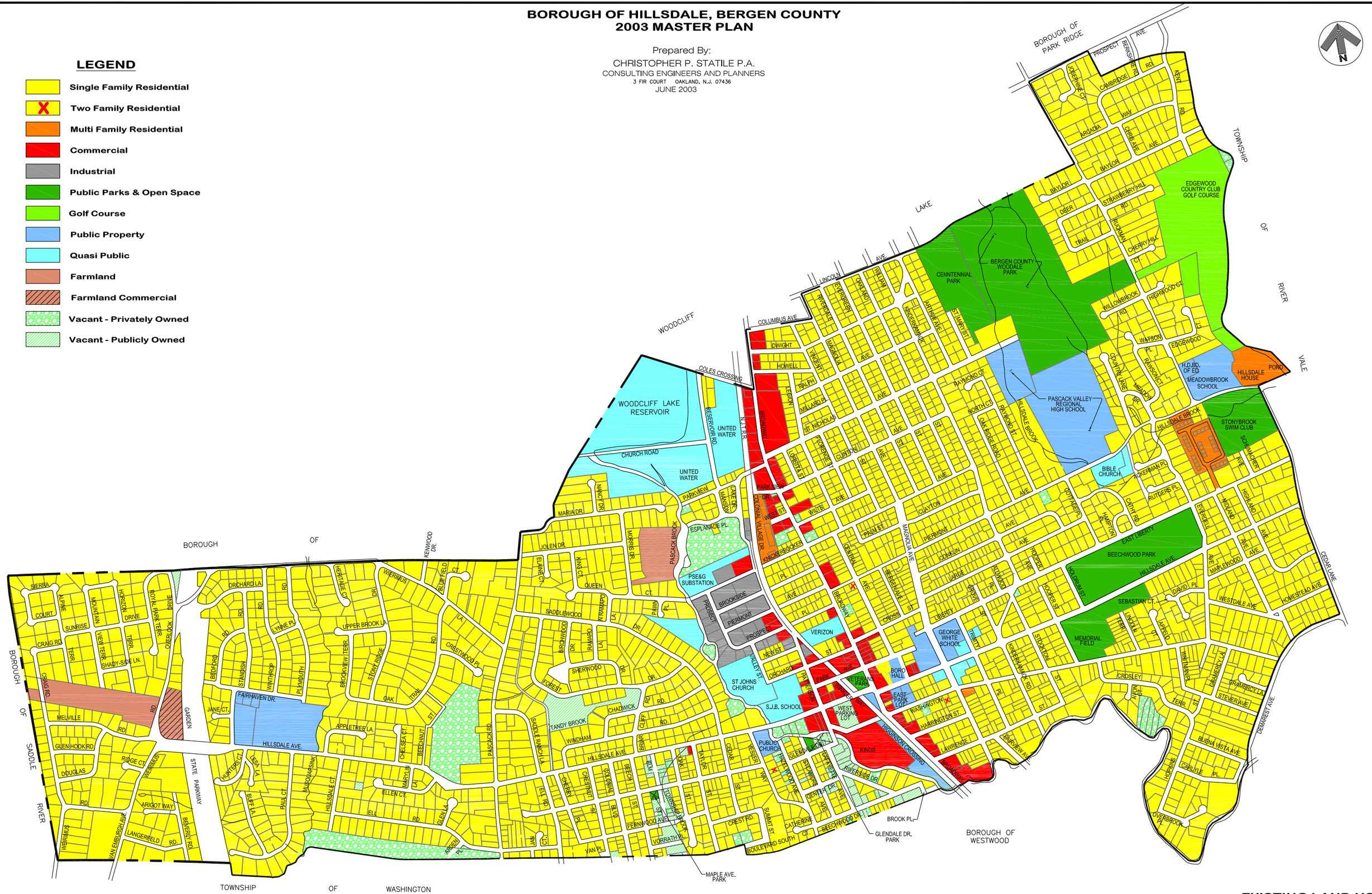
JUNE 2003

LEGEND

- Single Family Residential
- Two Family Residential
- Multi Family Residential
- Commercial
- Industrial
- Public Parks & Open Space
- Golf Course
- Public Property
- Quasi Public
- Farmland
- Farmland Commercial
- Vacant - Privately Owned
- Vacant - Publicly Owned



EXISTING LAND USE

Building Permit Data

Table 2 provides information on dwelling units authorized for construction and demolition in the Borough from 1990 to 2001. Since 1990, building permits were issued for the construction of 116 new single family homes, for an average of 9.7 new homes per year. Almost half of the building permits were issued in 1994 and 1995, which were the years that the Stonybrook townhouses were constructed. No permits have been issued for two-family or multi-family housing since 1990.

Seventeen permits were issued for residential demolitions since 1990. All of the permits were granted in 1999, 2000 and 2001. New homes may have been constructed on the properties where demolitions were approved. Additionally, some of the demolitions may have been of dwellings that were damaged during Tropical Storm Floyd and then permanently removed from the housing stock.

Table 2
Dwelling Units Authorized By Building Permit, 1990-2001
Borough of Hillsdale

Year	Total	Single Family	2 - 4 Family	5+ Family	Demolitions
1990	6	6	0	0	0
1991	3	3	0	0	0
1992	2	2	0	0	0
1993	1	1	0	0	0
1994	31	31	0	0	0
1995	23	23	0	0	0
1996	12	12	0	0	0
1997	8	8	0	0	0
1998	1	1	0	0	0
1999	7	7	0	0	5
2000	19	19	0	0	6
2001	3	3	0	0	6
TOTALS	**116**	**116**	**0**	**0**	**17**

Source: Summary of Residential Building Permits, 1990-2001, NJ Department of Labor & Borough of Hillsdale Building Department.

Development Potential

Table 3 provides the development potential for the larger tracts in the Borough. As shown, there is the potential for a possible additional 120 homes. All potential housing units are single-family dwellings.

These figures are very approximate, and the number of units was computed differently for each site. The four sites shown with a four-unit development potential all have environmental restraints. The Borough Engineer has determined that each site has a four-unit development potential. An application for an eighteen-unit subdivision has been filed for Block 506, Lot 1, owned by Caliber Builders. Finally, the environmental constraints of Demarest Farm and the golf course at the Edgewood Country club are unknown. Therefore, we assumed that 80 percent of the lot was developable. The number of possible units was computed by factoring the minimum lot size of the zone in which the property is located into 80 percent of the lot area.

About half of the development potential is from the country club golf course. There currently are no known development plans for this site. However, the golf course is not protected open space and should be treated as such.

Table 3
Land Development Potential
Borough of Hillsdale

Property Owner	Block/ Lot	Possible New Units
Higgins	102/1	6
Caliber Bldrs	506/1	18*
Volek	909/1	4**
Walsky	1212/15	4**
Caliber Bldrs	2101/29	4**
Culhane	2002/30	4**
Country Club	2201/31, 26	62
Demarest	202/1, 203/36	18
Total		**120**

* As shown on current Subdivision application.
**These properties have known environmental constraints.
Source: Tax Assessor, Borough Engineer.

EXISTING ZONING

The Existing Land Use Plan shows the current development patterns in the Borough. The existing land use generally follows the existing, approved zoning plan. Following is a description of the existing zone districts in the Borough of Hillsdale:

Residential

R-1/Residential
The R-1 zone is located in the most western section of Hillsdale, east of the Saddle River border and west of the Garden State Parkway. Single family detached dwellings on 22,500 square foot lots and public parks and playgrounds are permitted in the R-1 zone.

R-2/Residential
There are two R-2 zones in the Borough. The first is immediately east of the Garden State Parkway and generally west of Pascack Road. One section does extend east of Pascack Road and continues until the Pascack Brook. The other R-2 zone includes properties in the northeastern portion of the Borough, north of East Liberty Avenue, and includes Bergen County land behind Pascack Valley High School and the Edgewood Country Club golf course. Single family detached dwellings on 15,000 square foot lots and public parks and playgrounds are permitted in the R-2 zone.

R-3/Residential
The Borough has two R-3 zones. One is located east of Pascack Road until the Pascack Brook and continues north until Saddlewood Drive. The second R-3 zone is l-shaped, beginning east of Kinderkamack Road, west of the Bergen County parklands, and south of East Liberty, including the entire southeastern section of the Borough. Single family detached dwellings on 10,000 square foot lots and public parks and playgrounds are permitted in the R-3 zone.

R-4/Residential
There are four R-4 zones in Hillsdale. The largest R-4 zone is located west of Kinderkamack Road with the western boundary varying from the rail line to the edges of the adjacent commercial zone. The R-4 zone runs the entire length of the Borough in this location. The second R-4 zone is located along the southern municipal boundary with Westwood and consists of the Glenbrook Park residential neighborhood. The third R-4 zone is located along the northern municipal border with Woodcliff Lake and includes most of the Woodcliff Lake Reservoir. The final and smallest R-4 zone is located in the center of the Borough. It is mostly rectangular shaped and encompasses small portions of New Street, Valley Street and Orchard Street.

Single family detached dwellings on 7,500 square foot lots, public parks and playgrounds and residential professional offices are permitted in the R-4 zone.

TC/Townhouse Complex

The TC zone is located on the south side of Piermont Ave, near the Ruckman Avenue intersection. The TC zone consists of approximately seven acres and is completely developed with townhouses.

Permitted uses in the TC zone include townhouse buildings, single family dwellings on 22,500 square feet, and public parks and playgrounds.

SC/Senior Citizen Housing

The SC zone is the smallest zone district in Hillsdale, consisting of 3.11 acres. It is located on Piermont Avenue, east of the Ruckman Avenue intersection and the Meadowbrook School. The SC zone is completely developed with senior citizen housing.

Permitted uses in the SC zone include senior citizen housing, single family dwellings on 15,000 square feet, and public parks and playgrounds.

Nonresidential

C/Commercial

Hillsdale has two separate C zones, both of which are centrally located around the railroad tracks. The first C zone is located in the northern section of the Borough. It straddles Broadway from the north municipal border with Woodcliff Lake and runs until Knickerbocker Ave. The second C zone is located along the southern municipal border with Westwood. This zone straddles the rail line and includes the St. John's the Baptist Church property.

Permitted uses in the C zone include professional offices, retail businesses, offices, banks, restaurants, medical and dental clinic, commercial schools and public parks and playgrounds.

I/Industrial Zone

The I zone is located in the center of the Borough, west of the rail line, east of the Pascack Brook, north of Orchard Street and south of Esplanade. Light industrial uses, such as laboratories, manufacturing processing, packaging and warehousing of products are permitted in the I zone. The I zone includes the waste transfer station and the PSEG substation.

REC/Recreation Zone

The REC zone consists of 11.3 acres and is located south of Piermont Avenue, east of the TC zone and west of the municipal border with River Vale. The REC zone is completely developed with the Stonybrook Swim Club and a Borough recreation field.

Permitted uses in the REC zone include single recreational activities of the field or country club type, single family dwellings, and public parks and playgrounds.

PROPOSED LAND USE

The Land Use Plan Map follows and includes the following recommended changes:

R-A Residential Zone

The Land Use Plan includes a new residential area, the R-A zone. This area encompasses the Edgewood Country Club golf course, Pascack Valley High School, the Bergen County lands located behind the high school, and the Culhane property adjacent to the high school.

The new R-A zone will have a 40,000 SF minimum lot size, and permitted principal uses should include single-family detached dwellings, public parks, golf courses, municipal buildings and services. Other bulk regulations are as follows:

- Front and Rear Yard Setbacks: 60 ft.
- Side Yard Setbacks: 25 ft.
- Building Coverage: 15%.
- FAR: 18.75%, Impervious Coverage: 30%.

The larger lots are appropriate because environmental constraints are present throughout the new zone, as follows:

- The golf course contains soils that drain poorly with severe possibility for erosion.
- The golf course contains steep slopes and a large patch of wetlands in the center.
- The eastern edge of the golf course is located in the 100 year floodplain.
- The county property contains soils that flood frequently.
- Approximately one-half of the County property is covered with wetlands, and the 100 year floodplain is located there.
- The soils at the high school are prone to flooding.
- The Culhane site contains wetlands and properties in the 100 year floodplain.

The larger lots are also appropriate because of zoning in adjacent municipalities. The new R-A zone borders River Vale Township in an area where the zoning requires a 40,000 SF minimum lot size. The new zone also borders County parkland in Woodcliff Lake. A larger lot size is appropriate in an area adjacent to a County park.

BOROUGH OF HILLSDALE, BERGEN COUNTY
2003 MASTER PLAN

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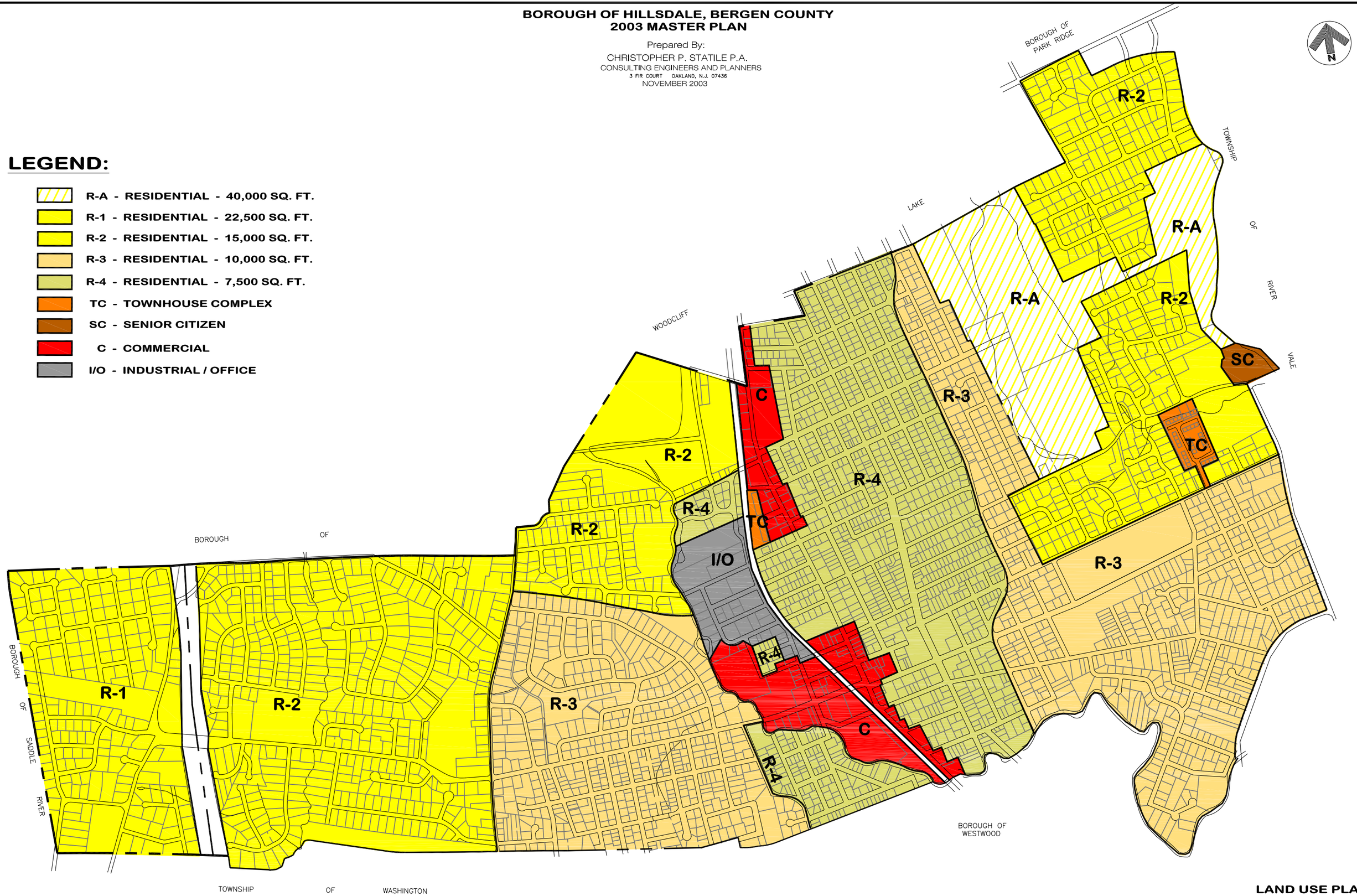
3 FIR COURT OAKLAND, N.J. 07436
NOVEMBER 2003

LEGEND:

- R-A - RESIDENTIAL - 40,000 SQ. FT.
- R-1 - RESIDENTIAL - 22,500 SQ. FT.
- R-2 - RESIDENTIAL - 15,000 SQ. FT.
- R-3 - RESIDENTIAL - 10,000 SQ. FT.
- R-4 - RESIDENTIAL - 7,500 SQ. FT.
- TC - TOWNHOUSE COMPLEX
- SC - SENIOR CITIZEN
- C - COMMERCIAL
- I/O - INDUSTRIAL / OFFICE



LAND USE PLAN

Finally, the new zoning designation provides a greater variety of housing options in the Borough. There is no one acre zone in the Borough, and the R-A zone will fill that void.

Industrial/Office

The Borough should expand the permitted uses in the Industrial zone to include offices, recreation facilities and gymnasiums. The following revisions are recommended to the zoning ordinance.

1. Rename the zone the Industrial/Office (I/O) zone.

2. Keep the existing permitted uses. Add the following permitted uses: medical, business and financial office uses, gymnasiums, indoor recreation facilities, health clubs and computer file storage. Computer file storage sites provide off-site storage of computerized records, such as those from a financial or legal institution. These facilities generate a low traffic volume.

3. Prohibit the following uses: outdoor storage, car washes, automobile body shops, automobile repair, automobile detailing and automobile sales.

4. Require a 20 ft landscape buffer for all industrial/office uses that are adjacent to all residential uses

These regulations allow for additional, non-nuisance uses in the industrial area and prohibit unwanted, offensive uses. Opportunities are provided for new office and recreation uses in the Borough. Currently, there are two gymnasiums in the industrial area. Dora's Gymnastics, the most recent arrival, needed a use variance to locate in the industrial zone. The Land Use Plan recognizes that such businesses are welcome additions to the area that should be encouraged.

Floor Area Ratio (FAR)

To avoid the continued construction of large homes on small lots, include a Floor Area Ratio (FAR) requirement with an impervious coverage requirement in all single-family residential zones. FAR's are considered controls on intensity of use. Several area municipalities have considered such ordinances to reduce the size and bulk of homes on smaller lots. The FAR ordinance provides a balance between the size of new homes and existing dwellings. Additionally, the Borough Ordinance does not contain any impervious coverage limits. These regulations are greatly needed to avoid over development of individual lots. A recommended ordinance is included in Appendix A.

United Water Properties

Continue the R-2 (15,000 SF lot size) from Maria Drive and Nancy Drive through the United Water properties, which are currently in the R-4 (7,500 SF lot size) zone. The properties on Esplanade, Mansion Place and Lake Drive will remain in the R-4 zone because this area is already improved in a manner consistent with the R-4 zone. The larger lots are more appropriate for this location, which includes the Woodcliff Lake Reservoir and the surrounding area that are located in the 100 year floodplain.

Removal of REC Zone

The current zoning map includes a REC (Recreation) zone in the area of the Stonybrook Swim Club. This zone is no longer needed because the swim club is fully developed, and a recreation zone is inappropriate. The Land Use Plan extends the R-2 zone from Piermont Ave. through the existing REC zone.

The Land Use Plan is not attempting to promote residential development at Stonybrook or any other Borough recreation area. This is an attempt to make the area consistent with the rest of the Borough zoning designations. In the unlikely event that the area is developed, it should be done in a manner consistent with the R-2 zone.

Fast Food Restaurants

The Borough Council should consider developing new regulations so that fast food restaurants are permitted conditional uses in the Commercial zone. Possible recommendations are as follows:

1. Definition of fast food restaurant: A fast food restaurant has over-the-counter immediate service to patrons primarily for immediate consumption whether or not interior seating facilities are provided and which restaurant serves a limited, standardized menu of quickly prepared or pre-prepared foods and which foods are packaged in paper or other types of disposable wrappers and containers; any food takeout service that is clearly incidental to the primary permitted restaurant use does not cause such restaurant to be defined as a fast food restaurant; expressly excluded from this definition are retail establishments known as a “delicatessen”, “supermarket,” or “bagel shop” in which food is primarily sold for preparation and consumption elsewhere.

2. The appearance of the building in which a fast food restaurant is located should be colonial in nature, in character with the appearance of downtown Hillsdale.

3. If a new building is being constructed, or the exterior of an existing building is being expanded for a fast food restaurant, the exterior of the building shall have an earth tone color brick façade.

4. If a new building is being constructed, or the exterior of an existing building is being expanded for a fast food restaurant, the roof and/or mansard of the building shall be gray or black.

5. If a new building is being constructed, or the exterior of an existing building is being expanded for a fast food restaurant, the bulk regulations should be revised so that they are more restrictive the current Commercial regulations.

6. Signage requirements should be developed so that the freestanding size is smaller and closer to the ground than what is currently permitted by ordinance.

7. The location of fast food restaurants should be controlled so that they are not located adjacent to a residential zone or within a specific distance from each other.

Broadway Office Use

The Borough Council should consider developing regulations that would permit offices as conditional uses for those properties fronting along or in contact with the Broadway right-of-way lines, between Cross Street and Knickerbocker Avenue. The conditions should include requirements detailing that an office must be residential in appearance with minimal parking to be in character with the existing residential dwellings. All dumpsters should be enclosed so that they are not visible to the adjacent properties. A new office building in this area should be of the size and bulk of the existing residential dwellings so that it "fits in" with the neighborhood.

Since 1978, the Borough Master Plans have contained similar, less precise recommendations. To date, the Council has not acted on any of the recommendations. In 2001, the Planning Board heard a use variance application, known as the BMW application, for an office building in this area. The Board denied the application, and the denial was upheld in court. Many of the Board members felt that the use was appropriate for the location, but the office building that was proposed was too large for the area. The Planning Board favors the concept of a "scaled down" BMW application.

OTHER RECOMMENDATIONS

1. Clarify definitions in the ordinance where needed. For example, provide a more concise definition of corner lot, lot frontage. A preliminary list of definitions is attached in Appendix B. The Borough should continuously review and update the ordinance definitions as necessary.

2. Recognize that flag lots are not an acceptable lot formation and should be prohibited. A flag lot is defined as, "A large lot that does not meet minimum frontage requirements and where access to the public road is by a long, narrow, private right-of-way or driveway."[1]

[1] Moskowitz, Harvey S. and Lindbloom, Carl G., "The New Illustrated Book of Development Definitions." 1995.

3. Encourage the Planning Board to carefully review all bulk and use variance requests to avoid inappropriate development.

4. Ensure that the Code Compliance Department closely monitors dwellings with two kitchens so that they are not converted into two-family homes.

5. Encourage municipal enforcement of the public right-of-way in the Industrial zone. Private businesses have been parking vehicles in adjacent rights-of-way.

6. Consider amending the Ordinance to limit the total maximum height of retaining walls to 6 ft.

7. Discourage the creation of new, through lots from raw, vacant land. Through lots can be undesirable because they contain two front yards. Accessory structures, such as sheds and swimming pools are prohibited in the front yard area. Therefore, it can be difficult to locate accessory structures on a through lot. By definition, a through lot is not a corner lot. Through and corner lots are defined in Appendix B.

8. Discourage the creation of existing, developed lots into through lots unless there is a minimum of a 75 ft. separation from the rear of the existing dwelling (excluding decks) to the proposed right-of-way.

9. Revise Ordinance 310-55I(2) so that storage of boats, motor homes, trailers is prohibited in both the front and side yard areas. Storage of such items should only be permitted in the rear yard area where they may be screened from view.

10. Remove the word "circus" from the definition of structure contained in Section 310-4 of the Ordinance. The revised definition would be as follows, "An assembly of materials forming a construction for occupancy or use, including (among others and without intending to limit the generality of the foregoing) buildings, stadium, tents, meeting tents, reviewing sands, platforms, stagings, observation towers, radio and television towers and antennas, water tanks, trestles, piers, wharves, open sheds, coal bins, shelters, fences, nonportable flagpoles, swimming pools and signs."

11. Consider reducing the 25 ft. height allowance for free standing sings contained in Section 310-65(4)(b) so that the signs can be consistent with the suburban character of the Borough.

12. Consider reducing the height of fences allowed in Section 310-55F of the Ordinance. Currently, fence height of 4 ft. is permitted in the front yards of corner lots. Reducing the permitted height of fences in the front yard of corner lots to 36 inches is appropriate for vision and safety reasons.

CIRCULATION PLAN ELEMENT

INTRODUCTION

The Circulation Plan identifies the location and type of facilities for all transportation modes, including road systems and transit systems. The plan identifies the functional classification of roadways, where applicable, as well as the type, location, condition and availability of existing and proposed transportation facilities.

EXISTING ROADWAY SYSTEM

The Borough of Hillsdale's road system consists of one State highway, several county roads and local roads. The Municipal Streets Map identifies the State, County and unimproved roads in the Borough.

Approximately 3,400 ft. of the Garden State Parkway runs through the Borough in a north/south direction, west of the Smith School and east of Overlook Drive. The 9.2 miles of County roads in the Borough are as follows:

Broadway
Cedar Lane
Demarest Ave.
Hillsdale Ave., from Kinderkamack west to Wierimus Road
Kinderkamack Road
Pascack Ave.
Piermont Ave.
Prospect Ave.
Ruckman Ave.
Van Emburgh Ave.
Washington Ave., from Broadway, east
Wierimus Road

Finally, there are 44.4 miles of municipal roads in Hillsdale.

BOROUGH OF HILLSDALE, BERGEN COUNTY
2003 MASTER PLAN

Prepared By:

CHRISTOPHER P. STATILE P.A.

CONSULTING ENGINEERS AND PLANNERS

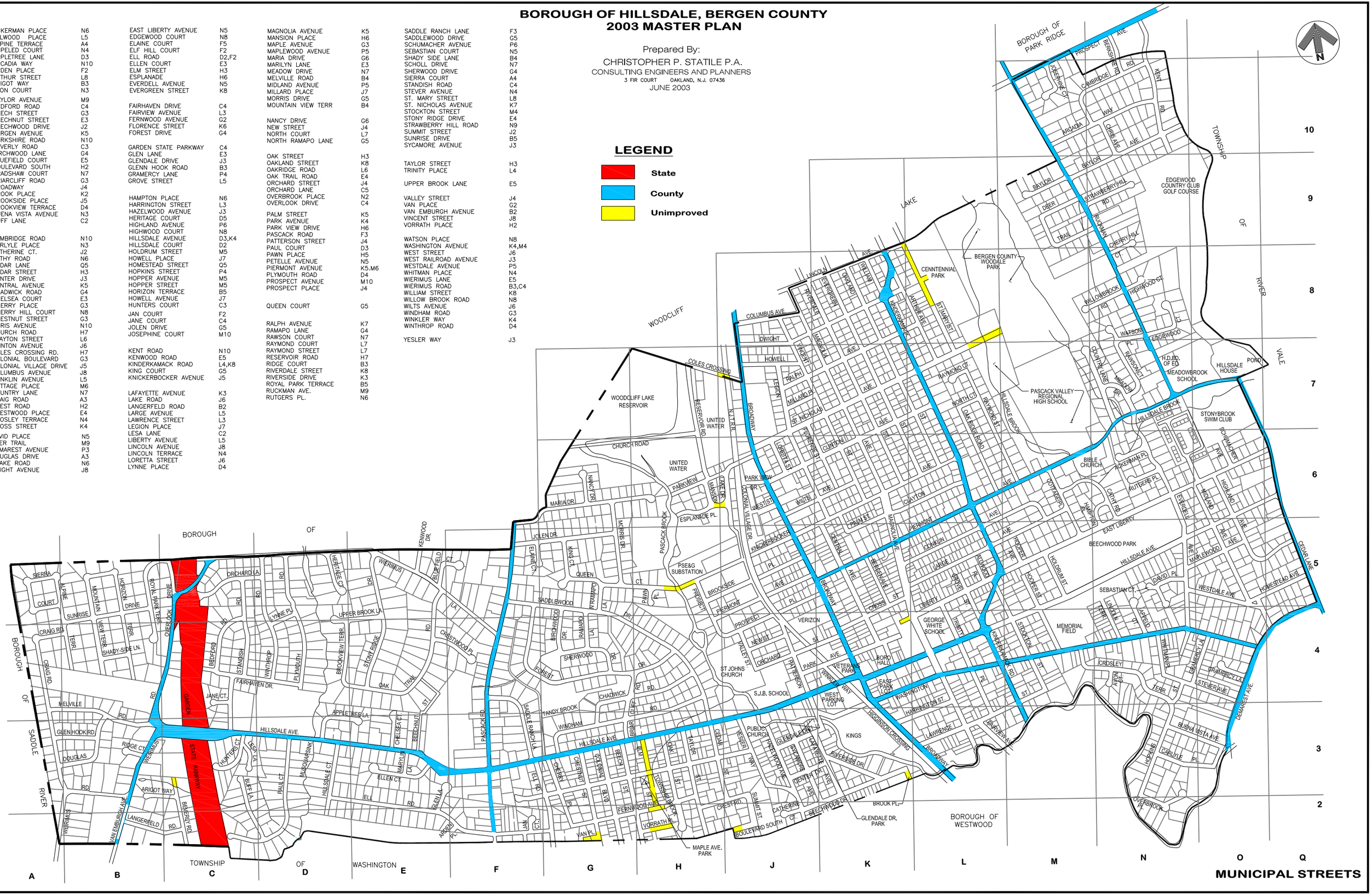
3 FIR COURT OAKLAND, N.J. 07436

JUNE 2003

ACKERMAN PLACE	N6
ALLWOOD PLACE	L5
ALPINE TERRACE	A4
APPELED COURT	N4
APPLETREE LANE	D3
ARCADIA WAY	N10
ARDEN PLACE	F2
ARTHUR STREET	L8
ARIGOT WAY	B3
AVON COURT	N3
BAYLOR AVENUE	M9
BEDFORD ROAD	C4
BEECH STREET	G3
BEECHNUT STREET	E3
BEECHWOOD DRIVE	J2
BERGEN AVENUE	K5
BERKSHIRE ROAD	N10
BEVERLY ROAD	C3
BIRCHWOOD LANE	G4
BLUEFIELD COURT	E5
BOULEVARD SOUTH	H2
BRADSHAW COURT	N7
BRIARCLIFF ROAD	G3
BROADWAY	J4
BROOK PLACE	K2
BROOKSIDE PLACE	J5
BROOKVIEW TERRACE	D4
BUENA VISTA AVENUE	N3
BUFF LANE	C2
CAMBRIDGE ROAD	N10
CARLYLE PLACE	N3
CATHERINE CT.	J2
CATHY ROAD	N6
CEDAR LANE	Q5
CEDAR STREET	H3
CENTER DRIVE	J3
CENTRAL AVENUE	K5
CHADWICK ROAD	G4
CHELSEA COURT	E3
CHERRY PLACE	G3
CHERRY HILL COURT	N8
CHESTNUT STREET	G3
CHRIS AVENUE	N10
CHURCH ROAD	H7
CLAYTON STREET	L6
CLINTON AVENUE	J6
COLES CROSSING RD.	H7
COLONIAL BOULEVARD	G3
COLONIAL VILLAGE DRIVE	J5
COLUMBUS AVENUE	J8
CONKLIN AVENUE	L5
COTTAGE PLACE	M6
COUNTRY LANE	N7
CRAIG ROAD	A3
CREST ROAD	H2
CRESTWOOD PLACE	E4
CROSLEY TERRACE	N4
CROSS STREET	K4
DAVID PLACE	N5
DEER TRAIL	M9
DEMAREST AVENUE	P3
DOUGLAS DRIVE	A3
DRAKE ROAD	N6
DWIGHT AVENUE	J8
EAST LIBERTY AVENUE	N5
EDGEWOOD COURT	N8
ELAINE COURT	F5
ELF HILL COURT	F2
ELL ROAD	D2,F2
ELLEN COURT	E3
ELM STREET	H3
ESPLANADE	H6
EVERDELL AVENUE	N5
EVERGREEN STREET	K8
FAIRHAVEN DRIVE	C4
FAIRVIEW AVENUE	L3
FERNWOOD AVENUE	G2
FLORENCE STREET	K6
FOREST DRIVE	G4
GARDEN STATE PARKWAY	C4
GLEN LANE	E3
GLENDALE DRIVE	J3
GLENN HOOK ROAD	B3
GRAMERCY LANE	P4
GROVE STREET	L5
HAMPTON PLACE	N6
HARRINGTON STREET	L3
HAZELWOOD AVENUE	J3
HERITAGE COURT	D5
HIGHLAND AVENUE	P6
HIGHWOOD COURT	N8
HILLSDALE AVENUE	D3,K4
HILLSDALE COURT	D2
HOLDRUM STREET	M5
HOWELL PLACE	J7
HOMESTEAD STREET	Q5
HOPKINS STREET	P4
HOPPER AVENUE	M5
HOPPER STREET	M5
HORIZON TERRACE	B5
HOWELL AVENUE	J7
HUNTERS COURT	C3
JAN COURT	F2
JANE COURT	C4
JOLEN DRIVE	G5
JOSEPHINE COURT	M10
KENT ROAD	N10
KENWOOD ROAD	E5
KINDERKAMACK ROAD	L4,K8
KING COURT	G5
KNICKERBOCKER AVENUE	J5
LAFAYETTE AVENUE	K3
LAKE ROAD	J6
LANGERFELD ROAD	B2
LARGE AVENUE	L5
LAWRENCE STREET	L3
LEGION PLACE	J7
LESA LANE	C2
LIBERTY AVENUE	L5
LINCOLN AVENUE	J8
LINCOLN TERRACE	N4
LORETTA STREET	J6
LYNNE PLACE	D4
MAGNOLIA AVENUE	K5
MANSION PLACE	H6
MAPLE AVENUE	G3
MAPLEWOOD AVENUE	P5
MARIA DRIVE	G6
MARILYN LANE	E3
MEADOW DRIVE	N7
MELVILLE ROAD	B4
MIDLAND AVENUE	P5
MILLARD PLACE	J7
MORRIS DRIVE	G5
MOUNTAIN VIEW TERR	B4
NANCY DRIVE	G6
NEW STREET	J4
NORTH COURT	L7
NORTH RAMAPO LANE	G5
OAK STREET	H3
OAKLAND STREET	K8
OAKRIDGE ROAD	L6
OAK TRAIL ROAD	E4
ORCHARD STREET	J4
ORCHARD LANE	C5
OVERBROOK PLACE	N2
OVERLOOK DRIVE	C4
PALM STREET	K5
PARK AVENUE	K4
PARK VIEW DRIVE	H6
PASCACK ROAD	F3
PATTERSON STREET	J4
PAUL COURT	D3
PAWN PLACE	H5
PETELLE AVENUE	N5
PIERMONT AVENUE	K5.M6
PLYMOUTH ROAD	D4
PROSPECT AVENUE	M10
PROSPECT PLACE	J4
QUEEN COURT	G5
RALPH AVENUE	K7
RAMAPO LANE	G4
RAWSON COURT	N7
RAYMOND COURT	L7
RAYMOND STREET	L7
RESERVOIR ROAD	H7
RIDGE COURT	B3
RIVERDALE STREET	K8
RIVERSIDE DRIVE	K3
ROYAL PARK TERRACE	B5
RUCKMAN AVE.	M9
RUTGERS PL.	N6
SADDLE RANCH LANE	F3
SADDLEWOOD DRIVE	G5
SCHUMACHER AVENUE	P6
SEBASTIAN COURT	N5
SHADY SIDE LANE	B4
SCHOLL DRIVE	N7
SHERWOOD DRIVE	G4
SIERRA COURT	A4
STANDISH ROAD	C4
STEVER AVENUE	N4
ST. MARY STREET	L8
ST. NICHOLAS AVENUE	K7
STOCKTON STREET	M4
STONY RIDGE DRIVE	E4
STRAWBERRY HILL ROAD	N9
SUMMIT STREET	J2
SUNRISE DRIVE	B5
SYCAMORE AVENUE	J3
TAYLOR STREET	H3
TRINITY PLACE	L4
UPPER BROOK LANE	E5
VALLEY STREET	J4
VAN PLACE	G2
VAN EMBURGH AVENUE	B2
VINCENT STREET	J8
VORRATH PLACE	H2
WATSON PLACE	N8
WASHINGTON AVENUE	K4,M4
WEST STREET	J6
WEST RAILROAD AVENUE	J3
WESTDALE AVENUE	P5
WHITMAN PLACE	N4
WIERIMUS LANE	E5
WIERIMUS ROAD	B3,C4
WILLIAM STREET	K8
WILLOW BROOK ROAD	N8
WILTS AVENUE	J6
WINDHAM ROAD	G3
WINKLER WAY	K4
WINTHROP ROAD	D4
YESLER WAY	J3

LEGEND

- State
- County
- Unimproved



MUNICIPAL STREETS

Classification of County Roads[1]

Bergen County provides the following classification of its roads in Hillsdale:

Collector Roads, Possible Future R.O.W. 66 ft. & Pavement Width 46 ft.

- Pascack Road
- Van Emburgh Ave.
- Wierimus Road
- Washington Ave.
- Hillsdale Ave.
- Broadway
- Piermont Ave.

Other Roadway, Possible Future R.O.W. 60 ft. & Pavement Width 40 ft.

- Ruckman Ave.
- Prospect Ave.

Arterial, Possible Future R.O.W. 70 ft. & Pavement Width 50 ft.

- Kinderkamack Road

Accident Statistics

Table 1 provides accident statistics at intersections in the Borough as recorded by the Police Department in 1999, 2000, 2001 and 2002. As shown, the Police Department has been recording accident statistics at additional intersections each year since 1999.

In 2002, the two intersections with the most recorded accidents (eight at both intersections) were Broadway/Hillsdale Ave. and Hillsdale Ave./Pascack Road. The Broadway/Hillsdale intersection had 12 accidents in 1999, then the number decreased to five accidents in 2000 and two accidents in 2001 before increasing to eight in 2002.

The number of accidents at the Hillsdale/Pascack intersection did not vary as much during the four years. In 1999, 2000 and 2001 there were five accidents, which increased to eight in 2002.

[1] Bergen County Planning Department

Table 1				
Accidents by Intersection				
Borough of Hillsdale, 1999-2002				
Location	1999	2000	2001	2002
Broadway & Clinton Ave.	N/A*	N/A	0	1
Broadway & Cross St. (Orchard St.)	N/A	N/A	0	3
Broadway & Harrington St.	N/A	N/A	N/A	1
Broadway & Hillsdale Ave.	12	5	2	8
Broadway & Lawrence St.	N/A	N/A	N/A	1
Broadway & Parkview Dr.	N/A	N/A	2	3
Broadway & Piermont Ave.	1	2	5	3
Broadway at Shop Rite Exit	2	2	5	6
Broadway & Washington Ave.	3	4	3	2
Hillsdale Ave. & Everdell Ave.	N/A	N/A	N/A	2
Hillsdale Ave. & Kinderkamack Road	7	3	4	3
Hillsdale Ave. & Colonial Blvd.	N/A	N/A	N/A	3
Hillsdale Ave. & Magnolia Ave.	N/A	5	4	0
Hillsdale Ave. & Central Ave.	N/A	N/A	N/A	1
Hillsdale Ave. & Pascack Road	5	5	5	8
Hillsdale Ave. & Patterson St.	N/A	N/A	3	5
Hillsdale Ave. & Saddlewood Dr.	2	2	2	1
Hillsdale Ave. & Yesler Way	N/A	N/A	N/A	1
Hillsdale Ave. & Wierimus Road	1	1	0	0
Kinderkamack Road & Clinton Ave.	N/A	N/A	0	0
Kinderkamack Rd. & Dwight Ave. SB	N/A	2	2	3
Kinderkamack Rd. & Lincoln Ave.	N/A	N/A	N/A	0
Kinderkamack Rd. & Lawrence St.	N/A	6	1	1
Kinderkamack Rd. & Piermont Ave.	5	0	3	5
Kinderkamack Rd. & Washington Ave.	6	7	5	7
Pascack Road & Ell Road	N/A	N/A	N/A	0
Pascack Road & Saddlewood Drive	N/A	N/A	N/A	0
Pascack Road & Wierimus Lane	3	0	2	0
Patterson & Orchard Street	2	0	1	2
Parkview & Lake Street	N/A	N/A	0	1
Piermont & Magnolia Ave.	5	0	2	1
Piermont & Ruckman Ave.	0	0	1	2
Washington Ave. & Magnolia Ave.	N/A	1	0	0
* Data not recorded; new category.				
Source: Hillsdale Police Department.				

Table 2 provides accident statistics for non-intersection accidents from 1999 to 2002. As shown, there were 58 rear end collisions in 2002. Hit and run accidents have decreased from 28 in 1999, to 23 in 2000, 2001 and 2002. The number of accidents in the Shop Rite parking lot has increased from 8 in 1999, to 24 in 2002. The number of accidents in the Kings supermarket parking lot increased from 12 to 16 during the same time period.

Table 2				
Other Motor Vehicle Accidents				
Borough of Hillsdale, 1999 - 2002				
Location	1999	2000	2001	2002
Rear End Collisions	N/A*	N/A	N/A	58
Hit & Run Accidents	28	23	23	23
Industrial Area Accidents	5	7	4	11
Kings Supermarket Parking Lot	12	13	16	16
Kings Supermarket Exit	N/A	N/A	N/A	0
Pascack Valley High School Lot	N/A	N/A	3	10
Seven Eleven Parking Lot	8	2	4	6
Shop Rite Parking Lot	8	9	17	24
Other Parking Lot Accidents**	N/A	N/A	38	29
Accidents Involving Solid Waste Veh's	6	8	5	6
Motor Vehicle & Domestic Animal	N/A	1	1	3
Motor Vehicle & Deer	N/A	2	2	1
*Data not recorded; new category.				
**Includes municipal parking lots.				
Source: Hillsdale Police Department.				

Bergen County

Bergen County, in conjunction with the Borough, is beginning to investigate realigning the Patterson Street Bridge, which is located behind the post office on Patterson Street. The County has funded a study of the projects and obtaining the state permits.

The Bergen County Planning Department has not prepared a new Master Plan or Circulation Plan in 30 years. The Department also has not issued any recent reports on transportation in the Hillsdale area.

The Planning Department has been approved for a grant to prepare a report of Kinderkamack Road from Route 4 to the New York State border. The report will be entitled, “Enhancing Access and Mobility Along the Kinderkamack Road/Pascack Valley Intermodal Corridor.” Hillsdale will be impacted by this study as Kinderkamack Road traverses the entire length of the Borough in a north/south direction.

The County hopes that this report will review mobility, accessibility, safety and quality of life along Kinderkamack Road. Accessibility relates to the Pascack Valley rail line, as well as bicycle and pedestrian access. The County believes that the report will determine the future for this mixed use area. The County would like to improve traffic flow, make the area safer and improve access.

The study is federally funded. The County anticipates being awarded the grant no earlier than July 2003. At that time, it will prepare a Request for Proposal (RFP) for consultants to prepare the report. A Technical Advisory Committee will be formed to include representatives from all impacted municipalities. The County Planning Department estimates that the study will take 24 months to complete.

PUBLIC TRANSPORTATION

Hillsdale is located along the Pascack Valley Rail Line, which provides weekday service to and from Hoboken, New Jersey. COACH USA also provides bus service between Hillsdale and the Port Authority Bus Terminal in New York City.

