Build-out Analysis

Pittsgrove Township, Salem County

August 2009

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture

100 Barrack Street
Trenton NJ 08608
clarkecatonhintz.com
Tel: 609 883 8383
Fax: 609 883 4044

Build-out Analysis

Pittsgrove Township, Salem County

August 2009

Prepared for Pittsgrove Township by:

Elizabeth K. McManus, PP, AICP, LEED AP
Clarke Caton Hintz
PP License # 5915

Clarke Caton Hintz

Pittsgrove Township Planning Board

Gregory Hickson, Chairperson

Peter I. Vörös, Mayor

H. Kirk Craver

Joseph Lindmeier

Jacob Mihalecz

Robert Ternay

Robert Widdifield

Tom Figlio

Vacancy (municipal official)

Christine Seeeney, Alt. #1

William Wright, Jr., Alt. #2

Thomas Hayes, Alt. #3

Deborah Shoemaker, Alt. #4

Nancy L. Huster, Planning Board Secretary/Land Use Administrator

William L. Horner, Esq., Planning Board Attorney

Mark Brunermer, PE, Sickels & Associates, Inc., Planning Board Engineer

Sarah Birdsall, PP, Planning Board Planner

Clarke Caton Hintz

Pittsgrove Township Committee

Peter I. Vörös, Mayor

Jeffery T. Ridgway, Deputy Mayor

Michael Bifulco

H. Kirk Craver

Linda A. DuBois

Deborah Turner-Fox, Township Administrator, QPA, RPPO

Constance S. Garton, RMC, Township Clerk

Adam Telsey, Esq., Township Attorney

Mark Brunermer, PE, Township Engineer

Sarah Birdsall, PP, Township Planner

Clarke Caton Hintz

Clarke Caton Hintz

TABLE OF CONTENTS

INTRODUCTION

Pittsgrove Township is a rural, agriculturally-based municipality occupying the eastern corner of Salem County. Spanning 46 square miles, Pittsgrove is bounded by Upper Pittsgrove Township to the west and north, Elmer Borough to the west, Franklin Township to the north, the City of Vineland to the east, Deerfield Township to the southeast and Upper Deerfield to the southwest.

Pittsgrove is accessible from major transportation routes that serve to connect the Township with Wilmington and Philadelphia to the west and New Jersey shore points to the east. The Township is traversed from east to west by New Jersey State Route 40, and Landis Avenue (State Highway 56), which serves as its commercial corridors. Additionally, the major north-south traffic artery is State Route 55, located just outside of the Township to the east, and links to I-295, which provides access to both Philadelphia and northern points in New Jersey.

On July 7, 2008 the New Jersey Department of Environmental Protection (hereinafter referred to as "DEP") adopted revised Water Quality Management Planning rules, *N.J.A.C.* 7:15. These revised rules made several important changes to the regulations regarding sewer service areas, septic system areas, permitting and requirements of wastewater management plans (hereinafter referred to was "WMP"). The DEP regulations require that the municipality assign residential and commercial septic densities (the minimum area required for one septic system) on the basis of the Hydrologic Unit Code 11 (hereinafter "HUC 11") within the municipality. A HUC 11 is defined as the following by DEP:

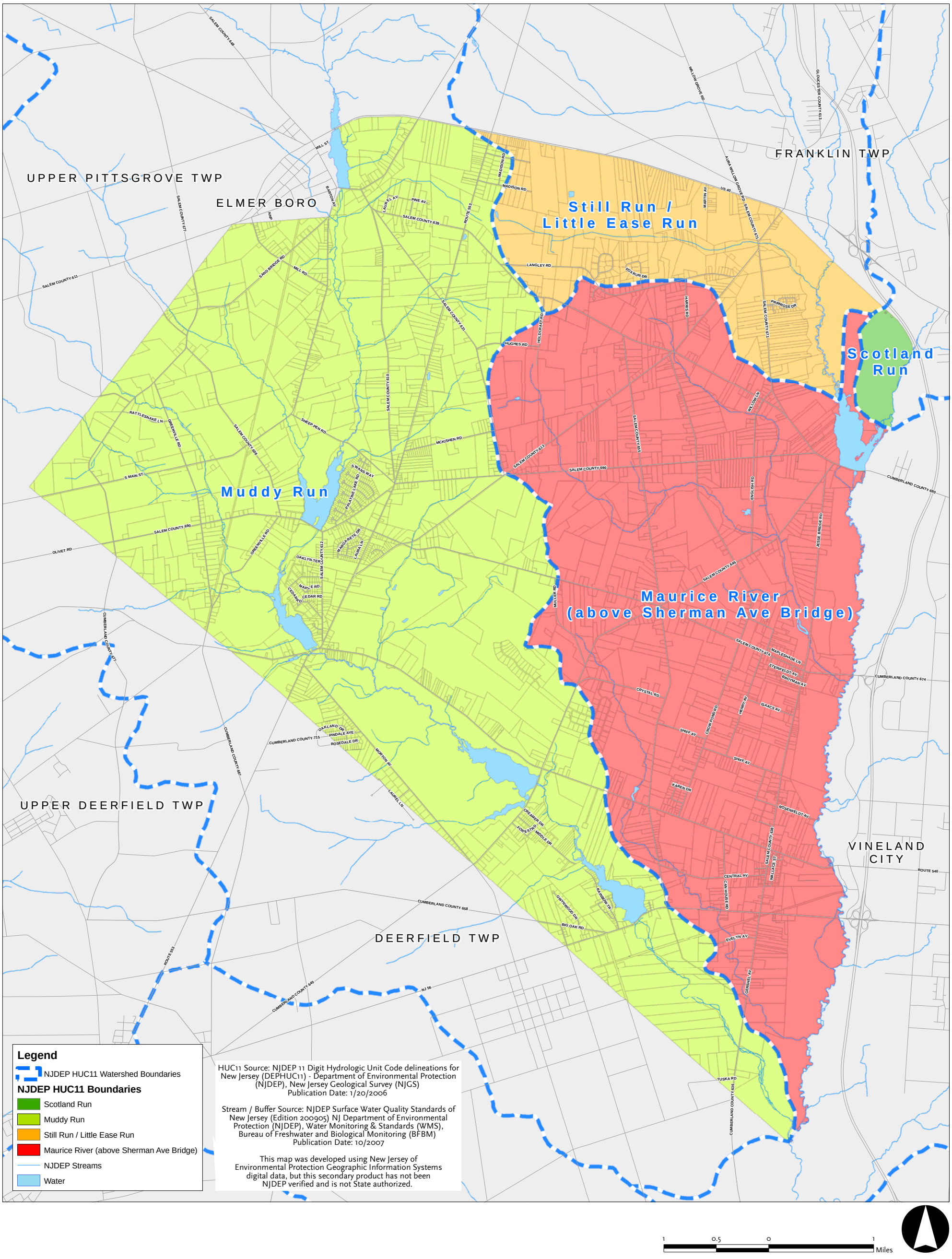
> *"an area within which water drains to a particular receiving surface water body, also known as a watershed, which is identified by an 11-digit hydrologic unit boundary designation, delineated within New Jersey by the United States Geologic Survey."*

These HUC 11's are important to a municipality that is all or in part served by septic systems because the DEP regulations require that each WMP include an analysis of the remaining development capacity, pursuant to DEP septic density regulations, within each HUC 11. Specifically, the rule amendment requires that the municipality's zoning and ultimate build-out for available lands must comply with a nitrate dilution standard of 2.0 mg/l over each HUC 11 in areas served by septic systems. This is a significant change from previous State regulations which did not require that development meet a particular nitrate dilution standard.