NJ TRANSIT

NJ TRANSIT operate the Pascack Valley Rail Line, which runs from Spring Valley, New York to Hoboken where passengers can take the PATH train, bus or ferry to New York City. Currently, seven inbound trains and ten outbound trains are available. The Pascack Valley line is a commuter train that does not offer midday and weekend service at this time. The train stops at the Hillsdale train station, located at the corner of Broadway and Hillsdale Ave.

The first A.M. train leaves Spring Valley at 5:36 A.M. and makes five stops before reaching the Hillsdale train station. This train leaves Hillsdale at 5:57 A.M. and arrives in Hoboken at 6:41 A.M. The last inbound train leaves Spring Valley at 8:00 A.M. and Hillsdale at 8:21 A.M., arriving in Hoboken at 9:06 A.M.

The first outbound train leaves Hoboken at 2:35 P.M. and arrives in Hillsdale at 3:19 P.M. The tenth and last outbound train leaves Hoboken at 10:40 P.M. and arrives in Hillsdale at 11:23 P.M.

<u>Boarding Counts</u>
Table 3 provides average weekday passenger boardings from the Hillsdale Train Station. The data is based on a combination of monthly passes and one-way ticket sales.

As shown, there were 270 recorded passenger boarding counts in 2002. This is a 6.3 percent decrease from 2001, which posted 288 passenger boardings. The year 2000 had 296 passenger boardings, which was the largest of all the years studied. In 1995, there were 258 passenger boardings. As shown, the data increased by 4.7 percent from 1995 to 2002.

One possible explanation for the decrease could be the tragic events of September 11, 2001. As a result of the destruction of the World Trade Center, many positions were moved from downtown to midtown Manhattan. People working in midtown may choose an alternate mode of transportation to avoid travelling from Hillsdale to Hoboken by train. Additionally, the area experienced an economic downturn in 2001 and 2002, which likely resulted in an overall loss of jobs in the New York City area. As a result, fewer people may be commuting to New York City from Hillsdale.

Table 3
Hillsdale Passenger Boarding Counts
Average Weekday Passenger Boardings
1995 & 1999-2002

		Change	
Year	Boardings	Number	Percent
1995	258	------	------
1999	279	21	8.1
2000	296	17	6.1
2001	288	(8)	(2.7)
2002	270	(18)	(6.3)
Total Change, 1995-2002		12	4.7

Source: Business Planning , NJ TRANSIT.

Secaucus Junction

The Secaucus Junction is currently open in Secaucus, New Jersey. It provides a transfer for the Pascack Valley line, as well as the Main, Bergen and Port Jervis rail lines into Penn Station, located in midtown Manhattan.

The Secaucus Junction will improve train service on the Pascack Valley Line. Ten year projections indicate that Hillsdale ridership could double when Secaucus Junction is fully operational.

Secaucus Junction shortens Pascack Valley Rail Line commutes because those riders needing service to midtown will be able to bypass Hoboken. Currently, they must go from Hoboken to midtown. Additionally, Secaucus Junction passengers will be able to connect to Amtrak trains in midtown Manhattan or Newark, New Jersey for service to Washington, DC and Boston.

NJ TRANSIT Transit-Friendly Communities

In May 2002 NJ TRANSIT prepared a report entitled, "Transit-Friendly Communities for New Jersey Recommendations & Implementation Strategies Report – Hillsdale Station: Creating a Downtown Partnership." The report is the culmination of a local demonstration project conducted for Hillsdale under NJ TRANSIT's Transit Friendly Communities (TFC) Program. The TFC Program focused on how the relationship between the Hillsdale Rail Station, the Borough downtown commercial core and the surrounding residential neighborhoods could further enhance and support the transit-friendly nature of the area.

The report made several recommendations. The recommendations that are appropriate for the Master Plan are as follows:

1. Introduce evening and weekend uses around the area of the train station.

2. Keep the rail station open during morning and evening rush hours.

3. Program uses for the station building, such as farmers markets, concerts, seasonal plantings, etc.

4. Add seating to the lawn area outside of the rail station building.

5. Study the westerly commuter parking lot to identify ways of providing a safer and more direct route for commuters walking to and from the station platforms.

6. Extend the streetscape improvements along Hillsdale Avenue to the Borough Hall and the Hillsdale Library.

7. Include a sidewalk or path through the station lawn area to the curb cuts along Hillsdale and Washington Avenues.

8. Include a directory and map of downtown businesses and points of interest, either at the train station or at the historic police booth located across the street.

9. The Borough should hold a joint meeting with merchants and residents to obtain input on desired improvements to the area to better link the station to the surrounding neighborhoods, and to determine alternate non-traditional users for the station building.

Commuter Parking in Hillsdale

There are 267 existing commuter parking spaces located in four separate surface lots surrounding the Hillsdale train station. The lots are owned and operated by the Borough. The location of the commuter parking lots is shown in Exhibit A.

Lot 1, with 170 spaces, is limited to Hillsdale residents and employees of Hillsdale businesses that do not have on-site parking. There is no fee associated with this lot. Parking passes are provided to any resident upon request; the passes also provide residents access to the Borough recycling center. Additionally, there are some short term parking spaces at the front of Lot 1 that serve patrons of the downtown businesses. These spaces are not shown in blue on Exhibit A because they are not commuter parking spaces.

Lots 2, 3 and 4 are long term commuter parking lots available to residents and nonresidents, and there is an annual $240 fee for parking passes. In 2002 the Borough issued 88 parking passes for these lots. These passes must be renewed annually. According to the Borough Clerk, it is only nonresidents that utilize Lots 2, 3 and 4 because Hillsdale residents can park at no cost in Lot 1.

There is no direct access through the parking lots to the station platform. Passengers leaving the station must walk to one of the two grade crossings and walk around the fencing that separates the rail right of way from the street.

According to NJ TRANSIT, the commuter parking spaces are at capacity. NJ TRANSIT also predicts that approximately 100-140 additional commuter parking spaces may be needed at the Hillsdale train station to accommodate projected ridership increases when Secaucus Transfer is fully operational.[2]

The Hillsdale Police Department checks all of the commuter parking lots daily to ensure that all cars have the appropriate parking pass. According to the Police Captain, there are approximately 25 spaces vacant in Lot 1 (restricted to Hillsdale residents and businesses) and approximately 20-40 spaces vacant in the other lots, generally in the area closest to the Department of Public Works garage.

[2] NJ TRANSIT, "Transit-Friendly Communities for New Jersey Recommendations & Implementation Strategies Report – Hillsdale Station: Creating a Downtown Partnership." 2002, and NJ TRANSIT Project Planning.

Old Tappan Commuter Bus

In September 2002, Old Tappan began bus service that transports commuters from the Old Tappan Borough Hall to the Hillsdale Train station in the morning. The bus picks up passengers in Old Tappan and on Hillsdale Avenue. Reverse service is provided in the evening.

The bus makes three trips in the morning and three trips in the evening. In October 2002 there were 121 riders although a breakdown between Hillsdale and Old Tappan residents is not available.

The bus is subsidized through NJ TRANSIT to encourage more people to use mass transit rather than drive. There currently is no charge for the bus. However, in January 2003 a charge of $1 each way from Old Tappan Borough Hall will be implemented.

NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY[3]

The North Jersey Transportation Planning Authority (NJTPA) is the federally-sanctioned Metropolitan Planning Organization for the 6 million people in the 13 county northern New Jersey region. Every year, the NJTPA oversees over $1 billion in transportation investments. It evaluates and approves proposed transportation improvement projects and provides a forum for interagency cooperation and public input into funding decisions. It also sponsors and conducts studies, assists county planning agencies and monitors compliance with national air quality goals.

The NJTPA prepared its most recent plan entitled, "2025 Access and Mobility Regional Transportation Plan." In the plan, the entire 13 county region is divided into 19 transportation corridors. The Borough of Hillsdale is located in corridors 8 and 9. The plan identifies the projects within the corridor that are near-term and mid-term investments. There are no projects specifically located in Hillsdale. However, upgrades to the entire Pascack Valley Rail Line are listed as near-term transit projects.

SENIOR CITIZEN VAN

The Borough operates a van that transports senior citizen residents. The van operates on Tuesdays and Wednesdays, from 9:00 A.M to 3:00 P.M. The van provides transportation for medical appointments, shopping and social outings within a 10 mile radius. The van will not go past Hackensack or cross Route 17. Over 100 clients utilize the van service.

The van is operated by a driver who is a paid employee of the Borough of Hillsdale. The van also has a driving assistant, who is a senior citizen volunteer. The driving assistant helps the riders with packages, scheduling pick-ups, and other tasks.

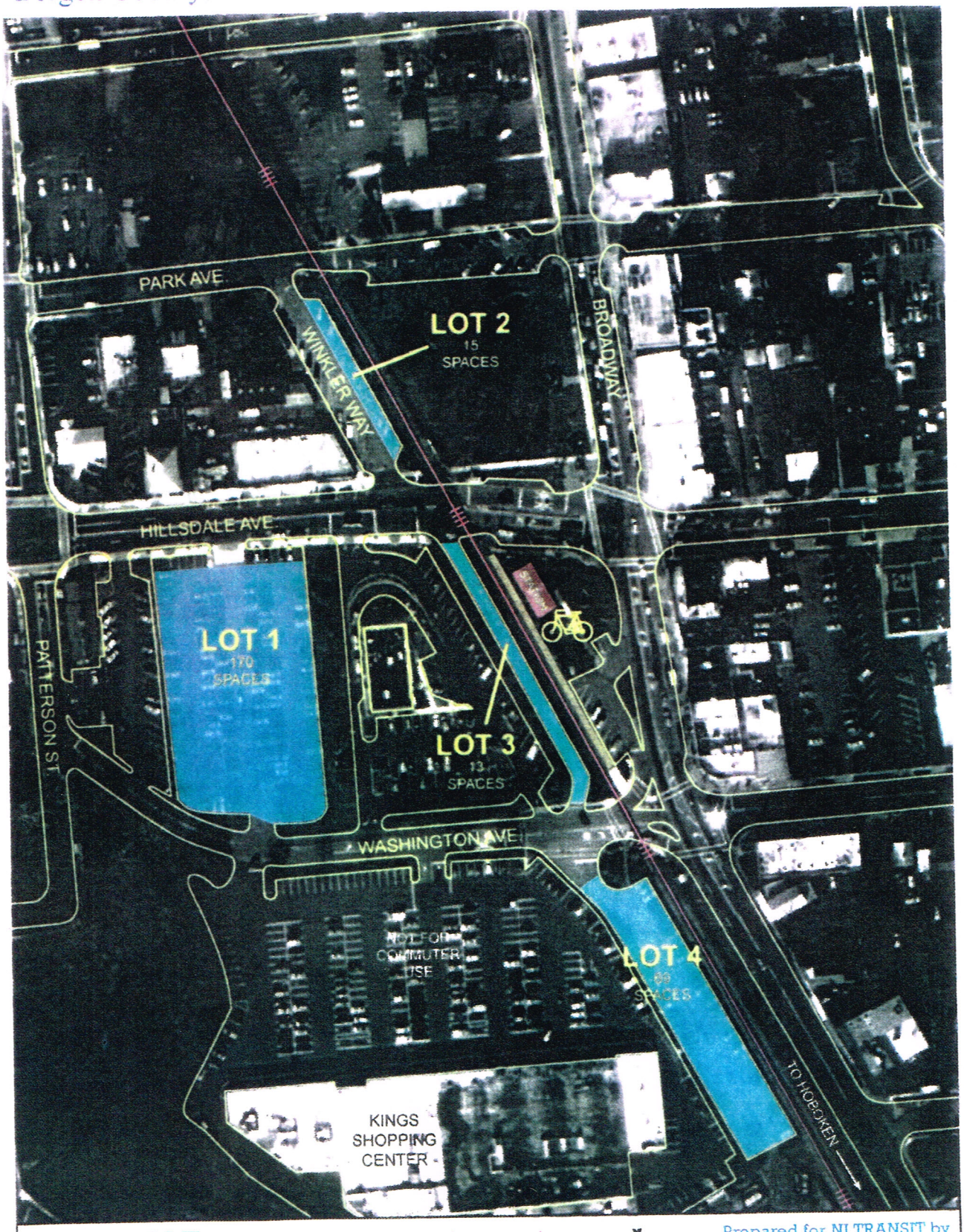
[3] NJTPA, "2025 Access and Mobility Regional Transportation Plan."

PASCACK VALLEY LINE

EXHIBIT A

Hillsdale Station

Bergen County, NJ



HILLSDALE STATION

100 FT

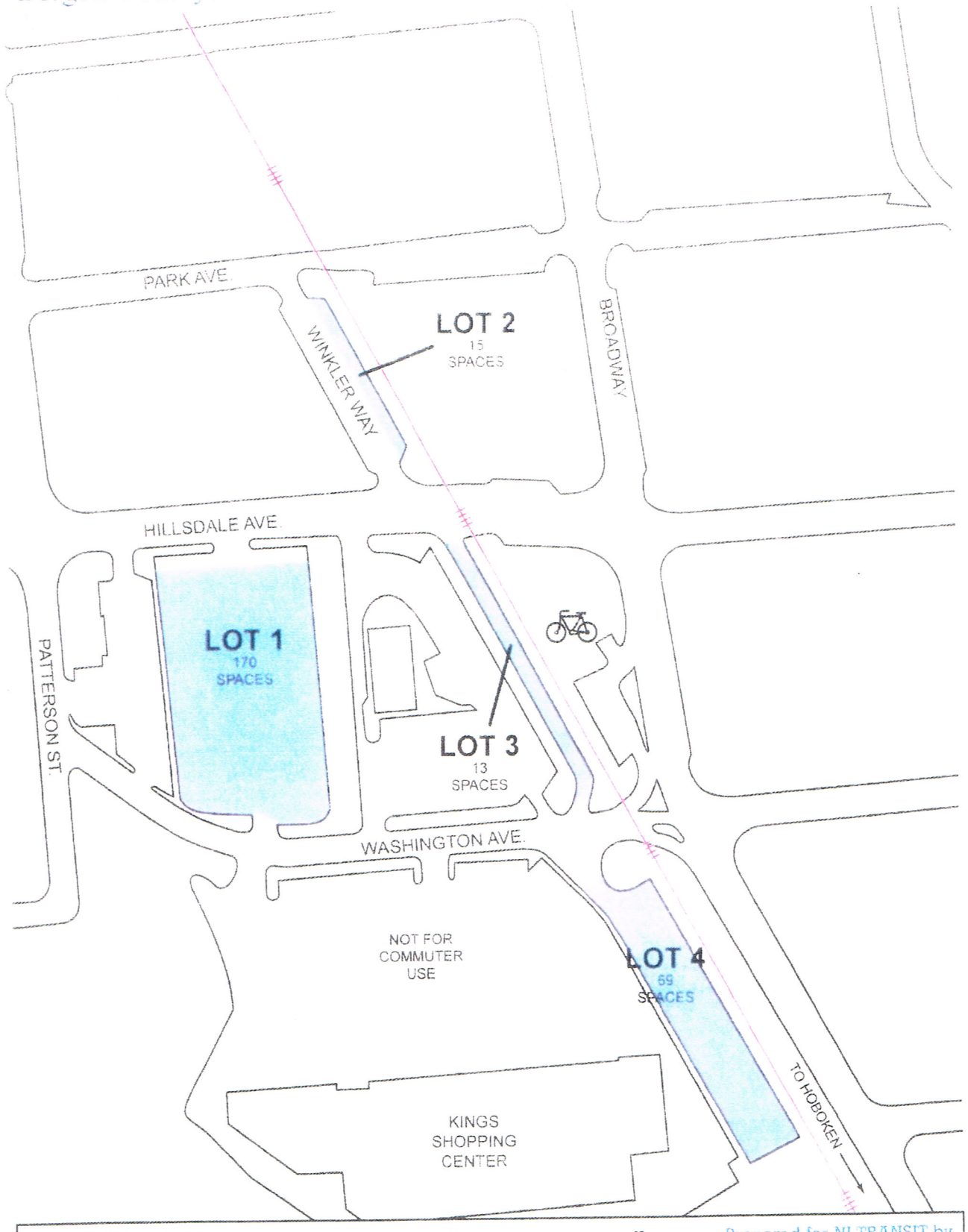
N

Prepared for NJ TRANSIT by
Christopher P. Statile, P.A.
Consulting Engineers

PASCACK VALLEY LINE

EXHIBIT A

Hillsdale Station
Bergen County, NJ



HILLSDALE STATION

100 FT

N

Prepared for NJ TRANSIT by
Christopher P. Statile, P.A.
Consulting Engineers

RECOMMENDATIONS

1. Follow the recommendations of the NJ TRANSIT TFC report that encourage other, nontraditional uses in and around the train station.

2. Consider active use of the train station area during commuter hours for appropriate food and/or retail uses.

3. Attempt to make the route from the commuter parking lots to the rail platform more pedestrian friendly. For example, the paths should be improved with sidewalks and lighting where appropriate.

4. Continue to monitor the availability of commuter parking in the Borough. Hillsdale has been very proactive in terms of providing adequate parking. The Borough should be aware that additional parking might be needed when Secaucus Junction is fully operational. Due to the Borough's location, it will most likely not be a regional draw for Secaucus Transfer commuter parking. All parking options should be explored as necessary. This includes the construction of new lots as well as the investigation of utilized parking in existing, nearby parking lots.

5. Consider amending the Land Use Ordinance to require traffic impact analyses for larger developments. For example, a traffic impact analysis could be mandatory for single-family attached and detached developments in excess of ten units, all multi-family developments and site plan applications in excess of 20,000 square feet of development.

UTILITY PLAN ELEMENT

The Utility Element analyzes the water and sewerage facilities serving the Borough of Hillsdale.

SEWER SERVICE

Hillsdale joined in the Bergen County Utilities Authority sewer system in 1967. Prior to that time, sewage disposal in the Borough was accomplished by individual on-site septic systems.

All sewer waste from Hillsdale is collected by the BCUA. Trunk sewers in the Borough collect the waste and transport it to the BCUA treatment plant in Little Ferry where it is treated and discharged into the Hackensack River.

Table 1 shows the Borough's sewer usage by gallons from 1990 to 2001. During the 11-year period, sewage flow from the Borough decreased by almost 60,000,000 gallons or over 13 percent. The largest increase occurred in 1996, which posted a 54 million gallon or 16.1 percent increase. This follows the largest decrease in 1995, when sewage flow decreased by almost 16 percent, or under 63.6 million gallons.

Wastewater volumes are affected by several factors, including the proportion of commercial versus residential discharge, system maintenance to repair leaks and outdated manholes, rainfall intensities and the aging of the sewer system. The latter two factors can cause infiltration into the sewer system.

Hillsdale pays BCUA quarterly for sewer service based on the quantity and quality of wastewater that the Borough discharges. The greater value of Biological Oxygen Demand (BOD) and suspended solids, the more expensive it is to treat the waste. Generally, as commercial development increases, the amount of BOD's increase and the overall quality of the wastewater decreases.

Table 1			
BCUA Annual Sewage Flow			
Borough of Hillsdale, 1990-2001			
	Sewage	Change	
Year	Flow*	Number	Percent
1990	432,502,360	-----	-----
1991	427,499,468	(5,002,892)	(1.2)
1992	379,207,594	(48,291,874)	(11.3)
1993	390,267,476	11,059,882	2.9
1994	400,054,386	9,786,910	2.5
1995	336,454,483	(63,599,903)	(15.9)
1996	390,455,506	54,001,023	16.1
1997	379,458,748	(10,996,758)	(2.8)
1998	376,461,697	(2,997,051)	(0.8)
1999	334,681,317	(41,780,380)	(11.1)
2000	351,824,586	17,143,269	5.1
2001	372,835,856	21,011,270	6.0
11 Year Change		**(59,666,504)**	**(13.8)**
* Flow is in gallons			
Source: Bergen County Utilities Authority.			

WATER SERVICE

United Water New Jersey (United Water) provides water service to Hillsdale. The Borough is part of three different water service districts: Montvale, Wierimus, and New Milford. United Water mostly serves the eastern portion of Bergen County.

Table 2 provides water consumption in Hillsdale from 1990 through 2001. During the eleven-year period, consumption increased by 52,051,824 gallons, or over 16 percent. The largest increase in water usage occurred in 1993 (over 49.7 million gallons or 16 percent) and the largest decrease in water usage occurred in 1992 (over 42.2 million gallons or almost 12 percent).

Table 2			
United Water New Jersey			
Billed Consumption for Hillsdale, 1990-2001			
	Water	Change	
Year	Usage*	Number	Percent
1990	318,025,664	-----	-----
1991	353,455,432	35,429,768	11.1
1992	311,233,076	(42,222,356)	(11.9)
1993	360,937,676	49,704,600	16.0
1994	333,863,068	(27,074,608)	(7.5)
1995	353,080,684	19,217,616	5.8
1996	329,856,032	(23,224,652)	(6.6)
1997	346,689,024	16,832,992	5.1
1998	346,914,920	225,896	0.1
1999	356,187,876	9,272,956	2.7
2000	325,056,864	(31,131,012)	(8.7)
2001	370,077,488	45,020,624	13.9
11 Year Change		**52,051,824**	**16.4**
* Usage is in gallons			
Source: United Water New Jersey.			

During the spring and summer of 2002 the State had declared all of Bergen County in a drought emergency. Restrictions were placed on lawn and landscape watering. United Water representatives explained that there usually is a sufficient amount of water, but the area was in a 100-year drought period at the time. Additionally, lack of snow during the 2001/2002 winter and low rainfall amounts lowered the water reserve levels.

United Water encourages water conservation by public service announcements and other means of public relations, as well as encouraging consumers to install new products that use less water, such as the low-flow toilets, sinks and shower heads. United Water is unable to implement any type of permanent, long term watering restrictions. Only the State can declare a drought emergency with mandatory water restrictions; any restriction recommended by United Water is voluntary.

Wells in Hillsdale

Although United Water is the water provider in the Borough, some properties have their own private wells. According to the Borough Health Officer, there are approximately 30 properties know to be active well users. The list is approximate because residents are not required to notify the Borough if they use a well. According to the Health Officer, the properties are located throughout the Borough as follows:

Beechwood Drive	Brook Place
Buff Lane	Center Drive
Coles Crossing	Craig Road
Douglas Avenue	Glen Hook Road
Glendale Drive	Hazelwood Avenue
Homestead Avenue	Horizon Terrace
Maple Avenue	Melville Road
Park Avenue	Riverdale Avenue
Sierra Court	Steven Avenue
Sycamore Avenue	Wierimus Road

After Tropical Storm Floyd hit the area in September 1999, there was concern that flooding from the storm might have contaminated wells. Some property owners in the Glenbrook Park section of the Borough chose to connect to United Water at that time. Grant funds were obtained from the Federal Emergency Management Agency (FEMA) for the plumbing and connection fees.

RECOMMENDATIONS

The following recommendations are offered for the Utility Element:

1. The Borough and United Water should continue to encourage Hillsdale residents and businesses to voluntarily conserve water regardless of drought conditions.

2. Properties with private wells should be encouraged to connect into the United Water system.

3. The Borough should encourage those properties with private wells that refuse to connect to United Water to test the water quality regularly.

4. The Borough should compel United Water to maintain greater than minimum required water pressure throughout the Borough.

COMMUNITY FACILITIES ELEMENT

INTRODUCTION

The Community Facilities Element evaluates the public facilities in the Borough of Hillsdale. This plan identifies the existing and proposed location and type of municipal resources, such as schools, police service, fire protection and library services. Overall, the existing Borough facilities meet the residents' needs although the educational facilities require expansion.

The location of the Borough community facilities is shown on Community Facilities Map. The map contains 62 sites as follows:

Map #	Block/ Lot	Location	Use
1.	203/14.01	Sierra Court	Drainage easement
2.	207/1	Wierimus Road	Vacant lot
3.	101/9	Beverly Road	Vacant lot – road purposes
4.	305/1, 5	1000 Hillsdale Ave.	Anne Blanche Smith School
5.	601/42	Upper Brook Lane	Lot for drainage
6.	504/53	Hillsdale Court	Vacant lot
7.	601/25	Oak Trail Road	Vacant lot – pedestrian walk
8.	503/1	Beechnut Street	Vacant lot- pedestrian walk
9.	906/13	Pascack Road	Lot for drainage
10.	906/20	Saddlewood Drive	Lot for drainage
11.	802/4	Saddle Ranch Lane	Lot for drainage
12.	802/9	Saddle Ranch Lane	Lot for drainage
13.	802/30	117 Forest Drive	Vacant lot
14.	903/17	Forest Drive	Lot for drainage
15.	908/10	102 Saddlewood Drive	Lot for drainage
16.	717/7	2 Chestnut Street	Vacant lot
17.	703/1	621 Hillsdale Ave.	Vacant lot
18.	703/9	43 Elm Street	Vacant lot
19.	703/10	47 Elm Street	Vacant lot
20.	702/3	74 Elm Street	Vacant lot
21.	702/4	50 Elm Street	Vacant lot
22.	702/7	86 Maple Ave.	Vacant lot
23.	702/12	Oak Street	Vacant lot
24.	701/2	583 Hillsdale Ave.	Vacant lot
25.	714/9	50 Elm Street	Maple Ave. Park
26.	714/7,8	Elm Street	Vacant lots
27.	714/10	20 Elm Street	Vacant lot

28.	719/7	Elm St. & Maple. Ave.	Vacant lot
29.	719/9	Elm St. & Fernwood Ave.	Vacant lot
30.	715/14	Vorrath & Fernwood	Vacant lot
31.	715/18	Vorrath Place	Vacant lot
32.	1106/5, 23	509 Hillsdale Ave	Library
33.	1112/11	26 Hazelwood Ave.	Vacant
34.	1113/9	Center Drive	Vacant lot
35.	1106/33	24 Glendale Drive	Glendale Park
36.	1106/34-37	Glendale Drive	Vacant lots
37.	1110/2	Center Drive	Vacant lot
38.	1110/5	Center Drive	Vacant lot
39.	1105/2,3	425 Hillsdale Ave.	West Parking Lot
40.	1107/1-8	Lafayette & Riverside	Vacant lots
41.	1109/8-10	Lafayette Ave.	Vacant lots
42.	1109/1	56 Beechwood Drive	Vacant lot
43.	1108/10	61 Beechwood Drive	Vacant lot
44.	1109/4	44 Beechwood Drive	Vacant lot
45.	1108/2	Beechwood Drive	Vacant lot
46.	1108/1	Beechwood Drive	Vacant lot
47.	1107/18	1 Brook Place	Vacant lot
48.	1107/19	Washington Ave.	DPW Garage
49.	1103/1	Broadway Ave.	Veteran's Park
50.	1409/1,9	Hillsdale Ave.	Borough Hall
51.	1407/16	374 Hillsdale Ave.	George W. White School
51.	1410/1	374 Hillsdale Ave.	George W. White School
52.	1309/12	Hillsdale/Washington Ave.	Fire Dept. & Ambul. Corps.
53.	1406/32	Large Ave.	Lot for drainage
54.	2101/20-23	St. Mary's St.	Centennial Field
55.	2001/29,31,32	Piermont Ave.	Pascack Valley High School
56.	1906/1	Hillsdale Ave.	Beechwood Park
57.	1801/55,56	Hillsdale Ave.	Memorial Field
57.	1301/1	Hillsdale Ave.	Memorial Field
58.	1910/29.02	Cedar Lane/Piermont	Stonybrook Swim Club
58.	1910/29.02	Cedar Lane/Piermont	Playing field
59.	2001/5	20 Piermont Ave.	Lot for drainage
60.	2001/3	32 Ruckman Ave.	Meadowbrook School
60.	2001/3	32 Ruckman Ave.	Board of Education
61.	2301/10	Baylor Ave.	Lot for drainage
62.	2301/9	Kent Road	Lot for drainage

BOROUGH OF HILLSDALE, BERGEN COUNTY
2003 MASTER PLAN

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JUNE, 2003

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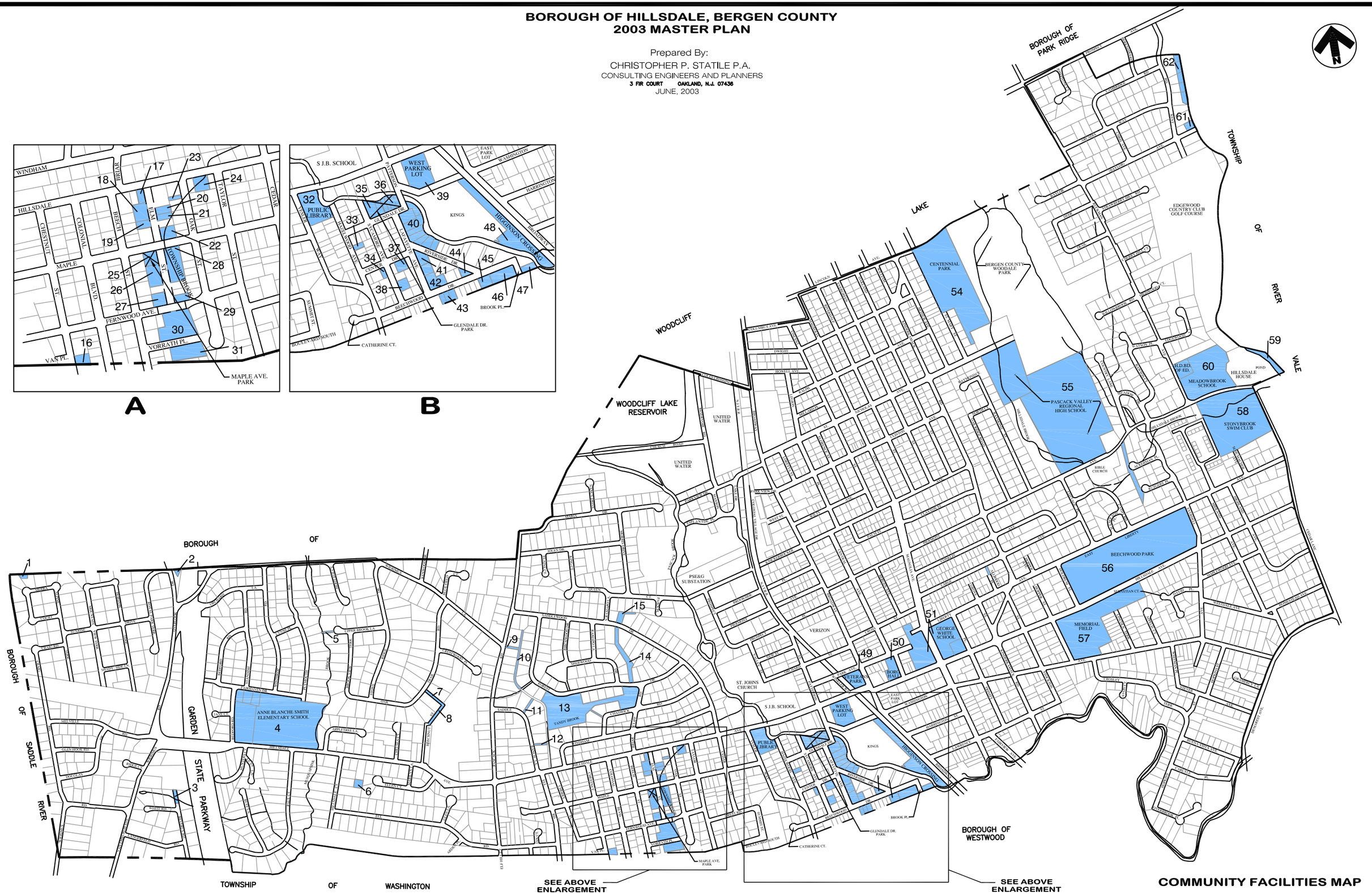

COMMUNITY FACILITIES MAP

Source: Tax Assessor & Borough Engineer

MUNICIPAL SERVICES

Most administrative offices are situated in the Borough Hall, located at 380 Hillsdale Avenue. Presently, there are 47 employees located at the Borough Hall, which houses the following municipal functions:

Administration
Board of Health
Borough Clerk
Code Compliance
Municipal Court
Police Department
Recreation
Tax Assessor
Tax Collector

The Department of Public Works (DPW) is located at 353 Washington Avenue. Currently, 11 employees work at the DPW building.

LIBRARY SERVICES

The Borough of Hillsdale Library is located at 509 Hillsdale Avenue. The library has 13 employees, nine of who are employed full time and the remaining four are part-time employees.

The Hillsdale Library is a member of the Bergen County Cooperative Library System. The consortium includes up to 73 libraries that provide services to Bergen County residents. Hillsdale residents may use other libraries within the County system and residents of other member communities may use the Hillsdale Library free of charge.

The library's total collection of children and adult books and audiovisual materials approximates 64,000 items. Additionally, the library has 125 magazine subscriptions. The library also offers computer internet access, reference assistance, craft programs, and story hour.

The library building currently consists of 12,775 square feet. In December 2001 the Borough Council authorized an addition to and renovation of the library. At the time of this writing, the addition and renovation were under construction. The addition comprises approximately 3,500 square feet and will include a new all-purpose room, reading room and an elevator tower. The renovation is being done to conform to the Americans with Disabilities Act (ADA), and includes an elevator, and making the stairs, ramp and bathrooms barrier-free.

The Borough Librarian identified updating the library's collections as the most pressing library need. This includes the purchase of new materials, including books, videos, CD's and audiovisual products.

POLICE SERVICES

The Police Department is located at the front of Borough Hall. The Department consists of 20 police officers, two dispatchers and one records clerk/secretary. The officers cover three shifts a day, providing the Borough with 24-hour coverage. The Department has two jail cells, five marked patrol cars and three unmarked cars.

The Police Department provides specialized services. One of the officers is trained as a full-time School Resource Officer. He is assigned to the local schools, working with children and providing counseling as needed. Five of the officers are trained in the DARE program, providing drug abuse resistance education. Finally, two officers are trained to perform infant and toddler car seat inspections.

Based on a 2000 population of 10,087, the ratio of police officers to the Borough population is almost 2 officers per 1,000 persons. According to the Federal Bureau of Investigation, in 1999 there were an average of 2.5 full-time officers per 1,000 population nationwide, and the nation's suburbs averaged 2.7 officers per 1,000 persons. According to the New Jersey State Police, Bergen County municipalities employ an average of 2.4 municipal police officers per 1,000 persons. Therefore, Hillsdale's police force is comprised of four officers less than the New Jersey State Police Average and seven officers less than the FBI national average for suburban areas.

The Police Captain cites two departmental needs. First, the Department needs an emergency response, all wheel drive vehicle for inclement weather. Second, the police shooting range, located at Borough Hall, is in need of repair and renovation; the backstop needs to be replaced and the roof leaks. At the time of this writing, the Borough Council was considering renovation of the shooting range.

FIRE DEPARTMENT

The Borough of Hillsdale Volunteer Fire Department station is located at 383 Hillsdale Avenue. The Volunteer Ambulance Corps building is located on the same property.

The Fire Department consists of 68 volunteer members. The company utilizes two engine (pumper) vehicles, one truck with a ladder and pumping capability and one rescue truck.

In 1998 an addition was completed on the firehouse. The addition included a new truck bay and an elevator shell. The elevator was completed in 2001 and is ADA compliant.

FIRST AID SERVICES

The Hillsdale Volunteer Ambulance Service (HVAS) is located at 380 Hillsdale Avenue. The HVAS provides emergency medical care by trained Emergency Medical Technicians (EMT) to the community and surrounding towns. The HVAS is a member of the New Jersey State First Aid Council, a statewide association of local ambulance corps.

The ambulance corps consists of 56 members. Of the total, 29 are "riding" members, including 25 certified Emergency Medical Technicians (EMT), two drivers and two cadets. The cadets are EMT trained but perform limited hours. Generally, they are younger members who are not able to ride in the ambulance themselves. The ambulance corps utilizes one Type III Ambulance equipped with a defribillator, CPR training mannequins, monitoring radios, and spare oxygen, defribillators, first aid kits and other training and emergency equipment.

In addition to the medical care, the ambulance corps also provides transportation for Hillsdale residents to hospitals, medical care and nursing home facilities, trains members, lends wheelchairs, crutches and other equipment to residents, provides housing for victims of catastrophes, and provides first aide instruction to community groups.

COMMUNITY CENTER

Presently, the Borough does not have a community center. A community center can be an important fixture in the Borough, providing a gathering place for senior citizens, children and adults. Generally, the different age groups use the center at different times (or use different areas of the center concurrently) of the day and evening, allowing for a mixed-use environment.

The Borough should research the best location for a community center to serve the entire community of Hillsdale.

EDUCATIONAL SERVICES

Hillsdale School District

The Borough of Hillsdale School District operates three schools, including two elementary schools and one middle school. Hillsdale residents attend the Pascack Valley School District for high school.

Table 1 provides enrollment and functional capacity for the Hillsdale School District. As shown, total enrollment in the school system as of February 2003 was 1,310 students.

Table 1				
Hillsdale School District Enrollment and Capacity				
School	Grade	Functional Capacity	Enrollment as of February 2003	Surplus or (Deficit)
Meadowbrook School	K-4	375	366	9
Ann Blanche Smith School	Pre K-4	375	392	(17)
George G. White School	5-8	600	552	48
Total			**1,310**	
Source: Hillsdale Board of Education.				

The school system operates on a kindergarten through grade 4 and grades 5 through 8 basis. The Ann Blanche Smith School, commonly referred to as the Smith School, also provides a Pre-K program that integrates disabled students.

As shown in Table 1, there is excess capacity in the Meadowbrook and White Schools. The Smith School is operating above its functional capacity.

Functional capacity establishes the maximum number of students each building can theoretically support given its current configuration and educational curriculum. Functional capacity is directly based upon existing room space and building configuration operating at maximum volume with no consideration for class size or specialized program activity. It is based on every room in the school accommodating the maximum number of students allowed within its space and is based upon each room being used the maximum amount of time during the school day.

Enrollment History

Table 2 details the district's enrollment history since the 1997-1998 school year. This data does not include any Pre-Kindergarten students.

As shown, there has been a total enrollment increase of 15 percent over the five-year period. The only year that posted a decline was 1998/1999 when total enrollment decreased by 18 students.

The Meadowbrook School enrollment was similar to the entire district enrollment. The Meadowbrook student population declined from the 1997/1998 to the 1998/1999 school year, and then posted increases thereafter.

The Smith School had a steady enrollment increase from 309 students during the 1997/1998 school year to 367 students in the 2002/2003 school year. The largest numeric increase occurred from the 1997/1998 to 1999/1998 school year, which posted a 21-student increase.

The George G. White School enrollment was also similar to the Meadowbrook and entire district enrollments. This school's enrollment decreased from the 1997/1998 school year through the 1998/1999 school year and then posted increases thereafter.

Table 2
Hillsdale School District Enrollment History*
1997/1998 to 2002/2003 School Years

	1997/	1998/	1999/	2000/	2001/	2002/	5 Year Change	
School Year	1998	1999	2000	2001	2002	2003	Number	Percent
Meadowbrook	308	304	309	326	362	366	58	18.8
Anne Blanche Smith	309	330	338	344	361	367	58	18.8
George G. White	500	465	490	498	506	552	52	10.4
Totals	**1,117**	**1,099**	**1,137**	**1,168**	**1,229**	**1,285**	**168**	**15.0**

* Does not include Pre-K students
Source: Hillsdale Public School District.

Enrollment Projections

The enrollment projections for the Hillsdale School District were obtained from a report entitled "Demographic Study for the Hillsdale School District," prepared by Harry A. Galinsky, Ed.D. and Leonard H. Elovitz, Ed.D., dated April 2002. The study used the cohort survival method to prepare the enrollment projections. Additionally, the demographers sent a survey to all Hillsdale residents and used the results in their analysis.

Table 3 lists the enrollment projections through the 2006/2007 school year. As shown, total enrollment is projected to increase each year to a 154 student, or 12 percent, increase. Total projected district enrollment for the 2006/2007 school year is 1,405 students. It is interesting that the projected enrollment for the 2002/2003 school year is only four students less than the actual enrollment.

The projected Grade K-4 (includes Meadowbrook and Smith schools) enrollment varies slightly from total enrollment. Grades K-4 enrollment is projected to remain the same through the 2002/2003 school year and then increase every year through the 2006/2007 school year. The projections show a total Grade K-4 enrollment of 758 students in 2006, compared to a current 721-student enrollment.

Grades 5-8 (includes the White School) projected enrollment is similar to total enrollment in that increases are posted each year. Grades 5-8 posted larger increases, for a total student increase of 115, or almost 23 percent. Total grade 5-8 projected enrollment for the 2006-2007 school year is 622 students, compared to a current enrollment of 507 students.

Table 3
Enrollment Projections by Grade
Hillsdale School District

Grade	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007	Change Number	Change Percent
Pre-K	8	8	8	8	8	8	0	0.0
K	147	128	149	143	143	143	(4)	(2.7)
1	145	157	136	159	152	152	7	4.8
2	139	146	158	137	160	153	14	10.1
3	144	144	152	164	142	166	22	15.3
4	146	146	146	155	167	144	(2)	(1.4)
Subtotal, K-4	**721**	**721**	**741**	**758**	**764**	**758**	**37**	**5.1**
5	113	144	144	144	153	165	52	46.0
6	134	115	146	146	146	155	21	15.7
7	138	138	118	150	150	150	12	8.7
8	122	140	140	120	152	152	30	24.6
Subtotal, 5-8	**507**	**537**	**548**	**560**	**601**	**622**	**115**	**22.7**
Sp. Ed.	15	15	15	16	16	17	2	13.3
TOTAL	**1,251**	**1,281**	**1,312**	**1,342**	**1,389**	**1,405**	**154**	**12.3**

Source: Hillsdale Board of Education.

District Recommendations

The Superintendent of Schools recognizes that the schools are currently at capacity and that enrollment is projected to increase by approximately 200 students over the next ten years. During the summer of 2002, the Board of Education approved a referendum on the ballot for expansion at all three schools. The referendum, which will cost approximately $8 to $9 million, provides for two and a half new classrooms at the White School, five new classrooms at the Smith School, and six new classrooms at the Meadowbrook School.

The Superintendent stated that the three schools are filled to capacity, especially the two elementary schools. The art and music rooms have been converted to classrooms at the Smith and Meadowbrook Schools. These programs are now mobile; the materials are moved from room to room on a wheeled cart.

Borough residents approved the referendum in January 2003. The Superintendent hopes to begin construction at the elementary schools in the fall of 2003; the projected completion date is approximately January 2005. The addition at the White school could be constructed during the summer of 2004.

The Superintendent stated that there is additional land available for new construction at all three schools. The fields at the Smith and White schools would not be disturbed. New construction at the Meadowbrook School would result in the loss of the existing tire playground equipment, which would be replaced. Additionally, the outfield of the Meadowbrook School softball field might be impacted.

Pascack Valley Regional School District

Hillsdale students in grades 9-12 attend the Pascack Valley Regional High School District. The school district serves high school students in Hillsdale, River Vale Township, Montvale Borough and Woodcliff Lake Borough.

The Pascack Valley Regional School District operates the Pascack Valley High School (PVHS) and the Pascack Hills High School (PHHS). Both schools are grade 9-12 high schools. Pascack Valley High School is located in Hillsdale, and Pascack Hills is located in Montvale. Students from Hillsdale and River Vale attend Pascack Valley High School and students from Montvale and Woodcliff Lake attend Pascack Hills High School.

The demographic data were obtained from a report prepared for the district entitled, "Demographic Studies and Enrollment Projections, Pascack Valley Regional High School District," prepared by Averbach & Associates, and dated February 2002. The report provides enrollment histories and projections.

Table 4 provides 2002/2003 enrollment by grade and high school for the entire school district. As shown, the 2002/2003 district enrollment was 1,545 students. Approximately 60 percent of the district attend Pascack Valley High School and the remaining 40 percent attend Pascack Hills.

Table 4 also provides functional capacity for both high schools. As shown, the entire district has an excess capacity of five students. Pascack Valley High School has a 123 student deficit, and Pascack Hills High School has an excess capacity of 128 students.

Table 4
Pascack Valley Regional High School
2002/2003 Enrollment By High School
and Functional Capacity

Grade	Pascack Valley	Pascack Hills	Grade Total
9	261	161	422
10	224	157	381
11	222	144	366
12	224	152	376
Totals	**931**	**614**	**1,545**
Func. Cap.	808	742	1550
Surplus or (Deficit)	(123)	128	5

Source: Pascack Valley Reg. High School.

Table 5 provides current enrollment by municipality as of February 2003. These enrollment figures vary slightly from the figures provided in Table 4 because Table 4's data is from March 2003 and Table 5's data is from February 2003.

As shown in Table 5, River Vale comprises approximately 52 percent, and Hillsdale comprises over 47 percent, of the Pascack Valley High School enrollment. Three students from other towns also attend the school.

Table 5 indicates that Montvale comprises 51 percent of the Pascack Hills student enrollment. Woodcliff Lake students account for almost 46 percent of the students. Nineteen students from other municipalities make up the remaining Pascack Hills student population.

Table 5
Pascack Valley Regional High School District
2002/2003 Enrollment by Municipality

		High School	District
	Number	Percent	Percent
Hillsdale	444	47.6	28.7
River Vale	485	52.0	31.4
Other	3	0.3	0.2
PVHS	**932**	**100.0**	**60.3**
Montvale	313	51.0	20.2
Woodcl.Lk.	282	45.9	18.2
Other	19	3.1	1.2
PHHS	**614**	**100.0**	**39.7**
Total	**1,546**		**100.0**

Source: Pascack Valley and Pascack Hills High Schools.

Enrollment History

Table 6 details the district's enrollment history since the 1998/1999 school year. As shown, the entire district enrollment has increased by over 9 percent since 1998. Enrollment increased each year, except for the 2000/2001 school year, which had a 21 student decrease.

Enrollment at Pascack Valley High School grew at a faster percentage than that of the entire district. The high school had a 13 percent enrollment increase since 1998, and enrollment increases were posted each year.

Pascack Hills High School's enrollment has increased by over four percent since the 1998/1999 school year. Pascack Hills' enrollment decreased or remained constant from 1998 to the 2000/2001 school year, and then posted increases through the current year.

Table 6							
Pascack Valley Regional High School District							
Enrollment History by High School, 1997-2001							
	1998/	1999/	2000/	2001/	2002/	Change, 1997-2001	
	1999	2000	2001	2002	2003	Number	Percent
Pascack Valley	823	861	865	901	931	108	13.1
Pascack Hills	590	590	565	593	614	24	4.1
Total	**1,413**	**1,451**	**1,430**	**1,494**	**1,545**	**132**	**9.3**
Source: Pascack Valley Regional High School District.							

Enrollment Projections

The district's demographic analysis used the cohort survival method to determine enrollment projections through the 2006/2007 school year, as shown in Table 7. As indicated, the entire district enrollment is projected to increase by almost 32 percent. Increases were posted for each year.

Pascack Valley High School enrollment is projected to increase by almost 30 percent, or 264 students in 2006. Like the district, enrollment increases were shown for each year. Pascack Valley High School enrollment is projected to continue to comprise approximately 60 percent of the entire district population in 2006. Pascack Hills High School is projected to comprise the remaining 40 percent.

Pascack Hills High School had a larger increase than Pascack Valley and the entire school district. Pascack Hills posted enrollment increases each year for a total of 211 students, compared to its current 593-student enrollment.

Table 7								
Pascack Valley Regional High School District								
Enrollment Projections by High School								
	2001/	2002/	2003/	2004/	2005/	2006/	Change	
	2002	2003	2004	2005	2006	2007	Number	Percent
Pascack Valley	901	940	981	1,053	1,102	1,165	264	29.3
Pascack Hills	593	630	666	712	755	804	211	35.6
Total	**1,494**	**1,570**	**1,647**	**1,765**	**1,857**	**1,969**	**475**	**31.8**
Source: Pascack Valley Regional School District.								

District Recommendations

The Pascack Valley Regional High School District Board of Education approved a referendum that was defeated at the polls in December 2002. A new referendum was put forth to the community in December 2003 and subsequently adopted. The approved referendum is a "scaled back" version of the 2002 referendum that includes additions and renovations at both high schools.

RECOMMENDATIONS

Generally, municipal facilities are adequate for the Borough residents. Recent renovations have been approved and/or completed on the Borough Hall, library and firehouse. Expansions are approved and/or being planned for the school facilities, in light of increasing enrollment projections.

In addition, the following recommendations are made:

1. The Mayor and Council should consider plans for a community center.

2. It is unfortunate that the music and art rooms in the elementary schools have been converted to classrooms due to student overcrowding. Providing the programs via a wheeled cart may not be the best alternative until the space issue is addressed at the schools. The Hillsdale School District should consider alternate, more stable means of providing music and art curriculum to its students. For example, the District could investigate the possibility of utilizing temporary trailers for the art and music rooms.

3. The Planning Board, in its review of capital improvements to Board of Education properties, should be sensitive to the properties' setting in residential neighborhoods. These facilities have very specific times when they generate traffic. The Planning Board should consider the traffic issues associated with their expansions.

PARKS, OPEN SPACE AND RECREATION PLAN ELEMENT

INTRODUCTION

Parks, recreation and open space areas are a necessary and important part of every community. These areas can provide exercise and outdoor recreation facilities, or a simple patch of undeveloped, green space in a developed suburban enclave.

The Borough of Hillsdale has several areas of parks and open space. This plan will provide an inventory of existing active and passive recreation facilities, as well as funding sources for property acquisition, and, finally, farmland preservation.

INVENTORY OF PARK & RECREATIONAL FACILITIES

Hillsdale contains approximately 144 acres of open space, parks and recreation areas, comprising approximately 9.5 percent of the Borough. This figure includes county and municipal parks and facilities, and utility properties. The Parks, Recreation and Open Space Map shows the locations of the existing park, recreation and open space areas in the Borough.

Borough Parks and Open Space

Approximately 56 acres of Hillsdale's parkland are comprised of Borough facilities. The Borough parks include eight properties as shown in Table 1.

Table 1
Existing Borough Parks, Open Space & Recreation

Park Name	Location	Acreage	Passive/Active
Centennial Field	St. Nicholas	14.5	Active
Memorial Field	Hillsdale Ave.	7.4	Active
Beechwood Park	Hillsdale/Liberty Aves.	10	Active
Beechwood Park	Hillsdale/Liberty Aves.	11	Passive
Stonybrook Swim Club	Cedar Lane	11.3	Active
Glenbrook Park	Glendale Drive	0.3	Active
Maple Ave. Park	Maple Ave.	0.1	Active
Veterans Park	Broadway/Park Ave.	0.9	Passive
Totals		**55.5**	

Source: Borough Tax Records and Tax Maps.

BOROUGH OF HILLSDALE, BERGEN COUNTY
2003 MASTER PLAN

Prepared By:
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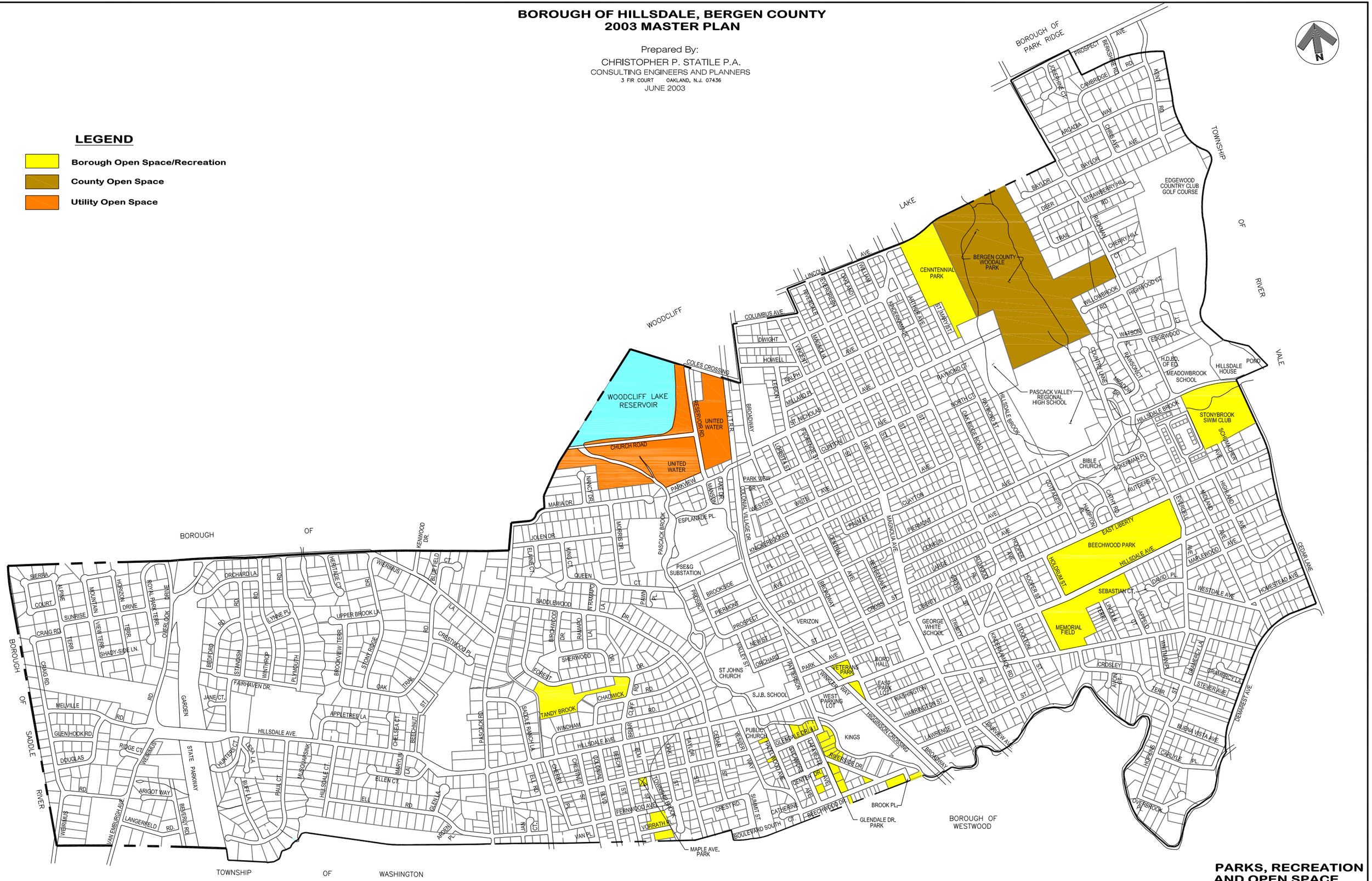
JUNE 2003

LEGEND

- Borough Open Space/Recreation
- County Open Space
- Utility Open Space



PARKS, RECREATION AND OPEN SPACE

Other Open Space

As shown on the Parks, Recreation, and Open Space Map, there are other open space areas in the Borough as follows:

1. Bergen County owns approximately 53 acres of undeveloped open space adjacent to Centennial Park, behind the Pascack Valley High School.

2. United Water owns approximately 26 acres of land adjacent to the Woodcliff Lake Reservoir that is a buffer area around the reservoir. United Water is prohibited from developing on this property.

3. The Borough owns Block 802, Lot 30, which consists of approximately 5 acres. This tract is undeveloped.

4. The Borough owns two lots in the Vorrath Place, Fernwood Ave. and Beech Street areas that are undeveloped. These lots are shown on the map and approximate 1.5 acres.

5. Since 1992 the Borough has been acquiring building lots in the Pascack Brook flood plain. The Borough has been aggressively pursuing the purchase of properties in this area because it is prone to flooding. During the 1999 Tropical Storm Floyd several properties sustained tremendous physical damage to their homes in Glenbrook Park. Additionally, emergency personnel were put in danger while rescuing residents from their homes in this area. The properties acquired by the Borough are vacant and unimproved and their locations are shown on the map. All of the properties combined consist of approximately 3 acres.

ACTIVE RECREATION

Active recreation includes parks and recreation areas that offer leisure time activities. These activities may be of a formal nature and performed with others, requiring equipment and taking place at prescribed places, sites or fields.[1] Active recreation sites are typically parks and may be improved with a variety of equipment, including playground equipment, ball fields, jogging tracks, swimming pools and tennis courts.

[1] The New Illustrated Book of Development Definitions, Moskowitz, Harvey S. and Carl G. Lindbloom, 1993.

Active Recreation Inventory

The inventory of facilities available at each Borough park is as follows:

Centennial Field

Centennial Field is located on the site of a closed landfill and contains the following amenities:

- One Little League baseball field
- One major league baseball field
- Two soccer fields, side by side
- Playground equipment
- The clubhouse, which is currently under construction, will house a kitchen, bathrooms and storage space.

The four fields are separate fields; it is possible for four games to take place at the same time. Additionally, a football field can be created perpendicularly on the two soccer fields. Although this capability exists, it is rarely done because the field has to be re-lined and painted for a football field.

Memorial Field

Memorial Field is located on Hillsdale Avenue and consists of the following:

- One girls' softball field
- One Little League field
- Memorial Field House, which includes a football storage room and locker room, a baseball storage room and locker room, bathrooms, a kitchen and three meeting rooms.

One of the meeting rooms is used by the cheerleading squad for storage, registration, etc.

Beechwood Park

Beechwood Park is located on Hillsdale and Liberty Avenues and has both active and passive recreation components as follows:

- One softball field, which is used for softball in the spring and summer and football in autumn. The field can be lit for football practice.
- Tot park
- One band shell, which houses the outdoor concert series, held each July and August.
- A nature trail, which is located in the undeveloped area of the park.

The Borough is currently restoring the nature trail, which had become overgrown. The restoration is occurring with the assistance of a grant from Bergen County.

Stonybrook Swim Club

Stonybrook Swim Club is located on Cedar Lane near the River Vale border and contains the following:

- Four swimming pools: an Olympic size pool, a diving pool, an intermediate pool and an infant pool.
- A playground
- Locker rooms, kitchen, offices, storage areas, first aid station
- A pump house, which also has storage space
- One basketball court
- One volleyball court
- One combination soccer/lacrosse field
- Picnic grove

Stonybrook Swim Club is financially self-sufficient and operates as a utility. The Borough holds the lease on the property. The club is open to Hillsdale residents and nonresidents. The club is required, when it has sufficient revenue, to return an annual payment to the Borough that is equal to the tax revenue the Borough would have received if the property had been privately developed. The swim club has made this payment to the Borough for the last ten years.

Glenbrook Park

Glenbrook Park is a small, neighborhood park with a tot lot and play area that is located in a residential area.

Maple Ave. Park

Maple Ave. Park is a small, neighborhood park located in a residential area. The park contains a tot lot with swings and a play area.

Veterans Park

Veterans Park is a site of passive recreation located in downtown Hillsdale and contains the following amenities:

- One gazebo
- Walking paths
- Fireman's Monument
- Veterans Monument

The Borough also uses fields at the local schools. The Borough is required to maintain the Board of Education fields that it uses.

Hillsdale Recreation uses the following Board of Education properties:

Smith School:

- One combination Little League field and flag football field. In the spring and summer, the field is used for Little League baseball, and it becomes two flag football fields in the fall.
- Two softball/baseball fields
- One soccer field

White School:

- Two softball fields
- Two Basketball courts

Meadowbrook School:

- One softball field that is also used for t-ball

Pascack Valley High School:

- One softball field that is used by the adult league during the summer months.

The number of each type of field used by the Borough is summarized in Table 2. The table also summarizes the ownership of each field. As shown, the Borough and Board of Education each own 12 of the fields used by Hillsdale. The fields are categorized by use and are not separate entities. For example, the Board of Education t-ball field is also used as a softball field. The field is included as a t-ball field and as one of the five Board of Education girls' softball fields.

Table 2			
Inventory by Facility			
Borough of Hillsdale			
	Borough	Bd. of Educ.	
	Properties	Properties	Total
LL Baseball	2	1	3
ML Baseball	1	2	3
Girls' Softball	2	5	7
Adults' Softball	0	1	1
Soccer	3	1	4
Football	1	0	1
Flag Football	0	2	2
T-Ball	0	1	1
Basketball	1	2	3
Volleyball	1	0	1
Lacrosse	1	0	1
Totals	12	15	27
Source: Hillsdale Department of Public Works			

Hillsdale Recreation Commission

The Hillsdale Recreation Commission has analyzed the Borough recreation programs and needs. The Commission offers the following comments and recommendations on recreation in the Borough:

1. The Commission recognizes that enrollment in the recreation programs is increasing and many of its facilities are being overused.

2. The Commission is concerned about the adequacy of the present inventory of outdoors open space and recreation facilities within the Borough. Many facilities are owned by the Board of Education. The Commission is concerned that these fields may not be available in the future due to possible school expansions and/or changing needs of the Board of Education. The Commission recommends that the Borough plan for additional open space and recreation facilities.

3. The Commission believes that the Borough's indoor facilities are also inadequate. The Borough has no indoor basketball facilities, and the Board of Education indoor basketball courts are used for youth basketball. The Commission recommends that the Borough explore the feasibility of constructing a community center to accommodate indoor recreation programs, as well as community education facilities, pre-school youth programs and senior citizen activities.

4. Presently, the basketball courts at Memorial Field are the only municipal facility in the Borough available for roller hockey or ice skating. The Commission believes that these facilities are inadequate for these uses. The Commission supports the construction of a multi-use skating rink in the Borough.

5. The Commission recommends that the Borough investigate lighting some athletic fields to maximize their use. Field lighting is a way to increase the availability of recreation and athletic facilities without expending money to acquire additional property. Field lighting should be down while protecting the rights and interests of all affected parties, including nearby residents.

6. The commission believes that the waterways within the Borough present an excellent opportunity for passive recreation and supports property acquisition along these waterways for walkways.

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 extend far beyond its recreational value. Open space protects cultural, historic and natural resources and provides visual relief in developed and populated areas.

The Borough has two improved areas of passive recreation. Approximately 11 acres of Beechwood Park are undeveloped and wooded. A nature trail is located in this area. Additionally, Veterans Park comprises almost an acre of passive recreation in downtown Hillsdale. Veterans Park provides downtown shoppers, commuters and residents with walking trails, benches for eating or relaxing, and a gazebo.

Passive Recreation and Open Space in Hillsdale

Open Space Committee Report

In 2002 the Borough established an Open Space Committee to calculate the available open space remaining within the Borough and to rank the remaining parcels in order of their priority for potential acquisition. The Committee prepared a report entitled, "Hillsdale Open Space Commission Report and Recommendations" dated May 20, 2002. The report details the Commission's methodologies, scoring system and findings.

First, the Committee studied the vacant land available in the Borough and possible funding mechanisms for property acquisition. Then, the Committee established criteria for ranking the open space in the Borough. The Committee's primary concern was the preservation and acquisition of land in the floodplain and adjacent to waterways and wetlands. As secondary concerns, the Committee considered tract size, proximity to existing parks/open space and the development status/potential of the property.

The Committee ranked the following properties in the order listed in terms of importance for open space acquisition: Block 2002, Lot 30, owned by Culhane; Block 1212, Lot 15, owned by Walsky; Block 909, Lot 1, owned by Volek; Block 2101, Lot 29, owned by Caliber Builders, and the last building lot on the proposed Golden Oaks development, also owned by Caliber Builders (Block 506, Lot 1). The Report recommends applying to the County for funds to purchase the sites.

The Committee's report encourages the Borough to prepare a Recreation and Open Space Inventory for future applications and Green Acres consideration. The Committee recommends that the Borough prepare and develop an informal Open Space and Recreation Plan with the assistance of the Environmental Commission. The Committee also recommends that the Borough be creative in attempting to preserve open space within the land use application process should funding not be available to purchase the properties. Finally, the Report recommends that requests be made to FEMA to determine whether any additional funds are available to purchase small properties in the Pascack Brook floodplain.

Open Space Assessment Fund[2]

Hillsdale residents approved an Open Space Assessment Fund question on the November 2002 ballot. As a result, an additional one percent tax will be added to the local tax rate. The funds collected via the one percent Open Space Assessment Fund will be dedicated for open space acquisition.

Placing the fund question on the ballot was also recommended in the Open Space Committee's Report.

The Fund will generate an additional $83,000 per year based on the Borough's current valuation. These monies can be used for outright acquisition, future open space applications, to provide matching funds for open space grants, or to support the development rights for a local property.

[2] Source: Hillsdale Borough Administrator, June 2002.

Due to the present high land values in Bergen County, direct acquisition utilizing only the $83,000 obtained annually via the Open Space Assessment Fund will be difficult. However, the funds could be used to fund a $1,850,000 bond over 40 years. The bond money could then be used for direct acquisition or to provide matching funds for open space acquisitions.

Future Passive Recreation

Fernwood Ave.

The Borough owns Block 715, Lots 14 and 18 which front along portions of two roads (Fernwood Ave. and Vorrath Place) that are unimproved. These two lots, combined with the unimproved street areas, contain approximately 2.2 acres. This would be an appropriate area for passive recreation. This tract could be continued north until the Maple Ave. Park if the Borough acquires Block 714, Lot 6 and Block 719, Lot 8. Lots 6 and 8 are the only privately owned lots in this tract of land. Of course, the Borough would have to vacate the unimproved portions of Fernwood Ave. and Vorrath Place for the lots to be combined into one area of passive recreation.

The Fernwood Ave and Vorrath Place properties are appropriate for passive recreation such as a walking path. If the Borough acquires the remaining privately held lots, the walking path could be extended north to the Maple Ave. Park.

Tandy/Allen Property

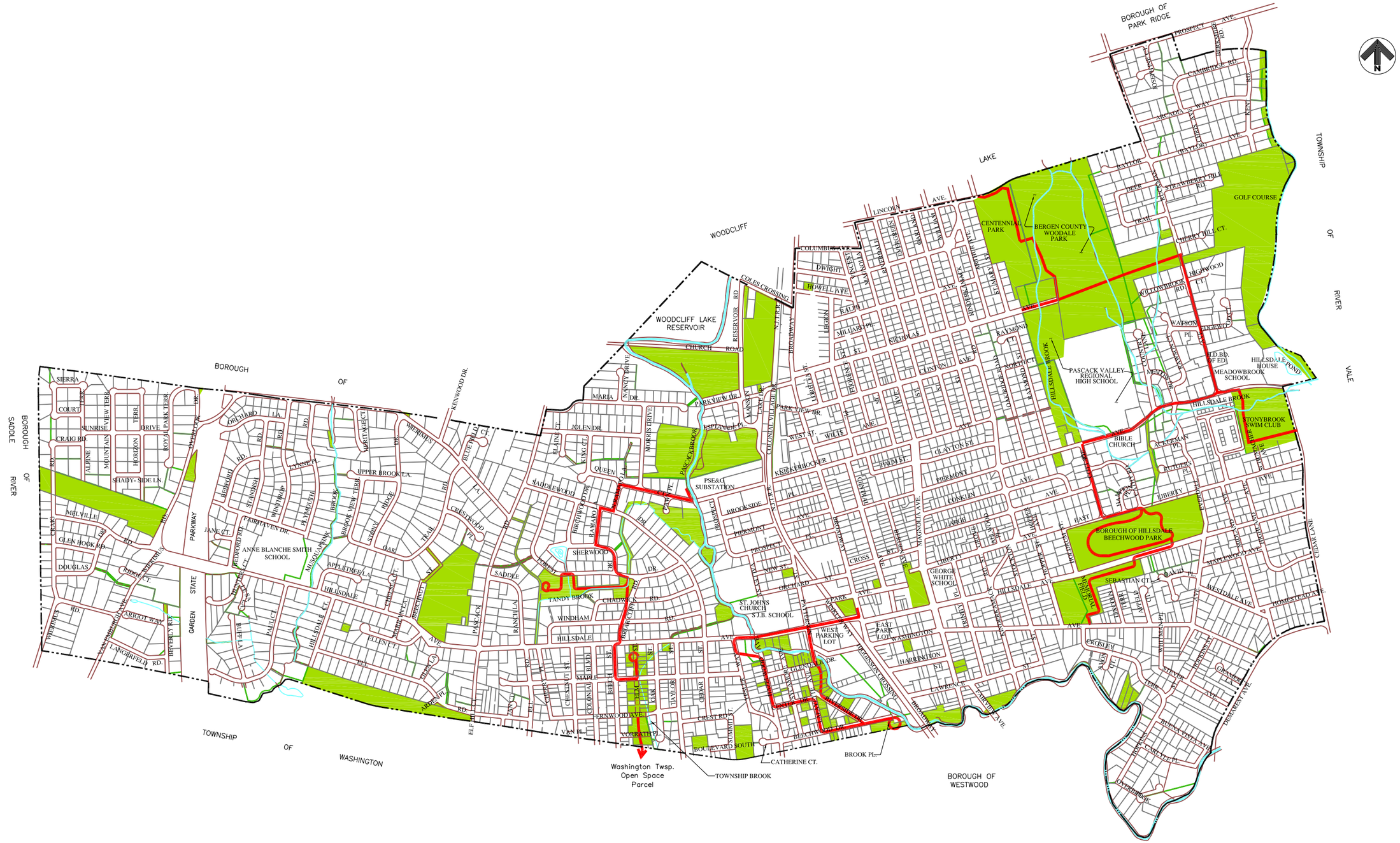
Block 503, Lot 4 is located on Hillsdale Ave., west of Pascack Road and east of the Smith School. Due to a court order settlement, the Borough will be receiving approximately nine acres of this site for passive recreation. This property will be the first open space parcel located west of Pascack Road. At the time of this writing, the deed for the site had not been transferred to the Borough.

Environmental Commission

The Environmental Commission has developed the following conceptual Greenway Map dated November 2003 for the Borough of Hillsdale. The map indicates areas of open space and conservation easements.

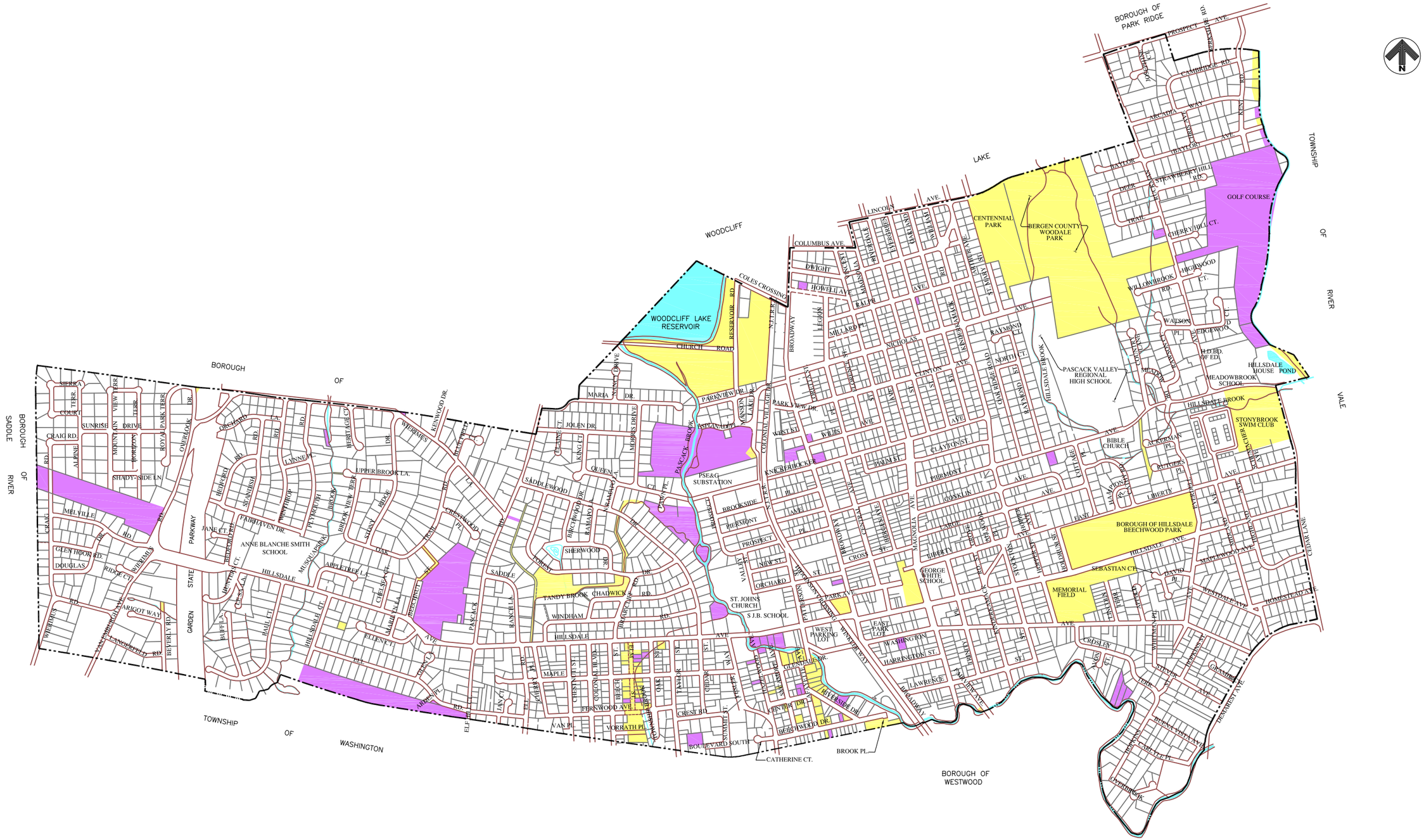
The Greenway Map does not include routes through private property. The Greenway Map represents the initial development of a possible future, formal greenway system. The Municipal Land Use Law identifies the process for reservation of public areas in N.J.S. 40:55D-44. If the Borough chooses to establish a formal greenway plan, it will have to enact an ordinance as detailed in Section 44 of the Municipal Land Use Law and develop a more specific, detailed map.

The Environmental Commission also prepared the “Open Space Ownership” map. The map depicts open space by public (shown in yellow) or private (shown in purple) ownership.



NOVEMBER 2003

LEGEND				MAP
OPEN SPACE	EASEMENT	Greenway Within Public-Right-of-Way	**GREENWAY** Prepared by Hillsdale Environmental Commission	13



APRIL 2003

LEGEND

public

private

OPEN SPACE OWNERSHIP

Prepared by Hillsdale Environmental Commission

MAP

7

BERGEN COUNTY OPEN SPACE AND RECREATION

Bergen County has prepared an open space plan entitled, "Bergen County Open Space & Recreation Plan," dated June 2000. The plan lists the County's open space acquisition and preservation opportunities as follows:

- Ramapo Mountains
- Hackensack River Corridor
- Passaic River Corridor
- East Hill Greenway Corridor
- Saddle River Corridor
- Properties Adjacent or Abutting County Parkland

The Hackensack River Corridor and the properties abutting County parkland are applicable to Hillsdale. According to the County Plan, the Hackensack River Corridor includes all tributaries, lakes, ponds and reservoirs associated with the Hackensack River. The Pascack Brook and the Musquapsink Brook are tributaries of the Hackensack River. Both brooks run through the Borough in a north – south directions. The Pascack Brook also forms part of the municipal boundary with the Borough of Westwood.

There are over 50 acres of County open space in Hillsdale, near the Pascack Valley High School. Therefore, properties adjacent to and abutting this site are also considered an opportunity by the County. The Borough applied for open space funding from the County for Block 2002, Lot 30, 250 Piermont Avenue (owned by Caliber Builders), which is adjacent to the County property, and Block 2101, Lot 29, 100 St. Nicholas Avenue (owned by Culhane), which is near the County property.

OPEN SPACE FUNDING SOURCES

Green Acres

The State of New Jersey administers the Green Acres program, which provides funding in the form of grants and low interest loans to counties and municipalities. The funding is used to purchase properties for open space and recreation, as well as purchasing historic sites, conservation areas and water bodies.

The Borough is eligible to apply for a 25 percent grant from Green Acres. If Hillsdale establishes an Open Space Assessment fund and prepares a Recreation and Open Space Inventory (ROSI), it becomes eligible for a 50 percent Green Acres grant.

However, Green Acres funding places several restrictions on the Borough. The most significant restriction is that the Borough is forbidden from disposing of <u>any</u> parkland unless it obtains prior approval from the Commissioner and the State House Commission. Parkland that has been disposed must be replaced. Additionally, Green Acres must approve the construction of buildings on all parkland. On funded parkland, proposed buildings must directly support recreation and conservation use. On unfunded parkland, buildings must be used for public outdoor or indoor recreation. Finally, all Green Acres funded parkland is open to all New Jersey residents.

County Open Space Trust Fund

The Bergen County Open Space Recreation, Farmland and Historic Preservation Trust was created by County Freeholder resolution in November 1998. It is divided into two separate programs, which each have their own goals and objectives. The County Program uses trust fund dollars on a countywide basis to preserve land, maximize recreational opportunities, and preserve historic areas and farmland. The Municipal Program helps Bergen County municipalities improve their municipal recreational facilities. The Municipal Program supplements municipal efforts and does not provide a full funding resource.

Eligible projects include land acquisition for conservation and recreation purposes, development or rehabilitation of land existing or acquired for recreational and conservation purposes, acquisition of farmland for farmland preservation, and historic preservation activities.

As recommended in the Hillsdale Open Space Commission Report, the Borough applied for grant monies to purchase vacant properties. The County awarded Hillsdale $900,000 for purchase of the Walsky property (Block 1212, Lot 15). The County grant will not cover the entire cost to purchase the site. If the Borough chooses to buy the Walsky property, it will have to provide the additional funding.

RECREATION STANDARDS

In the past, an acres per population standard was used to determine the appropriate amount of parks and open space areas for a municipality. However, the majority of those standards have been abandoned because they gave municipalities unattainable results. They often showed municipalities as severely deficient in parkland.

The one standard that is still used is known as the Balanced Land Use Concept. This guide recommends that three percent of a municipality's developed and developable land should be set aside for active recreation. Unlike the acres per population standard, which derives higher open space needs as the population increases and the potential open space decreases, the balanced land use guidelines treat land as a finite resource.

Hillsdale consists of 1,515 acres. The Balanced Land Use considers all developed and developable properties. Therefore, sites with wetlands and in the floodplain should not be included in the total calculation. The following properties were excluded from Hillsdale's total acreage because they are not developable:

- United Water properties, 26 acres
- Building lots in Pascack Brook, 3 acres

There are probably more properties that could be excluded from the calculations. For example, portions of several of the properties that are currently vacant are most likely not developable because they contain wetlands or are located in the flood plain. However, it is impossible to determine how much of these sites to exclude without a formal study. Therefore, these sites are included in their entirety although, in all likelihood, a formal study would reveal that portions of them are not suitable for development.

Assuming 29 acres of the Borough's 1,515 acres are not developable, the total acreage considered for the Balanced Land Use is 1,486 acres. Three percent of 1,486 acres is a recommended 44.58 acres for active recreation.

Hillsdale has approximately 43.6 acres of active recreation as follows:

- Centennial Field, 14.5 acres
- Memorial Field, 7.4 acres
- Beechwood Park, active part only, 10 acres
- Stonybrook Swim Club, 11.3 acres
- Glenbrook Park, 0.3 acres
- Maple Ave. Park, 0.1 acres

Hillsdale's total active recreation is approximately one acre less than the 44.58 acres recommended in the Balanced Land Use Standard. However, if a formal study of all the vacant parcels were done, and all the land unsuitable for development was excluded, the Borough's active recreation acreage would most likely exceed the Balanced Land Use recommendation.

FARMLAND PRESERVATION

Funding for farmland preservation is available through the New Jersey Farmland Preservation Program. Over 200 acres of farmland have been preserved in Bergen County since the program's inception in 1999.

The State Agricultural Development Committee (SADC) administers the Farmland Preservation Program. The SADC coordinates the County Agriculture Development Boards, municipal governments, nonprofit organizations and landowners in the development of farmland preservation projects.

The State Agricultural Development Committee (SADC) is an 11-member committee of public officials and private citizens representing agricultural, fiscal, community and environmental interests that is chaired by the New Jersey Secretary of Agriculture. The SADC provides grants to counties, municipalities and nonprofit groups to fund the purchase of development easements, directly acquire farms and development easements, and offer grants to landowners in the Farmland Preservation Program. The SADC also administers the Right to Farm Program and operates the Farm Link Program, which matches farm sellers with potential buyers.

Through the Farmland Preservation Program, farms or development easements that are acquired are forever protected for agricultural use.

The sale of development rights does not make farmland public property. The public has no right to access or use a deed-restricted farm without the landowner's consent. Farm owners who have sold the development rights may sell their property at any time. Deed restrictions prohibiting non-agricultural development run with the land, and future owners of preserved farms would also be required to comply with the deed restrictions.

The Farmland Preservation offers two methods of farmland preservation: fee simple purchase and easement purchase.

Fee Simple Purchase

Under the fee simple purchase program, the SADC purchases farms outright from willing sellers. The SADC then deed-restricts the farms to permanently preserve them for agricultural use and resells them at auction to the highest bidder. Not only are farms preserved, but also other farmers are given the opportunity to purchase farmland at affordable prices that reflect only the farm value, not the development value.

Easement Purchase

The SADC offers both direct easement purchase and county easement purchase. Direct easement purchase involves the landowners selling development rights on their farmland directly to the SADC. When landowners sell the development easements, they retain ownership of their land and agree to permanent deed restrictions that allow only agricultural use.

Farm owners can apply to the SADC at any time for funding. The SADC considers several factors in evaluating farms for this program, including percentage of high-quality soils, percentage of tillable acres, farm size, and imminence of development.

The County Easement purchase program is similar to direct easement purchase. Landowners apply to the County Agriculture Development Board (CADB), which reviews the applications and forwards the approved ones to the SADC. The SADC provides counties with grants funding 60-80 percent of the costs of purchasing development rights on approved farms.

Selected farm owners sell the development rights on their farmland to their county. The landowners retain ownership of their land and agree to permanent deed restrictions that allow only agricultural use.

Farmland Preservation in Hillsdale

All farmland assessed properties qualify for funding through the Farmland Preservation Program. In Hillsdale, the Demarest and Volek properties are the only properties that are farmland assessed.

In the past, the Demarest family has applied to the State Farmland Preservation Program for purchase of development easements. The State and the Demarest family were unable to reach an agreement on a per acre price for the development easements.

RECOMMENDATIONS

1. The Borough should strongly encourage the State and the Demarest family to resume negotiations for farmland preservation so that the property can remain as farmland in perpetuity. Preserving the Demarest property provides a different and valuable type of open space for the Borough. Preserving the Demarest site would also provide open space in the western part of the Borough where none currently exists.

2. The Borough should consider the recommendations from the Recreation Commission.

3. The Borough should investigate the feasibility of using the properties on Vorrath Place and Fernwood Ave. for open space.

CONSERVATION PLAN ELEMENT

The Conservation Plan provides for the preservation, conservation and utilization of a municipality's natural resources. The Plan analyzes Hillsdale's physical characteristics, including soils, wetlands, floodplains and slopes.

SOILS[1]

The Soils Map shows the soils present throughout the Borough. A list and a description of each soil type follows:

Boonton – Urban land complex, gently rolling (BUC)

This soil unit consists of sloping, moderately well drained Boonton soils and areas of Urban land. The Boonton soil and the Urban land are so well mixed or so small that it was not possible to map them separately. Urban land contains sites in which the surface is covered by impervious improvements, such as paved areas and buildings.

Most areas of this soil type are improved with single family dwellings. There are moderate limitations affecting lawns, ornamental shrubs and trees. Downslope water movement may be a hazard for dwellings with basements.

Boonton – Urban land complex, hilly and very hilly (BUD and BUE)

This soil unit consists of sloping, moderately well drained Boonton soils and areas of Urban land. The Boonton soil and the Urban land are so well mixed or so small that it was not possible to map them separately. Urban land contains sites in which the surface is covered by impervious improvements, such as paved areas and buildings.

Most areas of this soil type are improved with single family dwellings. There are severe limitations affecting lawns and moderate limitations affecting ornamental shrubs and trees. Downslope water movement may be a hazard for dwellings with basements.

Carlisle Muck (Ca)

This soil unit is almost level and drains poorly. Carlisle muck is prone to flooding and has a high potential for frost action. Most areas of this soil type are oval or elongated and range from 5 to 90 acres in size. The seasonal high water table may be at the surface or directly below the surface for seven months out of the year.

The frequent flooding, seasonal high water table and low strength are the major development limitations. Carlisle muck is well suited to habitat for wetland wildlife.

[1] Soil Survey of Bergen County, New Jersey, United States Department of Agriculture, March 1995.

Dunellen Loam, 8 to 15 Percent Slopes (DuC)

This soil type is gently rolling and well drained. It is typically located on the side slopes of broad plains or stream terraces. Specific areas are long and oval or irregularly shaped and range in size from 5 to 165 acres. Most areas are used for woodlands or recreational facilities.

The slope and frost potential for this soil type limit community and recreational development. The soil has a rapid permeability so the effluent from waste disposal systems can contaminate ground water. Downslope movement of water along the top of the subsoil is a hazard for dwellings with basements.

This soil type is suited to habitat for upland wildlife. There are minimal limitations affecting woodland management.

Dunellen Urban Land Complex, Nearly Level & Undulating (DVA, DVB)

This soil type includes nearly level and well drained Dunellen soil and areas of Urban land. The Dunellen soil and Urban land occur in areas so well mixed or small that it was not practical to map them separately. Urban land includes area where the surface is covered by impervious structures, such as parking lots, patios, walkways and buildings.

Most areas of this soil type are used for single family homes. The limitations affecting lawns and landscaping are minimal.

Dunellen - Urban land complex, rolling and hilly (DVC and DVD)

This soil type includes nearly level and well drained Dunellen soil and areas of Urban land. The Dunellen soil and Urban land occur in areas so well mixed or small that it was not practical to map them separately.

Most areas of this soil type are used for single family homes. The downslope movement of water on the top of the subsoil or substratum can be a hazard for dwellings with basements.

Fluvaquents (FL)

These soils flood frequently. Fluvaquents consist of nearly level and somewhat poorly drained to very poorly drained soils on floodplains. The hazard of water erosion is severe, but new material is deposited regularly when floodwaters subside. Fluvaquents have a high frost potential.

The frequent flooding and seasonal high water table limit community and recreational development. The soils have a good potential as a wetland wildlife habitat. Woodland management generally is not possible in these areas due to severe soil limitations.