The required nitrate dilution standard of 2.0 mg/l represents the limit of the total nitrate effluent from septic systems within a HUC 11. Nitrate acts as a conservative surrogate for any of a number of constituents that could be discharged from a septic system (e.g. cleaners, solvents, pharmaceuticals, etc.). Nitrate was chosen by DEP because it is highly soluble in water, and because it is a stable compound that by itself could render water unsuitable for human consumption. The septic density required to meet the 2.0 mg/l standard is based on the ability of the soil types in the HUC 11 to accommodate the nitrate effluent from septic systems. DEP will require that a municipality's zoning regulations limit the development capacity to that cited in the DEP-approved WMP. As such, Pittsgrove Township will likely be required to amend the zoning regulations as necessary to ensure that the limit is not exceeded. However, it is important to note that a municipality is not required to enact a minimum lot area that meets or exceeds the 2.0 mg/l standards; instead the municipality may use clustering, lot size averaging, etc., provided the resulting development capacity does not exceed that which is included in the approved WMP for each HUC 11.

The purpose of this report is to provide an analysis of the capacity for new septic systems within each HUC 11, pursuant to the DEP Water Quality Management Planning regulations (*N.J.A.C.* 7:15). These regulations require that the municipality examine the capacity pursuant to the nitrate dilution standards as well pursuant to the zoning in place at this time.

This analysis, in conjunction with the Township's decision regarding the available lands, is intended to be utilized by the Salem County Department of Planning in their preparation of the Salem County Wastewater Management Plan, which will include the Wastewater Management Plan for Pittsgrove Township as well as the County's other 14 municipalities. The analysis will also inform Township officials of the impacts of the build-out based on the amended DEP rules and the existing zoning on the Township's future population and tax expenditures and revenues.



Build-out Analysis

Watershed Boundaries

Pittsgrove Township, Salem County, NJ August 2009

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture

Existing Township Conditions

Pittsgrove Township is home to a wealth of natural resources that require protection, including its expansive agricultural lands. In fact the Township is among the top 20 New Jersey municipalities in terms of active agriculture. While the Township has experienced substantial growth rates, as compared to other Salem County municipalities, it has maintained its rural character.

Environmental Constraints

Pittsgrove Township is 46 square miles (29,239 acres). The Township contains a moderate amount of environmental constraints with 28.8% of the total land area constrained by water, wetlands, flood prone areas, stream corridor buffers and steep slopes. Including critical habitat, 58.2% of the Township is constrained. The stream corridor buffers consist of 300 feet for Category 1 waterways and 50 feet for all other waterways (there are currently no waterways that are required to have a 150 foot buffer). In addition to these environmental constraints which limit development, the Township contains a significant amount of critical habitat area, as defined by the DEP Landscape project. Table 1, indicates the environmental constraints and critical habitat present in Pittsgrove.

Table 1. Township Environmental Constraints

	Area in Acres	Percent of Total
Water	557.8	1.9%
Wetlands	5,459.3	19%
Wetland Buffers	1,633.81	5.6%
Flood Prone Areas – 100 Year	5,693.2	19.4%
Stream Corridor Buffers	1,842.26	6.3%
300 Foot Category 1 Buffers	1,108.7	3.8%
50 Stream Corridor Buffers	733.6	2.5%
Steep Slopes – 15% or greater	115.5	0.3%
Critical Habitat Area 3	9,679.3	33.1%
Critical Habitat Area 4	5,944.5	20.3%
Critical Habitat Area 5	0	0%

	Area in Acres	Percent of Total
Composite Total	*17,030.1*	*58.2%*

**Note that the sum of the above figures does not accurately represent the total environmentally constrained areas in the Township due to overlay of the various environmental constraints.*

There are four HUC 11 drainage areas present in Pittsgrove Township:

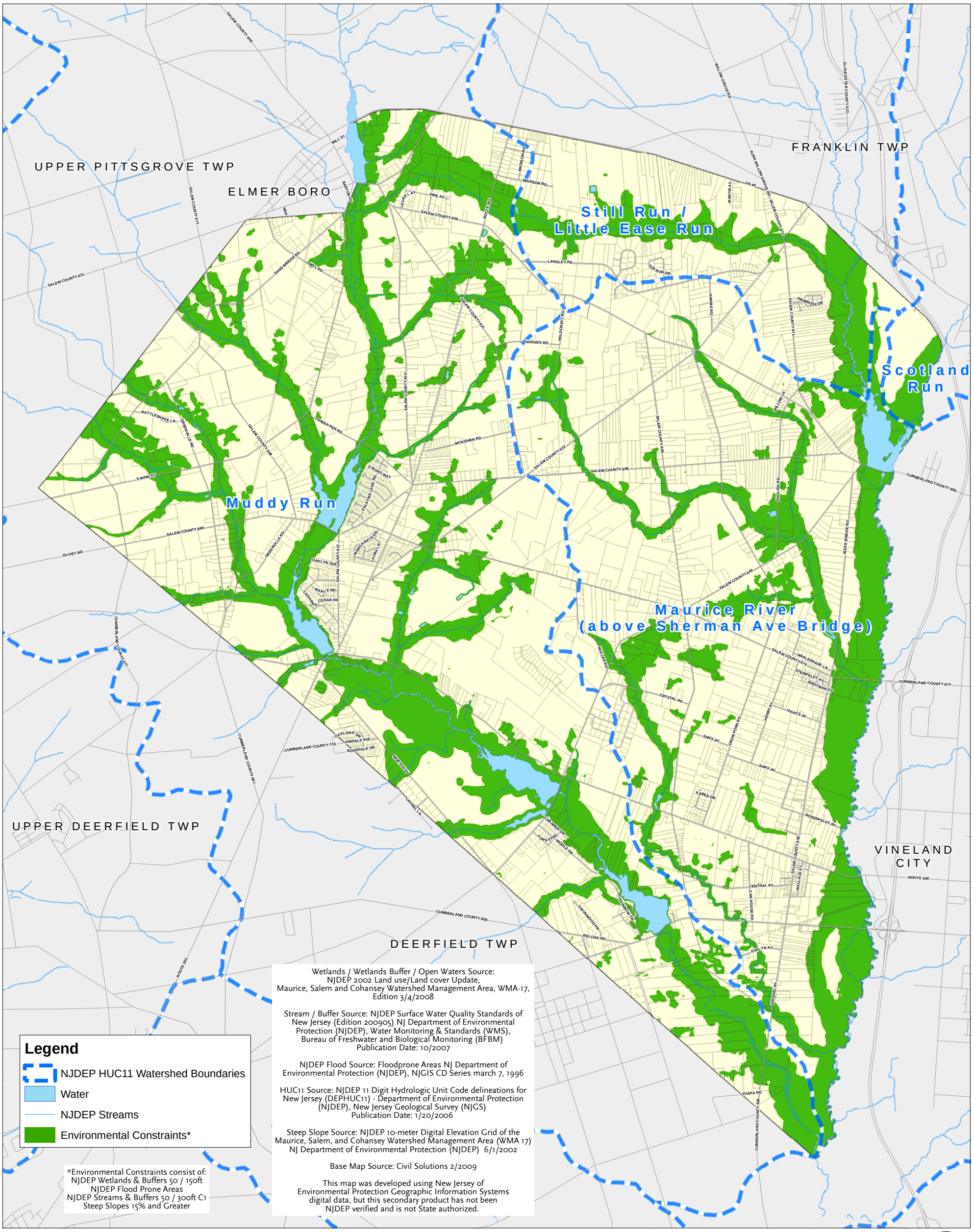
- Still Run / Little Ease Run (02040206120)
- Scotland Run (02040206130)
- Maurice River – above Sherman Ave. Bridge (02040206140)
- Muddy Run (02040206150)