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JUNE 2003

LEGEND

BUC Boonton- Urbanland complex, gently rolling
BUD Boonton- Urban land complex, hilly
BUE Boonton- Urban land complex, very hilly

Ca Carlisle muck

DuC Dunellen loam, 8 to 15 percent slopes
DVA Dunellen- Urbanland complex, nearly level
DVB Dunellen- Urban land complex, undulating
DVC Dunellen- Urbanland complex, rolling
DVD Dunellen- Urbanland complex, hilly

FL Fluvaquents

HaB Haledon gravelly loam, 3 to 8 percent slopes
HUB Haledon- Urbanland complex, undulating

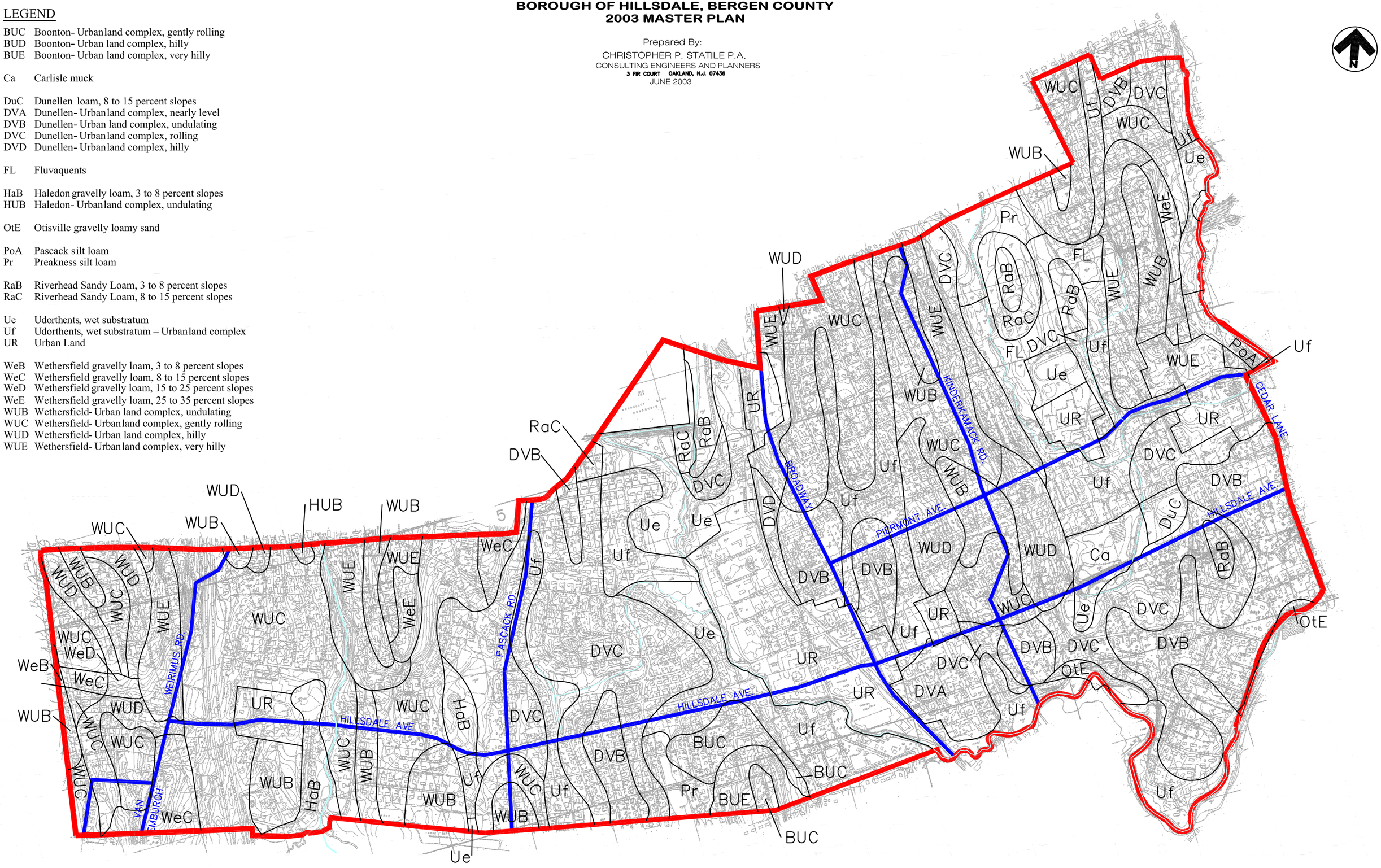
OtE Otisville gravelly loamy sand

PoA Pascack silt loam
Pr Preakness silt loam

RaB Riverhead Sandy Loam, 3 to 8 percent slopes
RaC Riverhead Sandy Loam, 8 to 15 percent slopes

Ue Udorthents, wet substratum
Uf Udorthents, wet substratum – Urbanland complex
UR Urban Land

WeB Wethersfield gravelly loam, 3 to 8 percent slopes
WeC Wethersfield gravelly loam, 8 to 15 percent slopes
WeD Wethersfield gravelly loam, 15 to 25 percent slopes
WeE Wethersfield gravelly loam, 25 to 35 percent slopes
WUB Wethersfield- Urban land complex, undulating
WUC Wethersfield- Urbanland complex, gently rolling
WUD Wethersfield- Urban land complex, hilly
WUE Wethersfield- Urbanland complex, very hilly



SOILS MAP

SOURCE: SOIL SURVEY OF BERGEN COUNTY, N.J., SHEET NO. 8 OF 12.

Haledon gravelly loam, 3 to 8 percent (HaB)

This soil type generally is appropriate for ponds and recreation development. It is gently sloping or undulating and drains poorly. Typically, these soils are located in narrow drainageways or at the base of glacial ridges. Specific areas tend to be long and narrow and range in size from 5 to 60 acres.

Many of the areas of this soil type are used as woodland. Smaller areas are the remainders of larger sites that have been filled and developed.

Haledon - Urban land complex, undulating (HUB)

These soils are gently sloping or undulating and drain poorly. Typically, these soils are located in narrow drainageways or at the base of glacial ridges. Specific areas tend to be long and narrow and range in size from 5 to 180 acres.

Many of the areas of this soil type are used as woodland. Smaller areas are the remainders of larger sites that have been filled and developed. Downslope water movement can be a hazard for homes with basements.

Otisville gravelly loamy sand (OtE)

These soils are steep and excessively drained. Permeability is rapid, and the runoff is medium. The erosion risk is slight or moderate, and the available water capacity is very low. Most areas of this soil unit are either wooded or nonwooded areas that support native herbaceous weeds. These soils do not support wildlife habitat well.

Pascack silt loam (PoA)

These soils are fairly level and drain poorly. Most areas are long and narrow or broad and oval; they range in size from 5 to 100 acres. The seasonal high water table limits lawns and landscaping and sites used for recreational development. These soils are well suited to habitat for upland wildlife, but the seasonal high water table limits woodland management.

Preakness silt loam (Pr)

This soil ranks as level to nearly level and is poorly to very poorly drained. The Preakness soils also flood frequently. Individual areas of this soil unit are long and irregularly shaped or oval.

These soils have a slow surface runoff and a slight erosion risk. The water capacity that is available is moderate. The seasonal high water table is quite frequently at the surface or within a depth of 6 inches from fall through spring. There is a high frost potential.

Some of the areas comprised of this soil are open wetlands and many others are used as woodlands. The seasonal high water table, frost potential and flooding limit community and recreational development.

Riverhead Sandy Loam, 3 to 8 percent slopes (RaB)

These soils are gently sloping or undulating and drain well. They are located on convex outwash plains and stream terraces. Specific sites have an irregular shape and range in size from 5 to 65 acres.

Most of the areas of this soil type are woodlands or recreational sites. These soils have a very rapid permeability, which limit onsite sewage disposal systems. The slope provides a barrier to small commercial buildings and the moderate frost potential limits local roads and streets. The soil is well suited for upland wildlife habitat.

Riverhead Sandy Loam, 8 to 15 percent slopes (RaC)

These soils are sloping to rolling and well drained. They are located on convex outwash plains and stream terraces. Specific sites are long with an irregular shape. Many of the areas range in size from 5 to 170 acres.

The very rapid permeability and the 8 to 15 percent slopes limit community and recreational development. The moderate frost potential limits local roads and streets. The soil is well suited for upland wildlife habitat. There are few limitations to woodland management. Many of the areas of this soil type are woodland or recreation sites. Some have been cleared and support native herbaceous weeds and shrubs.

Udorthents, wet substratum (Ue)

This soil unit is located on upland stream terraces, in drainage ways, in areas of marine and estuarine deposits and on floodplains. The areas generally range in size from 5 to 180 acres and slopes range from 0 to 5 percent.

Many of these Udorthents sites have been disturbed (filled and smoothed) to a depth of at least 3 feet. It is assumed that the original soils were deep and poorly to very poorly drained.

Most areas are used for playgrounds, ball fields or other recreational facilities. Other areas are open space.

Udorthents, wet substratum – Urban land complex (Uf)

These soils are in areas of low marine and estuarine deposits, on upland stream terraces and on floodplains. The Udorthents and Urban land are located on areas so intricately mixed or so small that it was not practical to map them individually. Urban land areas consist of developed sites.

Most of these soil units are smaller than 20 acres although a few are larger, ranging up to 580 acres in size. The Udorthents have been filled to at least 3 feet, and smoothed and paved. It is assumed that the original soils were deep, poorly to very poorly drained and subject to flooding or prolonged ponding.

Most areas of this soil unit are used for residential, commercial or industrial development.

Urban Land (UR)

These soils are almost level or gently sloping. Specific areas are irregularly shaped and range in size from 5 acres to 750 acres. Slopes range from 1 to 5 percent.

The Urban land consists of areas that have been cut and filled, or areas in which over 85 percent of the surface is covered by impervious improvements. Many sites are improved with commercial or industrial buildings. Some sites are used for schools.

Wethersfield gravelly loam, 3 to 8 percent slopes (WeB)

These areas are gently sloping and drain well. Individual sites are irregularly shaped and range from 5 to 130 acres in size.

Surface runoff is at a medium rate, and the erosion risk is slight or moderate. Slow water permeability in the substratum is the major limitation affecting community and recreational development. These soils are suited for upland wildlife habitat. Moderate limitations affect woodland management.

Wethersfield gravelly loam, 8 to 15 percent slopes (WeC)

These soils slope strongly and are well drained. The majority of these areas range from 5 to 200 acres.

There is a moderate potential for frost. The 8 to 15 percent slopes and the slow permeability in the substratum limit community and recreation development. These soils are suited for upland wildlife habitat. Moderate limitations affect woodland management.

Wethersfield gravelly loam, 15 to 25 percent slopes (WeD)

These soil areas are well drained and irregular in shape. Specific sites range in size from 5 to 30 acres.

The 15 to 25 percent slope and slow permeability limit community and recreational development. Most areas of this soil type are wooded or used for recreation facilities. The soil is well suited to upland wildlife habitat.

Wethersfield gravelly loam, 25 to 35 percent slopes (WeE)

These soils are steep and well drained. They are located on the sides of high, long glacial till ridges. Specific sites are irregularly shaped and range in size from 5 to 30 acres.

Surface water runoff is rapid and the erosion hazard is severe. There is a moderate frost potential. The steep slope and slow permeability limit community and recreational development. Most areas of this soil type are wooded or used for recreation facilities. The soil is well suited to upland wildlife habitat.

Wethersfield - Urban land complex, undulating (WUB)

These soils contain the well-drained Wethersfield and areas of Urban land. The Wethersfield soil and the Urban land occur as areas so well mixed or small that it was not possible to map them separately. Urban lands are areas where the surface is covered by impervious improvements, such as driveways, buildings and patios.

Most areas of this soils unit are improved with single family dwellings. The slow permeability affects community and recreational development. The Wethersfield soil provides an appropriate habitat for plants that provide cover and food to small animals and birds.

Wethersfield - Urban land complex, gently rolling, hilly and very hilly (WUC, WUD, WUE)

These soils contain the well-drained Wethersfield and areas of Urban land. The Wethersfield soil and the Urban land occur as areas so well mixed or small that it was not possible to map them separately. Urban lands are areas where the surface is covered by impervious improvements, such as driveways, buildings and patios.

Most areas of this soils unit are improved with single family dwellings. The slope and the slow permeability affects community and recreational development. The Wethersfield soil provides an appropriate habitat for plants that provide cover and food to small animals and birds.

STEEP SLOPES

The Steep Slopes Map identifies areas in the Borough with slopes of 20 percent or greater. Generally, the majority of the steeper slopes are in the western section of the Borough, in the area of the Garden State Parkway and the Musquapsink Brook. In the center of the Borough, the areas with steeper slopes are located along the Woodcliff Lake Reservoir, in the Industrial zone, and behind the Shoprite super market. Small areas of steep slopes also are present near the southern municipal border with Washington Township, near the Boulevard South section.

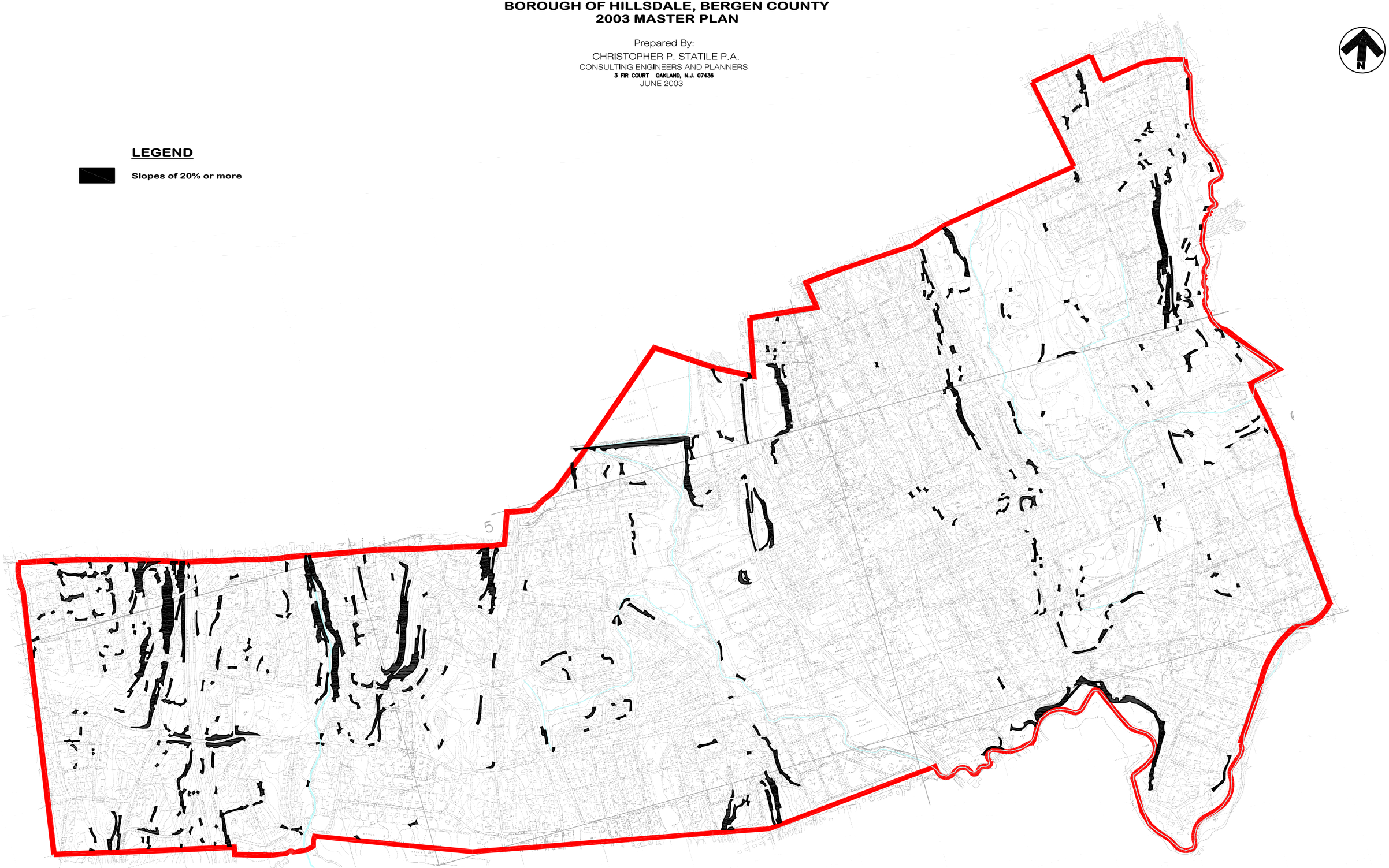
The steep slopes in the eastern section of the Borough are generally located in small, isolated pockets. The largest grouping of steep slopes in this area is in the Edgewood Country Club golf course. There also is a linear section of steep slopes along the portion of the Pascack Brook that forms the Westwood border. Finally, a small section of Woodale Park contains steep slopes.

BOROUGH OF HILLSDALE, BERGEN COUNTY
2003 MASTER PLAN

Prepared By:
CHRISTOPHER P. STATILE P.A.
CONSULTING ENGINEERS AND PLANNERS
3 FIR COURT OAKLAND, N.J. 07436
JUNE 2003

LEGEND

Slopes of 20% or more



SOURCE: U.S.G.S. MAPS, BOROUGH OF HILLSDALE

STEEP SLOPES MAP

FRESHWATER WETLANDS[2]

A freshwater wetland is defined as, " . . . an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation." Wetlands are characterized as containing at least one of three parameters: hydrology, certain soil types, and aquatic plants.

Wetlands are an important component of the environment. They support wildlife and plant ecosystems. Wetlands also can act as retention basins for floodwaters and control certain types of water pollution.

The Freshwater Wetlands Map identifies wetland areas as indicated on the United States Army Corps of Engineers National Inventory Map. This map is a general guide to the location of wetlands in the Borough. To accurately identify the presence or absence of wetlands on specific properties, a wetland delineation must be performed. The delineation is used by the New Jersey Department of Environmental Protection to prepare a Letter of Interpretation (LOI), which will identify the presence, absence or boundaries of freshwater wetlands on a particular site.

If wetlands are present on the property, the LOI will also identify the wetlands' resource value. Wetlands are categorized into one of three groups: exceptional resource value, ordinary resource value or intermediate resource value. Each type of wetland has a required transition area, which is an area of upland that is adjacent to the wetland whose purpose is to minimize adverse impacts on the wetland. The transition area serves as an integral component of the wetland environment.

Transition area buffers of 150 ft. are required for exceptional value wetlands and 50 feet for intermediate value wetlands. There are no required transition buffers for ordinary resource freshwater wetlands.

The Freshwater Wetlands Map provides the general location of wetlands in Hillsdale. As shown, the largest grouping of wetlands is located on the County property behind Pascack Valley High School. These wetlands also extend onto the Culhane site next to the high school. There are also smaller groupings of wetlands on and near the Edgewood Country Club, in Beechwood Park, on the Walksy property (Block 1212, Lots 15 and 16) and on the Caliber Builders property (Block 506, Lot 1). Wetlands are also located on the Tandy Allen property and the Borough property on Forest Drive. There are also very small pockets of wetlands located throughout the Borough as shown on the map.

[2] NJDEP Freshwater Wetland Rules.

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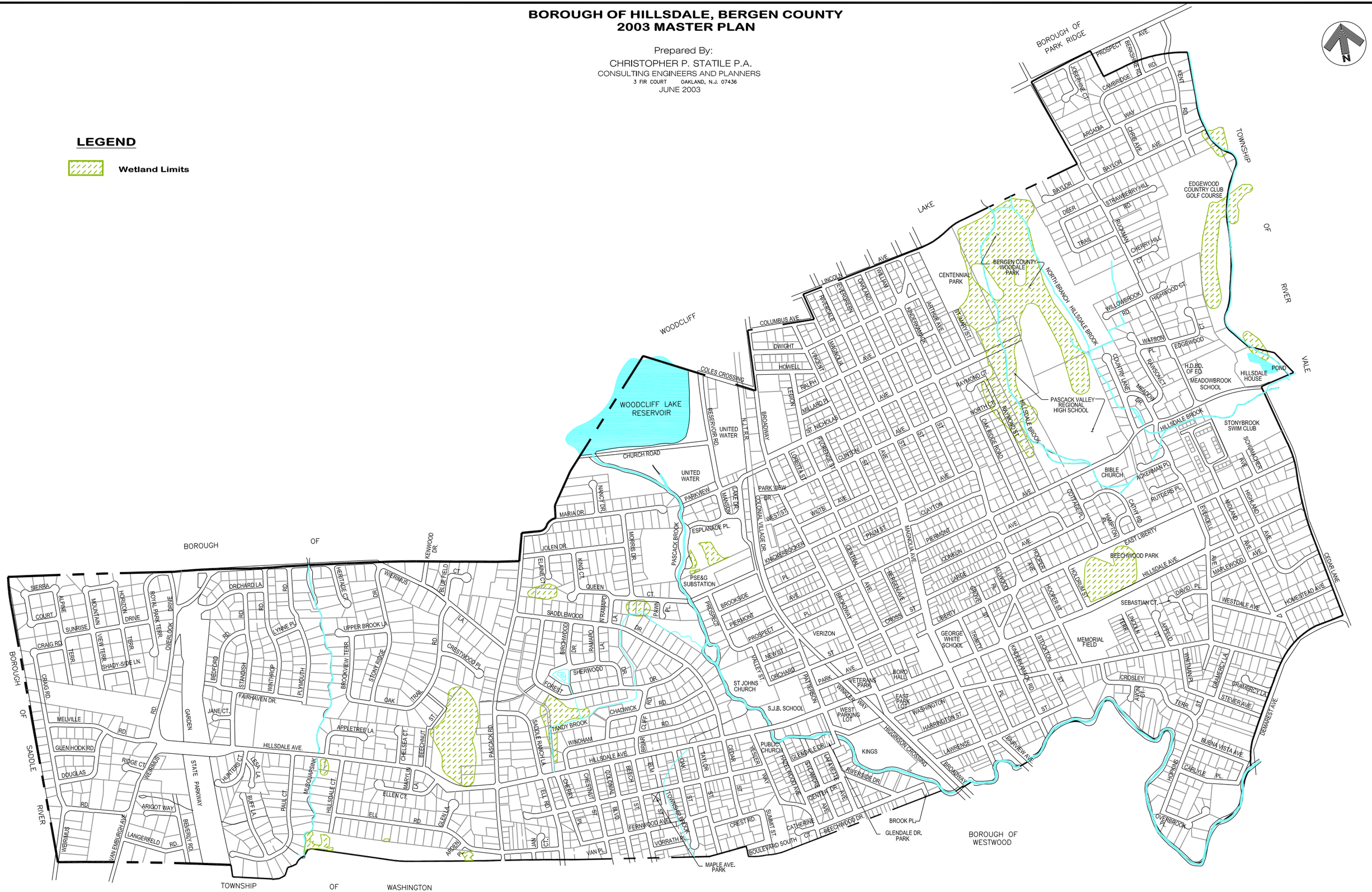
LEGEND

Wetland Limits



SOURCE: U.S.C.O.E. FRESHWATER WETLANDS NATIONAL INVENTORY MAP

FRESHWATER WETLANDS MAP

FLOODPLAINS

Floodplains are low, flat areas located on the sides of a stream channel that are prone to frequent flooding. Floodplains typically contain soils found in wetland areas or soils with a high water table.

The Floodplains & Watershed Map identifies floodplains in the Borough as shown on the Federal Emergency Management Act (FEMA) Insurance Rate Maps. As shown, floodplains are found in Hillsdale along the Musquapsink Brook, Pascack Brook, Hillsdale Brook, United Water property, the Industrial Zone, Beechwood Park, Woodale Park, Stonybrook Swim Club, Glenbrook Park, Kings Shopping Center, Edgewood Country Club Golf Course, and the eastern municipal boundary with River Vale.

WATERSHEDS[3]

A watershed is the area of land that drains into a body of water such as a river, lake, stream or bay. It is separated from other systems by high points in the area such as hills or slopes. It includes the waterway itself and the entire land area that drains to it. For example, the Hackensack River watershed includes the streams entering the River as well as the land area that drains into those streams and eventually the River.

The New Jersey Division of Watershed Management regulates watersheds throughout the State. The Division divided the State into 20 Watershed Management Areas. Each Watershed Management Area (WMA) includes multiple watersheds and rivers and contains several municipalities.

The Floodplains & Watershed Map shows the WMA's that are situated in Hillsdale. As shown, the Borough is primarily located in WMA 5. A small sliver along Hillsdale's western border is located in WMA 4. The entire WMA 5 has a drainage area of about 165 square miles, including parts of Bergen and Hudson Counties. WMA5 contains three watersheds: Hackensack River Watershed, Hudson River Watershed and Pascack Brook Watershed. The Hackensack River watershed and the Pascack Brook watershed are located in Hillsdale.

The Hackensack River Watershed is approximately 85 square miles. The Hackensack River originates in New York State and flows south to Newark Bay. Major tributaries include the Pascack Brook, Berry's Creek, Overpeck Creek and Wolf Creek.

The Hudson River Watershed measures about 29 miles. The Hudson River is 315 miles long and begins in New York State at Lake Tear of the Clouds.

Finally, the Pascack Brook Watershed has a drainage area of approximately 51 miles.

[3] New Jersey Division of Watershed Management.

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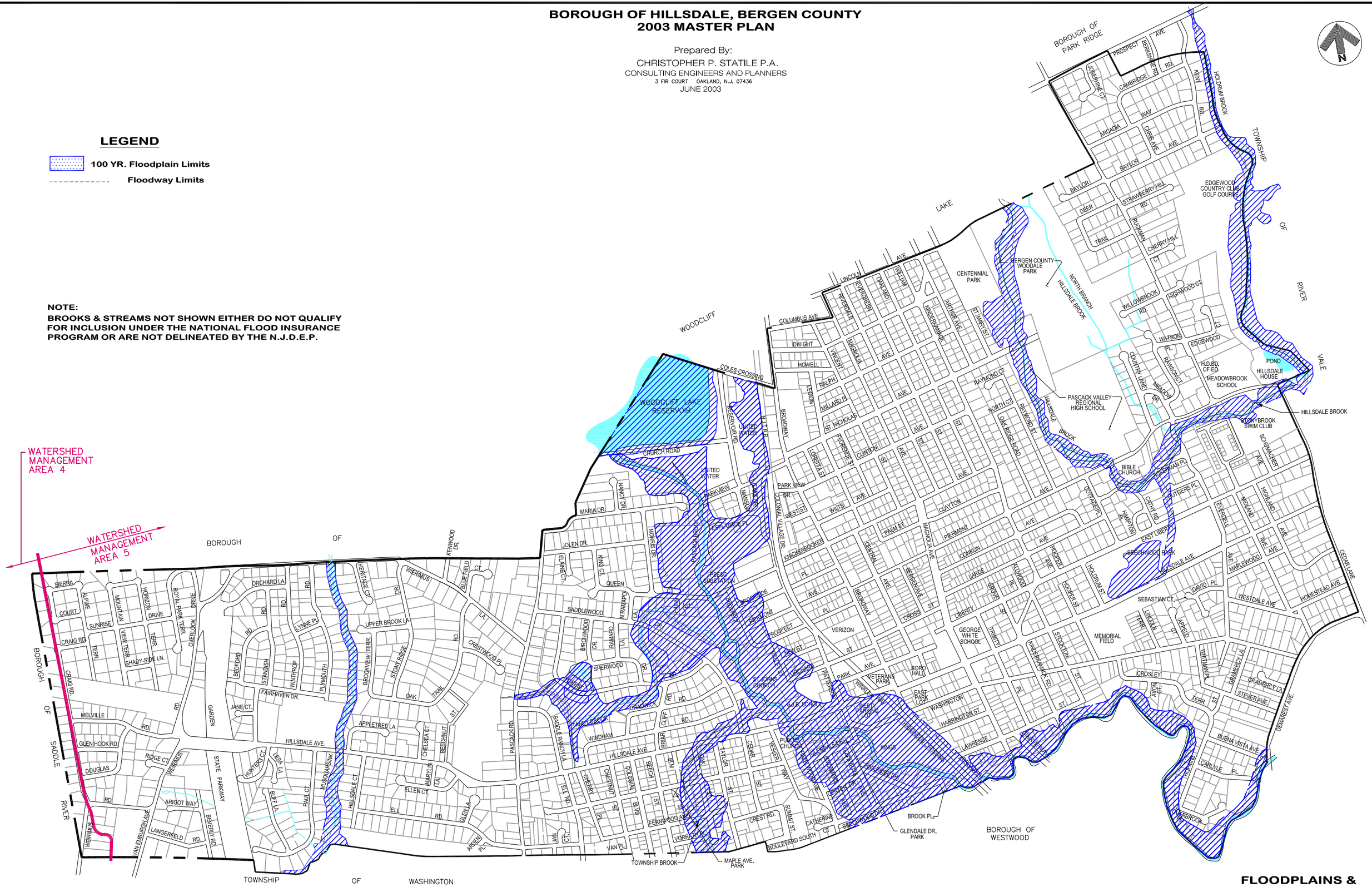
JUNE 2003

LEGEND

100 YR. Floodplain Limits

Floodway Limits

NOTE:
BROOKS & STREAMS NOT SHOWN EITHER DO NOT QUALIFY FOR INCLUSION UNDER THE NATIONAL FLOOD INSURANCE PROGRAM OR ARE NOT DELINEATED BY THE N.J.D.E.P.



FLOODPLAINS & WATERSHED MAP

SOURCES: F.E.M.A. INSURANCE RATE MAPS, SEPT. 20, 1995 & NEW JERSEY DIVISON OF WATERSHED MANAGEMENT

The entire WMA 4 drainage area measures approximately 180 square miles and includes portions of Bergen, Passaic, Essex, Hudson and Morris Counties. The WMA 4 includes the Lower Passaic River Watershed and the Saddle River Watershed. A small portion of the Saddle River watershed is located in Hillsdale.

The Lower Passaic River Watershed has a drainage area of approximately 129 square miles. The major tributaries are the Saddle River, Preakness Brook, Second River and Third River. The Saddle River Watershed has a drainage area of about 50 miles.

THREATENED AND ENDANGERED SPECIES

The New Jersey Division of Parks and Forestry, Office of Natural Lands Management Natural Heritage Program identifies areas that are probable habitats for threatened and endangered species and other ecosystems, such as plant life. The Natural Heritage Statewide database contains several thousand records of individual occurrences of endangered and threatened species and ecosystems.

Natural Heritage maps were developed to identify general areas in which occurrences have been located. The maps do not depict all endangered species habitat in the state. They show general areas that contain documented occurrences. There may be other areas that contain unidentified or poorly documented occurrences. The Natural Heritage Program developed the maps using a computer generated grid that shades a grid cell approximately 330 acres in size if an endangered or threatened species or ecosystem has been documented anywhere within the cell.

The Natural Heritage database does not have any records for rare plants, animals or natural communities in the Borough of Hillsdale. A letter from the Natural Heritage Program indicating the same is included in Appendix C.

ECONOMIC PLAN ELEMENT

INTRODUCTION

The Economic Plan considers Hillsdale's economic development and vitality. The plan includes a comparison of the types of employment projected in the area with the local labor pool. As the plan shows, the service producing jobs, such as the business sector and health services are projected to increase in Bergen County. These professions are among the fields in which Borough residents are currently employed.

BOROUGH OF HILLSDALE EMPLOYMENT & WAGES

The following tables provide data on employment, wages and place of work for Borough of Hillsdale residents.

Employment by Industry

Table 1 provides employment by industry for all employed Borough civilians age 16 and over. The data is from the 2000 census.

As shown, there were 5,059 employed residents. Of the total, over 18 percent (919 residents) were employed in the education, health and social services. The next largest employment group was the professional, scientific, management, administrative & waste management category which provided jobs for over 15 percent (775 residents) of Hillsdale's employed residents. There were no Borough residents employed in the agriculture, forestry, fishing, hunting & mining category.

Table 1		
Employment by Industry		
Employed Civilians 16 and Over		
Borough of Hillsdale, 2000		
Industry	Number	Percent
Agriculture	0	0.0
Construction	312	6.2
Manufacturing	526	10.4
Wholesale Trade	273	5.4
Retail Trade	603	11.9
Transportation, Warehousing	199	3.9
& Utilities		
Information	328	6.5
Finance, Insurance, Real Estate	416	8.2
Rental & Leasing		
Professional, Scientific, Mngt.,	775	15.3
Administrative & Waste Mngt.		
Education, Health & Social Serv.	919	18.2
Arts, Entertainment, Recreation,	326	6.4
Accommodation & Food Serv.		
Other Services (not Public Admin.)	217	4.3
Public Administration	165	3.3
Total Employed Civilians,	**5,059**	**100.0**
16 and Over		
Source: U.S. Bureau of the Census, 2000.		

Employment by Occupation

Table 2 provides Borough employment by occupation for the 5,059 employed Hillsdale civilians age 16 and older. As shown, almost half (2,326 people) of the employed residents had jobs in the management, professional and related occupations. The next largest grouping of residents, almost 32 percent, were employed in the sales & office occupations sector. No residents were employed in the farming, fishing and forestry group.

Table 2		
Employment by Occupation		
Employed Civilians 16 and Over		
Borough of Hillsdale, 2000		
Occupation	Number	Percent
Management, Prof., & Related Occupations	*2,326*	*46.0*
Management, Business & Financial	983	19.4
Professional & Related Occupations	1,343	26.5
Service Occupations	*553*	*10.9*
Healthcare Support Occupations	32	0.6
Protective Service Occupations	63	1.2
Food Preparation & Serving	204	4.0
Buildings & Grounds Cleaning & Maint.	161	3.2
Personal Care & Service	93	1.8
Sales & Office Occupations	*1,612*	*31.9*
Sales & Related Occupations	768	15.2
Office & Administrative Support	844	16.7
Farming, Fishing & Forestry	*0*	*0.0*
Construction, Extraction & Maintenance	*382*	*7.6*
Production, Transportation & Material	*186*	*3.7*
Moving Occupations		
Production Occupations	76	1.5
Transportation & Material Moving	110	2.2
Total, Employed Civilians 16 and Over	**5,059**	**100.0**
Source: U.S. Bureau of the Census, 2000.		

Wages by Industry

Table 3 provides weekly and annual wages by industry for Borough residents. As shown, wholesale trade provided the largest weekly and annual salaries of $1,066 and $55,440, respectively. Retail trade provided the lowest weekly and annual salaries of $406 and $21,117, respectively.

Table 3		
Borough of Hillsdale Wages by Industry, 1999		
	Wages	
Industry	Weekly	Annual
Agriculture	$421	$21,900
Construction	$620	$32,251
Manufacturing	$857	$44,541
Retail Trade	$406	$21,117
Wholesale Trade	$1,066	$55,440
Transportation, Communication	$533	$27,728
& Utilities		
Finance, Insurance, Real Estate	$643	$33,436
Services	$971	$50,478
Government Sector	$944	$49,103
Source: New Jersey Department of Labor.		

Place of Work

Table 4 provides work location for employed Hillsdale residents. The data is from the 2000 Census.

As shown, over 4,000 Borough residents worked in New Jersey, 3,365 of them in Bergen County. The remaining 637 residents worked in New Jersey, but not in Bergen County. Over 1,000 Hillsdale residents worked outside of New Jersey.

Table 4	
Place of Work	
Workers 16 Years and Over	
Borough of Hillsdale, 2000	
Worked in New Jersey	4,002
Worked in Bergen County	3,365
Worked Out of Bergen County	637
Worked out of New Jersey	1,013
Total Workers 16 and Over	**5,015**
Source: U.S. Bureau of the Census, 2000.	

BERGEN COUNTY EMPLOYMENT & INDUSTRY PROJECTIONS

The New Jersey Department of Labor has prepared employment and industry projections through 2008 on a County level. This data is not available on a municipal level.

Largest Private Sector Industries

Table 5 provides the Bergen County private sector industries with the largest 1998 employment. As shown, business services had the largest employment, with over 47,000 positions. The second largest private sector industry was health services, which had over 40,600 jobs in 1998.

Table 5
Bergen County Private Sector Industries
with the Largest 1998 Employment

Industry Title	1998 Employment*
Business Services	47,050
Health Services	40,650
Wholesale Trade-Durable Goods	34,600
Wholesale Trade-Nondurable Goods	24,450
Eating & Drinking Places	19,400
Engineering & Management Services	15,900
Food Stores	13,600
Miscellaneous Retail	13,400
Printing & Publishing	12,500
Special Trade Contractors	10,550

*Numbers are rounded to fifty

Source: New Jersey Department of Labor, Labor Market and Demographic Research.

Private Sector Industries with Greatest Growth

Table 6 shows the Bergen County private sector industries with the greatest projected growth through 2008. As shown, business services are projected to have an increase of almost 40 percent, or 18,550 jobs. This is the largest projected numeric increase. The second largest numeric increase is projected for the health services sector. The State Department of Labor projects a 12,100 job increase in health services by 2008.

The transportation by air, amusement & recreation services, social services and security & commodity brokers sectors are shown with a large percentage job increase and a smaller numeric increase. This is due to the fact that the 1998 base employment figures for these sectors are small. A small base number can lead to a large percentage increase with a small numeric increase.

Table 6
Bergen County Private Sector Industries
with the Greatest Employment Growth, 1998-2008

			Change 1998-2008	
Industry Title	1998*	2008	Number	Percent
Business Services	47,050	65,650	18,550	39.4
Health Services	40,650	52,800	12,100	29.8
Engineering & Mgmt. Services	15,900	19,150	3,250	20.4
Wholesale Trade Non-Durable	24,450	26,800	2,350	9.6
Transportation by Air	6,100	8,100	2,000	32.8
Amusement & Recreation Serv.	6,150	7,800	1,650	26.8
Social Services	6,600	8,250	1,650	25.0
Security & Commodity Brokers	3,600	5,250	1,650	45.8
Miscellaneous Retail	13,400	15,000	1,550	11.6
Eating & Drinking Places	19,400	20,900	1,500	7.7

*Employment and change rounded to fifty.
Source: New Jersey Department of Labor, Labor Market & Demographic Research.

Private Sector Industries with Greatest Decline

Table 7 shows the Bergen County private sector industries with the greatest projected employment declines through 2008. As shown, apparel & other textile products are projected to lose 900 jobs, a 28.1 percent decrease. The second largest numeric decrease is projected in the industrial machinery and equipment field, which is projected to lose 800 jobs.

Table 7				
Bergen County Private Sector Industries				
with the Greatest Projected Employment Decline, 1998-2008				
			Change, 1998-2008	
Industry Title	1998*	2008	Number	Percent
Apparel & Other Textile Products	3,200	2,350	(900)	(28.1)
Misc. Repair Services	1,350	1,050	(300)	(22.2)
Textile Mill Products	1,850	1,450	(350)	(18.9)
Electric, Gas & Sanitary Serv.	1,350	1,150	(200)	(14.8)
Primary Metal Industries	600	500	(100)	(16.7)
Industrial Machinery & Equip.	5,150	4,400	(800)	(15.5)
Fabricated Metal Products	3,000	2,600	(400)	(13.3)
Electronic & Other Electric Equip.	3,600	3,150	(450)	(12.5)
Leather & Leather Products	900	800	(100)	(11.1)
Food & Kindred Products	6,450	5,850	(600)	(9.3)
*Employment and change rounded to fifty.				
Source: New Jersey Department of Labor, Labor Market and Demographic Research.				

Employment by Major Industry Group

Table 8 provides Bergen County estimated and projected employment by major industry group for 1998 and 2008. As shown, goods producing industries are projected to decline by approximately 1,900 jobs from 1998 to 2008. Service producing industries are projected to increase by over 52,000 jobs or 13 percent during the same time period. These changes are in conformance with national trends.

Within the service producing industries, the services sector is projected to have the largest increase of over 39,000 positions or 26 percent. The next largest increase occurred in the transportation, communication and utilities sector, which had projected increases of about 3,750 jobs or 12 percent.

Table 8

Bergen County Estimated and Projected Employment

Major Industry Group, 1998-2008*

	1998		2008		Change, 1998-2000		
Industry Title	Number	Percent	Number	Percent	Number	% Total	% Annual
Goods-Producing	**85,050**	**18.1**	**83,150**	**16.0**	**(1,900)**	**(2.2)**	**(0.2)**
Mining	0	0.0	0	0.0	0	0.0	0.0
Construction	14,900	3.2	15,700	3.0	800	5.4	0.5
Manufacturing	70,200	15.0	67,450	13.0	(2,750)	(3.9)	(0.4)
Service-Producing	**383,550**	**81.9**	**436,000**	**84.0**	**52,450**	**13.7**	**1.4**
Transportation**	29,750	6.3	33,500	6.5	3,750	12.6	1.3
Wholesale Trade	59,050	12.6	61,600	11.9	2,550	4.3	0.4
Retail Trade	72,800	15.5	76,200	14.7	3,400	4.7	0.5
FIRE ***	27,800	5.9	30,750	5.9	2,950	10.6	1.1
Services	150,450	32.1	189,750	36.6	39,300	26.1	2.6
Public Sector	43,650	9.3	44,200	8.5	550	1.3	0.1
Total Nonfarm Empl.	**468,600**	**100.0**	**519,150**	**100.0**	**50,550**	**10.8**	**1.1**

* Data for industries with less than three units or for industries having fewer than 100 employees or for industries where one unit makes up 80 percent or more of the total industry employment have been suppressed.

** Transportation, Communication and Utilities.

***Finance, Insurance and Real Estate.

Source: New Jersey Department of Labor, Division of Labor and Demographic Research.

HISTORIC PRESERVATION PLAN ELEMENT

The Historic Preservation Element details the history of Hillsdale and identifies historic sites in the Borough.

HISTORY OF HILLSDALE[1]

Railroad History

The railroad and rail station have a long history in Hillsdale. In 1856 David Patterson decided to expand the rail lines from Hackensack to the New York State border to open the area for development. Mr. Patterson and a group of investors created the Hackensack and New York Railroad Company. Construction on the new line, which extended over 21 miles, began in the spring of 1866. The first train pulled into Hillsdale on Christmas Eve, 1869.

The new rail line opened to the public on March 4, 1870. There were only six houses in the Hillsdale area at the time. Hillsdale was the end of the line for the Hackensack and New York Railroad until the line from Hillsdale to Havestraw began in 1870. The two rail lines combined in 1873 to become the New Jersey and New York Railroad Company. By 1879, five daily round trips and one round trip freight train ran between Jersey City and Hillsdale.

Hillsdale was unique from other stops along the rail line because it had the engine roundhouse, a turntable, car shops, water tower and engine cooling station. Additionally, the train station contained an upper level for the office of the Railroad Company officials. The train engines remained in Hillsdale at night. Therefore, many of the train workers, engineers, conductors, brakemen and fireman settled in Hillsdale.

Founding of Hillsdale Township

Hillsdale separated from Washington Township in 1898 and formed Hillsdale Township, which included the area that is currently Hillsdale and River Vale. In 1906 River Vale Township left Hillsdale to form its own municipality, leaving the area of Hillsdale as it is today. In 1922 the Hillsdale Township Committee adopted a resolution to switch to the borough form of government. The first Mayor of the Borough of Hillsdale was Henry J. Werner.

[1] Hillsdale Centennial Journal, 1998.

Development History

In 1899 a land speculator distributed a booklet entitled, "Picturesque Hillsdale" to encourage people to move to Hillsdale from the city. The booklet stated that Hillsdale had clean air, no malaria, the purest water in New Jersey and a fine school and library. In 1870 the first development was sold in Hillsdale. Mr. Patterson sold 154 lots north of Piermont Ave. and 288 lots south of Piermont.

The next area to be developed was the Hillsdale Manor section, beginning in 1890. This section encompassed land from Lincoln Ave. to Knickerbocker and Piermont Ave. and Broadway to St. Mary's. Later, the Park Lane section located west of Broadway on Park View was developed. Glenbrook Park, which included the land from Taylor Street to Broadway, was developed between 1900 and 1910. Development in Hillsdale continued through the next century, gradually moving away from the downtown area to the outlying sections of the Borough.

HISTORIC SITES IN HILLSDALE

State and National Register of Historic Places[2]

There are five properties in Hillsdale that have been placed on the State and National Registers of Historic Places. These sites are identified on the following map and listed below:

1. John Banta House, 211 Pascack Road
2. Blauvelt-Demarest House, 230 Broadway
3. Garret Durie House, 156 Ell Road
4. Hillsdale Railroad Station, Broadway and Hillsdale Avenue
5. Vanderbeek House, 126 Weirimus Road

Additionally, the State Historic Preservation Office (SHPO) has issued an Opinion on the entire Garden State Parkway Right-of-Way, including the section located in Hillsdale. A SHPO opinion is required for any state or federally funded project over a certain funding threshold.

Other Historic Properties

There are several homes in the Borough that are over 100 years old. The Borough should work toward preserving these properties. A cultural resources consultant can study the sites to determine if they qualify for nomination to the State and/or National Registers of Historic Places.

[2] New Jersey Historic Preservation Office, Department of Environmental Protection, 2003.

BOROUGH OF HILLSDALE, BERGEN COUNTY
2003 MASTER PLAN

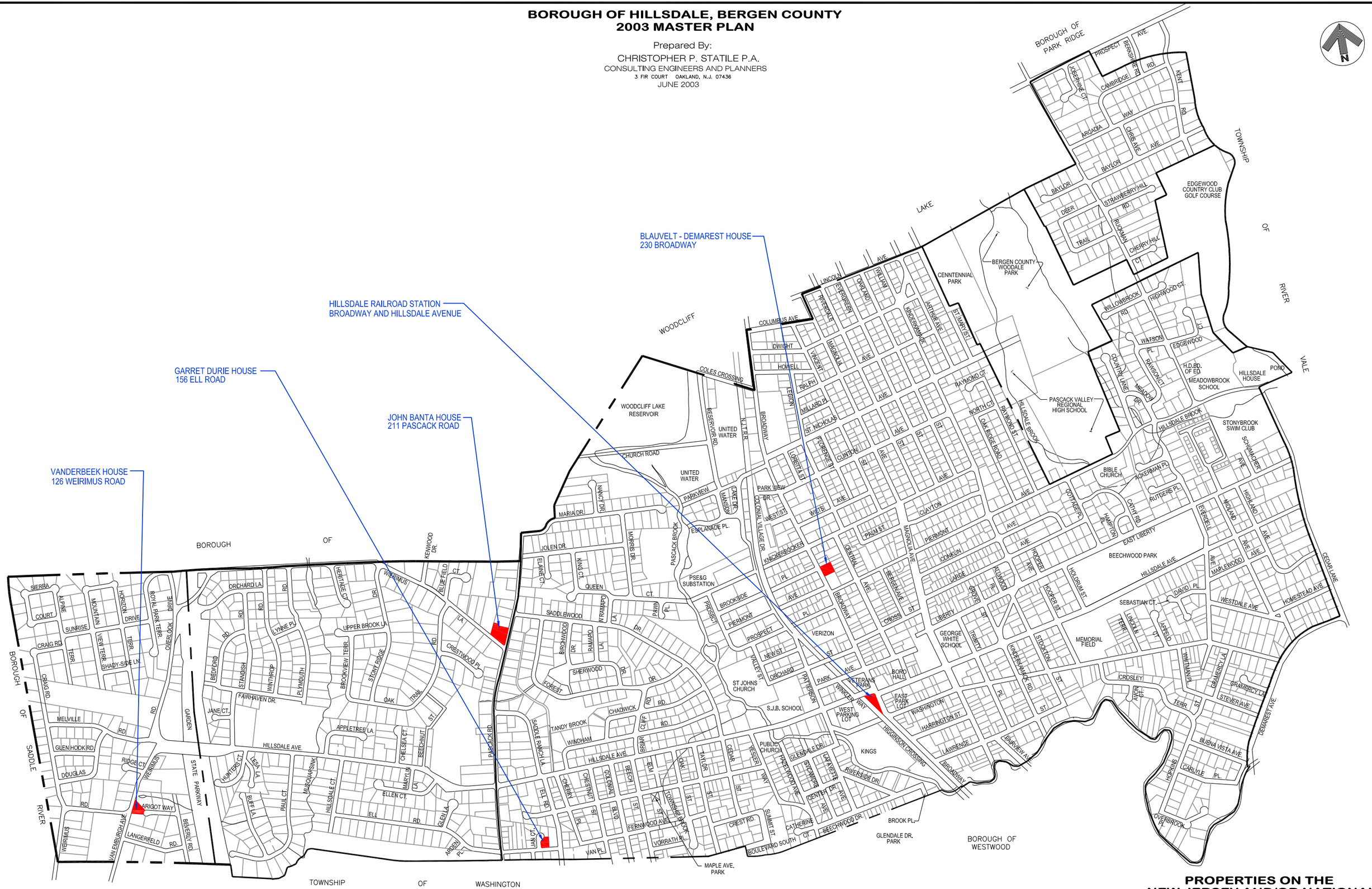
Prepared By:

CHRISTOPHER P. STATILE P.A.

CONSULTING ENGINEERS AND PLANNERS

3 FIR COURT OAKLAND, N.J. 07436

JUNE 2003



SOURCE: NEW JERSEY HISTORIC PRESERVATION OFFICE

PROPERTIES ON THE NEW JERSEY AND/OR NATIONAL REGISTERS OF HISTORIC PLACES

HISTORIC PRESERVATION IN HILLSDALE

Hillsdale Cemetery

Recently, some Hillsdale residents learned of an abandoned 19th century cemetery at the Hazelwood Ave./Glendale Drive intersection. Research done at the Pascack Historical Society revealed that the cemetery was started in about 1825. Burial records showed approximately 40 burials at the site, consisting of some of the Borough's founding families, such as Demarest, Ackerman, Bogert, Durie and Westervelt, and their servants. The servants or field hands' graves consisted of a stone marker with no identification. The other burials had marked headstones.

When the cemetery was discovered, it was a vacant, overgrown lot that had not been maintained. With the help of the Borough Council, Boy Scout Troop 91, and two Hillsdale Eagle Scouts, a joint Eagle Scout project was developed to clean out the cemetery, remove the overgrown vegetation and attempt to locate the graves.

The cemetery appears to have been abandoned in about 1885. The New Jersey Historical Society performed a 1911 inventory of the site. The inventory included a listing of all headstone inscriptions.

The Eagle Scouts and Boy Scouts found 13 or 14 of the unmarked graves. Additional marked stones were located in the surrounding neighborhood. Some of the stones had been used for patio blocks, garden wall blocks, or other similar uses.

The Scouts cleaned out the cemetery. The Borough assisted with the installation of a fence around the site, plantings, benches, walkways and a sign marking the site. The property is now a pleasant "commemorative park" with an important element of historic preservation.

Historic Preservation Committee

The Borough recently established a Historic Preservation Committee that should become active in the spring of 2003. The main goals of the committee are as follows:

1. Preserve the Hillsdale train station.

2. Establish a museum centered on the Borough history at the museum. Obtain memorabilia donations from local residents.

3. Preserve the homes in the community that are one hundred years old, or older, so that they are not demolished.

The Municipal Land Use Law details the formation and responsibility of a formal Historic Preservation Commission in N.J.S. 40:55D-107. The Committee should be encouraged to follow these guidelines for the optimum historic preservation benefits to the Borough.

RECOMMENDATIONS

The following recommendations are offered for the Historic Preservation Element:

1. Encourage development of a local museum in the train station.

2. Research the older buildings in the Borough to determine if they are eligible for formal placement on the State and National Registers of Historic Places.

3. Encourage the Historic Preservation Committee to follow the guidelines contained in the Municipal Land Use Law.

RECYCLING PLAN ELEMENT

MANDATORY SOURCE SEPARATION AND RECYCLING ACT

As the State's landfills reach capacity, solid waste collection, processing and disposal in New Jersey have reached a critical stage. Recycling of solid waste materials is essential to reducing the solid waste stream to landfills and preserving the environmental quality of the State.

In response to these environmental concerns, the State Legislature adopted the New Jersey Statewide Mandatory Source Separation and Recycling Act in 1987. The Act requires the establishment of a recycling component to municipal master plans. Additionally, the Act designates specific tasks to both the county and municipalities to achieve State Recycling Plan goals.

Bergen County must prepare and adopt a district recycling plan to implement the State Recycling Plan goals. The district plan, prepared by the County, must include the following:

1. Designate a recycling coordinator.

2. Identify leaves and least three other recyclable materials as the designated recyclables in each municipality.

3. Designate a strategy for the collection, marketing and disposition of designated source separated recyclable materials in each municipality.

4. Recycle at least 15% of the prior year's total municipal solid waste stream by the end of the first full year.

5. Recycle at least 25 percent of the second preceding year's total municipal solid waste steam by the end of the second full year.

6. Recycle at least 50% of the total municipal solid waste stream including yard waste and vegetative waste, by December 31, 1995.

The Borough of Hillsdale's responsibilities include the following:

1. Designate a recycling coordinator.

2. Implement a municipal recycling program.

RECYCLING IN HILLSDALE

Hillsdale adopted its first ordinance recycling newspaper and wastepaper from Borough residences in 1985. The recycling ordinance has since been amended to include other recyclable materials.

Hillsdale has a designated recycling coordinator and Borough operated recycling program. The Borough collects co-mingled recyclables, which include bottles, cans, plastics, tin and aluminum, curbside every other week. Cardboard, newspaper, paper and junk mail are collected curbside every other week, on the week that the co-mingled recyclables are not collected. The recyclables are taken to a site in Rockland County that is operated by Waste Management.

The Borough collects vegetative waste curbside weekly March 15th through October 30th. The vegetative waste is taken to a site in Sloatsburg, NY. The Borough also picks up leaves curbside during the autumn months. The leaves are transported to a site in Bergen County.

The Borough also operates a drop-off-recycling center for Hillsdale residents. Heavy metal, co-mingled recyclables, cardboard, paper, any type of batteries, tires, waste oil, antifreeze, and vegetative waste are accepted year-round at the recycling center.

Table 1 details the tonnage and materials recycled in Hillsdale for 2000. As shown, almost 4,474 tons of recycled materials were collected throughout the Borough. The Borough had 8,960.3 tons of total disposables, which include recyclable and solid waste material, in 2000. Therefore, recyclable material represented 50 percent of the total Borough disposables in 2000.

Hillsdale has a recycling ordinance pursuant to State regulations with the exception of the Municipal Land Use Law requirements. Specifically, N.J.S.A. 40:55D-28(12) requires adoption of an ordinance addressing the collection, disposition and recycling of recyclable material in development proposals for 50 or more units of single-family residential housing, 25 or more units of multi-family residential housing and commercial or industrial developments of 1,000 square feet or more of land.

Table 1			
2000 Recycling Summary, Borough of Hillsdale			
Material and Tonnage			
Material Name	Residential	Commercial	Total
Aluminum Containers	52.1	0.0	52.1
Asphalt Pavement	0.0	40.0	40.0
Batteries (automobile)	33.0	0.0	33.0
Concrete	0.0	954.0	954.0
Corrugated Cardboard	148.4	699.3	847.6
Fat & Lard	0.0	17.5	17.5
Glass Containers	312.7	0.0	312.7
Leaves	28.2	0.0	28.2
NonFerrous/Alum. Scrap	0.0	5.5	5.5
Newspaper	411.0	0.0	411.0
Other Materials	90.3	189.0	279.3
Other Paper/Mag./Junkml.	695.0	0.7	695.7
Plastic Containers	104.2	0.5	104.7
Steel Containers	52.1	0.0	52.1
Stumps	20.4	0.0	20.4
Textiles	42.1	0.0	42.1
Tires	178.0	0.0	178.0
Uncontaminated Soil	0.0	400.0	400.0
Totals	**2,167.4**	**2,306.5**	**4,473.9**
Source: Bergen County Utilities Authority			

GARBAGE COLLECTION IN HILLSDALE

As of May 2002, Waste Management is responsible for trash collection in Hillsdale. Garbage is collected two times a week. Heavy metal pickup for items such as washing machines, dryers and refrigerators is done weekly by appointment.

The garbage is transported to the transfer station located in the industrial area in Hillsdale. The Borough dumps its solid waste at the transfer station for free as part of the host community agreement. Garbage is moved from the transfer station to a landfill in Pennsylvania.

RECYCLING IN BERGEN COUNTY[1]

Bergen County has a goal of recycling at least 50 percent of the municipal and vegetative waste streams, and recycling of at least 65 percent of the total waste stream. The County also has designated recyclable materials that all municipalities must recycle. Hillsdale currently recycles all of the required materials.

Bergen County also conducts household hazardous waste collection programs at various locations through the year. Since 1999, the program began accepting computer and computer-related products for recycling. In March 2001, a permanent year-round computer and computer-related product collection program was implemented at the Bergen County Utilities Authority (BCUA) facility in Little Ferry. The BCUA has also sponsors a municipal tire recycling program, motor oil recycling program and paint recycling program.

RECOMMENDATIONS

1. The Municipal Land Use Law requires municipalities to adopt regulations relating to disposal of recyclables in larger developments. The Borough should amend its Land Development Ordinance as required in the Municipal Land Use Law.

2. Hillsdale should continue its recycling program in an effort to further increase the percentage that recyclable materials comprise of total disposables.

3. The Borough should encourage its residents to recycle as required by law.

[1] "Bergen County District Solid Waste Management Plan - Plan Amendment – Revised Bergen County Solid Waste System and Strategy," prepared by Bergen County Utilities Authority.

COMPARISON TO CONTIGUOUS MUNICIPALITIES

INTRODUCTION

The Municipal Land Use Law requires that the Master Plan include a section on the relationship of the plan and those of contiguous municipalities, the county and the State Development and Redevelopment Plan. This section fulfills the requirements of N.J.S. 40:55D-28(d).

The current zoning of the surrounding municipalities is shown on the Zoning in Adjacent Municipalities Map and described in the following text.

BOROUGH OF HO-HO-KUS

The Borough of Ho-Ho-Kus borders the southwestern corner of Hillsdale and the zoning and Master Plan designations are consistent.

The area in Ho-Ho-Kus along the border is located in the R-1 zone, which has a 43,560 square foot minimum lot size. The corresponding section of Hillsdale is in the R-1 zone, which has a 22,500 square foot minimum lot size.

The Borough of Ho-Ho-Kus Land Use Plan also identifies the area abutting Hillsdale as R-1 Residential with a 43,560 square foot minimum lot size. The Ho-Ho-Kus Master Plan 2001 Revision does not recommend any changes to the Land Use Plan. The Hillsdale Master Plan does not propose any changes along the Ho-Ho-Kus border and is consistent with the Ho-Ho-Kus Master Plan.

PARK RIDGE BOROUGH

The Borough of Park Ridge borders the northeastern corner of Hillsdale and the zoning and Master Plan designations are consistent.

The section of Park Ridge along the border is located in an R-20 Residential zone, which has a 20,000 square foot minimum lot size requirement. The Hillsdale border is located in an R-2 Residential zone, which has a 15,000 square foot minimum lot size.

The Park Ridge Periodic Reexamination Report of the Master Plan adopted on May 28, 1997 identifies the area along the Hillsdale border as Low Density Residential Use 2, which recommends residential development at a density of two units per acre. The plan indicates that most of the area is developed with detached single family residences with lots close to 20,000 square feet. The Hillsdale Land Use Plan maintains the R-2 designation along the Park Ridge border, and, therefore, is consistent with the Park Ridge Master Plan.

BOROUGH OF HILLSDALE, BERGEN COUNTY
2003 MASTER PLAN

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CHRISTOPHER P. STATILE P.A.
CONSULTING ENGINEERS AND PLANNERS
3 FIR COURT OAKLAND, N.J. 07436
JUNE 2003

HO-HO-KUS BOROUGH

R-1 - 43,560 SQ. FT. MINIMUM LOT SIZE

PARK RIDGE BOROUGH

R-20 - 20,000 SQ. FT. MINIMUM LOT SIZE

RIVER VALE TOWNSHIP

A - 18,000 SQ. FT. MINIMUM LOT SIZE

A-1 - 40,000 SQ. FT. MINIMUM LOT SIZE

B - 10,000 SQ. FT. MINIMUM LOT SIZE

P-O - 1.5 ACRE MINIMUM LOT SIZE (PROF. OFFC.)

SADDLE RIVER BOROUGH

R-1 - 2 ACRE MINIMUM LOT SIZE

WASHINGTON TOWNSHIP

A - 10,000 SQ. FT. MINIMUM LOT SIZE

AA - 1/2 ACRE MINIMUM LOT SIZE

AAA - 1 ACRE MINIMUM LOT SIZE

B -7,500 SQ. FT. MINIMUM LOT SIZE

WESTWOOD BOROUGH

LB - 15,000 SQ. FT. MINIMUM LOT SIZE (BUSINESS)

O - 7,500 SQ. FT. MINIMUM LOT SIZE (OFFICE)

R-1 - 7,500 SQ. FT. MINIMUM LOT SIZE

R-3 - TOWNHOUSES

SC - 5 ACRE MINIMUM LOT SIZE (SHOPPING CENTER)

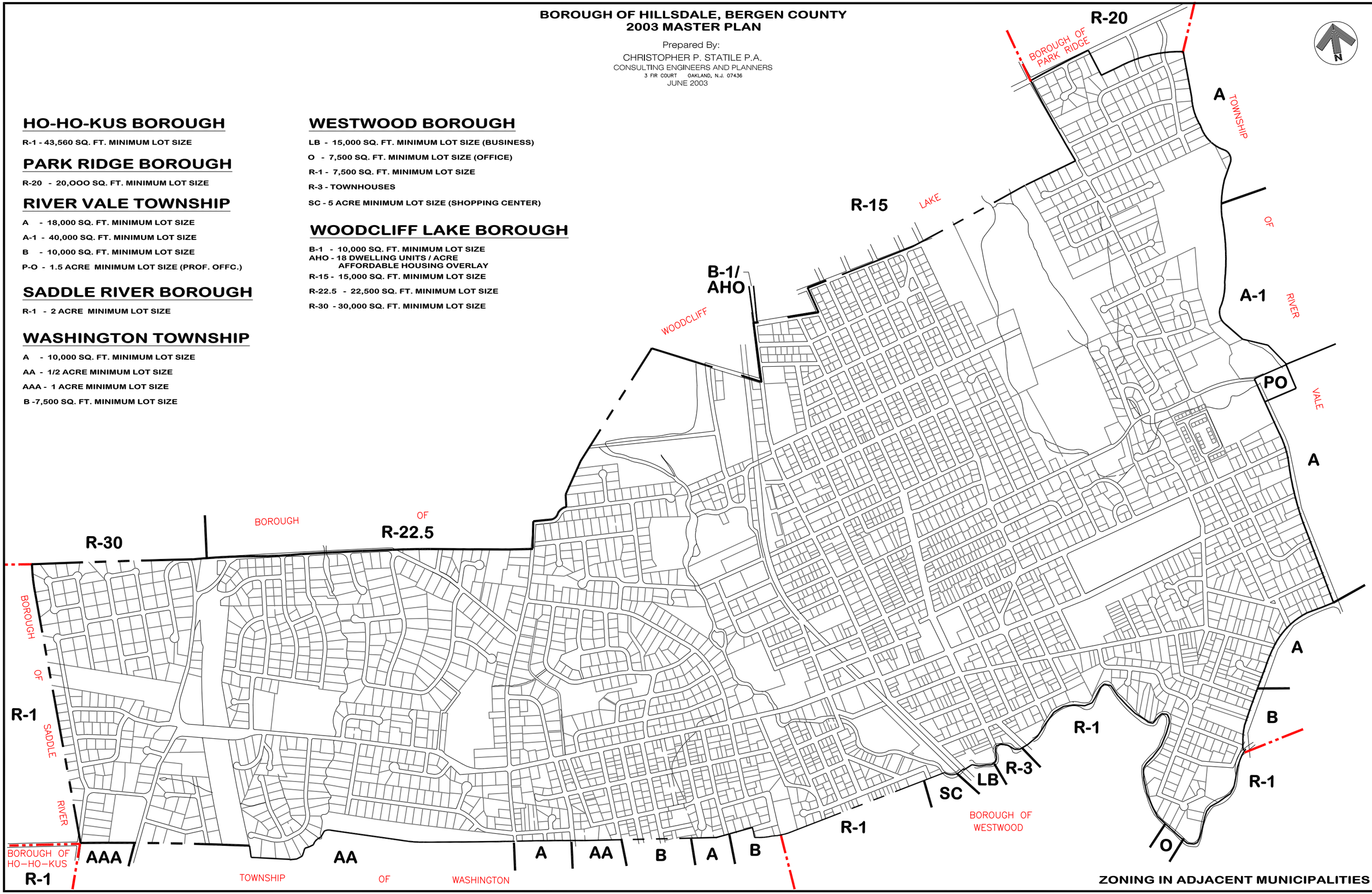
WOODCLIFF LAKE BOROUGH

B-1 - 10,000 SQ. FT. MINIMUM LOT SIZE
AHO - 18 DWELLING UNITS / ACRE
AFFORDABLE HOUSING OVERLAY

R-15 - 15,000 SQ. FT. MINIMUM LOT SIZE

R-22.5 - 22,500 SQ. FT. MINIMUM LOT SIZE

R-30 - 30,000 SQ. FT. MINIMUM LOT SIZE



ZONING IN ADJACENT MUNICIPALITIES

RIVER VALE TOWNSHIP

The Township of River Vale is located along Hillsdale's eastern border and the zoning and Master Plan designations are mostly consistent.

River Vale has four different residential zones, ranging in minimum lot size requirements from 10,000 square feet to 40,000 square feet along the Hillsdale border. The Hillsdale Master Plan recommends the addition of a new R-A zone with a 40,000 square foot minimum lot size in the area of the Edgewood Country Club golf course, which borders River Vale. The northern most area in River Vale along the border is in an A zone, which has an 18,000 square foot minimum lot size. The A zone borders Hillsdale's current R-2 Residential zone (15,000 square foot minimum lot size) and the proposed R-A zone. River Vale's A-1 zone is immediately south of the A zone. The A-1 zone has a 40,000 square foot minimum lot size and mostly borders the proposed R-A zone in Hillsdale. A small section of the A-1 zone also borders the SC zone, which since 1986 has been completely developed with the Hillsdale House, a senior citizen development.

Immediately south of the A-1 zone is a very small PO Professional Office zone in River Vale. The PO zone borders the recreation field adjacent to Stonybrook Swim Club, which is a possible location for the Hillsdale Community Center. The Hillsdale Master Plan recommends an R-2 designation for this area, which is a slight inconsistency with the River Vale PO designation.

The River Vale A zone follows the PO zone south until after Grammercy Lane in Hillsdale, when the Township has a small B Residential zone, which permits residential development on 10,000 square foot lots. This last A zone and the B zone border the R-3 Residential zone in Hillsdale, which permits single family development on 10,000 square foot lots. The Hillsdale Master Plan does not recommend any changes in this area, and the designations are consistent.

River Vale has a Master Plan Reexamination Report prepared in December 2000. The report recommends that the Township prepare a new Master Plan because the last one was completed in 1975. The report states that there is no land use map for the Township and recommends developing a land use plan as well as an entire Master Plan.

SADDLE RIVER BOROUGH

The Borough of Saddle River is located along Hillsdale's western border, and the zoning and Master Plan designations are consistent.

The area in Saddle River adjacent to Hillsdale is located in an R-1 Residential zone, which requires a two-acre minimum lot size. This section of Hillsdale is located in an R-1 zone, which permits single-family development on 22,500 square foot lots. The Hillsdale Master Plan does not recommend any changes in this area.

The Borough of Saddle River has a 1990 Master Plan dated June 1990 and a 1997 Reexamination Report dated May 13, 1997. The 1990 Land Use Plan delineates the area adjacent to Hillsdale as Low Density Residential, which correlates to single-family detached dwellings with a minimum density of one dwelling per two acres. The Plan also states that a 25.5-acre parcel located south of Glenwood Drive that borders Hillsdale is a potential park and/or open space. The Plan states that while it is desirable for the Borough to own this site, it will continue to be zoned with a two-acre minimum lot size.

The 1997 Reexamination Report states that there has been no public parkland acquired since the 1990 Master Plan was adopted, and that the 1990 Master Plan remains current regarding Saddle River's overall planning policies and objectives. No changes to the Saddle River Land Use Plan are recommended, and the plan is consistent with the Hillsdale Master Plan.

WASHINGTON TOWNSHIP

The Township of Washington borders Hillsdale to the southwest, and the zoning and Master Plan designations are consistent.

The area in Washington along the border is all zoned for single-family residential use, with minimum lot size requirements ranging from 7,500 square feet to one acre.

Beginning at the Saddle River border until Van Emburgh, the properties in Washington Township are located in the AAA zone, which has a one-acre minimum lot size. This area borders Hillsdale's R-1 zone, which has a 22,500 square foot minimum lot size. From Van Emburgh east to Pascack Ave. Washington Township has designated an AA zone, which has a one-half acre minimum lot requirement. The AA zone borders Hillsdale's R-2 zone (15,000 square foot lot size). From Pascack east to the Westwood border, Washington's minimum lot sizes range from 7,500 square feet to one-half acre, and border Hillsdale's R-3 zone, which has a 10,000 square foot minimum lot size.

Washington Township has a Master Plan Reexamination Report dated May 5, 1998. Similar to the Township Zoning Ordinance, the Plan also shows varying sizes of single family residential zones along the border. The Hillsdale Master Plan does not propose any changes along the Washington Township border and is consistent with the Washington Township Master Plan.

WESTWOOD BOROUGH

The Borough of Westwood is located to the south of Hillsdale, and its zoning and Master Plan designations are generally consistent.

Beginning at the Washington Township border and located east is Westwood's R-1 zone, which permits single family development on 7,500 square foot lots. The R-1 zone is adjacent to Hillsdale's R-4 zone, which also permits single-family development on 7,500 square foot lots.

Then, Westwood and Hillsdale both have commercial zones in the area along Broadway. Immediately east of the commercial zones in Westwood is an R-3 Townhouse zone. This small zone is not completely consistent with the adjacent R-4 zone in Hillsdale. However, Westwood's R-3 area is developed as zoned. After Westwood's R-3 zone, the next zone along the border is another R-1 (7,500 square foot lot size) zone that borders Hillsdale's R-3 and R-4 zones, which require 10,000 square foot and 7,500 square foot minimum lot sizes, respectively. Finally, Westwood has a small O Office zone in the middle of its R-1 zone, which is generally not consistent with Hillsdale's adjacent R-3 zone.

Westwood has an adopted 1993 Master Plan and an adopted 1999 Reexamination Report. The Westwood Zoning Ordinance was recently updated and is consistent with its Land Use Plan. The Hillsdale Master Plan does not propose any changes along the Westwood border and is consistent with the Westwood Master Plan.

WOODCLIFF LAKE BOROUGH

Woodcliff Lake borders Hillsdale to the north and the zoning and Master Plan designations are consistent.

There are three residential zones along the Hillsdale border. Beginning at the Saddle River border located east until the Garden State Parkway, there is an R-30 zone, with a 30,000 square foot minimum lot size, which borders Hillsdale's R-1 zone, which has a 22,500 square foot minimum lot size. Woodcliff Lake has an R-22.5 zone from the Garden State Parkway until Broadway. The R-22.5 zone requires a 22,500 square foot minimum lot size and borders Hillsdale's existing R-2 zone, which has a 15,000 square foot minimum lot size and an area designated as R-2 in the Hillsdale Land Use Plan proposed along the Woodcliff Lake reservoir. The last residential zone in Woodcliff Lake along the Hillsdale border is the R-15 zone, which has a 15,000 square foot minimum lot size. This borders Hillsdale's R-3 (10,000 square foot lot size), R-4 (7,500 square foot lot size) and the new R-A zone proposed in the Master Plan, which will have a 40,000 square foot minimum lot size. The R-A area in Hillsdale borders the County parkland in Woodcliff Lake and is a consistent designation.

Additionally, along Broadway, a Business Zone with an Affordable Housing Overlay in Woodcliff Lake borders Hillsdale's Commercial zone. These designations are consistent.

The Woodcliff Lake zoning ordinance is consistent with the Land Use Plan. The Hillsdale Master Plan, which includes two changes along the Woodcliff Lake border, is consistent with the Woodcliff Lake zoning and Master Plan designations.

BERGEN COUNTY

Bergen County does not have a current land use plan in effect for Hillsdale or the surrounding area. The County Planning Department is aggressively pursuing the creation of a new Master Plan.

STATE OF NEW JERSEY

The State of New Jersey adopted its most recent State Development and Redevelopment Plan (SDRP) on March 1, 2001. The SDRP divides the State into five different categories of Centers, which are compact forms of development, and five different categories of Planning Areas. Planning Areas are large masses of land that share a common set of conditions, such as population density, development levels or infrastructure systems. Generally, the SDRP guides development in older cities that can accommodate it while curbing development in rural areas.

Hillsdale is located in the Metropolitan Planning Area, which is also known as Planning Area 1 (PA 1). According to the SDRP, PA 1 should provide for much of the state's redevelopment, promote growth in compact form, stabilize older suburban areas, redesign areas of sprawl and protect the character of existing stable communities.

In the Metropolitan Planning Area, the SDRP goals are as follows:

- Provide for much of the state's future redevelopment.
- Revitalize cities and towns.
- Promote growth in compact forms.
- Stabilize older suburbs.
- Redesign areas of sprawl.
- Protect the character of existing stable communities.

The Hillsdale Master Plan is consistent with the goals of the SDRP and the Metropolitan Planning Area.

APPENDIX A

CHRISTOPHER P. STATILE, P.A.

PROFESSIONAL ENGINEERS
CONSULTING ENGINEERS

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3 FIR COURT
OAKLAND, NJ 07436
(201) 337-7470
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NEW YORK N

January 3, 2003

Memo

To: Borough of Hillsdale Mayor and Council

From: Christopher P. Statile, P.E. and Caroline Reiter, P.P., AICP

Regarding: FAR Ordinance

The Borough Planning Board has been reviewing Floor Area Ratio (FAR) and Impervious Coverage Ordinances that might be appropriate for Hillsdale. The Board requested that we forward the following ordinance to the Mayor and Council.

To determine the impact that a FAR ordinance could have on Hillsdale, we reviewed three developments to determine the impact of this ordinance. We calculated an approximate FAR and impervious coverage for each new dwelling in the three developments. The examples are attached.

AN ORDINANCE TO AMEND CHAPTER 310 OF THE BOROUGH OF HILLSDALE TO INCLUDE FLOOR AREA RATIO AND IMPERVIOUS COVERAGE RESTRICTIONS:

Amend Section 310-4 of the Land Use Ordinance to include the following definitions:

Remove the existing definition of building coverage and replace it with the following definition:

BUILDING COVERAGE: Building coverage shall be computed by determining the first floor area of any and all structures intended to be used or occupied on a permanent or temporary basis, and shall include but not be limited to, buildings, sheds, pool houses and garages.

FLOOR AREA RATIO (FAR): The sum of the area of all floors of existing or new buildings or structures compared to the total area of the site, expressed as a percentage. The computation of floor area ratio includes the principal and all accessory structure(s), such as sheds and garages located on the lot. Basements, unfinished attics, decks and patios are not included in the computation.

IMPERVIOUS COVERAGE: Impervious coverage shall include all of the square footage under the definition of building coverage, plus driveways, decks that do not allow rain water to be directly absorbed by the ground, patios, sidewalks, walkways, decking surrounding swimming

pools, tennis courts, basketball courts or other similar facilities constructed with an impervious surface.

Amend Section 310-53 to include the following requirements:

R-1 zone: 20% maximum FAR, 30% maximum impervious coverage
R-2 zone: 25% maximum FAR, 30% maximum impervious coverage
R-3 zone: 28% maximum FAR, 30% maximum impervious coverage
R-4 zone: 30% maximum FAR, 30% maximum impervious coverage

The above limitations shall not apply to existing single-family dwellings and lots both meeting the requirements of the Zoning Ordinance and whose expansion constitutes less than 30% of the existing Building Coverage.

APPENDIX B

RECOMMENDED DEFINITIONS

1. Corner Lot: A lot located at the junction of two or more intersecting streets or a lot located on one curved street if the curve constituting the front lot line shall be a convex curve having a change of direction of more than 45 degrees.

2. Through Lot: A lot that fronts upon two parallel streets or that fronts upon two streets that do not intersect at the boundaries of the lot. Any lot line fronting or abutting a street is considered a front lot line and must meet the front yard setback requirement.

3. Lot Frontage: The portion of the street abutting the front lot line.

4. Front Lot Line: Any lot line fronting or abutting a street is considered a front lot line and must meet the front yard setback requirement.

5. Side Yard Setback Bulk Requirement: The required lot width for the subject zone district is used to compute the side yard setback.

APPENDIX C

State of New Jersey

DONALD T. DIFRANCESCO
Acting Governor

Department of Environmental Protection

Robert C. Shinn
Commissioner

Division of Parks and Forestry
Office of Natural Lands Management
Natural Heritage Program
P.O. Box 404
Trenton, NJ 08625-0404
Tel. #609-984-1339
Fax. #609-984-1427

December 5, 2001

Caroline Reiter
Christopher P. Statile, P.A. for the Borough of Hillsdale
11 East Oak Street
Oakland, NJ 07436

Re: Borough of Hillsdale Master Plan

Dear Ms. Reiter:

Thank you for your data request regarding rare species information for Hillsdale Borough, Bergen County.

The Natural Heritage Data Base does not have any records for rare plants, animals, or natural communities in the municipality.

Enclosed is a list of rare species and natural communities that have been documented from Bergen County. This county list can be used as a master species list for directing further inventory work. If suitable habitat is present within the study area, these species have potential to be present. If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend you contact the Division of Fish and Wildlife, Endangered and Nongame Species Program.

In order to red flag the general locations of documented occurrences of rare and endangered species and natural communities, we have prepared computer generated Natural Heritage Index Maps. Enclosed please find these maps for the Park Ridge and Hackensack USGS quadrangles. If individual projects are to be located in the shaded areas of these maps, the Natural Heritage Program can be contacted for additional information.

PLEASE SEE THE ATTACHED 'CAUTIONS AND RESTRICTIONS ON NHP DATA'.

Thank you for consulting the Natural Heritage Program. The attached invoice details the

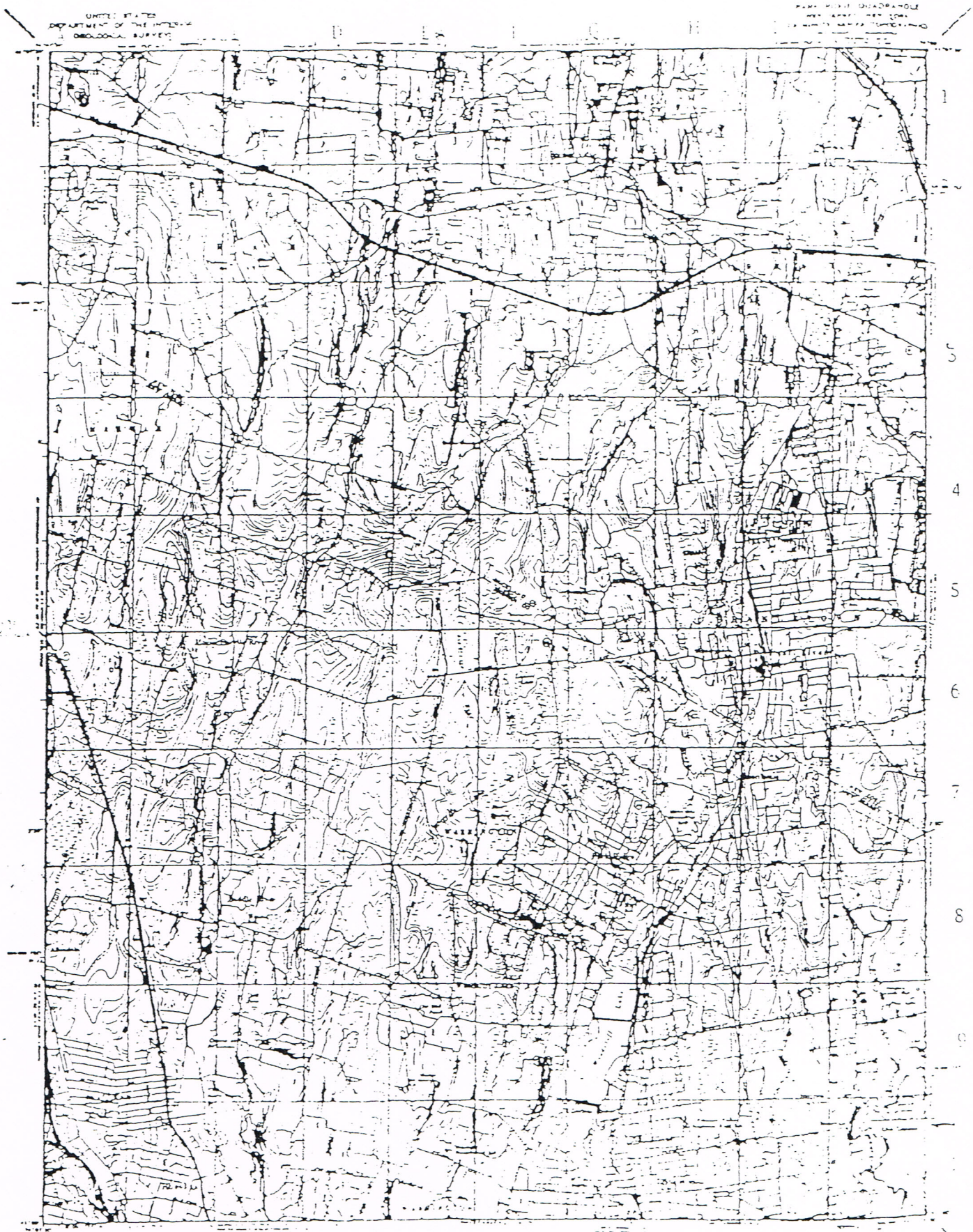
payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Herbert A. Lord

Herbert A. Lord
Data Request Specialist

cc: Thomas F. Breden
Lawrence Niles
NHP File No. 01-4107411


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WARRACOOR

Generalized Natural Heritage Index Map

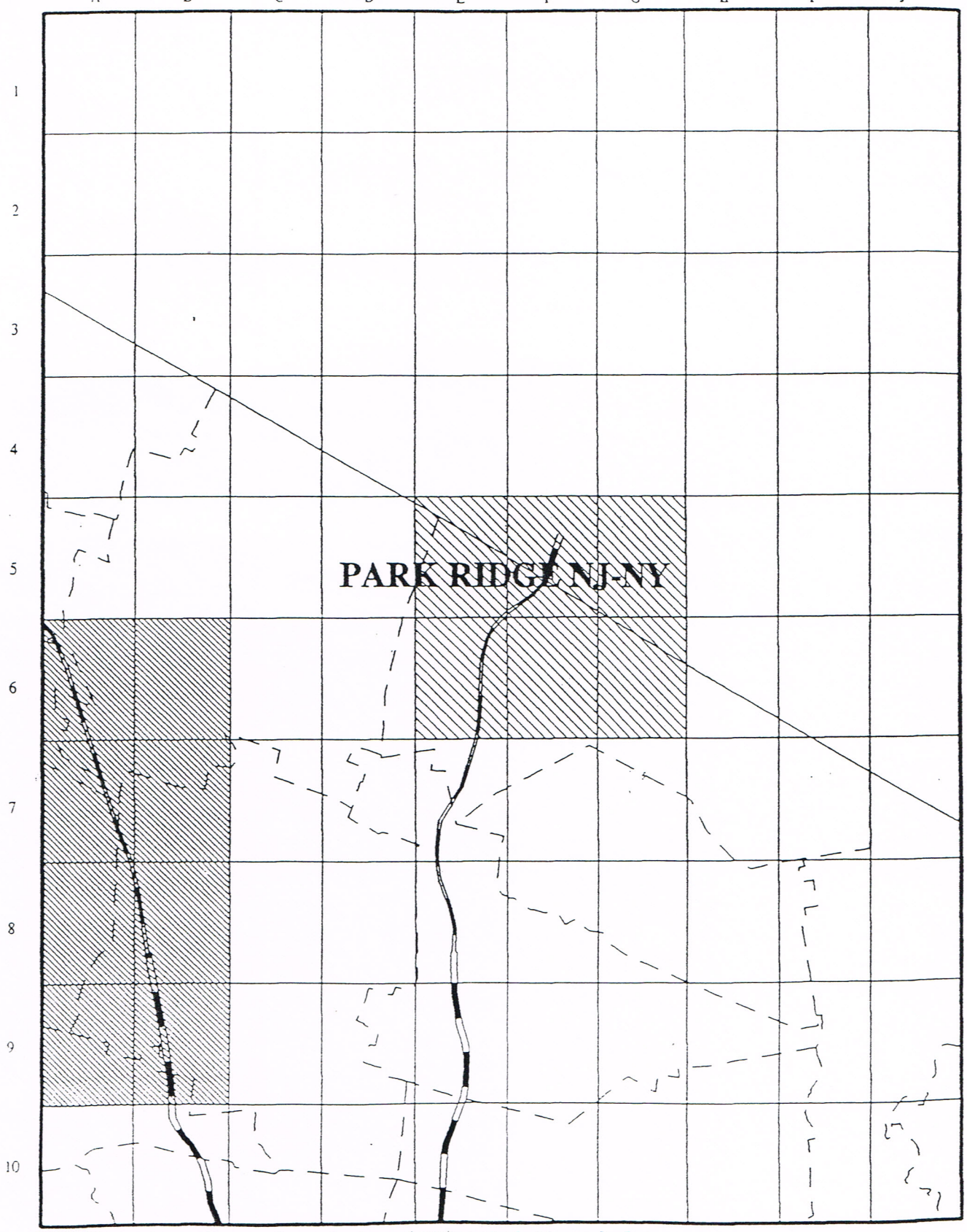
Generalized Locations for Rare and Endangered Elements of Natural Diversity

Documented Location Known Precisely

Documented Location Known Within 1.5 Miles

Major Roads

Municipalities



NOTE: This is not a complete map of rare and endangered species habitat for this area. It reflects data on known occurrences compiled as of the above date. It includes both historically and recently documented habitat. Additional occurrences may be found on unsurveyed habitat. For more information, contact the Office of Natural Lands Management, CN 404, Trenton, NJ 08625.