The Muddy Run, at 15,360.85 acres or 52.5% of the Township generally occupies the western half of the Township. It includes the villages of Centerton and Olivet as well as five (Centerton Lake, Elmer Lake, Palatine Lake, Parvin Lake and Rainbow Lake) of the six primary surface water bodies in the Township. Associated with these water bodies are a variety of surface waterways, including Category 1 waterways. Additionally, this HUC 11 contains significant areas of wetlands, wetland buffers and flood prone areas which are associated with the surface waters.

The second largest HUC 11 in Pittsgrove is the Maurice River (above Sherman Ave. Bridge). This area, at 10,819.18 acres or 37% of the Township consists of the lower eastern portion of the Township and includes the villages of Norma, Brotmanville and Willow Grove. This area also includes a number of waterways and significant areas of wetlands, wetland buffers and flood prone areas along the Maurice River which delineates much of the eastern boundary of the Township.

The Still Run / Little Ease Run HUC 11 occupies the northeastern portion of the Township and consists of a rather small area at 2,796.98 acres or 9.6 % of the Township. It encompasses the Township's sixth primary surface water body, Willow Grove Lake. Despite its size it includes significant wetlands, wetland buffers and flood prone areas.

The fourth HUC 11, Scotland Run, is a small area of 262.3 acres or 0.9% of the Township located in the northeastern corner. A significant portion of it consists of wetlands, wetlands and wetland buffers and flood prone areas.