APRIL 1998

Updated semiannually

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
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Generalized Natural Heritage Index Map

Generalized Locations for Rare and Endangered Elements of Natural Diversity

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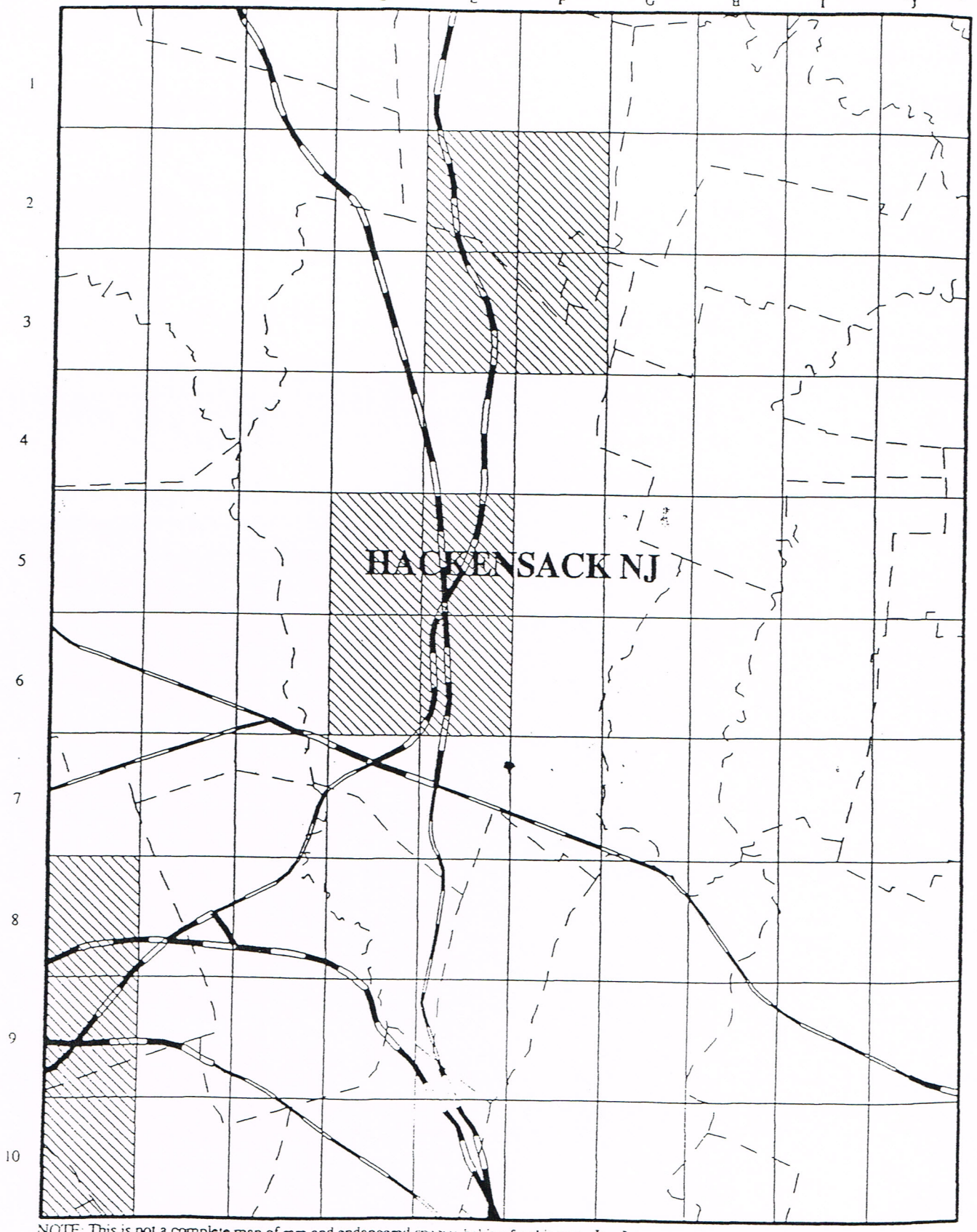

NOTE: This is not a complete map of rare and endangered species habitat for this area. It reflects data on known occurrences compiled as of the above date. It includes both historically and recently documented habitat. Additional occurrences may be found on undeveloped habitat. For more

APRIL 1998

Updated semiannually

EXPLANATIONS OF CODES USED IN NATURAL HERITAGE REPORTS

FEDERAL STATUS CODES

The following U.S. Fish and Wildlife Service categories and their definitions of endangered and threatened plants and animals have been modified from the U.S. Fish and Wildlife Service (F.R. Vol. 50 No. 188, Vol. 61, No. 40; F.R. 50 CFR Part 17). Federal Status codes reported for species follow the most recent listing.

LE	Taxa formally listed as endangered.
LT	Taxa formally listed as threatened.
PE	Taxa already proposed to be formally listed as endangered.
PT	Taxa already proposed to be formally listed as threatened.
C	Taxa for which the Service currently has on file sufficient information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species.
S/A	Similarity of appearance species.

STATE STATUS CODES

Two animal lists provide state status codes after the Endangered and Nongame Species Conservation Act of 1973 (NSSA 23:2A-13 et. seq.): the list of endangered species (N.J.A.C. 7:25-4.13) and the list defining status of indigenous, nongame wildlife species of New Jersey (N.J.A.C. 7:25-4.17(a)). The status of animal species is determined by the Nongame and Endangered Species Program (ENSP). The state status codes and definitions provided reflect the most recent lists that were revised in the New Jersey Register, Monday, June 3, 1991.

D	Declining species-a species which has exhibited a continued decline in population numbers over the years.
E	Endangered species-an endangered species is one whose prospects for survival within the state are in immediate danger due to one or many factors - a loss of habitat, over exploitation, predation, competition, disease. An endangered species requires immediate assistance or extinction will probably follow.
EX	Extirpated species-a species that formerly occurred in New Jersey, but is not now known to exist within the state.
I	Introduced species-a species not native to New Jersey that could not have established itself here without the assistance of man.
INC	Increasing species-a species whose population has exhibited a significant increase, beyond the normal range of its life cycle, over a long-term period.
T	Threatened species-a species that may become endangered if conditions surrounding the species begin to or continue to deteriorate.
P	Peripheral species-a species whose occurrence in New Jersey is at the extreme edge of its present natural range.
S	Stable species-a species whose population is not undergoing any long-term increase/decrease within its natural cycle.
U	Undetermined species-a species about which there is not enough information available to determine the status.

Status for animals separated by a slash(/) indicate a duel status. First status refers to the state breeding population, and the second status refers to the migratory or winter population.

S2 Imperiled in New Jersey because of rarity (6 to 20 occurrences). Historically many of these elements may have been more frequent but are now known from very few extant occurrences, primarily because of habitat destruction. Diligent searching may yield additional occurrences.

S3 Rare in state with 21 to 100 occurrences (plant species in this category have only 21 to 50 occurrences). Includes elements which are widely distributed in the state but with small populations/acreage or elements with restricted distribution, but locally abundant. Not yet imperiled in state but may soon be if current trends continue. Searching often yields additional occurrences.

S4 Apparently secure in state, with many occurrences.

S5 Demonstrably secure in state and essentially ineradicable under present conditions.

SA Accidental in state, including species (usually birds or butterflies) recorded once or twice or only at very great intervals, hundreds or even thousands of miles outside their usual range; a few of these species may even have bred on the one or two occasions they were recorded; examples include European strays or western birds on the East Coast and vice-versa.

SE Elements that are clearly exotic in New Jersey including those taxa not native to North America (introduced taxa) or taxa deliberately or accidentally introduced into the State from other parts of North America (adventive taxa). Taxa ranked SE are not a conservation priority (viable introduced occurrences of G1 or G2 elements may be exceptions).

SH Elements of historical occurrence in New Jersey. Despite some searching of historical occurrences and/or potential habitat, no extant occurrences are known. Since not all of the historical occurrences have been field surveyed, and unsearched potential habitat remains, historically ranked taxa are considered possibly extant, and remain a conservation priority for continued field work.

SP Element has potential to occur in New Jersey, but no occurrences have been reported.

SR Elements reported from New Jersey, but without persuasive documentation which would provide a basis for either accepting or rejecting the report. In some instances documentation may exist, but as of yet, its source or location has not been determined.

SRF Elements erroneously reported from New Jersey, but this error persists in the literature.

SU Elements believed to be in peril but the degree of rarity uncertain. Also included are rare taxa of uncertain taxonomical standing. More information is needed to resolve rank.

SX Elements that have been determined or are presumed to be extirpated from New Jersey. All historical occurrences have been searched and a reasonable search of potential habitat has been completed. Extirpated taxa are not a current conservation priority.

SXC Elements presumed extirpated from New Jersey, but native populations collected from the wild exist in cultivation.

SZ Not of practical conservation concern in New Jersey, because there are no definable occurrences, although the taxon is native and appears regularly in the state. An SZ rank will generally be used for long distance migrants whose occurrences during their migrations are too irregular (in terms of repeated visitation to the same locations), transitory, and dispersed to be reliably identified, mapped and protected. In other words, the migrant regularly passes through the state, but enduring, mappable element occurrences cannot be defined.

Typically, the SZ rank applies to a non-breeding population (N) in the state - for example, birds on migration. An SZ rank may in a few instances also apply to a breeding population (B), for example certain lepidoptera which regularly die out every year with no significant return migration.

BERGEN COUNTY

RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN

THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
Vertebrates						
ACCIPITER COOPERII	COOPER'S HAWK		T/T		G5	S3B,S4N
AMMODRAMUS SAVANNARUM	GRASSHOPPER SPARROW		T/S		G5	S2B
ASIO OTUS	LONG-EARED OWL		T/T		G5	S2B,S2N
BARTRAMIA LONGICAUDA	UPLAND SANDPIPER		E		G5	S1B
BUTEO LINEATUS	RED-SHOULDERED HAWK		E/T		G5	S1B,S2N
CIRCUS CYANEUS	NORTHERN HARRIER		E/U		G5	S1B,S3N
CISTOTHORUS PLATENSIS	SEDGE WREN		E		G5	S1B
CLEMMYS INSCULPTA	WOOD TURTLE		T		G4	S3
CLEMMYS MUHLENBERGII	BOG TURTLE	LT	E		G3	S2
CROTALUS HORRIDUS HORRIDUS	TIMBER RATTLESNAKE		E		G4T4	S2
EUMECES FASCIATUS	FIVE-LINED SKINK		U		G5	S3
FALCO PEREGRINUS	PEREGRINE FALCON		E		G4	S1B,S2N
FULICA AMERICANA	AMERICAN COOT		D		G5	S1B
IXOBRYCHUS EXILIS	LEAST BITTERN		D/S		G5	S3B
MELANERPES ERYTHROCEPHALUS	RED-HEADED WOODPECKER		T/T		G5	S2B,S2N
NEOTOMA MAGISTER	ALLEGHENY WOODRAT		E		G3G4	S1
NYCTANASSA VIOLACEA	YELLOW-CROWNED NIGHT-HERON		T/T		G5	S2B
PASSERCULUS SANDWICHENSIS	SAVANNAH SPARROW		T/T		G5	S2B,S4N
PODILYMBUS PODICEPS	PIED-BILLED GREBE		E/S		G5	S1B,S3N
POOECETES GRAMINEUS	VESPER SPARROW		E		G5	S1B,S2N
STERNA ANTILLARUM	LEAST TERN		E		G4	S1B
STRIX VARIA	BARRED OWL		T/T		G5	S3B
Invertebrates						
AESHNA CLEPSYDRA	MOTTLED DARNER				G4	S2S3
AESHNA TUBERCULIFERA	BLACK-TIPPED DARNER				G4	S1S2
ALASMIDONTA HETERODON	DWARF WEDGEMUSSEL	LE	E		G1G2	S1
ALASMIDONTA UNDULATA	TRIANGLE FLOATER				G4	S3
AMBLYSCIRTES HEGON	PEPPER AND SALT SKIPPER				G5	S1S2

BERGEN COUNTY

RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN

THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
AMMANNIA LATIFOLIA	KOEHN'S TOOTHCUP		E		G5	S1
ANEMONE CANADENSIS	CANADA ANEMONE				G5	SX
APLECTRUM HYEMALE	PUTTYROOT		E		G5	S1
ARABIS HIRSUTA VAR PYCNOCARPA	WESTERN HAIRY ROCKCRESS				G5T5	S2
ASCLEPIAS VERTICILLATA	WHORLED MILKWEED				G5	S2
ATHYRIUM PYCNOCARPON	GLADE FERN		E		G5	S1
BOTRYCHIUM ONEIDENSE	BLUNT-LOBE GRAPE FERN				G4Q	S2
BOUTELOUA CURTIPENDULA	SIDE-OATS GRAMA GRASS		E		G5T5	S1
CALLITRICHE PALUSTRIS	MARSH WATER-STARWORT				G5	S2
CAREX DISPERMA	SOFT-LEAF SEDGE				G5	S1
CAREX HAYDENII	CLOUD SEDGE		E		G5	S1
CAREX PSEUDOCYPERUS	CYPERUS-LIKE SEDGE		E		G5	S1
CAREX TUCKERMANII	TUCKERMAN'S SEDGE		E		G4	S1
CAREX UTRICULATA	BOTTLE-SHAPED SEDGE				G5	S2
CASTILLEJA COCCINEA	SCARLET INDIAN-PAINTBRUSH				G5	S2
CERCIS CANADENSIS	REDBUD		E		G5T5	S1
CHENOPODIUM SIMPLEX	MAPLE-LEAF GOOSEFOOT				G5	S2
CORALLORHIZA WISTERIANA	SPRING CORALROOT				G5	SX
COREOPSIS ROSEA	ROSE-COLOR COREOPSIS			LP	G3	S2
CRATAEGUS CHRYSOCARPA VAR CHRYSOCARPA	FIREBERRY HAWTHORN				G5T?	S1
CRYPTOGRAMMA STELLERI	SLENDER ROCKBRAKE		E		G5	SH
CYPRIPEDIUM REGINAE	SHOWY LADY'S-SLIPPER		E		G4	S1
DIRCA PALUSTRIS	LEATHERWOOD				G4	S2
DOELLINGERIA INFIRMA	CORNEL-LEAF ASTER				G5	S2
DRYOPTERIS CELSA	LOG FERN				G4	SX
EQUISETUM PRATENSE	MEADOW HORSETAIL		E		G5	S1
ERIOPHORUM GRACILE	SLENDER COTTON-GRASS		E		G5T?	SH
GNAPHALIUM MACOUNII	WINGED CUDWEED		E		G5	SH
HEMICARPHA MICRANTHA	SMALL-FLOWER HALFCHAFF SEDGE		E		G4	S1

APPENDIX D

RESOLUTION

WHEREAS, N.J.S.A. 40:55D-28 of the Municipal Land Use Law requires a planning board prepare and, after the public hearing, adopt or amend a Master Plan or component parts thereof to guide the use of lands within the municipality in a manner which protects public health and safety and promotes the general welfare, and,

WHEREAS, this Planning Board historically has studied, examined and surveyed the past policies and objectives relating to land development in the Borough in light of the objectives, requirements and planning principles established by the Municipal Land Use Law, and,

WHEREAS, the Planning Board over the years and following public hearings has adopted updated Master Plans and re-examination of Master Plans and Development Regulations for this municipality as evidenced by Resolutions dated March 21, 1978, March 20, 1984, July 28, 1988, March 20, 1990, December 17, 1996, and lastly on September 28, 1999, and,

WHEREAS, the provisions of N.J.S.A. 40:55D-89 of the Municipal Land Use Law requires that a municipality shall conduct a general re-examination of its Master Plan and Development Regulations at least every six years, and,

WHEREAS, the Planning Board during the previous 18 months last past has conducted an examination of its Master Plan and Development Regulations in accordance with the provisions of the aforementioned statutes and now is desirous of adopting a report on the determinations of such examination,

WHEREAS, the Planning Board conducted a further examination of its Master Plan and Development Regulations in accordance with the provisions of N.J.S.A. 40:55D-89, and after notice given in accordance with the law, on March 2[illegible], 2003 and December 1, 2003 conducted public hearings concerning the adoption of a report on the findings of such an examination, and

WHEREAS, as the result of the action, hearings and examinations hereinabove described the Planning Board is desirous of adopting a report declaring the final determinations, conclusions and recommendations of the Board,

NOW, THEREFORE, BE IT RESOLVED, that the Planning Board of the Borough of Hillsdale hereby adopts the report attached hereto entitled "2003 Master Plan, Borough of Hillsdale, Bergen County, New Jersey" dated February 2003 and revised through December 16, 2003, as the Master Plan for this municipality effective as of the date of passage of this Resolution,

BE IT FURTHER RESOLVED that a brief notice of this Resolution be published in a newspaper of general circulation in the Borough of Hillsdale and that copies be forwarded to the Mayor and Council, the Bergen County Planning Board and the Borough Clerks of all adjoining municipalities and all other persons and/or agencies entitled to receive notice of this action.

PLANNING BOARD OF BOROUGH OF HILLSDALE

By: _____
Jason DeGise, Chairperson

DATED: December 16, 2003

Introduced by: M. DeAngelo

Seconded by: K. Fuchs

Ayes: K. Fuchs, M. DeAngelo, G. Carter, L. Thalmann, J. DeGise, K. Rush, D. Chapman

Nays:

MASTER PLAN AMENDMENT

Borough of Hillsdale
Bergen County, New Jersey

Prepared by:

C.P. Statile, P.A.

Consulting Engineers & Planners

3 Fir Court • Oakland, NJ 07436

Adopted: May 30, 2006

Caroline Z. Reiter, P.P, AICP
NJ Professional Planner #5343

We recommend including the following revisions to the Borough of Hillsdale 2003 Master Plan.

Goals & Objectives

Add a new Land Use Plan goal as follows:

- Encourage the adoption of an ordinance permitting single-family detached age-restricted housing as a conditional use in the R-2 Residential zone.

Land Use Plan Element

Add new recommendations in the Land Use Plan with the following text:

Age-Restricted Housing

The Municipal Land Use Law includes the encouragement of senior citizen housing as a purpose of zoning. The Borough currently has one senior citizen, or age-restricted, development known as the Hillsdale House. The Hillsdale House is located in the SC zone and provides affordable age-restricted housing in a 100 unit multi-family development.

Senior citizen housing is housing designed for and occupied by households where at least one member is a minimum of 55 or 62 years of age. Another adult household member that is under the required age limit is also permitted, as well as an adult required for physical and/or medical care. The age-restricted development may include facilities and/or services for its residents.

Age-restricted housing is an important community need. In general, individuals are living longer due to medical advances and lifestyle changes. The 2000 census data shows that almost 25 percent of the Borough of Hillsdale's 10,087 residents are of sufficient age for residency in a 55 year of age or older development.

An age-restricted development allows the senior population members to remain in their community, close to family and friends, at a time when they may no longer want or need to remain in their original homes. An age-restricted, single-family detached development provides seniors the opportunity to move to a detached home without property maintenance responsibilities.

It is appropriate to provide a variety of housing within a community. The Hillsdale Zoning Ordinance currently does not provide for age-restricted single-family detached development. To fill this void, the Land Use Plan recommends the governing body adopt an ordinance permitting age-restricted single-family detached housing as a permitted conditional use in the R-2 Residential zone.

The ordinance should include certain parameters, as follows:

- All housing units shall be single-family detached dwellings.
- The required minimum tract area shall be eight contiguous acres.
- A portion of the total tract shall be set aside for passive or active recreation.
- The age-restricted housing shall include a required association that will be responsible for, at a minimum, property maintenance tasks.
- The ordinance shall include bulk regulations for, at a minimum, lot area, building height, building coverage, floor area ratio and setbacks. The ordinance shall contain a required landscape buffer that will surround the age-restricted housing development.
- Hillsdale is an almost fully developed community with established neighborhoods. The required landscape buffer will help to screen the age-restricted housing from adjacent existing development. The bulk standards for age-restricted housing should be designed to reflect existing bulks standards within the Borough while allowing for appropriate design.

Mixed Use Development in the Commercial Zones

There are properties within the Commercial zones that are developed with mixed uses. Typically, the primary use on the main level is a permitted commercial use above which is located a residential apartment. The Borough should undertake an analysis of these areas to address the question of mixed uses within the Commercial zones. In March 2006 the Borough Planning Board approved an application for a mixed-use development in the Commercial zone, recognizing its potential benefits for Hillsdale.

RESOLUTION
HILLSDALE PLANNING BOARD

OFFERED BY:

SECONDED BY:

at a regular meeting of the Hillsdale Planning Board held on Tuesday, May 30, 2006

WHEREAS, the Planning Board of the Borough of Hillsdale adopted a Master Plan dated February, 2003 revised to December 16, 2003; and

WHEREAS, the Planning Board desires to amend its Land Use Plan Element of the Master Plan to provide for age-restricted housing as a conditional use in the R-2 Residential zone.

WHEREAS, the Planning Board has reviewed the proposed Amendment to the Master Plan dated May, 2006 prepared by Christopher P. Statile, PA (the "Amendment"); and

WHEREAS, the Planning Board of the Borough of Hillsdale held a public hearing on this date concerning the Amendment to the Master Plan of the Borough of Hillsdale; and

WHEREAS, the Planning Board has carefully considered any and all comments made by members of the public at said hearing; and

WHEREAS, the Planning Board has determined that the Amendment to the Master Plan attached hereto represents a proper change in the focus of zoning and planning in the referenced area and serves a purpose under the Municipal Land Use Law.

NOW, THEREFORE, be it resolved that the Master Plan of the Borough of Hillsdale be amended to include the Amendment to the Land Use Plan Element attached hereto..

BE IT FURTHER RESOLVED, that a copy of this Resolution be filed with the Bergen County Planning Board.

Vote Recorded as follows;
FOR: Duetsch, ~~Saparara~~, Franklin, DeGise, Volek, Garra, Fuchs, O'Reilly and Fixelle

AGAINST: ~~None~~
ADOPTED: May 30, 2006

I hereby certify that the foregoing is a true copy of a Resolution adopted by the Planning Board of the Borough of Hillsdale, New Jersey on May 30, 2006.

Jason DeGise, Planning Board Chairman
Secretary

S:\FNS Hillsdale General\Resolution Amendment to Master Plan.doc

MASTER PLAN AMENDMENT

Borough of Hillsdale
Bergen County, New Jersey

AMENDMENT TO UTILITY PLAN OF MASTER PLAN

Prepared by:
C.P. STATILE, P.A.
Consulting Engineers & Planners
3 Fir Court • Oakland, NJ 07436

June 2008
Adopted July 2, 2008

Caroline Z. Reiter, P.P, AICP
NJ Professional Planner #5343

Borough of Hillsdale

Municipal Stormwater Management Plan

October 2005

Borough of Hillsdale
380 Hillsdale Avenue
Hillsdale, NJ 07642

Prepared By:

Christopher P. Statile, P.E.
Borough Engineer

C. P. STATILE, P.A.
Professional Engineers & Planners
3 Fir Court
Oakland, NJ 07437
201-337-7470
cpstatile@aol.com

UTILITY ELEMENT AMENDMENT

Page U4, immediately before the section labeled, "Recommendations" add the following:

Stormwater Management Plan

The Borough of Hillsdale prepared a Stormwater Management Plan pursuant to N.J.S.A. 40:55D-93. The Municipal Stormwater Management Plan addresses the strategy for the Borough of Hillsdale to address stormwater-related impacts. The plan contains all of the required elements described in N.J.A.C. 7:8 Stormwater Management Rules. The plan addresses groundwater recharge, stormwater quantity, and stormwater quality impacts by incorporating stormwater design and performance standards for new major development, defined as projects that disturb one or more acre of land. These standards are intended to minimize the adverse impact of stormwater runoff on water quality and water quantity and the loss of groundwater recharge that provides base flow in receiving water bodies.

The Borough's Municipal Stormwater Management Plan prepared by C.P. Statile, PA, dated October 2005 is included as part of the Utility Element pursuant to N.J.S.A. 40:55D-28b(5). The Stormwater Management Plan follows in this appendix, and therefore, is an integral part of the Borough of Hillsdale Master Plan as required by N.J.S.A. 40:55D-94.

CHRISTOPHER P. STATILE, P.A.

PROFESSIONAL ENGINEERS
CONSULTING ENGINEERS

CPSTATILE@AOL.COM

3 FIR COURT
OAKLAND, NJ 07436
(201) 337-7470
FAX: (201) 337-7599

NEW YORK, NY

November 17, 2005

Peter Kortright, Director of Master Planning
Department of Planning & Economic Development
One Bergen County Plaza
4th Floor
Hackensack, NJ 07601-7076

Regarding: **Stormwater Management Plan – Borough of Hillsdale**

Dear Mr. Kortright:

Pursuant to the Borough's Authorization to Discharge – Tier A Municipal Stormwater General Permit, we enclose four copies of the revised Municipal Stormwater Management Plan (MSWMP) for the Borough of Hillsdale. The plan has been revised in accordance with your comments listed as *Insufficient* as noted in your letter of June 20, 2005.

Please feel free to contact us with any questions. Thank you for your continued assistance.

Very truly yours,

C. P. STATILE, P.A.

Christopher P. Statile

Christopher P. Statile, P.E.
President

lsn

enclosure
CPS/lsn
c: Harold Karns, Borough Administrator
1120143

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List of Exhibits in Appendix

Exhibit 1: Borough Boundary on USGS Quadrangles
Exhibit 2: Waterbodies, Floodplains and Watershed Map
Exhibit 3: Well Head Protection Areas
Exhibit 4: Existing Land Use
Exhibit 5: Proposed land Use
Exhibit 6: Freshwater Wetlands Map
Exhibit 7: Model Stormwater Control Ordinance

Introduction

This Municipal Stormwater Management Plan (MSWMP) lays out the strategy for the Borough of Hillsdale to address stormwater-related impacts. The creation of this plan is required by N.J.A.C. 7:14A-25 of the Municipal Stormwater Regulations and the "Authorization to Discharge – Tier A Municipal Stormwater General Permit" issued to the Borough and all the communities throughout the State by the New Jersey Department of Environmental Protection effective April 1, 2004.

This plan contains all of the required elements described in N.J.A.C. 7:8 Stormwater Management Rules. The plan addresses groundwater recharge, stormwater quantity, and stormwater quality impacts by incorporating stormwater design and performance standards for new major development, defined as projects that disturb one or more acre of land. These standards are intended to minimize the adverse impact of stormwater runoff on water quality and water quantity and the loss of groundwater recharge that provides base flow in receiving water bodies.

The Plan describes long-term operation and maintenance measures for existing and future stormwater facilities. A "build-out" analysis was not required based upon existing zoning and land available for development. The plan also addresses the review and update of existing ordinances, the Borough Master Plan, and other planning documents to allow for project designs that include low impact development techniques.

The final component of this plan is a mitigation strategy for when a variance or exemption of the design and performance standards is sought. As part of the mitigation section of the stormwater plan, specific stormwater management measures are identified to lessen the impact of existing development.

Background

The Borough of Hillsdale is an almost fully developed suburban community in Bergen County that is comprised of 2.90 square miles all within the PA-1, Metropolitan Planning Area (See Exhibit 1 - Borough Boundary on USGS Quadrangles).

The Borough borders seven municipalities: Woodcliff Lake Borough, Park Ridge Borough, River Vale Township, Borough of Westwood, Washington Township, Ho-Ho-Kus Borough and the Borough of Saddle River. Hillsdale is characterized by an established commercial downtown center located around the Hillsdale train station.

Hillsdale's current population exceeds 10,000 residents. The dominant land use is residential, with over 70 percent of the Borough comprised of single-family dwellings. It has less than 640 acres (1 square mile) of vacant lands with public or exempt properties comprising almost

15 percent of the Borough's acreage, and commercial uses comprise over seven percent of Borough properties. **Less than five percent or about 90 acres of the Borough consists of vacant land.** The Borough contains 9.2 miles of County roads, and 44.4 miles of municipal streets. The NJ TRANSIT Pascack Valley Rail Line bisects the Borough from north to south providing commuter rail service.

As shown in the following table, Hillsdale's 2000 census population was 10,087 persons. This is a 337 person or 3.5 percent increase from the 1990 population of 9,750. The 1970 census showed the largest Borough population of 11,768 people. According to the 2000 census the Borough has 3,550 households. (See Exhibits 4 & 5 – Existing and Proposed Land Use Maps).

Table 1
Borough of Hillsdale Population & Households
1900 – 2000

Year	*Population*	*Households*
1900	891	N.A.
1910	1,072	N.A.
1920	1,720	N.A.
1930	2,959	N.A.
1940	3,438	N.A.
1950	4,127	N.A.
1960	8,734	2,388
1970	11,768	3,149
1980	10,495	3,222
1990	9,750	3,326
2000	10,087	3,502

Source: Bergen County Data Book, 2003

Hillsdale is broken down into two Watershed Management Areas (WMAs). WMA4 which flows to the Saddle and Passaic Rivers is found along the extreme western edge of the Borough just west of Craig Road. The balance of the Borough is located within WMA5 which flows to the Hackensack River (see Exhibit 2).

The entire Borough is served by municipally-owned sanitary sewers; there are no individual homeowner septic systems in the Borough. Sanitary sewers are metered and discharged into the Bergen County Utility Authority BCUA trunk lines at five locations.

The entire Borough is served by a potable water supply under a franchise agreement with the United Water Company of NJ, formerly Hackensack Water Company.

All of the Borough's waterways are located within Watershed Management Area 5 (WMA5) (see Exhibit 2). The major waterways in Hillsdale are as follows:

- **Woodcliff Lake Reservoir (FW2-NT(C1)[1], HUC 02030103170010)**, which is located in both Hillsdale and Woodcliff Lake, is impounded by an earthen dam with a cement core. Bascule gates control the water surface elevation and storage volume. The Hillsdale portion of the reservoir is located north of Church Road and west of Reservoir Road. The Reservoir is owned and operated by United Water, NJ, and flows to the Oradell Reservoir, several miles to the south.

- **Musquapsink Brook**, **(FW2-NT(C1), HUC 02030103170010)**, which traverses from north to south and is located east of the Garden State Parkway and west of Pascack Road. The Brook flows into Washington Township.

- **Pascack Brook**, **(FW2-NT(C1), HUC 02030103170010)**, which generally traverses in a north to southeast direction from the Woodcliff Lake Reservoir to the Westwood Borough border. This Brook has the greatest potential for flooding, and is often the cause of property damage in the Glenbrook Park section of the Borough below Hillsdale Avenue. Flow in the Brook channel is generally controlled by the automatic bascule gates impounding the reservoir. Because of its limited channel capacity, the Brook is subject to rapid changes in the water surface profile caused by the operation of the gates during storm events. The gates are closely monitored during floods by the local emergency management officials.

- **Hillsdale Brook (FW2-NT(C1), HUC 02030103170030)**,, which is located generally within the Glen Dale County Park, flowing southeasterly into River Vale Township.

- **Holdrum Brook, (FW2-NT(C1), HUC 02030103170030)**, runs southerly along the extreme eastern boundary of the Borough, generally through the golf course and senior citizens housing complex.

Freshwater wetlands are found throughout the Borough (See Exhibit 6).

The New Jersey Department of Environmental Protection (NJDEP) has established an Ambient Biomonitoring Network (AMNET) to document the health of the state's waterways. There are over 800 AMNET sites throughout the state of New Jersey. These sites are sampled for benthic macroinvertebrates by NJDEP on a five-year cycle. Streams are classified as non-impaired, moderately impaired, or severely impaired based on the AMNET data. The data is

[1] Freshwater 1, Non-Trout Production, Category 1 Waters of the State

used to generate a New Jersey Impairment Score (NJIS), which is based on a number of biometrics related to benthic macroinvertebrate community dynamics.

Watershed Management Area 5 (WMA5) includes eight AMNET sites in the Hackensack River watershed. The sampling shows that 25% of the sites were non-impaired; the majority of the sites (62.5%) were found to be moderately impaired, and the remaining sites (12.5%) were severely impaired. Based on a 1993 survey of similar sampling sites, a significant improvement was apparent at two sites while no sites exhibited a decline in impairment rating. Positive changes in scoring are exhibited in the current data relative to the 1993 data. Although the percentage of moderately impaired sites remains constant, the percentage of non-impaired sites has doubled while the proportion of severely impaired sites is reduced by half.

Of the Borough's five waterways listed above, only the Musquapsink Brook was classified as "Moderately Impaired," while the Pascack Brook was classified as "Non-Impaired" (the other brooks in the Borough were not sampled by the State). The Musquapsink Brook sampling location, however, was five miles southeast of the Borough boundary with Washington Township, immediately above the Pascack Brook gauging station in Westwood Borough.

This means that the Musquapsink Brook is an impaired waterway and the NJDEP is required to develop a Total Maximum Daily Load (TMDL) for pollutants for this brook A TMDL is the amount of a pollutant that can be accepted by a waterbody without exceeding water quality standards or interfering with the ability to use a waterbody for one or more of its designated uses. The allowable load is allocated to the various sources of the pollutant, such as stormwater and wastewater discharges, which require an New Jersey Pollutant Discharge Elimination System (NJPDES) permit to discharge, and nonpoint source, which includes stormwater runoff from agricultural areas and residential areas, along with a margin of safety. Provisions may also be made for future sources in the form of reserve capacity. An implementation plan is developed to identify how the various sources will be reduced to the designated allocations. Implementation strategies may include improved stormwater treatment plants, adoption of ordinances, reforestation of stream corridors, retrofitting stormwater systems, and other Best Management Practices (BMP's).

The New Jersey Integrated Water Quality Monitoring and Assessment Report (305(b) and 303(d)) (Integrated List) is required by the federal Clean Water Act to be prepared biennially and is a valuable source of water quality information. This combined report presents the extent to which New Jersey waters are attaining water quality standards, and identifies waters that are impaired. Sublist 5 of the Integrated List constitutes the list of waters impaired or threatened by pollutants, for which one or more TMDLs are needed.

All waterways in the Borough are designated as Category One (C1) Waters of the State primarily due to their influence on the public water supply system. These waters are designated by the State for the purposes of implementing anti-degradation policies set forth in N.J.A.C. 7:9B-1.5(d), for protection from measurable water quality characteristics because of their: clarity, color, scenic setting, other characteristics of aesthetic values, exceptional ecological significance, exceptional resource significance, exceptional water supply significance, or exceptional fisheries resources. None of the waterways are classified as either trout production or trout maintenance waters. All waterways have portions which are delineated with 100-year floodplains/flood hazard areas by the State. None of the waterways are on the New Jersey Integrated Water Quality Monitoring and Assessment report (305(b) and 303(d)) (Integrated List). The Borough's wellhead protection areas are shown on Exhibit 3.

The Borough has no formal groundwater assessment. There is a limited number of groundwater monitoring wells located within the Borough. The Borough maintains four groundwater monitoring wells at Centennial Field, which was the Borough's sanitary landfill until 1987. Due to good water quality drawn from these wells, the New Jersey Department of Environmental Protection is permitting the Borough to reduce the frequency of groundwater testing.

The Borough is also aware of several sites where groundwater monitoring is being undertaken due to hazardous discharges to groundwater. These commercial properties are located at or near: #60 Broadway, #145 Broadway, #137 Broadway, and #377- #389 Washington Avenue. Results of these tests are not provided to the Borough but reported to the New Jersey Department of Environmental Protection. Other properties in the Borough may also be under investigation.

Goals

The goals of the Borough's MSWMP are to:

1. Reduce flooding damage, including damage to life and property.

2. Minimize, to the maximum extent practical, any increase in stormwater runoff from any new development.

3. Reduce soil erosion from any development or construction project.

4. Assure the adequacy of existing and proposed culverts and bridges and other in-stream structures.

5. Maintain groundwater recharge.

6. Prevent, as much as possible, an increase in nonpoint source pollution.

7. Maintain the integrity of stream channels for their biological functions, as well as for drainage.

8. Minimize pollutants in stormwater runoff from new and existing development to restore, enhance and maintain the chemical, physical and biological integrity of the waters of the state, to protect public health, to safeguard fish and aquatic life and scenic and ecological values and to enhance the domestic, municipal, recreational, industrial and other uses of water.

9. Protect public safety through the proper design and operation of stormwater management facilities.

To achieve these goals, this plan outlines specific stormwater design and performance standards for new development. Preventative and corrective maintenance strategies are included in the plan to ensure long-term effectiveness of stormwater management facilities. The plan also outlines safety standards for stormwater infrastructure to be implemented to protect public safety.

Borough's Efforts in Achieving Its Goals

1. Reduce flooding damage, including damage to life and property.

   The Borough sustained hundreds of thousands of dollars of damage during Tropical Storm Floyd, wherein the Federal Emergency Management Agency provided assistance to both private property owners and the Borough.

   In 2001, the Borough convened its Open Space Committee to prioritize a rational plan for future acquisition of lands. The Committee regarded lands along flood prone areas as its top priority and recommended the establishment of an Open Space Trust Fund implemented by the Borough.

   In subsequent applications to the County, the Borough has received funding to purchase properties along brooks and streams where flooding has caused the greatest property damage. These include:

   - Old Tandy and Allen Tract **3.5 acres floodplain & wetlands** (1982)
   - 12 Building Lots from County of Bergen in **floodplain** (1992)
   - New Tandy & Allen Tract, approx. **9 acres wetlands** (2002).
   - Walsky Tract, **8.7 acres floodplain and floodway** (2003)
   - Weinberger Tract, **floodplain and wetlands** (2003)

- McSpirit, Block 1106, Lots 34, 35, 36, 37, **0.82 acres floodway** (2002).
- F.E.M.A. funded (2001):
  Block 1106, Lot 23, **0.25 acres floodplain**
  Block 1111, Lot 6, **0.12 acres floodplain**
  Block 1108, Lot 2, **0.24 acres floodplain**
- Berdais, Block 1108, Lot 1**, 0.58 acres floodplain & floodway** (1999)

In 2005, the Borough applied for funds to purchase three properties along the Pascack Brook with two properties containing portions of the regulatory floodway. All properties acquired have the potential for development.

The Borough also has obtained permits in the past from the New Jersey Department of Environmental Protection for the cleaning and de-snagging of its various brooks on a seven-year cycle. Utilizing the assistance of the Bergen County Mosquito Extermination Commission, snags, debris, fallen trees, silt accumulation and other obstructions to flow have been removed thereby enhancing the hydraulic capacity of the brooks. The work is closely monitored to ensure that small stone dams are retained to pool water for fish production and maintenance. A permit was just issued in 2005 for this work.

2. Minimize, to the maximum extent practical, any increase in stormwater runoff from any new development.

   The combined Borough Planning/Zoning Board ensures compliance with the Resident Site Improvement Standards (RSIS) for residential development, and the Soil Conservation Service requirements for commercial sites. It also enforces the current Stormwater Management Rules promulgated by the State in February 2002. Implementation of these various standards has reduced surface runoff and total suspended solids (TSS) from new developments.

3. Reduce soil erosion from any development or construction project.

   All projects approved by the Planning/Zoning Board with greater than 5,000 SF of disturbance are required to obtain Bergen County Soil Conservation Service Plan Certification. Projects of lesser disturbance or which do not receive Plan Certification none-the-less require Plot Plan and Soil Movement Permit reviews by the Borough Engineer. These type developments as well as infrastructure construction by the Borough are required to implement similar erosion controls under the current Hillsdale Land Use Ordinance.

4. Assure the adequacy of existing and proposed culverts and bridges and other in-stream structures.

Using the expertise of its Borough Engineer, the Borough has designed and administered the replacement of four major bridges and culverts over the Pascack Brook in the past decade with Bergen County funding. These were: the Hillsdale Avenue Bridge (65 ft. span), Broadway Bridge (65 ft. span), Fairview Avenue Bridge (65 ft. span), and the culvert under NJ TRANSIT railroad (18 ft. single cell).

Currently the Borough Engineer is undertaking the design and permit acquisition of another bridge over the Pascack Brook at Patterson Street with a roadway re-alignment. The Borough Engineer is also designing the replacement of the Hillsdale Avenue culvert at the Township Brook where flooding has plagued the neighborhood. Under current New Jersey Department of Environmental Protection regulations, the surface water profile of the various brooks cannot be changed via these replacements using accepted HECII or HECRAS software modeling.

5. Maintain groundwater recharge.

All development applications, plot plan, and soil movement permit applications, since 1975 have required to some extent groundwater recharge through the use of seepage pits, dry detention ponds, infiltration trenches, and bioretention ponds. Under the current New Jersey Department of Environmental Protection stormwater management rules, groundwater recharge is required to match pre-development recharge using the worksheet software provided by the State.

In numerous areas of the Borough, groundwater recharge has been deemed unacceptable due to the presence of high seasonal groundwater, flooded basements, or proximity to wetlands. These areas are generally found along stream corridors, in proximity to the Garden State Parkway, and several other neighborhoods.

6. Prevent, as much as possible, an increase in nonpoint source pollution.

The Borough maintains a pro-active approach to keeping its streets, parks, and public facilities in a clean and safe condition. Street sweeping is conducted daily on the 54 miles of local and county roads, all inlets in the Borough are cleared at least once per calendar year using shared equipment with adjacent municipalities. Deicing salt and grit storage is contained within a structure to reduce runoff, and all public works equipment is maintained within a closed garage.

Grit is swept from the streets as soon as weather conditions permit after snow storm events. The Borough's Code Compliance Department is diligent in ensuring that refuse trucks traveling along designated truck routes to the local transfer station are issued summons for spillage of leachate or trash which could enter the storm drainage system.

The Borough also closed their solid waste landfill in 2001, and converted the 12-acre landfill into a recreation facility. The closure included a leachate collection system tied into the B.C.U.A. sanitary sewer system, and has a passive methane ventilation system. Groundwater monitoring and surface water sampling is conducted each quarter, and reported to the New Jersey Department of Environmental Protection.

The Borough enforces the 300 ft. buffer requirements for all of its C1 water designations. Enforcement is though the Planning/Zoning Board development application process and through the Construction Code Department oversight.

The Borough previously enacted wildlife feeding ordinances to prevent attracting waterfowl.

7. Maintain the integrity of stream channels for their biological functions, as well as for drainage.

   The Borough undertakes stream cleaning and desnagging on a seven year cycle with Bergen County Mosquito Extermination Commission. During this process, the Borough inspects all the waterways for their integrity, erosion damage, potential liabilities, litter accumulation, vegetation quality, and performance of the numerous outlet structures. Existing low check dams used to provide pools for fish maintenance are retained. These stone and rubble dams are constructed by volunteers from the community in order to enhance the health of the stream corridors.

8. Minimize pollutants in stormwater runoff from new and existing development to restore, enhance and maintain the chemical, physical and biological integrity of the waters of the state, to protect public health, to safeguard fish and aquatic life and scenic and ecological values and to enhance the domestic, municipal, recreational, industrial and other uses of water.

   The Borough has long recognized the environmental benefits of proper stormwater management techniques to reduce biological degradation of the local streams and brooks because of the Borough's recreational use of these local waterways and the fact that they all are part of the regional water supply (Oradell) system.

   Currently the Hillsdale Planning Board encourages developers to use non-structural stormwater management practices outlined in Chapter 2 "Low Impact Development Techniques" of the New Jersey Department of Environmental Protection "New Jersey Stormwater Best Management Manual." Where these practices cannot be reasonably employed, the Board requires the use of the methods outlined in Chapter 9 "Structural Stormwater Management Measures" of the Manual. When the opportunity arises with land use applications, the Board attempts to improve existing site conditions when new construction is proposed on older, existing sties.

The Borough's code compliance office is also diligent in enforcing the maintenance and operation of stormwater management devices when violations occur, particularly in the commercial and industrial zoning districts.

9. Protect public safety through the proper design and operation of stormwater management facilities.

   The Borough has been plagued by flooding primarily caused by the Pascack Brook, whose flow is controlled by the outfall from the Woodcliff Lake Dam. The municipalities of Hillsdale and Westwood have had a long history of working with United Water, NJ in the operation of the dam. The three parties reached an informal agreement several years ago to lower the reservoir surface 5 ft. during non-summer or low demand periods, thus providing some stormwater storage to buffer and attenuate storm events.

   The Borough's emergency management staff has also assisted the water purveyor during anticipated flood events in the operations of the bascule outfall gates, overriding the automatic operation to react more precisely to ongoing hydrological conditions.

Stormwater Discussion

Land development can dramatically alter the hydrologic cycle (See Figure C-1) of a site and, ultimately, an entire watershed. Prior to development, native vegetation can either directly intercept precipitation or draw that portion that has infiltrated into the ground and return it to the atmosphere through evapotranspiration. Development can remove this beneficial vegetation and replace it with lawn or impervious cover, reducing the site's evapotranspiration and infiltration rates. Clearing and grading a site can remove depressions that store rainfall.

Construction activities may also compact the soil and diminish its infiltration ability, resulting in increased volumes and rates of stormwater runoff from the site.

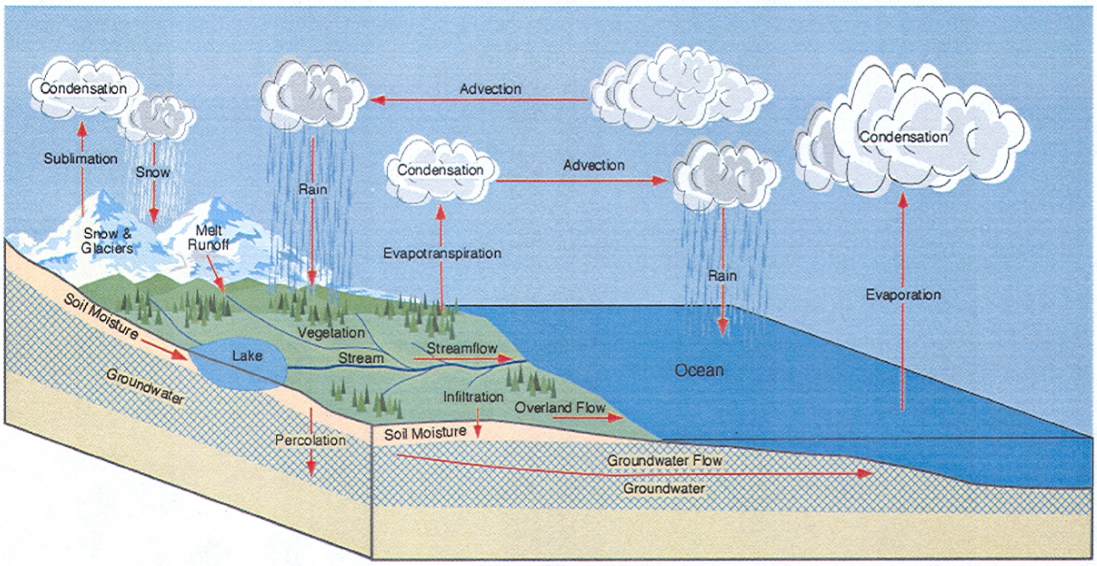


Figure C-1
Groundwater Recharge in the Hydrologic Cycle

Impervious areas that are connected to each other through gutters, channels, and storm sewers can transport runoff more quickly than natural areas. This shortening of the transport or travel time quickens the rainfall-runoff response of the drainage area, causing flow in downstream waterways to peak faster and higher than natural conditions. These increases can create new and aggravate existing downstream flooding and erosion problems and increase the quantity of sediment in the channel. Filtration of runoff and removal of pollutants by surface and channel vegetation is eliminated by storm sewers that discharge runoff directly into a stream.

Increases in impervious area can also decrease opportunities for infiltration which, in turn, reduces stream base flow and groundwater recharge. Reduced base flows and increased peak flows produce greater fluctuations between normal and storm flow rates, which can increase channel erosion. Reduced base flows can also negatively impact the hydrology of adjacent wetlands and the health of biological communities that depend on base flows. Finally, erosion and sedimentation can destroy habitat from which some species cannot adapt.

In addition to increases in runoff peaks, volumes, and loss of groundwater recharge, land development often results in the accumulation of pollutants on the land surface that runoff can mobilize and transport to streams. New impervious surfaces and cleared areas created by development can accumulate a variety of pollutants from the atmosphere, fertilizers, animal wastes, and leakage and wear from vehicles. Pollutants can include metals, suspended solids, hydrocarbons, pathogens, and nutrients. In addition to increased pollutant loading, land development can adversely affect water quality and stream biota in more subtle ways. For

example, stormwater falling on impervious surfaces or stored in detention or retention basins can become heated and raise the temperature of the downstream waterway, adversely affecting cold water fish species such as trout. Development can remove trees along stream banks that normally provide shading, stabilization, and leaf litter that falls into streams and becomes food for the aquatic community.

Design and Performance Standards

The Borough will adopt the design and performance standards for stormwater management measures as presented in N.J.A.C. 7:8-5 to minimize the adverse impact of stormwater runoff on water quality and water quantity and loss of groundwater recharge in receiving water bodies.

The design and performance standards will include the language for maintenance of stormwater management measures consistent with the stormwater management rules at N.J.A.C. 7:8-5.8 Maintenance Requirements, and language for safety standards consistent with N.J.A.C. 7:8-6 Safety Standards for Stormwater Management Basins. The ordinances will be submitted to Bergen County for review and approval within 24 months of the effective date of the Stormwater Management Rules. During construction, Borough officials will observe the construction of the project to ensure that the stormwater management measures are constructed and function as designed.

Failure to comply with the design and performance standards will result in revocation of building permits, soil movement permits, and Planning/Zoning Board approvals if applicable, under the same stipulation of typical land use controls.

Long term operation and maintenance measures for existing and future stormwater facilities by the Hillsdale Department of Public Works include:

1. Annual inspections of storm drain outfalls for erosion, storm drain integrity, and child entry protection.
2. Annual storm drain inspections, vacuum cleaning, repair, and labeling.
3. Installation of storm drain inlet heads for floatable controls with capital improvement and resurfacing projects.
4. Annual inspection of detention/retention ponds and structures for serviceability.
5. Maintenance of road deicing chemical and grit storage to prevent runoff.
6. Cleaning of wet ponds, ponds, and detention structures.
7. Stream cleaning and de-snagging of debris.
8. Public outreach programs.

The Borough will adopt the necessary ordinance by resolution, under Article XXX “Penalties of Land Use Ordinance”, penalties for non-compliance of long-term operation and maintenance of Best Management Practices.

Plan Consistency

The Borough is not within a Regional Stormwater Management Planning Area (RSWMP) and no TMDLs have been developed for waters within the Borough; therefore this plan does not need to be consistent with any regional stormwater management plans (RSWMPs), nor any TMDLs. If any RSWMPs or TMDLs are developed in the future, this Municipal Stormwater Management Plan will be updated to be consistent. The Municipal Stormwater Management Plan is consistent with the Residential Site Improvement Standards (RSIS) at N.J.A.C. 5:21. Bergen County is currently creating a County Stormwater Management Plan that should be complete in 2005. The MSWMP will be updated as necessary to be consistent with the County Stormwater Management Plan.

The Borough will utilize the most current update of the RSIS in the stormwater management review of residential areas. This Municipal Stormwater Management Plan will be updated to be consistent with any future updates of the RSIS. The Borough's Stormwater Management Ordinance requires all new development and redevelopment plans to comply with New Jersey's Soil Erosion and Sediment Control Standards. During construction, Borough officials enforce on-site soil erosion and sediment control measures and report any inconsistencies to the local Soil Conservation District.

Nonstructural Stormwater Management Strategies

The Borough recently updated their Master Plan in 2002 and is currently updating the zoning ordinance consistent with the Plan recommendations. The Master Plan and Land Use Ordinance were reviewed, and a list developed of the sections that could be modified to incorporate nonstructural stormwater management strategies. Below is listed several ordinances identified for consideration by the Borough for future revision. Once the ordinance texts are completed, they will be submitted to Bergen County for review and approval within 24 months of the effective date of the Stormwater Management Rules. A copy will be sent to the Department of Environmental Protection at the time of submission.

Chapter 310 of the Hillsdale Code, entitled "Land Use" was reviewed to incorporate nonstructural stormwater management strategies. Several changes will be made to Article XXVI entitled "Site Plan Design Standards" to incorporate these strategies.

Changes to the ordinance may include changing the **vegetated buffer** areas to require the use of native vegetation, which requires less fertilization and watering than non-native species. Additionally, language may include allowing buffer areas to be used for stormwater management by disconnecting impervious surfaces and treating runoff from these impervious surfaces.

The Borough currently does not have **cluster development provisions** to provide for a cluster development option to preserve lands for public and agricultural purposes, to prevent development on environmentally sensitive areas, and as an aid in reducing the cost of providing streets, utilities and services in New Jersey residential developments. Such an ordinance may be appropriate for the golf course lands in the northeast area of the Borough which are currently being rezoned. A cluster option is an excellent tool for reducing impervious roads and driveways. The option allows for smaller lots with smaller front and side yard setbacks than traditional development options. It also minimizes the disturbance of large tracts of land, which is a key nonstructural stormwater management strategy. This type ordinance could provide for the use of native vegetation, which requires less fertilization and watering than non-native ornamental plants. Although most development options require public concrete sidewalks to be installed along all streets, paths in open space could be mulched or stone to decrease the impervious area.

Curbs and gutters are generally required of concrete curb and gutter, concrete curb, or Belgian block curb be installed along every street within and fronting on a development. These requirements could be amended to allow for curb cuts or flush curbs with curb stops to allow vegetated swales to be used for stormwater conveyance and to allow the disconnection of impervious areas.

Watercourses and Flood Hazard Areas require that all streets be provided with inlets and pipes where the same are necessary for proper drainage. This section could be amended to encourage the used of natural vegetated swales in lieu of inlets and pipes.

Paved driveways and accessways are required for construction of any new driveway or accessway to any street. The Borough has enacted a new Impervious Coverage requirement of 30% maximum for any lot in the Borough. This ordinance encourages the use of more pervious pavements and pathways by allowing a 50% discount in coverage for pervious paving materials to minimize stormwater runoff and promote groundwater recharge.

The land use ordinance requires that **natural features**, such as trees, brooks, swamps, hilltops, and views, be preserved whenever possible, and that care be taken to preserve selected trees to enhance soil stability and landscaped treatment of the area. This section could be amended to expand trees to forested areas, to ensure that leaf litter and other beneficial aspects of the forest are maintained in addition to the trees.

Homeowners must mitigate the impact of the additional **impervious surfaces** unless the stormwater management plan for the development provides for these increases in impervious surfaces. This mitigation effort must also address water quality, flooding, and groundwater recharge as described in **Chapter 310**. A detailed description of how to develop a mitigation plan will be provided in the land use ordinance.

Language could be added to **Article XXVIII** "Off-Tract Improvements" to require that any off-site and off-tract stormwater management and drainage improvements must conform to the "Design and Performance Standards" described in this plan and provided in Chapter 310.

Under **Article XVI** "Parking regulations" parking lots are required to have concrete or Belgian block curbing around the perimeter of the parking and loading areas. This section also requires that concrete curbs be installed around all landscaped areas within the parking lot or loading areas. This section can be amended to allow for flush curb with curb stop, or curbing with curb cuts to encourage developers to allow for the discharge of impervious areas into landscaped areas for stormwater management. Also, supplemental language could be added to allow for use of natural vegetated swales for the water quality design storm, with overflow for larger storm events into storm sewers. This section also provides guidance on minimum parking space requirements. These requirements are based on the number of dwelling units and/or gross floor area. The section allows a developer to demonstrate that fewer spaces would be required, provided area is set aside for additional spaces if necessary. This section could also be amended to allow pervious paving to be used in areas to provide overflow parking, vertical parking structures, smaller parking stalls, and shared parking.

The Borough has a **shade trees replacement ordinance at Section 310-133** which requires a minimum of two shade trees be planted for each one removed, plus outlines penalties for any additional trees removed that were not approved by the Planning/Zoning Board. This ordinance recognizes that the preservation of mature trees and forested areas is a key strategy in the management of environmental resources, particularly watershed management, air quality, and ambient heating and cooling. This section provides a realistic clearing limit for development, and generally complies with minimizing land disturbance, which is a nonstructural stormwater management strategy. These sections could be amended to require the identification of forested areas, and that a specific percentage of forested areas are protected from disturbance.

Sidewalk construction is a requirement of the R.S.I.S. Although sidewalks are not always required along all streets, the Borough does require them in areas where the probable volume of pedestrian traffic, the development's location in relation to other populated areas and high vehicular traffic, pedestrian access to bus stops, schools, parks, and other public places, and the general type of improvement intended indicate the advisability of providing a pedestrian way. Sidewalks are to be a minimum of four feet wide and constructed of durable materials. Language could be added to this section to require developers to design sidewalks to discharge

stormwater to neighboring lawns where feasible to disconnect these impervious surfaces, or use permeable paving materials where appropriate.

Soil erosion and sediment control measures are generally addressed in major developments by the County Soil Conversation District and under **Chapter 248** "Soil Movement." This ordinance requires developers to comply with the New Jersey Soil Erosion and Sediment Control Standards and outlines some general design principles, including: whenever possible, retain and protect natural vegetation; minimize and retain water runoff to facilitate groundwater recharge; and, install diversions, sediment basins, and similar required structures prior to any on-site grading or disturbance.

Stormwater management is addressed under **Sections 310-67 & 102** of the Site Plan Ordinance. These sections will be updated to include all requirements outlined in N.J.A.C. 7:8-5. These changes were presented earlier in this document.

Street hierarchy is provided in the R.S.I.S. which describes the requirements for streets in all municipalities. **Street paving widths** are a function of the number of units served, whether a street is curbed, whether on-street parking is permitted, whether the interior streets serve lots of two acres or larger, and whether onsite topographical constraints allow design flexibility. Depending on these factors, paving width for secondary local streets has a range from 20 to 30 feet. The Borough encourages developers to limit on-street parking to allow for narrower paved widths. This section also required that cul-de-sacs have a minimum radius of 50 feet. The reviewing Board could allow the reduction in the minimum radius of cul-de-sac designs on an application by application basis.

Changes were enacted in 2004 to **Article XII** of the Borough Code entitled "Zones Established" wherein the Borough has several types of residential districts. Each district now has a maximum of 30 percent **impervious surface** allocation and a Floor Area Ratio which varies by district to control the bulk of dwellings. The Borough also has two non-residential districts: commercial and industrial which do not have a maximum percent impervious surface allocation. These zones could be amended to provide a maximum limit, and amended to remind developers that satisfying the percent impervious requirements does not relieve them of responsibility for complying with other design and performance standards for stormwater management contained in other sections of the ordinance.

Also, if a developer is given a variance to exceed the maximum allowable percent imperviousness, the Board requires the developer must mitigate the impact of the additional impervious surfaces. This mitigation effort must address water quality, flooding, and groundwater recharge as described in Site Plan Ordinance. An overview description of how to develop a mitigation plan is included in this Municipal Stormwater Management Plan.

Land Use/Build-Out Analysis

The Borough does not have sufficient undeveloped areas to require a Land Use/Build Out Analysis because there is less than 640 developable acres (one square mile) of vacant lands remaining. (See discussion under "Background" and Exhibits 4 & 5).

Well Head Protection Areas

Only one, small Tier 1 Well Head Protection Area designated by the State is located within the Borough (Exhibit 3). This area is limited to the vacant, wooded lands immediately below the Woodcliff Lake Dam which are owned by the Untied Water Company. These lands do not have the potential for development.

Mitigation Plans

A mitigation plan is required to grant a variance or exemption from the design and performance standards of the municipal stormwater management plan. Although not anticipated at this time, the Borough's mitigation requirements could offer a hierarchy of options to clearly offset the effect on groundwater recharge, stormwater quantity control, and/or stormwater quality control that was created by granting the variance or exemption.

This suggested mitigation plan is provided such that a proposed development could be granted a variance or exemption from the stormwater management design and performance standards. Below is a hierarchy of potential options.

Mitigation Project Criteria

1. The mitigation project must be implemented in the same drainage area as the proposed development. The project must provide additional groundwater recharge benefits, or protection from stormwater runoff quality and quantity from previously developed property that does not currently meet the design and performance standards outlined in this Municipal Stormwater Management Plan. The developer must ensure the long-term maintenance of the project, including the maintenance requirements under Chapters 8 and 9 of the NJDEP Stormwater BMP Manual.

   The applicant can select one of the following suggested projects listed to compensate for the deficit from the performance standards resulting from the proposed project. More specific and detailed information on suggested projects can be obtained from the Borough Engineer subject to the governing body's approval.

   Below are project examples that can be used to address the mitigation requirement.

Groundwater Recharge Enhancements

a. Permit the retrofitting of existing detention basins or subsurface seepage pits to provide additional storage for annual groundwater recharge.

b. Replace existing deteriorated impervious parking areas at municipal/governmental complexes (West Parking Lot, East Parking Lot, Borough Hall, recreation fields) with permeable paving to provide additional groundwater recharge.

Water Quality Enhancements

c. Retrofit existing municipal stormwater management facilities to provide the removal of 80 percent of total suspended solids from the parking lot runoff using structured or non-structured devices or methods. These projects could include the municipal swimming pool complex, the five commuter/merchant parking lots, and the various parks.

d. Install stormwater management measures in available open space areas to reduce the peak flow from the upstream development on the receiving stream for the 2, 10, and 100-year storms. This could include the various municipal and county parks.

e. The planting of native trees and/or vegetation within the Borough's right-of-way, or various parks.

2. If suitable sites cannot be located in the same drainage area as the proposed development, as discussed above, a mitigation project might provide mitigation that is not equivalent to the impacts for which the variance or exemption is sought, but that addresses the same issue. For example, if a variance is given because the 80 percent TSS requirement is not met, the selected project may address water quality impacts due to a fecal impairment. Listed below are specific projects that could address this mitigation option.

Water Quality

a. Re-establish a vegetative buffer (say 50 foot wide) along the shoreline at Forest Drive Pond as a goose control measure and to filter stormwater runoff from the high goose traffic areas.

b. Provide goose management measures, including public education at local parks and the annual fishing contest held in April.

c. Incorporate seepage pits, infiltration trenches, and bioretention ponds in existing public parking areas at the schools, the Borough recreations areas, and the commuter

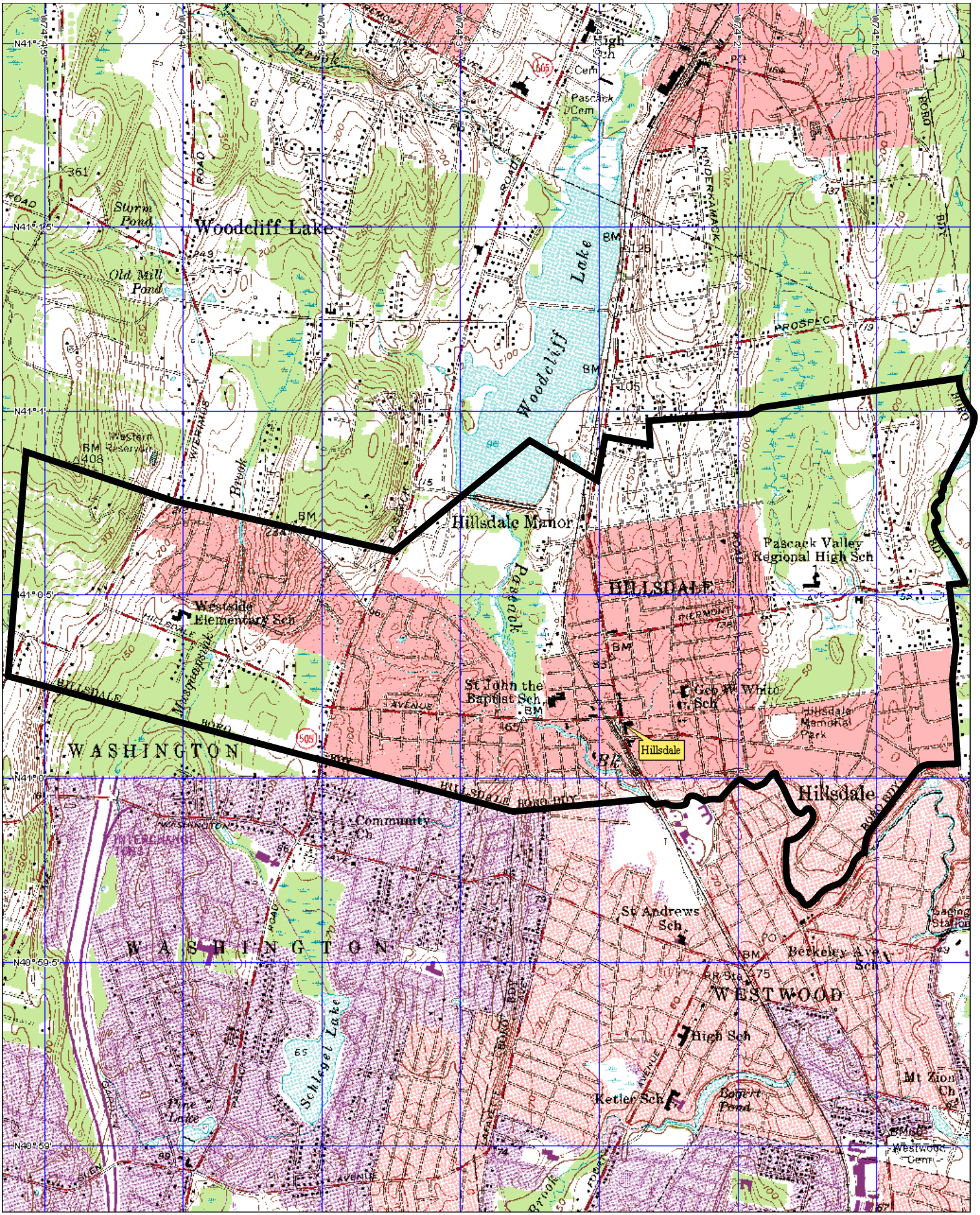
parking areas. Other off-tract improvements could include new curbing to prevent roadside erosion, inlet conversions with floatable guards, and storm drain pipe outlet protection.

d. The Borough Engineer and/or Planning Board should maintain a current list of mitigation projects for consideration by developers and the Board during land use applications.

Working with the local Environmental Commission and Open Space Committee, the Borough can also establish a list of environmental enhancement projects to provide groundwater recharge, control flooding, or control nonpoint source pollution, with sufficient information on each project, including size of the project, permit requirements, land ownership, and estimated project costs (i.e., permitting fees, engineering costs, construction costs, and maintenance costs) to permit a mitigation plan to be undertaken by a developer.

The Borough may allow developers to fund or partially fund the Borough to undertake earmarked environmental enhancement projects that have been identified in this Municipal Stormwater Management Plan, or towards the development of a Regional Stormwater Management Plan. The funding shall be equal to or greater than the cost to implement the mitigation outlined above, including costs associated with purchasing the property or easement for mitigation, and the cost associated with the long-term maintenance requirements of the mitigation measure.

Exhibit 1
Borough Boundary on USGS Quadrangles



3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS

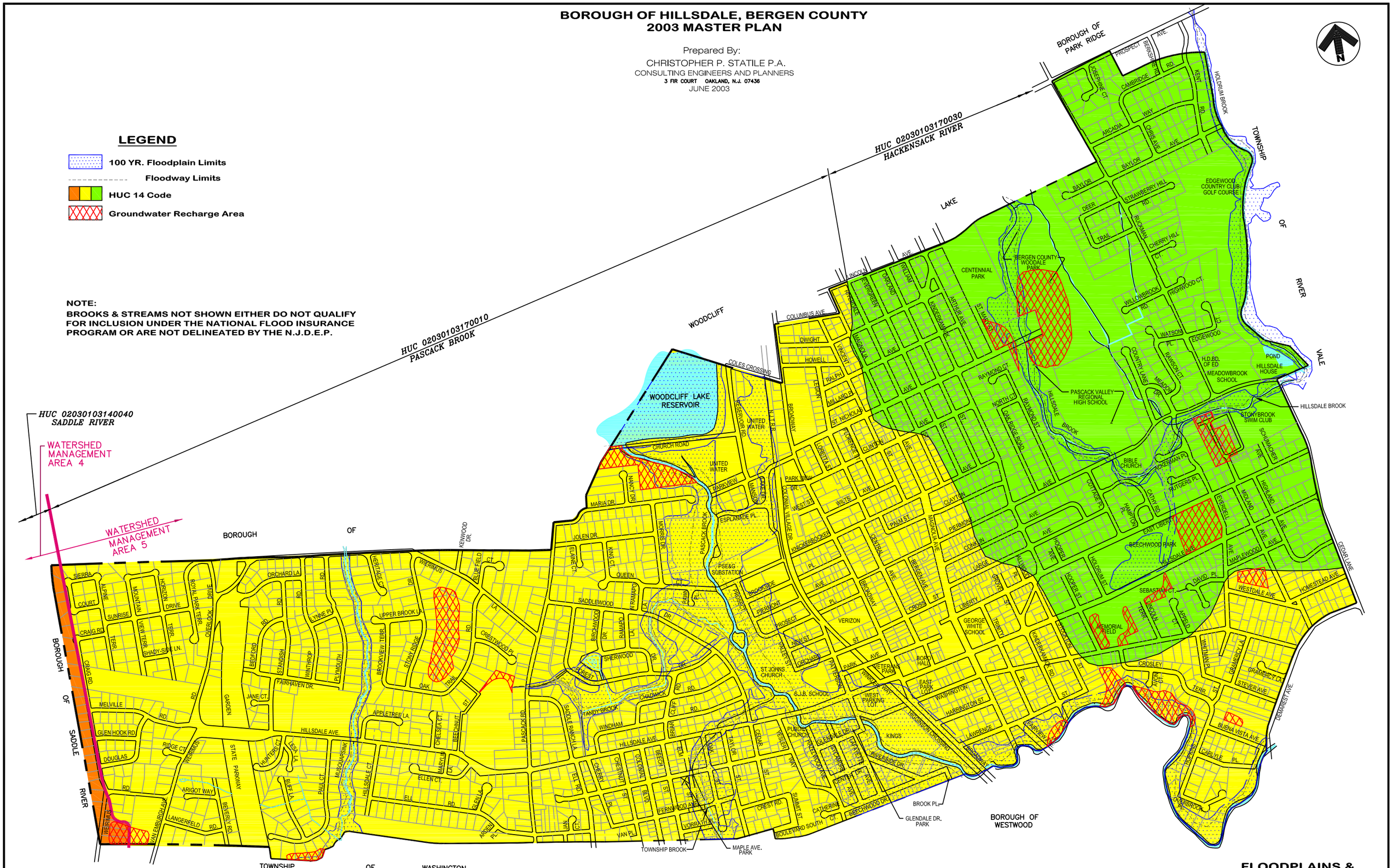
750 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84

Exhibit 2
Waterbodies, Floodplains, & Watershed Map

BOROUGH OF HILLSDALE, BERGEN COUNTY
2003 MASTER PLAN

Prepared By:
CHRISTOPHER P. STATILE P.A.
CONSULTING ENGINEERS AND PLANNERS
3 FIR COURT OAKLAND, N.J. 07436

JUNE 2003

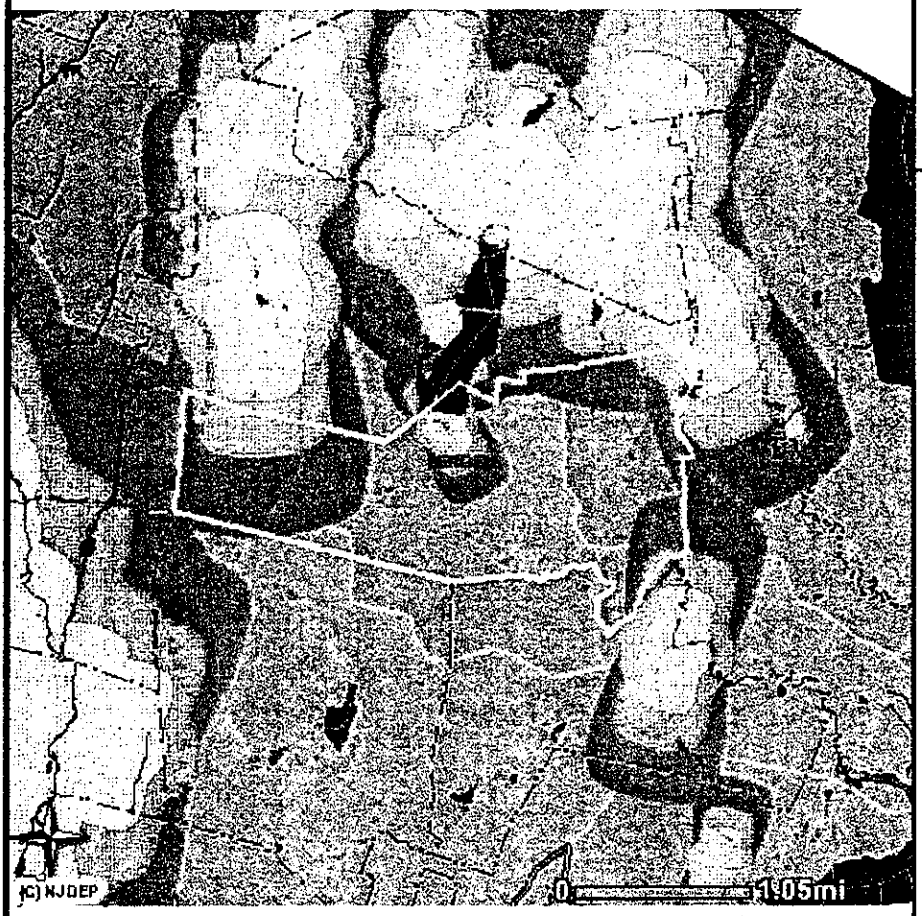


SOURCES: F.E.M.A. INSURANCE RATE MAPS, SEPT. 20, 1995 & NEW JERSEY DIVISION OF WATERSHED MANAGEMENT

FLOODPLAINS & WATERSHED MAP

Exhibit 3
Well Head Protection Areas

New Jersey Map



Selected Features

- Municipalities
- Counties
- Category One Waters
- Streams
- Water Bodies
- Well Head Protection Areas
  - Tier 1: 2-Year
  - Tier 2: 6-Year
  - Tier 3: 12-Year
- Sub-Watersheds (HUC14)
- Watersheds by Name (HUC11)
- New Jersey

Exhibit 4
Existing Land Use

BOROUGH OF HILLSDALE, BERGEN COUNTY
2003 MASTER PLAN

Prepared By:

CHRISTOPHER P. STATILE P.A.

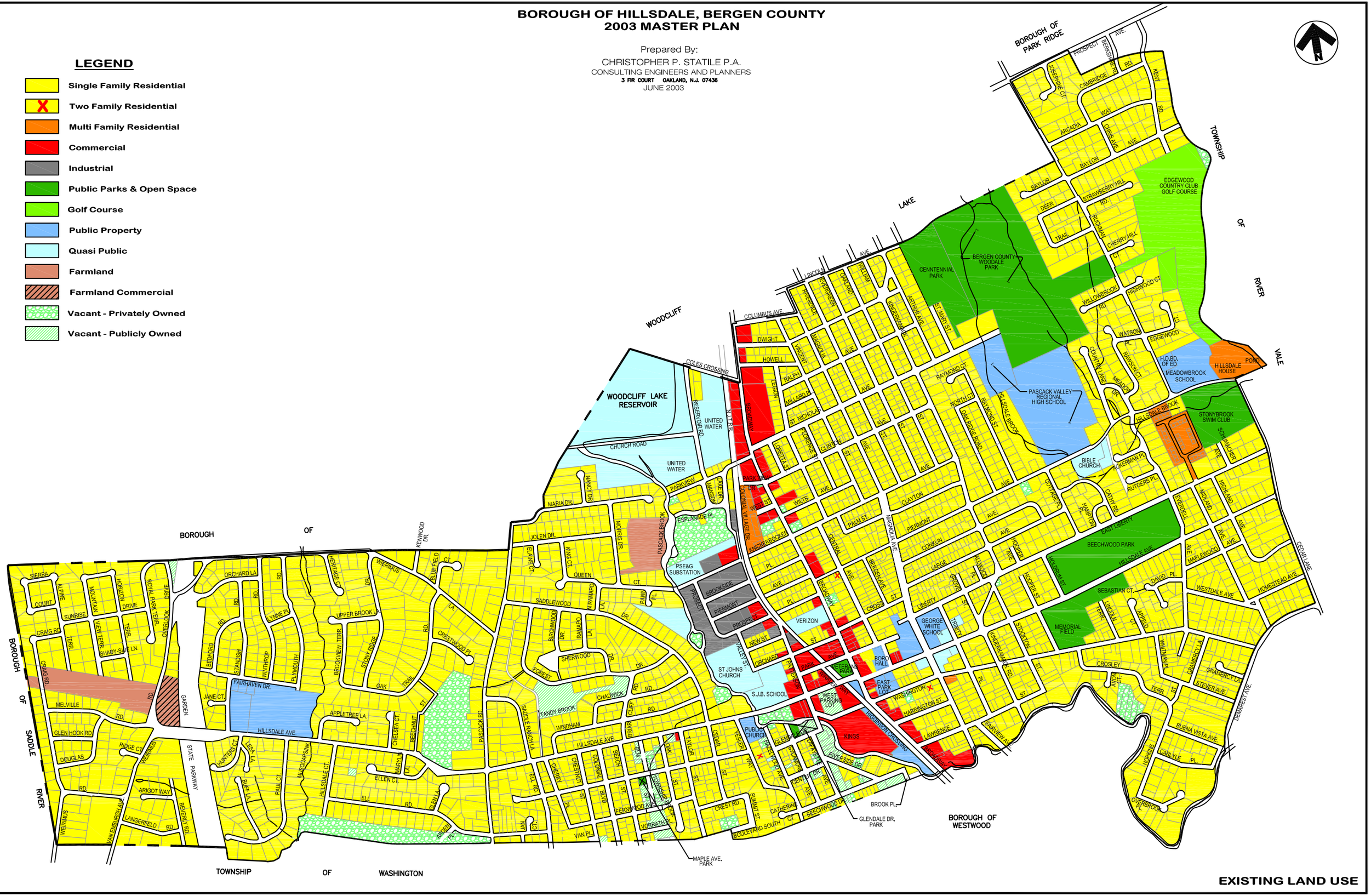
CONSULTING ENGINEERS AND PLANNERS

3 FIR COURT OAKLAND, N.J. 07436

JUNE 2003

LEGEND

- Single Family Residential
- Two Family Residential
- Multi Family Residential
- Commercial
- Industrial
- Public Parks & Open Space
- Golf Course
- Public Property
- Quasi Public
- Farmland
- Farmland Commercial
- Vacant - Privately Owned
- Vacant - Publicly Owned



EXISTING LAND USE

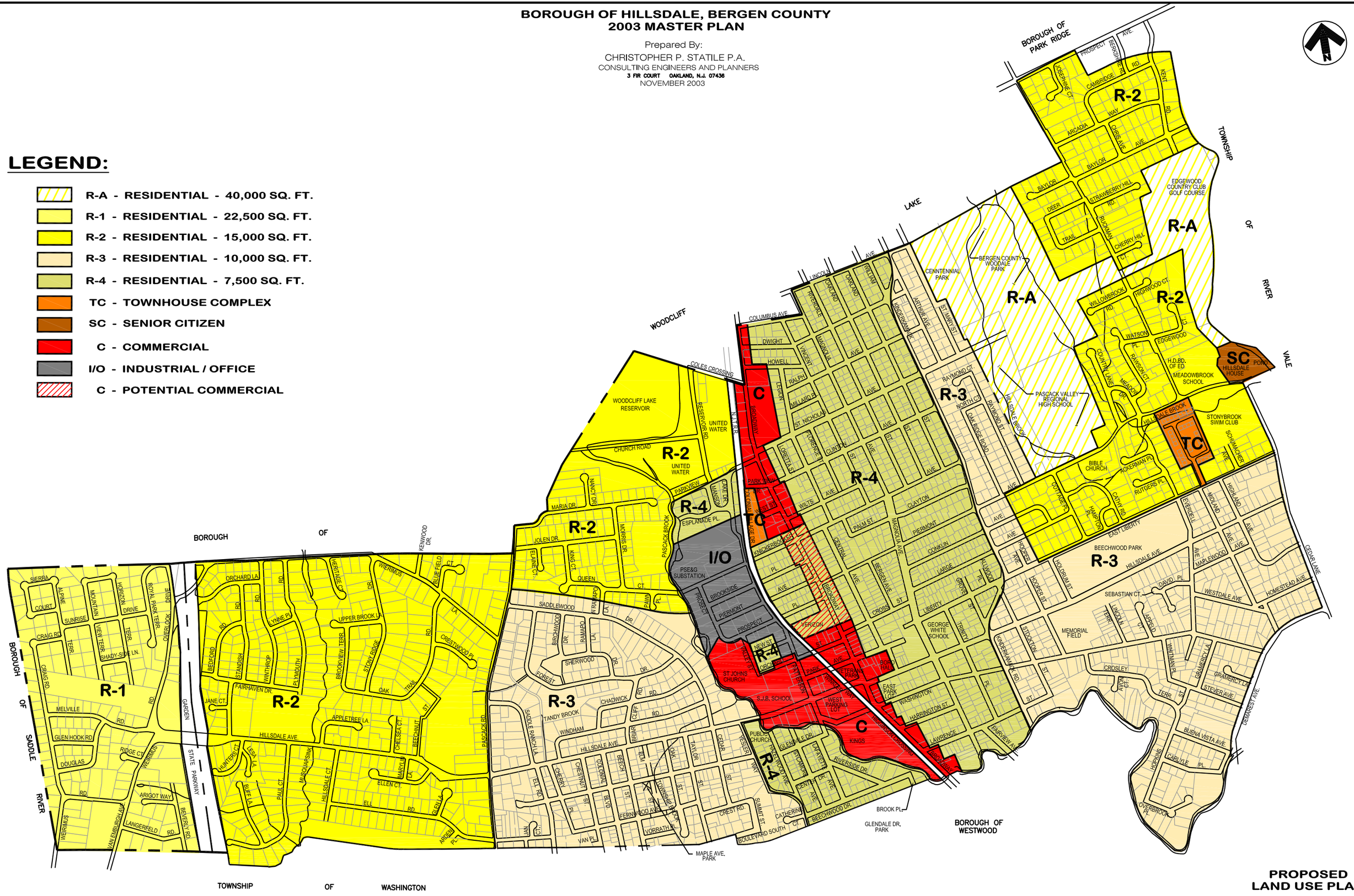
Exhibit 5
Proposed Land Use

BOROUGH OF HILLSDALE, BERGEN COUNTY
2003 MASTER PLAN

Prepared By:
CHRISTOPHER P. STATILE P.A.
CONSULTING ENGINEERS AND PLANNERS
3 FIR COURT OAKLAND, N.J. 07436
NOVEMBER 2003

LEGEND:

- R-A - RESIDENTIAL - 40,000 SQ. FT.
- R-1 - RESIDENTIAL - 22,500 SQ. FT.
- R-2 - RESIDENTIAL - 15,000 SQ. FT.
- R-3 - RESIDENTIAL - 10,000 SQ. FT.
- R-4 - RESIDENTIAL - 7,500 SQ. FT.
- TC - TOWNHOUSE COMPLEX
- SC - SENIOR CITIZEN
- C - COMMERCIAL
- I/O - INDUSTRIAL / OFFICE
- C - POTENTIAL COMMERCIAL



PROPOSED
LAND USE PLAN

Exhibit 6
Freshwater Wetlands Map

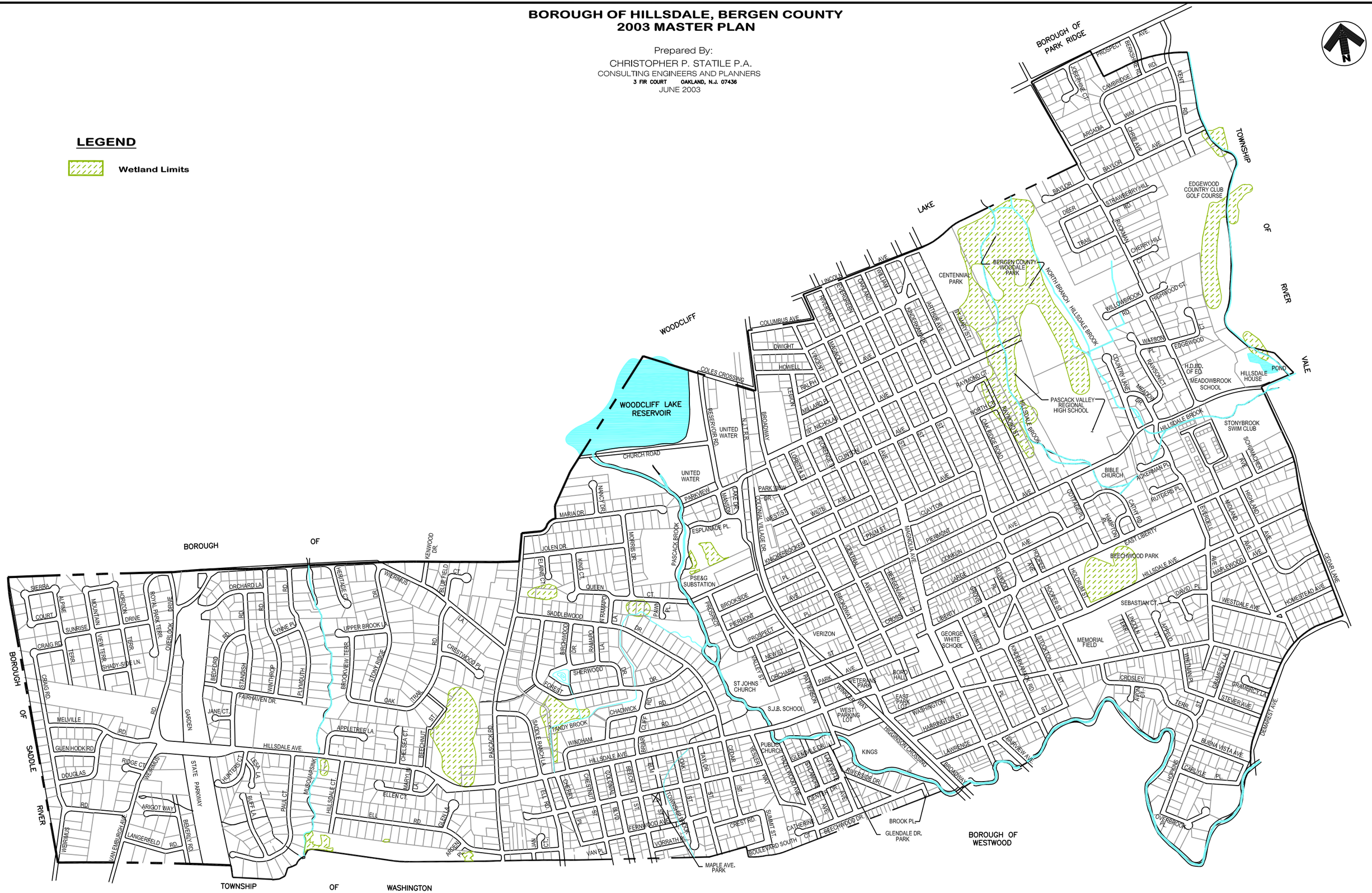
BOROUGH OF HILLSDALE, BERGEN COUNTY
2003 MASTER PLAN

Prepared By:
CHRISTOPHER P. STATILE P.A.
CONSULTING ENGINEERS AND PLANNERS
3 FIR COURT OAKLAND, N.J. 07436

JUNE 2003

LEGEND

Wetland Limits



SOURCE: U.S.C.O.E. FRESHWATER WETLANDS NATIONAL INVENTORY MAP

FRESHWATER WETLANDS MAP

Exhibit 7
Model Stormwater Control Ordinance

Model Stormwater Control Ordinance for Municipalities

Section 1: Purpose

A. Policy Statement.

Flood control, groundwater recharge and pollutant reduction through nonstructural or low impact techniques shall be explored before relying on structural BMPs. Structural BMPs should be integrated with nonstructural stormwater management measures and proper maintenance plans. Nonstructural measures include both environmentally sensitive site design and source controls that prevent pollutants from being placed on the site. Source control plans should be developed based upon physical site conditions and the origin, nature, and the anticipated loading of potential pollutants. Multiple stormwater management BMPs may be necessary to achieve the established performance standards for water quality, quantity and groundwater recharge.