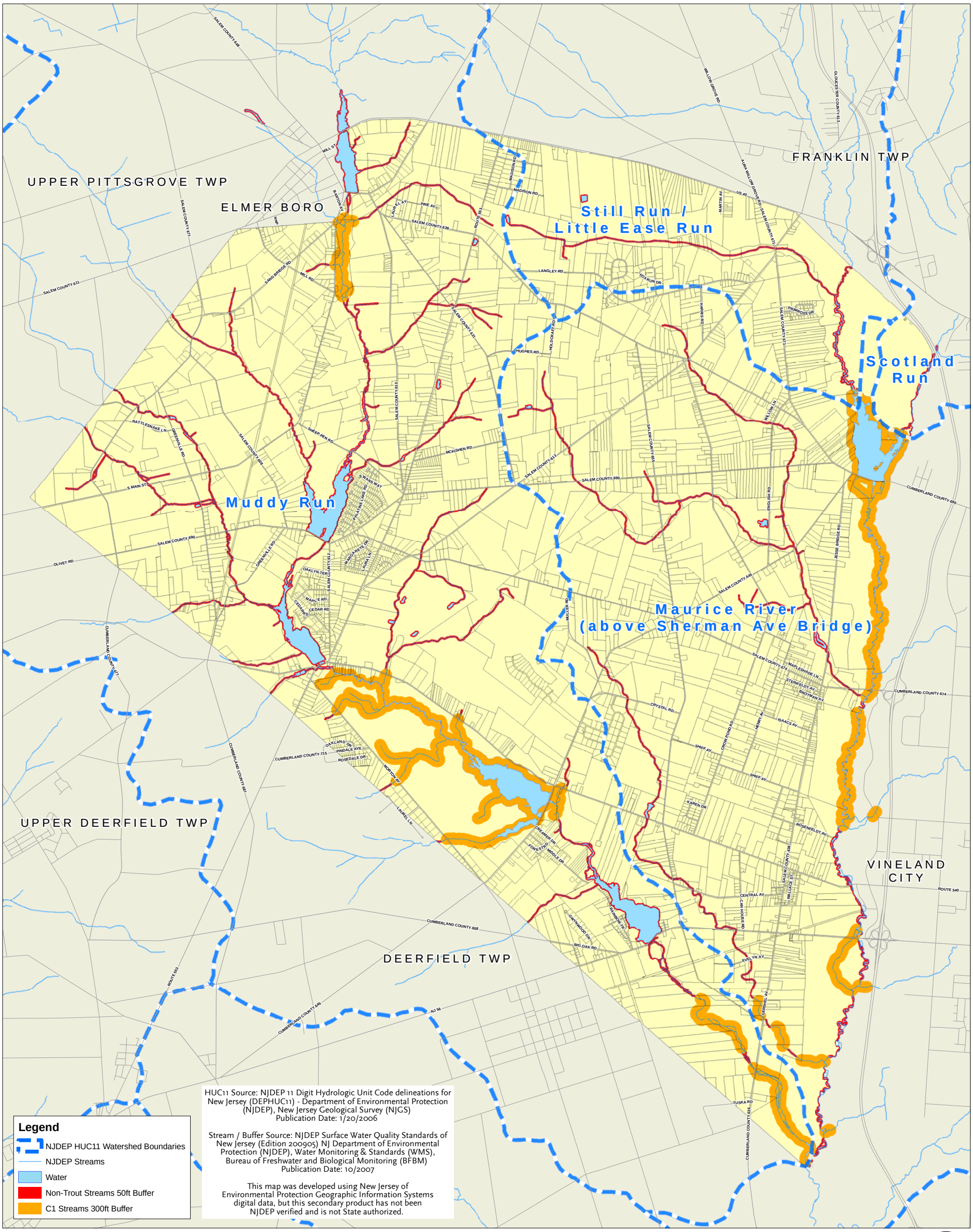


Build-out Analysis

Composite Environmental Constraints

Pittsgrove Township, Salem County, NJ August 2009

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture

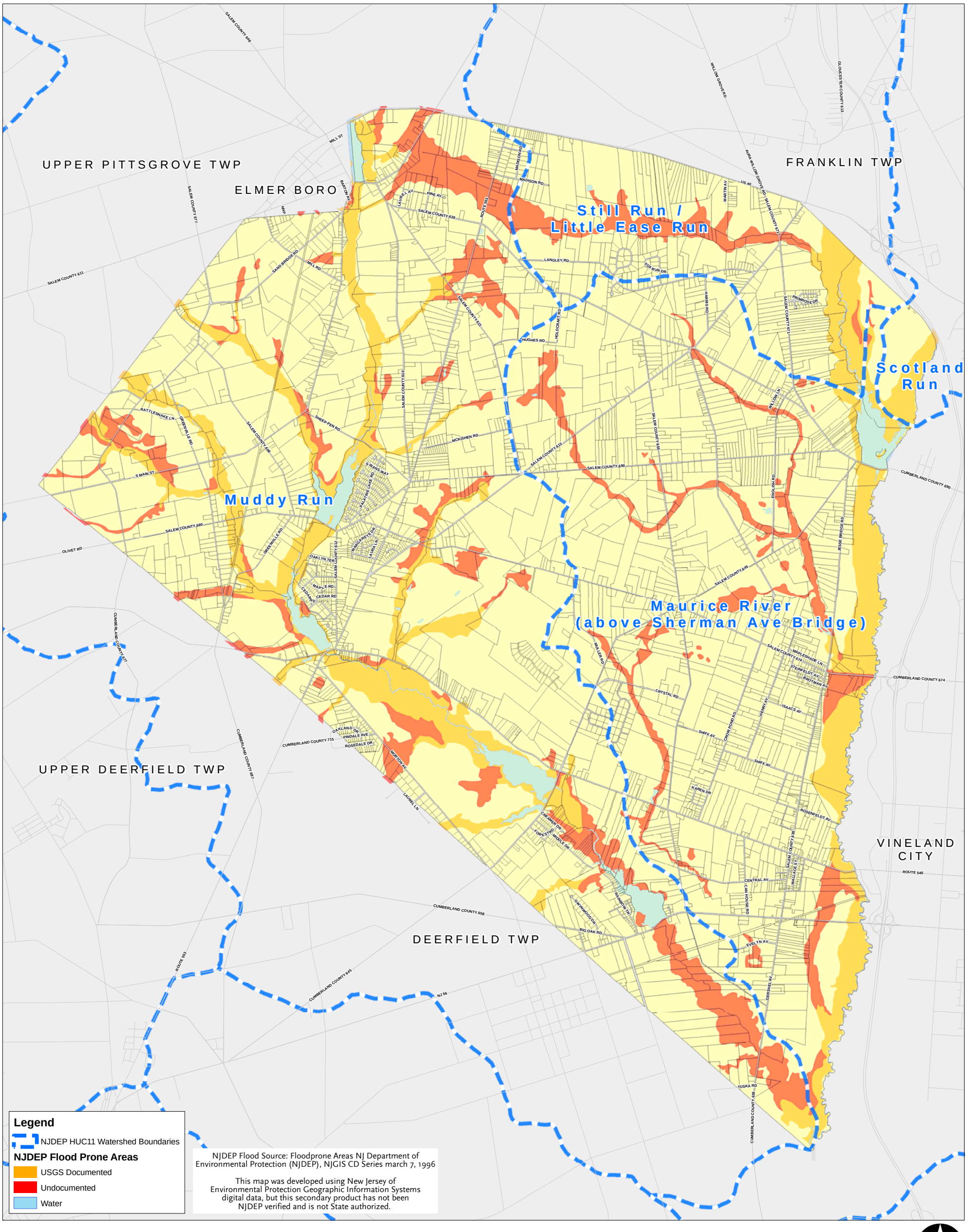


Build-out Analysis

Surface Hydrology

Pittsgrove Township, Salem County, NJ July 2009

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture



Build-out Analysis

Flood Prone Areas

Pittsgrove Township, Salem County, NJ July 2009

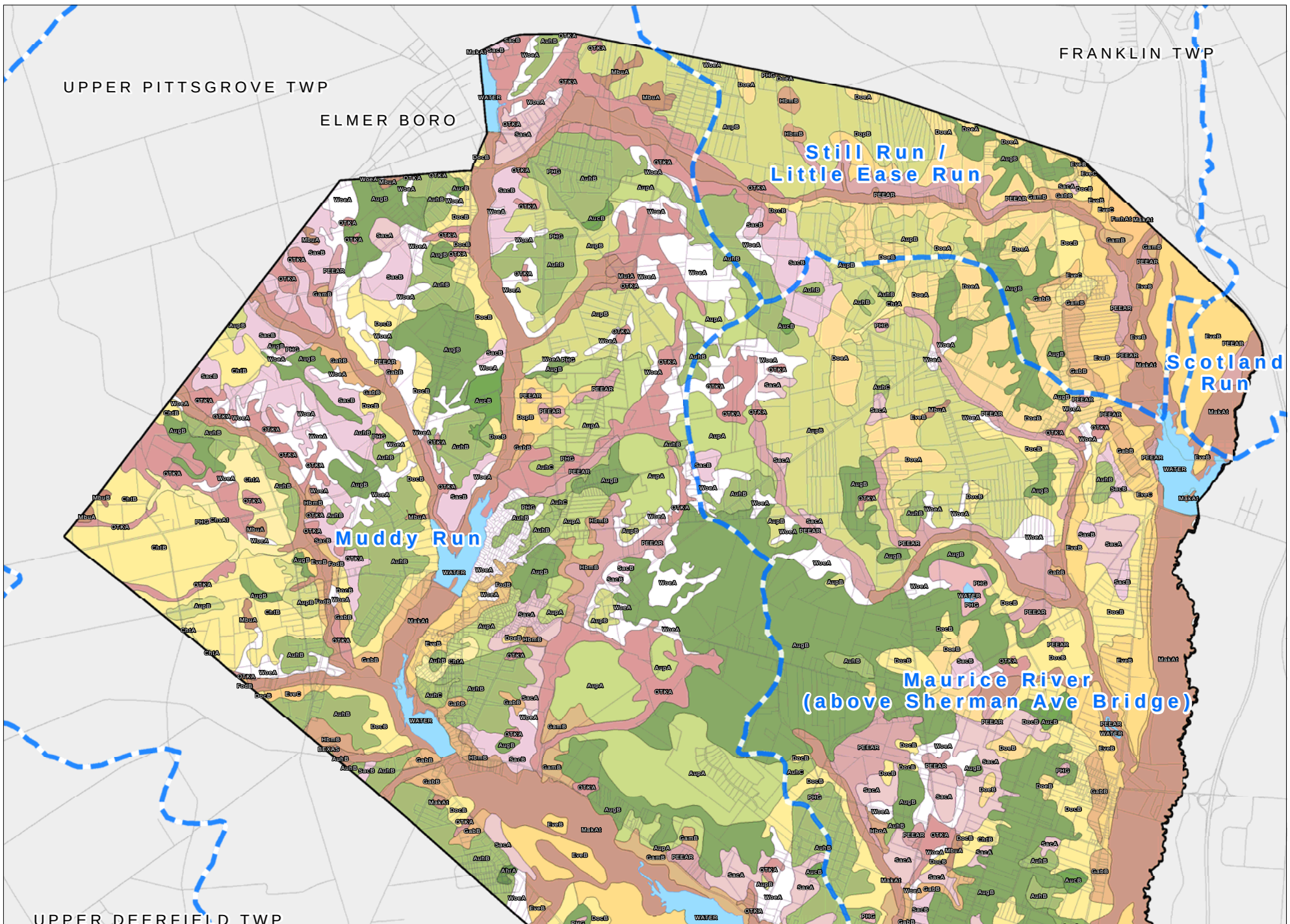
Clarke Caton Hintz
Architecture
Planning
Landscape Architecture

Build-out Analysis

Freshwater Wetlands

Pittsgrove Township, Salem County, NJ July 2009

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture



Legend

NJDEP HUC11 Watershed Boundaries

Soil Type, Name

- AhrA, Alloway silt loam, 0 to 2 percent slopes
- AucB, Aura loamy sand, 0 to 5 percent slopes
- AugB, Aura sandy loam, 2 to 5 percent slopes
- AugC, Aura sandy loam, 5 to 10 percent slopes
- AuhB, Aura gravelly sandy loam, 2 to 5 percent slopes
- AuhC, Aura gravelly sandy loam, 5 to 10 percent slopes
- AupA, Aura loam, 0 to 2 percent slopes
- AupB, Aura loam, 2 to 5 percent slopes
- BEXAS, Berryland and Mullica soils, 0 to 2 percent slopes, occasionally flooded
- ChsAt, Chicone silt loam, 0 to 1 percent slopes, frequently flooded
- ChtA, Chillum silt loam, 0 to 2 percent slopes
- ChtB, Chillum silt loam, 2 to 5 percent slopes
- DocB, Downer loamy sand, 0 to 5 percent slopes
- DocC, Downer loamy sand, 5 to 10 percent slopes
- DoeA, Downer sandy loam, 0 to 2 percent slopes
- DoeB, Downer sandy loam, 2 to 5 percent slopes
- DopB, Downer-Galestown complex, 0 to 5 percent slopes
- EveB, Evesboro sand, 0 to 5 percent slopes
- EveC, Evesboro sand, 5 to 10 percent slopes
- FmhAt, Fluvaquents, loamy, 0 to 3 percent slopes, frequently flooded
- FodB, Fort Mott loamy sand, 0 to 5 percent slopes
- GabB, Galestown sand, 0 to 5 percent slopes
- GamB, Galloway loamy sand, 0 to 5 percent slopes
- HbmB, Hammonton loamy sand, 0 to 5 percent slopes
- HboA, Hammonton sandy loam, 0 to 2 percent slopes
- MakAt, Manahawkin muck, 0 to 2 percent slopes, frequently flooded
- MbrA, Matapeake silt loam, 0 to 2 percent slopes
- MbuA, Mattapex silt loam, 0 to 2 percent slopes
- MbuB, Mattapex silt loam, 2 to 5 percent slopes
- MutA, Muttontown sandy loam, 0 to 2 percent slopes
- OTKA, Othello and Fallsington soils, 0 to 2 percent slopes
- PEEAR, Pedricktown, Askecksy, and Mullica soils, 0 to 2 percent slopes, rarely flooded
- PHG, Pits, sand and gravel
- SacA, Sassafras sandy loam, 0 to 2 percent slopes
- SacB, Sassafras sandy loam, 2 to 5 percent slopes
- UdrB, Udorthents, refuse substratum, 0 to 8 percent slopes
- WoeA, Woodstown sandy loam, 0 to 2 percent slopes
- WATER, Water

Soil Survey Geographic 2008 (SSURGO) Database for Salem County, New Jersey. U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS)
Publication Date: 8/18/2008

This map was developed using New Jersey of Environmental Protection Geographic Information Systems digital data, but this secondary product has not been NJDEP verified and is not State authorized.

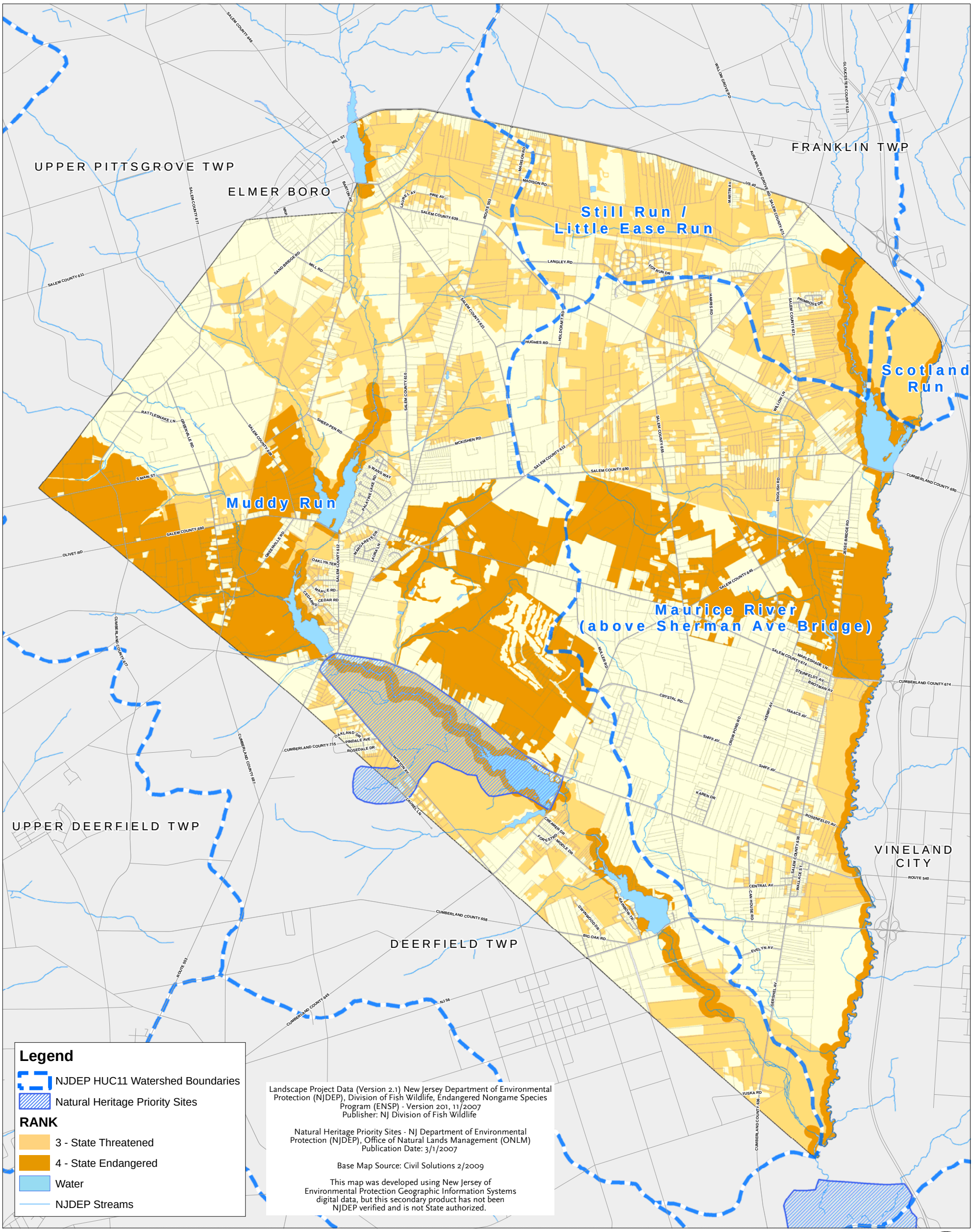
1 0.5 0 1 Miles

BUILD-OUT ANALYSIS

Soils

Pittsgrove Township, Salem County, NJ July 2009

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture



Legend

- NJDEP HUC11 Watershed Boundaries
- Natural Heritage Priority Sites

RANK

- 3 - State Threatened
- 4 - State Endangered
- Water
- NJDEP Streams

Landscape Project Data (Version 2.1) New Jersey Department of Environmental Protection (NJDEP), Division of Fish Wildlife, Endangered Nongame Species Program (ENSP) - Version 201, 11/2007
Publisher: NJ Division of Fish Wildlife

Natural Heritage Priority Sites - NJ Department of Environmental Protection (NJDEP), Office of Natural Lands Management (ONLM)
Publication Date: 3/1/2007

Base Map Source: Civil Solutions 2/2009

This map was developed using New Jersey of Environmental Protection Geographic Information Systems digital data, but this secondary product has not been NJDEP verified and is not State authorized.

BUILD-OUT ANALYSIS

Critical Habitat & Natural Heritage Priority Sites

Pittsgrove Township, Salem County, NJ August 2009

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture

Table 2, provides additional information on each HUC 11 and the environmental constraints contained within.

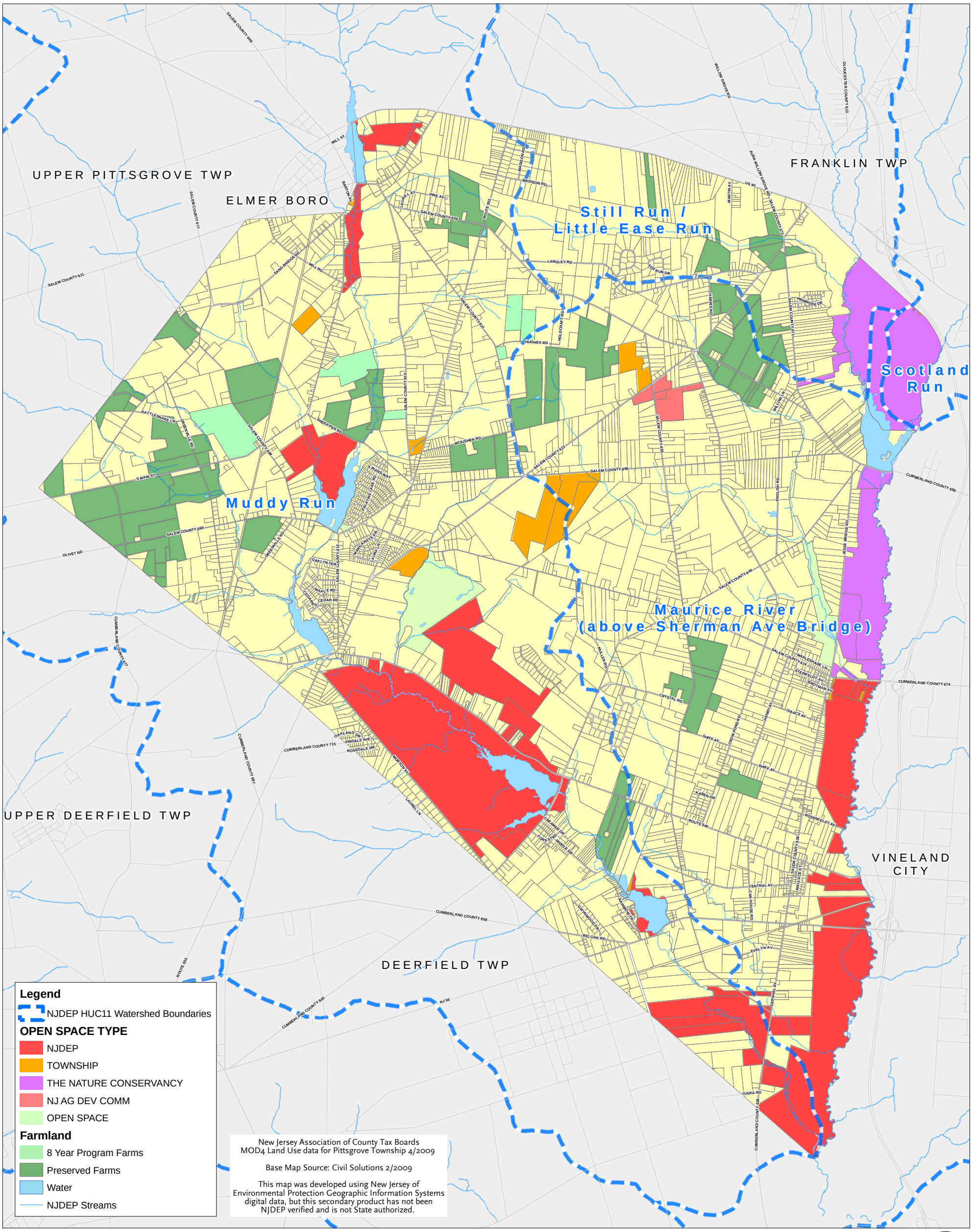
Table 2. HUC 11 Environmental Constraints

	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
Water	393.83	149.1	14.1	0.7
Wetlands	2,800.7	1971.3	585.6	101.6
Wetland Buffers	1,029.0	507.9	85.54	11.37
Flood Prone Areas	3,320.7	1643.6	622.8	106.1
Stream Corridor Buffers	1,173.1	579.3	76.0	13.9
300 Foot Category 1	739.5	354.1	8.8	6.2
50 Stream Corridor	433.6	225.2	67.2	77
Steep Slopes	75.5	39.2	0.8	0
15 to 25%	72.3	39.1	0.8	0
25% +	3.2	0.1	0	0
Critical Habitat Area 3	4943.9	2,684.6	1,790.8	259.9
Critical Habitat Area 4	3,872.4	1,890.7	151.7	29.8
Critical Habitat Area 5	0	0	0	0
Composite Total	*9,437.6*	*5,396.2*	*1,937.57*	*262.3*

**Note that the sum of the above figures does not accurately represent the total environmentally constrained areas in the Township due to overlay of the various environmental constraints.*

Land Preservation

The Township has a successful history of preserving farmland and open space. In fact, to date 2,390 acres or 8.2% of the Township has been preserved through the various farmland preservation programs. Table 3. provides information on all preserved land in Pittsgrove Township, which includes lands such as farmland, parks and open space.



Build-out Analysis

Preserved Farmland & Open Space

Pittsgrove Township, Salem County, NJ August 2009

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture

Table 3. Preserved Property

	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run	Total Pittsgrove Township
Preserved Acres	4169.3	2391.3	467.76	262.3	7,290.9
Preserved Lots	-	-	-	-	160

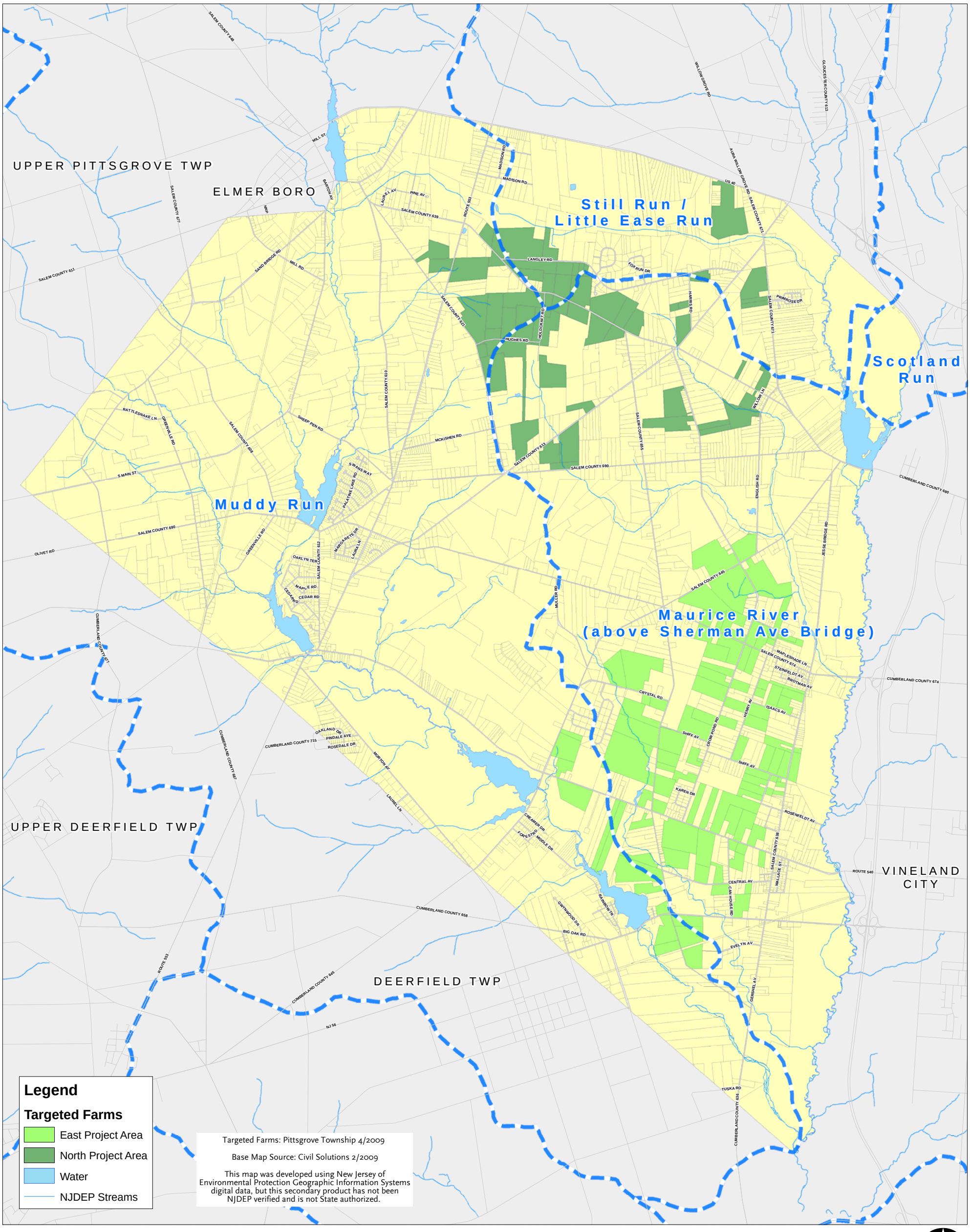
The number of preserved lots per HUC 11 is not given since many of the preserved lots span across multiple HUC 11 areas.

As described in more detail in the 2008 Farmland Preservation Plan, Pittsgrove Township is targeting 3,180 acres across the Township for farmland preservation. The Farmland Preservation Plan identified two project areas – the North Project Area and the East Project Area. The North Project Area is located primarily in the Maurice River (above Sherman Ave. Bridge) HUC 11. The East Project Area is located in the Maurice River (above Sherman Ave. Bridge), Muddy Run and a small portion is in the Still Run / Little Ease Run HUC 11. The Plan targets 29 farms consisting of 58 properties and 1,269 acres in the North Project Area and 64 farms consisting of 170 lots and 1,911 acres in the East Project Area. Table 4. provides additional information on the targeted farms.

Table 4. Targeted Farms

	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run	Total Pittsgrove Township*
North Project Area					
Acres	306.8	659.8	342.8	0	1309.3 acres
Lots	13	29	16	0	58
East Project Area					
Acres	295.9	1560.6	0	0	1856.4 acres
Lots	13	93	0	0	106

**Note that the 2008 Farmland Preservation Plan noted a total acreage of targeted farms in the North Project Area of 1,269 and a total acreage of targeted farms in the East Project Area of 1,911. The difference in these numbers and the table above is rooted in discrepancies between the tax data relied upon in the Farmland Preservation Plan and the Geographic Information Systems data relied upon in this report.*



Build-out Analysis

Targeted Farmland Preservation

Pittsgrove Township, Salem County, NJ August 2009

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture

Population & Housing Conditions

Pittsgrove Township has experienced tremendous population growth in the last few decades as compared to other parts of Salem County and New Jersey. Notwithstanding this, the Township's growth rates appear to be stabilizing.

Table 5. Population Growth

	1930	1940	1950	1960	1970	1980	1990	2000
Pittsgrove Twp.	2,091	2,157	2,808	3,785	4,618	6,954	8,121	8,893
Salem County	36,834	42,274	49,508	58,711	60,346	64,676	65,294	65,285
New Jersey	4,041,334	4,160,165	4,835,329	6,066,782	7,168,164	7,364,823	7,730,188	8,414,350

Source: 1930, 1940, 1950, 1960, 1970, 1980 1990, 2000 US Census

Table 6. Recent Population Growth Trends

	1980	Percent Change	1990	Percent Change	2000	Percent Change
Pittsgrove Township	6,954	33.6%	8,121	16.8%	8,893	9.5%
Salem County	64,676	7.2%	65,294	1.0%	65,285	0.0%
New Jersey	7,364,823	2.70%	7,730,188	4.96%	8,414,350	8.85%

Source: 1970, 1980, 1990, 2000 US Census

Pittsgrove Township's population as of December 2008 is estimated to be 9,885. The population estimate was derived by multiplying the number of certificates of occupancy issued since the April 2000 by Pittsgrove Township's median household size of 2.90, pursuant to the U.S. Census. This number was then added to Pittsgrove's population in 2000 as was reported by the U.S. Census. This approximate growth of 992 persons between 2000 and 2008 represents a growth rate of 11.2%. This growth rate over this period combined with the current economic climate, indicates that the Township's growth rate between 2000 and 2010 is likely to be modestly higher than the growth rate of 9.5% of the period 1990 and 2000.

Similar to population growth, the number of housing units in Pittsgrove Township has increased significantly from 2,671 units in 1990 to 3,155 housing units in 2000 – a growth rate of 18.1% and an average of 44 new units per year. Tables 7 and 8 provide information on housing unit types present in the Township in 1990 and 2000. Between 2000 and 2008, there were 391 certificates of occupancy issued for new residential

units[1] and 27 demolition permits issued for residential units – a net average of 40.4 new homes per year. As such, the total number of housing units in Pittsgrove Township as of December 2008 is 3,519 - a growth rate of 11.5% since 2000[2]. This growth between 2000 and 2008 suggests that the Township will grow at a more modest rate between 2000 and 2010 as compared to between 1990 and 2000.

Table 7. 1990 Housing Units by Number of Units in Structure

Number of Units	Owner Occupied	Rental	Total
1, Detached	1,873	146	2,019
1, Attached	16	6	22
2	5	11	16
3 or 4	0	12	12
5 to 9	0	5	5
10 to 19	0	0	0
20 to 49	0	0	0
50 or more	0	0	0
Mobile Home	569	25	594
Other	3	0	3
Total	*2,466*	*205*	*2,671*

Source: 1990 US Census

Table 8. 2000 Housing Units by Number of Units in Structure

Number of Units	Owner Occupied	Rental	Vacant	Total
1, Detached	2,257	188	74	2,519
1, Attached	9	16	0	25
2	18	12	0	30
3 or 4	18	19	0	37
5 to 9	0	8	0	8

[1] Source: New Jersey Department of Community Affairs Construction Reporter
[2] Please note that a small overlap may exist in 2000. The US Census was taken in April of 2000, however, the certificates of occupancy cited for 2000 were issued during the entirety of the year.

Number of Units	Owner Occupied	Rental	Vacant	Total
10 to 19	0	0	0	0
20 to 49	0	0	0	0
50 or more	0	0	0	0
Mobile Home	428	47	61	536
Other	0	0	0	0
Total	*2,730*	*290*	*135*	*3,155*

Source: 2000 US Census

Development Patterns

The primary development pattern in Pittsgrove Township is strip frontage development (also known as ribbon development) where residential lots are developed along the frontage of existing roads. This leaves the interior lands largely undeveloped as the existing woodlands or farmland. Consistent with this type of development, there are few large residential subdivisions; the majority of subdivisions in recent years consist of five or less units. Nonresidential development has followed a similar pattern; however, there has been only modest commercial development in Pittsgrove over the last decade.

As of June 2009, there were 2,569 developed or underdeveloped (lots with a septic system that are capable of being subdivided) residential lots and 74 developed or underdeveloped nonresidential lots in the Township. The remaining 1,258 lots are not developed with a septic system. There are 1,000 lots or 13,629.6 acres which are considered undeveloped for the purposes of this build-out analysis and are not open space or farmland preserved. Note that the Wastewater Management Planning rules, *N.J.A.C.* 7:15, do not allow a municipality to assign development capacity to lots with unconstrained areas that do not meet the minimum lot area for the zone which they are located in.

Existing Zoning

There are 13 zoning districts in the Township, of which seven are residential districts, five are nonresidential districts and one is the Public zone district. The characteristics present in these districts vary widely depending on the predominant land uses and the environmental conditions.

A Agricultural district. This principally residential district encompasses much of the Township's prime farmland. Permitted uses include but are not limited to agricultural, single family detached dwellings, educational uses and recreation uses. Conditional uses include but are not limited to farm businesses, garden centers and planned residential cluster developments. The required minimum lot size in the district varies by the permitted and conditional uses; however, the predominant land use, single family detached dwellings, has a minimum lot area of three (3.0) acres.

B-1 Neighborhood Business district. This nonresidential district is located in and near the villages of Centerton and Norma and contains a variety of uses on moderate sized lots. Permitted uses include but are not limited to day care, professional service, professional office and retail. Conditional uses include but are not limited to planned commercial centers and restaurants. The required minimum lot size in the district varies by the permitted and conditional uses; however, the predominant required lot area is two (2.0) acres. Similarly, the maximum building cover varies by permitted and conditional uses but has no predominant standard; however, the average maximum permitted building cover for permitted uses is 5.0%.

HB-40 Highway Business district. This nonresidential district is located along Route 40 and contains a variety of uses on moderate sized lots. Permitted uses include but are not limited to low intensity retail and services, gasoline stations, professional offices and restaurants. Conditional uses include but are not limited to planned commercial centers, personal storage centers and vehicle, boat and farm equipment sales. The required minimum lot size in the district varies by the permitted and conditional uses with no predominant lot size. The average lots size of the permitted use, excluding the 15 acre lot size for nursing facilities, is 3.50 acres. Similarly, the required maximum permitted building cover in the district varies by the permitted and conditional uses; however, the average maximum permitted building cover for permitted uses, excluding nursing facilities, is 15.8%.

HB-56 Highway Business district. This nonresidential district is located along Route 56 and contains a variety of uses on moderate sized lots. Permitted uses include but are not limited to retail and services, gasoline stations, professional offices and restaurants. Conditional uses include but are not limited to planned commercial centers and personal storage centers. The required minimum lot size in the district varies by the permitted and conditional uses with no predominant lot size. The average lots size of the permitted use, excluding the 15 acre lot size for nursing facilities, is 3.13 acres. Similarly, the required maximum permitted building cover in the district varies by the permitted

and conditional uses; however, the average maximum permitted building cover for permitted uses, excluding nursing facilities, is 16.1%.

C Conservation district. This principally residential district encompasses much of the Township's environmentally constrained lands and generally follows the surface waterways. Permitted uses include but are not limited to agricultural, single family detached dwellings, educational uses and recreation uses. Conditional uses include but are not limited to windmills and studios or workshops. The required minimum lot size in the district varies by the permitted and conditional uses; however, the predominant land use, single family