B. Purpose

It is the purpose of this ordinance to establish minimum stormwater management requirements and controls for major development.

C. Applicability

This ordinance shall be applicable to any site plan or subdivision that requires preliminary or final site plan review. No variances, waivers or special exceptions shall be granted without the express approval of the Department of Environmental Protection.

D. Compatibility with other permit and ordinance requirements.

Development approvals issued pursuant to this ordinance are to be considered an integral part of development approvals under the subdivision and site plan review process and do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act or ordinance. In their interpretation and application, the provisions of this ordinance shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare. This ordinance is not intended to interfere with, abrogate, or annul any other ordinances, rule or regulation, statute, or other provision of law except that, where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule or regulation, or other provision of law, the more restrictive provisions or higher standards shall control.

Section 2: General Standards

A. Design and Performance Standards for Stormwater Management Measures

1. Stormwater management measures for major development shall be developed to meet the erosion control, groundwater recharge, stormwater runoff quantity, and stormwater runoff quality standards in this section. To the maximum extent feasible, these standards shall be met by incorporating nonstructural stormwater management strategies into the design. If these strategies alone are not sufficient to meet these standards, structural stormwater management measures necessary to meet these standards shall be incorporated into the design.

2. The standards in this ordinance apply only to new major development and are intended to minimize the impact of stormwater runoff on water quality and water quantity in receiving water bodies and maintain groundwater recharge. The standards do not apply to new major development to the extent that alternative design and performance standards are applicable under a regional stormwater management plan or Water Quality Management Plan adopted in accordance with Department rules. Such alternative standards shall provide at least as much protection from stormwater–related loss of groundwater recharge, stormwater quantity and water quality impacts of major development projects as would be provided under the standards in this subchapter.

3. For site improvements regulated under the Residential Site Improvement Standards (RSIS) at N.J.A.C. 5:21, the RSIS shall apply in addition to this Section except to the extent the RSIS are superseded by this Section or alternative standards applicable under a regional stormwater management plan or Water Quality Management Plan adopted in accordance with Department rules.

Section 3. Stormwater Management Requirements For Major Development

A. The development shall incorporate a maintenance plan and designate a responsible party for the stormwater management measures incorporated into the design of a major development.

B. Stormwater management measures shall avoid adverse impacts of concentrated flow on habitat for threatened and endangered species as documented in the Natural Heritage Database established under N.J.S.A. 13:1B-15.147 through 15.150, particularly Helonias bullata (swamp pink) and/or Clemmys muhlnebergi (bog turtle).

C. The following linear development projects are exempt from the groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements at Sections 3.F and 3.G:

1. The construction of an underground utility line provided that the disturbed areas are revegetated upon completion.

2. The construction of an aboveground utility line provided that the existing conditions are maintained to the maximum extent practicable.

3. The construction of a public pedestrian access, such as a sidewalk or trail with a maximum width of 10 feet, provided that the access is made of permeable material.

D. A waiver from strict compliance from the groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements at Sections 3.F and 3.G may be obtained for the enlargement of an existing public roadway or railroad; or the construction or enlargement of a public pedestrian access, provided that the following conditions are met:

1. The applicant demonstrates that there is a public need for the project that cannot be accomplished by any other means;

2. The applicant demonstrates through an alternatives analysis, that through the use of nonstructural and structural stormwater management strategies and measures, the option selected complies with the requirements of Sections 3.F and 3.G to the maximum extent practicable;

3. The applicant demonstrates that, in order to meet the requirements at Sections 3.F and 3.G, existing structures currently in use, such as homes and buildings would need to be condemned.; and

4. The applicant demonstrates that it does not own or have other rights to areas, including the potential to obtain through condemnation lands not falling under 3.D above within the upstream drainage area of the receiving stream, that would provide additional opportunities to mitigate for requirements of Sections 3.F and 3.G that were not achievable on-site.

E. Nonstructural stormwater management measures

1. The applicant shall identify the nonstructural measures incorporated into the design of the project. If the applicant contends that it is not feasible for engineering, environmental, or safety reasons to incorporate any nonstructural stormwater management measures identified in 2.E below into the design of a particular project, the applicant shall identify the measures considered and provide a basis for the contention.

2. Nonstructural stormwater management measures incorporated into site design shall:

a. Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss;

b. Minimize impervious surfaces and break up or disconnect the flow of runoff over impervious surfaces;

c. Maximize the protection of natural drainage features and vegetation;

d. Minimize the decrease in the pre-construction "time of concentration." "Time of concentration" is defined as the time it takes for runoff to travel from the hydraulically most distant point of the watershed to the point of interest within a watershed;

e. Minimize land disturbance including clearing and grading;

f. Minimize soil compaction;

g. Provide low-maintenance native plant landscaping that maximizes retention of existing native vegetation and planting of native vegetation and minimizes the use of lawns and need for fertilizers and pesticides;

h. Provide vegetated open-channel conveyance systems discharging into and through stable vegetated areas;

i. Provide other preventative source controls to prevent or minimize the use or exposure of pollutants at the site in order to prevent or minimize the release of those pollutants into stormwater runoff. These source controls include, but are not limited to:

(1) Site design features that help to prevent accumulation of trash and debris in drainage systems;

(2) Site design features that help to prevent discharge of trash and debris from drainage systems;

(3) Site design features that help to prevent and/or contain spills or other harmful accumulations of pollutants at industrial or commercial developments; and

(4) When establishing vegetation after land disturbance, applying fertilizer in accordance with the requirements established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq., and implementing rules.

3. Any land area used as a non-structural stormwater management measure to meet the performance standards in Sections 3.F and 3.G shall be dedicated through deed to a government agency, subjected to a conservation deed restriction filed with the appropriate County Clerk's office, or subject to an approved equivalent restriction that ensures the maintenance of that measure in perpetuity.

4. Guidance for nonstructural stormwater management measures is available in the New Jersey Stormwater Best Management Practices Manual. The manual is available on the Department's web page at http://www.njstormwater.org or www.njnonpointsource.org.

F. Erosion control, groundwater recharge and runoff quantity standards

1. This section contains minimum design and performance standards to control erosion, encourage and control infiltration and groundwater recharge, and control stormwater runoff quantity impacts of major development.

   a. The minimum design and performance standards for erosion control are those established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq. and implementing rules.

   b. The minimum design and performance standards for groundwater recharge are as follows:

      (1) Except if (2) or (3) apply, the design engineer shall, using the assumptions and factors for stormwater runoff calculations at Section 4, either:

         (a) Demonstrate through hydrologic and hydraulic analysis that the site and its stormwater management measures maintain 100% of the average annual pre-construction groundwater recharge volume for the site; or

         (b) Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater runoff volume from pre-construction to post-construction for the 2-year storm is infiltrated.

      (2) This groundwater recharge requirement does not apply to projects that qualify as "urban redevelopment".

      (3) The following types of stormwater shall not be recharged;

         (a) Stormwater from areas of high pollutant loading. High pollutant loading areas are areas in industrial and commercial developments where solvents and/or petroleum products are loaded/unloaded, stored, or applied, areas where pesticides are loaded/unloaded or stored; areas where hazardous materials are expected to be present in greater than 'reportable quantities' as defined by the United States Environmental Protection Agency (EPA) at 40 CFR 302.4; areas where recharge would be inconsistent with Department approved remedial action work plan or landfill closure plan and areas with high risks for spills of toxic materials, such as gas stations and vehicle maintenance facilities; and

         (b) Industrial stormwater exposed to "source material". "Source material" means any material(s) or machinery, located at an industrial facility, that is directly or indirectly related to process, manufacturing or other industrial activities, which could be a source of pollutants in any industrial stormwater discharge to groundwater. Source materials include, but are not limited to, raw materials; intermediate products; final products; waste materials; by-products;

industrial machinery and fuels, and lubricants, solvents, and detergents that are related to process, manufacturing, or other industrial activities that are exposed to stormwater.

(4) The design engineer shall assess the hydraulic impact on the groundwater table and design the site so as to avoid adverse hydraulic impacts. Potential adverse hydraulic impacts include, but are not limited to, exacerbating a naturally or seasonally high water table so as to cause surficial ponding, flooding of basements, or interference with the proper operation of subsurface sewage disposal systems and other subsurface structures in the vicinity or downgradient of the groundwater recharge area.

c. In order to control stormwater runoff quantity impacts, the design engineer shall, use the assumptions and factors for stormwater runoff calculations at Section 4, complete one of the following:

(1) Demonstrate through hydrologic and hydraulic analysis that for stormwater leaving the site, post-construction runoff hydrographs for the 2, 10, and 100 year storm events do not exceed, at any point in time, the pre-construction runoff hydrographs for the same storm events;

(2) Demonstrate through hydrologic and hydraulic analysis that there is no increase, as compared to the pre-construction condition, in the peak runoff rates of stormwater leaving the site for the 2, 10, and 100 year storm events and that the increased volume or change in timing of stormwater runoff will not increase flood damage at or downstream of the site. This analysis shall include the analysis of impacts of existing land uses and projected land uses assuming full development under existing zoning and land use ordinances in the drainage area; or

(3) Design stormwater management measures so that the post-construction peak runoff rates for the 2, 10 and 100 year storm events are 50, 75 and 80 percent, respectively, of the pre-construction peak runoff rates. The percentages apply only to the post-construction stormwater runoff that is attributable to the portion of the site on which the proposed development or project is to be constructed. The percentages shall not be applied to post-construction stormwater runoff into tidal flood hazard areas if the increased volume of stormwater runoff will not increase flood damages below the point of discharge;

2. Any application for a new agricultural development that meets the definition of major development at Section 12 shall be submitted to the appropriate Soil Conservation District for review and approval in accordance with the requirements of this section and any applicable Soil Conservation District guidelines for stormwater runoff quantity and erosion control.

G. Stormwater runoff quality standards

1. Stormwater management measures shall be designed to reduce the post-construction load of total suspended solids (TSS) in stormwater runoff by 80 percent of the anticipated load from the developed site, expressed as an annual average. Stormwater management measures shall only be required for water quality control if an additional 1/4 acre of impervious surface is being proposed on a development site. The water quality design storm is 1.25 inches of rainfall in two hours. Water quality calculations shall take into account the distribution of rain from the water quality design storm, as reflected in Table 1. The calculation of the volume of runoff may take into account the implementation of non-structural and structural stormwater management measures.

Table 1: Water Quality Design Storm Distribution

Time (Minutes)	Cumulative Rainfall (Inches)	Time (Minutes)	Cumulative Rainfall (Inches)
0	0.0000	65	0.8917
5	0.0083	70	0.9917
10	0.0166	75	1.0500
15	0.0250	80	1.0840
20	0.0500	85	1.1170
25	0.0750	90	1.1500
30	0.1000	95	1.1750
35	0.1330	100	1.2000
40	0.1660	105	1.2250
45	0.2000	110	1.2334
50	0.2583	115	1.2417
55	0.3583	120	1.2500
60	0.6250		

2. For purposes of TSS reduction calculations, Table 2 below presents the presumed removal rates for certain BMPs designed in accordance with the New Jersey Stormwater Best Management Practices Manual, which may be obtained from the address identified in Section 6. TSS reduction shall be calculated based on the removal rates for the BMPs in Table 2 below. Alternative removal rates and methods of calculating removal rates may be used if the design engineer provides documentation demonstrating the capability of these alternative rates and methods to the review agency. A copy of any approved alternative rate or method of calculating the removal rate shall be provided to the Department at the following address: Division of Watershed Management, New Jersey Department of Environmental Protection, PO Box 418 Trenton, New Jersey, 08625-0418.

3. If more than one BMP in series is necessary to achieve the required 80% TSS reduction for a site, the applicant shall utilize the following formula to calculate TSS reduction:

$$R = A + B - (A \times B)/100$$

Where
R = total TSS load removal from application of both BMPs, and
A = the TSS removal rate applicable to the first BMP
B = the TSS removal rate applicable to the second BMP

Table 2: TSS Removal Rates for BMPs	
Best Management Practice	**TSS %Removal Rate**
Bioretention Systems	90
Constructed Stormwater Wetland	90
Forested Buffers	70
Extended Detention Basin	40-60
Infiltration Structure	80
Manufactured Treatment Device	See N.J.A.C. 7:8-5.7(c)
Sand Filter	80
Vegetative Filter Strip	50
Wet Pond	50-90

4. If there is more than one onsite drainage area, the 80% TSS removal rate shall apply to each drainage area, unless the runoff from the subareas converge on site in which case the removal rate can be demonstrated through a calculation using a weighted average.

5. Stormwater management measures shall also be designed to reduce, to the maximum extent feasible, the post-construction nutrient load from the developed site in stormwater runoff generated from the water quality design storm. In achieving reduction of nutrients to the maximum extent feasible, the design of the site shall include nonstructural strategies and structural measures that optimize nutrient removal while still achieving the performance standards in Sections 3.F and 3.G.

6. Additional information and examples are contained in the New Jersey Stormwater Best Management Practices Manual, which may be obtained from the address identified in Section 6.

7. In accordance with the definition of FW1 at N.J.A.C. 7:9B-1.4, stormwater management measures shall be designed to prevent any direct discharge of stormwater to waters classified as FW1.

[This section reserved till after the adoption of the Stormwater Management Rule N.J.A.C 7:8.

8. *Special water resource protection areas shall be established along all waters designated Category One at N.J.A.C. 7:9B and perennial or intermittent streams that drain into or upstream of the Category One waters as shown on the USGS Quadrangle Maps or in the County Soil Surveys, within the associated HUC 14 drainage. These areas shall be established for the protection of water quality, aesthetic value, exceptional ecological significance, exceptional recreational significance, exceptional water supply*

significance, and exceptional fisheries significance of those established Category One waters. These areas shall be designated and protected as follows:

a. The applicant shall preserve and maintain a special water resource protection area in accordance with one of the following:

(1) A 300-foot special water resource protection area, measured perpendicular to the waterway from the top of bank outwards or from the centerline of the waterway where the bank is not defined, consisting of existing vegetation or vegetation allowed to follow natural succession is provided.

(2) Encroachment within the designated special water resource protection area under subsection 8.Ga(1) above shall only be allowed where previous development or disturbance has occurred (for example, active agricultural use, parking area or maintained lawn area). The encroachment shall only be allowed where applicant demonstrates that the functional value and overall condition of the special water resource protection area will be maintained to the maximum extent practicable. In no case shall the remaining special water resource protection area be reduced to less than 150 feet as measured perpendicular to the Category One waterway. All encroachments proposed under this subparagraph shall be subject to review and approval by the Department.

b. All stormwater shall be discharged outside of and flow through the special water resource protection area and shall comply with the Standard For Off-Site Stability in the "Standards for Soil Erosion and Sediment Control in New Jersey", established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq.

c. If stormwater discharged outside of and flowing through the special water resource protection area cannot comply with the Standard For Off-Site Stability in the "Standards for Soil Erosion and Sediment Control in New Jersey", established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq., then the stabilization measures in accordance with the requirements of the above standards may be placed within the special water resource protection area, provided that:

(1) Stabilization measures shall not be placed within 150 feet of the Category One waterway;

(2) Stormwater associated with discharges allowed by this section shall achieve a 95% TSS post construction removal rate;

(3) Temperature shall be addressed to ensure no impact on receiving waterway;

(4) The encroachment shall only be allowed where the applicant demonstrates that the functional value and overall condition of the special water resource protection area will be maintained to the maximum extent practicable;

(5) A conceptual project design meeting shall be held with the appropriate Department staff and Soil Conservation District staff to identify necessary stabilization measures; and

(6) All encroachments proposed under this section shall be subject to review and approval by the Department.

d. This subsection does not apply to the construction of one individual single family dwelling that is not part of a larger development on a lot receiving preliminary or final subdivision approval on or before [adoption date of the ordinance], provided that the construction begins on or before [five years from adoption date of the ordinance].]

Section 4: Calculation of stormwater runoff

A. Stormwater runoff shall be calculated in accordance with the following:

1. The design engineer shall calculate runoff using one of the following methods:

   a. The USDA Natural Resources Conservation Service (NRCS) methodology, including the NRCS Runoff Equation and Dimensionless Unit Hydrograph, as described in the NRCS National Engineering Handbook Section 4 – Hydrology and Technical Release 55 – Urban Hydrology for Small Watersheds; or

   b. The Rational Method for peak flow and the Modified Rational Method for hydrograph computations.

2. For the purpose of calculating runoff coefficients, there is a presumption that the pre-construction condition of a site or portion thereof is a wooded land use with good hydrologic condition. A runoff coefficient for an existing condition may be used on all or a portion of the site if the design engineer verifies that the hydrologic condition has existed on the site or portion of the site for at least five years without interruption prior to the time of calculation. In addition, there is the presumption that the site is in good hydrologic condition (if the land use type is pasture, lawn, or park), with good cover (if the land use type is woods), or with good condition and conservation treatment (if the land use type is cultivation.)

3. In computing pre-construction stormwater runoff, the design engineer shall account for all significant land features and structures, such as ponds, wetlands, depressions, hedgerows, or culverts, that may reduce pre-construction stormwater runoff rates and volumes.

4. In computing stormwater runoff from a design storm, the design engineer shall consider the relative stormwater runoff rates and/or volumes of pervious and impervious surfaces separately to accurately compute the rates and volume of stormwater runoff from the site. To calculate the water quality storm, urban impervious area modifications as described in

the NRCS Technical Release-55, Urban Hydrology for Small Watersheds may be employed.

5. If the invert of the outlet structure of a stormwater management measure is below the flood hazard design flood elevation as defined at N.J.A.C. 7:13, the design engineer shall take into account the effects of tailwater in the design of structural stormwater management measures.

Section 5: Standards for Structural Stormwater Management Measures

A. Standards for structural stormwater management measures are as follows:

1. Structural stormwater management measures shall be designed to take into account the existing site conditions, including, for example, wetlands; flood-prone areas; slopes; depth to seasonal high water table; soil type, permeability and texture; drainage area and drainage patterns; and the presence of solution-prone carbonate rocks (limestone).

2. Structural stormwater management measures shall be designed to minimize maintenance, facilitate maintenance and repairs, and ensure proper functioning. Trash racks shall be installed at the intake to the outlet structure as appropriate, and shall have parallel bars with one-inch (1") spacing between the bars to the elevation of the water quality design storm. For elevations higher than the water quality design storm, the parallel bars at the outlet structure shall be spaced no greater than one-third (1/3) the width of the diameter of the orifice or one-third (1/3) the width of the weir. In addition, the design of trash racks must comply with the requirements of Section 7.D.

3. Structural stormwater management measures shall be designed, constructed, and installed to be strong, durable, and corrosion resistant. Measures that are consistent with the relevant portions of the Residential Site Improvement Standards at N.J.A.C. 5:21-7.3, 7.4, and 7.5 shall be deemed to meet this requirement.

4. At the intake to the outlet from the stormwater management basin, the orifice size shall be a minimum of two and one-half inches in diameter.

5. Stormwater management basins shall be designed to meet the minimum safety standards for stormwater management basins at Section 7.

B. Stormwater management measure guidelines are available in the New Jersey Stormwater Best Management Practices Manual. Other stormwater management measures may be utilized provided the design engineer demonstrates that the proposed measure and its design will accomplish the required water quantity, groundwater recharge and water quality design and performance standards established by this subchapter.

C. Manufactured treatment devices may be used to meet the requirements of this subchapter,

provided the pollutant removal rates are verified by the New Jersey Corporation for Advanced Technology and certified by the Department.

Section 6: Sources for Technical Guidance

A. Technical guidance for stormwater management measures can be found in the documents listed at 1 and 2 below, which are available from Maps and Publications, Department of Environmental Protection, 428 East State Street, P.O. Box 420, Trenton, New Jersey, 08625; telephone (609) 777-1038.

   1. Guidelines for stormwater management measures are contained in the New Jersey Stormwater Best Management Practices Manual, as amended. Information is provided on stormwater management measures such as: bioretention systems, constructed stormwater wetlands, dry wells, forested buffers, extended detention basins, infiltration structures, manufactured treatment devices, pervious paving, sand filters, vegetative filter strips, and wet ponds.

   2. The New Jersey Department of Environmental Protection Stormwater Management Facilities Maintenance Manual, as amended.

B. Additional technical guidance for stormwater management measures can be obtained from the following:

   1. The "Standards for Soil Erosion and Sediment Control in New Jersey" promulgated by the State Soil Conservation Committee and incorporated into N.J.A.C. 2:90. Copies of these standards may be obtained by contacting the State Soil Conservation Committee or any of the Soil Conservation Districts listed in N.J.A.C. 2:90-1.3(a) 4. The location, address, and telephone number of each Soil Conservation District may be obtained from the State Soil Conservation Committee, P.O. Box 330, Trenton, New Jersey 08625; 609-292-5540;

   2. The Rutgers Cooperative Extension Service, 732-932-9306; and

   3. The Soil Conservation Districts listed in N.J.A.C. 2:90-1.3(a) 4. The location, address, and telephone number of each Soil Conservation District may be obtained from the State Soil Conservation Committee, P.O. Box 330, Trenton, New Jersey, 08625, 609-292-5540.

Section 7: Safety Standards for Stormwater Management Basins

A. This section sets forth requirements to protect public safety through the proper design and operation of stormwater management basins. This subchapter applies to any new stormwater management basin.

B. The provisions of this section are not intended to preempt municipal or county safety requirements for new or existing stormwater management basins. Municipal and county

stormwater management plans and ordinances may, pursuant to their authority, require existing stormwater management basins to be retrofitted to meet one or more of the safety standards in Section 7.D. 1 for trash racks, overflow grates, and escape provisions at outlet structures.

C. Operative date and compliance schedule

1. For purposes of this subchapter, a stormwater management basin is "existing" if construction of such basin commenced prior to (one year from the effective date of this ordinance), or if such basin was identified in a subdivision or site plan application that received final approval pursuant to the Municipal Land Use Law (N.J.S.A. 40:55D-1 et seq.) as of (one year from the effective date of this ordinance). Any other stormwater management basin is a "new" basin.

2. As of (one year from the effective date of this ordinance), the construction, installation, or operation of any new stormwater management basin that does not conform to the requirements of this subchapter is prohibited.

3. If an existing stormwater management basin does not conform to a municipal or county stormwater control ordinance adopted pursuant to N.J.A.C. 7:8-6.1(c), the person responsible for the stormwater management basin under such ordinance shall, within the time period specified in the ordinance, modify the basin to comply with the ordinance.

D. Requirements for trash racks, overflow grates and escape provisions

1. A trash rack is a device designed to catch trash and debris and prevent the clogging of outlet structures. Trash racks shall be installed at the intake to the outlet from the stormwater management basin to ensure proper functioning of the basin outlets in accordance with the following:

   a. The trash rack shall have parallel bars, with no greater than six inch spacing between the bars.

   b. The trash rack shall be designed so as not to adversely affect the hydraulic performance of the outlet pipe or structure.

   c. The average velocity of flow through a clean trash rack is not to exceed 2.5 feet per second under the full range of stage and discharge. Velocity is to be computed on the basis of the net area of opening through the rack.

   d. The trash rack shall be constructed and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 lbs/ft sq.

2. An overflow grate is designed to prevent obstruction of the overflow structure. If an outlet structure has an overflow grate, such grate shall meet the following requirements:

a. The overflow grate shall be secured to the outlet structure but removable for emergencies and maintenance.

b. The overflow grate spacing shall be no less than two inches across the smallest dimension.

c. The overflow grate shall be constructed and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 lbs/ft sq.

3. For purposes of this subsection, escape provisions means the permanent installation of ladders, steps, rungs, or other features that provide easily accessible means of egress from stormwater management basins. Stormwater management basins shall include escape provisions as follows:

a. If a stormwater management basin has an outlet structure, escape provisions shall be incorporated in or on the structure. With the prior approval of the reviewing agency identified in Section 7.E., a free-standing outlet structure may be exempted from this requirement.

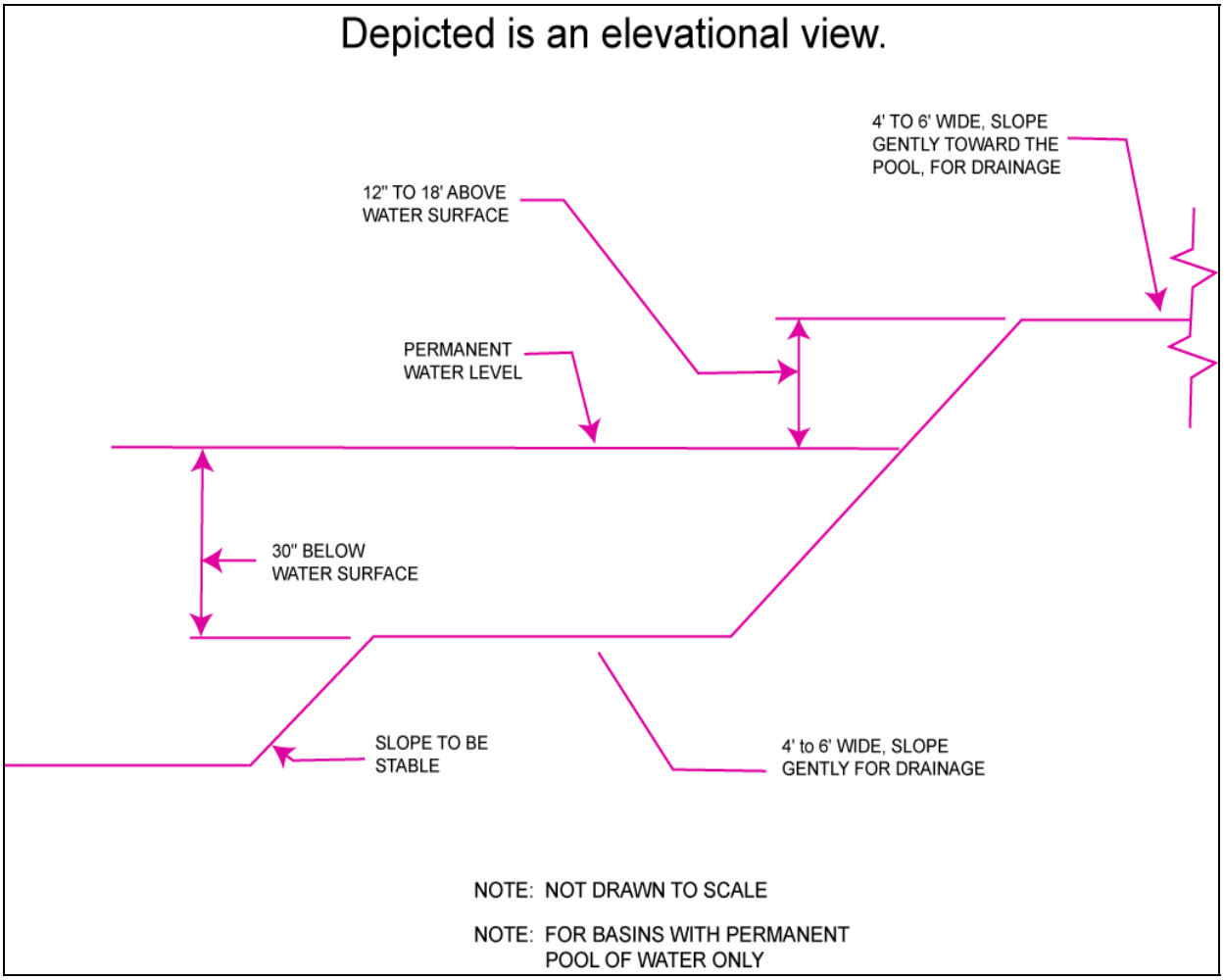
b. Safety ledges shall be constructed on the slopes of all new stormwater management basins having a permanent pool of water deeper than two and one-half feet. Such safety ledges shall be comprised of two steps. Each step shall be four to six feet in width. One step shall be located approximately two and one-half feet below the permanent water surface, and the second step shall be located one to one and one-half feet above the permanent water surface. See Section 7.F for an illustration of safety ledges in a stormwater management basin.

c. In new stormwater management basins, the maximum interior slope for an earthen dam, embankment, or berm shall not be steeper than 3 horizontal to 1 vertical.

E. Variance or exemption from safety standards

1. A variance or exemption from the safety standards for stormwater management basins may be granted only upon a written finding by the appropriate reviewing agency (municipality, county or Department) that the variance or exemption will not constitute a threat to public safety.

F. Illustration of safety ledges in a new stormwater management basin.



Section 8: Requirements for a Site Development Stormwater Plan

A. Submission of Site Development Stormwater Plan

1. Whenever an applicant seeks municipal approval of a development subject to this ordinance, the applicant shall submit all of the required components of the Checklist for the Site Development Stormwater Plan at 8.C below as part of the submission of the applicant's application for subdivision or site plan approval.

2. The applicant shall demonstrate that the project meets the standards set forth in this ordinance.

3. The applicant shall submit (specify number) copies of the materials listed in the checklist for site development stormwater plans in accordance with subsection 8.C of this ordinance.

B. Site Development Stormwater Plan Approval

The applicant's Site Development project shall be reviewed as a part of the subdivision or site plan review process by the municipal board or official from which municipal approval is sought. That municipal board or official shall consult the engineer retained by the Planning and/or Zoning Board (as appropriate) to determine if all the checklist requirements have been satisfied and to determine if the project meets the standards set forth in this ordinance.

C. Checklist Requirements

The following information shall be required:

1. Topographic Base Map

The reviewing engineer may require upstream tributary drainage system information as necessary. It is recommended that the topographic base map of the site be submitted which extends a minimum of 200 feet beyond the limits of the proposed development, at a scale of 1"=200' or greater, showing 2-foot contour intervals. The map as appropriate may indicate the following: existing surface water drainage, shorelines, steep slopes, soils, erodible soils, perennial or intermittent streams that drain into or upstream of the Category 1 waters, wetlands and flood plains along with their appropriate buffer strips, marshlands and other wetlands, pervious or vegetative surfaces, existing man-made structures, roads, bearing and distances of property lines, and significant natural and manmade features not otherwise shown.

2. Environmental Site Analysis

A written and graphic description of the natural and man-made features of the site and its environs. This description should include a discussion of soil conditions, slopes, wetlands, waterways and vegetation on the site. Particular attention should be given to unique,

unusual, or environmentally sensitive features and to those that provide particular opportunities or constraints for development.

3. Project Description and Site Plan(s)

A map (or maps) at the scale of the topographical base map indicating the location of existing and proposed buildings, roads, parking areas, utilities, structural facilities for stormwater management and sediment control, and other permanent structures. The map(s) shall also clearly show areas where alterations occur in the natural terrain and cover, including lawns and other landscaping, and seasonal high ground water elevations. A written description of the site plan and justification of proposed changes in natural conditions may also be provided.

4. Land Use Planning and Source Control Plan

This plan shall provide a demonstration of how the goals and standards of Sections 2-5 are being met. The focus of this plan shall be to describe how the site is being developed to meet the objective of controlling groundwater recharge, stormwater quality and stormwater quantity problems at the source by land management and source controls whenever possible.

5. Stormwater Management Facilities Map

The following information, illustrated on a map of the same scale as the topographic base map, shall be included:

a. Total area to be paved or built upon, proposed surface contours, land area to be occupied by the stormwater management facilities and the type of vegetation thereon, and details of the proposed plan to control and dispose of stormwater.

b. Details of all stormwater management facility designs, during and after construction, including discharge provisions, discharge capacity for each outlet at different levels of detention and emergency spillway provisions with maximum discharge capacity of each spillway.

6. Calculations

a. Comprehensive hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in Section 2 of this ordinance.

b. When the proposed stormwater management control measures (e.g. infiltration basins) depends on the hydrologic properties of soils, then a soils report shall be submitted. The soils report shall be based on onsite boring logs or soil pit profiles. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soil types present at the location of the control measure.

7. Maintenance and Repair Plan

The design and planning of the stormwater management facility shall meet the maintenance requirements of Section 9.

8. Waiver from Submission Requirements

The municipal official or board reviewing an application under this ordinance may, in consultation with the municipal engineer, waive submission of any of the requirements Sections 8.C.1 through 8.C.6 of this ordinance when it can be demonstrated that the information requested is impossible to obtain or it would create a hardship on the applicant to obtain and its absence will not materially affect the review process.

Section 9: Maintenance and Repair

A. General Maintenance

1. The design engineer shall prepare a maintenance plan for the stormwater management measures incorporated into the design of a major development.

2. The maintenance plan shall contain specific preventative maintenance tasks and schedules; cost estimates, including estimated cost of sediment, debris, or trash removal; and the name, address, and telephone number of the person or persons responsible for preventative and corrective maintenance (including replacement). Maintenance guidelines for stormwater management measures are available in the New Jersey Stormwater Best Management Practices Manual. If the maintenance plan identifies a person other than the developer (for example, a public agency or homeowners' association) as having the responsibility for maintenance, the plan shall include documentation of such person's agreement to assume this responsibility, or of the developer's obligation to dedicate a stormwater management facility to such person under an applicable ordinance or regulation.

3. Responsibility for maintenance shall not be assigned or transferred to the owner or tenant of an individual property in a residential development or project, unless such_owner or tenant owns or leases the entire residential development or project.

4. If the person responsible for maintenance identified under Section A.2 above is not a public agency, the maintenance plan and any future revisions based on Section A.7 below shall be recorded upon the deed of record for each property on which the maintenance described in the maintenance plan must be undertaken.

5. Preventative and corrective maintenance shall be performed as needed, including repairs or replacement to the structure; removal of sediment, debris, or trash; restoration of eroded areas; snow and ice removal; fence repair or replacement; restoration of

vegetation; and repair or replacement of nonvegetated linings.

6. The person responsible for maintenance identified under Section A.2 above shall maintain a detailed log of all preventative and corrective maintenance for the structural stormwater management measures incorporated into the design of the development, including a record of all inspections and copies of all maintenance-related work orders.

7. The person responsible for maintenance identified under Section A.2 above shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed.

8. The person responsible for maintenance identified under Section A.2 above shall retain and make available, upon request by a public entity, the maintenance plan and the documentation required by Sections A.2, A.6, and A.7 above.

9. The requirements of Sections A.3 and A.4 do not apply to stormwater management facilities that are dedicated to and accepted by the municipality or another governmental agency.

   (Note: It may be appropriate to delete requirements in the maintenance and repair plan that are not applicable if the ordinance requires the facility to be dedicated to the municipality. If the municipality does not want to take this responsibility, then the ordinance should require the posting of a two year maintenance guarantee in accordance with N.J.S.A. 40:55D-53. Guidelines for developing a maintenance and inspection program are provided in the New Jersey Stormwater Best Management Practices Manual and the NJDEP Ocean County Demonstration Study, Stormwater Management Facilities Maintenance Manual, dated June 1989 available from the NJDEP, Watershed Management Program.)

10. In the event that the stormwater management facility becomes a danger to public safety or public health, or if it is in need of maintenance, the **municipality** shall so notify the responsible person in writing. Upon receipt of that notice, the responsible person shall have fourteen (14) days to effect maintenance and repair of the facility in a manner that is approved by the municipal engineer or his designee. If the responsible person fails or refuses to perform such maintenance and repair, the **municipality** or County may immediately proceed to do so and shall bill the cost thereof to the responsible person.

B. Nothing in this section shall preclude the municipality in which the major development is located from requiring the posting of a performance or maintenance guarantee in accordance with N.J.S.A. 40:55D-53.

C. Penalties

Any responsible person who violates any portion or Section of this ordinance shall be subject to the following penalties: [Municipality to specify].

Section 10: Effective Date

This ordinance shall take effect upon adoption.

Section 11: Severability

If the provisions of any article, section, subsection, paragraph, subdivision or clause of this ordinance shall be judged invalid by a court of competent jurisdiction, such order of judgment shall not affect or invalidate the remainder of any article, section, subsection, paragraph, subdivision or clause of this ordinance.

Section 12: Definitions

Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance its most reasonable application.

"Agricultural development" means land uses normally associated with the production of food, fiber and livestock for sale. Such uses do not include the development of land for the processing or sale of food and the manufacture of agriculturally related products.

“CAFRA Centers, Cores or Nodes” means those areas within boundaries accepted by the Department pursuant to N.J.A.C. 7:8E-5B.

"Compaction" means the increase in soil bulk density.

“Core” means a pedestrian-oriented area of commercial and civic uses serving the surrounding municipality, generally including housing and access to public transportation.

"Department" means the New Jersey Department of Environmental Protection.

“Designated Center” means a State Development and Redevelopment Plan Center as designated by the State Planning Commission such as urban, regional, town, village, or hamlet.

“Design engineer” means a person professionally qualified and duly licensed in New Jersey to perform engineering services that may include, but necessarily be limited to, development of project requirements, creation and development of project design and preparation of drawings and specifications.

“Development” means the division of a parcel of land into two or more parcels, the construction, reconstruction, conversion, structural alteration, relocation or enlargement of any building or structure, any mining excavation or landfill, and any use or change in the use of any building or other structure, or land or extension of use of land, for which permission is required under the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq.

“Drainage area” means a geographic area within which water, sediments, and dissolved materials drain to a particular receiving waterbody or to a particular point along a receiving waterbody.

“Erosion” means the detachment and movement of soil or rock fragments by water, wind, ice or gravity.

"Impervious surface" means a surface that has been covered with a layer of material so that it is highly resistant to infiltration by water.

“Infiltration” is the process by which water that seeps into the soil from precipitation.

"Major development" means any “development” shown in any site plan or subdivision plan that has not received preliminary or final approval by [insert the effective date of this ordinance] that provides for ultimately disturbing one or more acres of land or increasing impervious surface by one-quarter acre or more. Disturbance for the purpose of this rule is the placement of impervious surface or exposure and/or movement of soil or bedrock or clearing, cutting, or removing of vegetation. Projects undertaken by any government agency which otherwise meet the definition of “major development” but which do not require approval under the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq. are also considered "major development."

“Municipality” means any city, borough, town, township, or village.

“Node” means an area designated by the State Planning Commission concentrating facilities and activities which are not organized in a Compact form.

“Nutrient” means a chemical element or compound, such as nitrogen or phosphorus, which is essential to and promotes the development of organisms.

"Person" means any individual, corporation, company, partnership, firm, association, political subdivision of this State and any state, interstate or federal agency.

“Pollutant” means any dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, refuse, oil, grease, sewage sludge, munitions, chemical wastes, biological materials, medical wastes, radioactive substance (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.)), thermal waste, wrecked or discarded equipment, rock, sand, cellar dirt, industrial, municipal, agricultural, and construction waste or runoff or other residue discharged directly or indirectly to the land, ground waters or surface waters of the State, or to a domestic treatment works. ”Pollutant” includes both hazardous and nonhazardous pollutants.

"Recharge" means the amount of water from precipitation that infiltrates into the ground and is not evapotranspired.

“Sediment” means solid material, mineral or organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water or gravity as a product of erosion.

“Site” means the lot or lots upon which a major development is to occur or has occurred.

“Soil” means all unconsolidated mineral and organic material of any origin.

“State Development and Redevelopment Plan Metropolitan Planning Area (PA1)” means an area delineated on the State Plan Policy Map and adopted by the State Planning Commission that is intended to be the focus for much of the state’s future redevelopment and revitalization efforts.

“State Plan Policy Map” is defined as the geographic application of the State Development and Redevelopment Plan’s goals and statewide policies, and the official map of these goals and policies.

“Stormwater” means water resulting from precipitation (including rain and snow) that runs off the land’s surface, is transmitted to the subsurface, or is captured by separate storm sewers or other sewage or drainage facilities.

“Stormwater runoff" means water flow on the surface of the ground or in storm sewers, resulting from precipitation.

"Stormwater management basin" means an excavation or embankment and related areas designed to retain stormwater runoff. A stormwater management basin may either be normally dry (that is, a detention basin or infiltration basin), retain water in a permanent pool (a retention basin), or be planted mainly with wetland vegetation (most constructed stormwater wetlands).

"Stormwater management measure" means any structural or nonstructural strategy, practice, technology, process, program, or other method intended to control or reduce stormwater runoff and associated pollutants, or to induce or control the infiltration or groundwater recharge of stormwater or to eliminate illicit or illegal nonstormwater discharges into stormwater conveyances.

"Tidal Flood Hazard Area" means a flood hazard area, which may be influenced by stormwater runoff from inland areas, but which is primarily caused by the Atlantic Ocean.

“Urban Coordinating Council Empowerment Neighborhood" means a neighborhood given priority access to state resources through the New Jersey Redevelopment Authority.

“Urban Enterprise Zones” means a zone designated by the New Jersey Enterprise Zone Authority pursuant to the New Jersey Urban Enterprise Zones Act, N.J.S.A. 52:27H-60 et. seq.

"Urban Redevelopment Area" is defined as previously developed portions of areas:

(1) Delineated on the State Plan Policy Map (SPPM) as the Metropolitan Planning Area (PA1), Designated Centers, Cores or Nodes;
(2) Designated as CAFRA Centers, Cores or Nodes,
(3) Designated as Urban Enterprise Zones; and

(4) Designated as Urban Coordinating Council Empowerment Neighborhoods.

“Waters of the State” means the ocean and its estuaries, all springs, streams, wetlands, and bodies of surface or ground water, whether natural or artificial, within the boundaries of the State of New Jersey or subject to its jurisdiction.

"Wetlands" or "wetland” means an area that is inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.

PLANNING BOARD

BOROUGH OF HILLSDALE

IN THE MATTER OF THE JUNE 2008
AMENDMENT TO THE UTILITY PLAN
ELEMENT OF THE MASTER PLAN OF
THE BOROUGH OF HILLSDALE

WHEREAS, an amendment dated June, 2008 to the Utility Plan Element of the Master Plan of the Borough of Hillsdale was duly advertised and a hearing was held in accordance with law;

NOW, THEREFORE, BE IT RESOLVED by the Planning Board of the Borough of Hillsdale, County of Bergen and State of New Jersey, that the amendment dated June, 2008 to the Utility Plan Element of the Master Plan of the Borough of Hillsdale incorporating a Storm Water Management Plan be and is hereby adopted.

PLANNING BOARD OF BOROUGH OF
HILLSDALE

By 8/4/08
KIM FUCHS Vice Chair

DATED: August 6, 2008

Introduced by: Alter
Seconded by: Garra
Ayes: Alter, Garra, Fixelle, Franco, Franklin, Fuchs
Nays:
Abstain:
Absent: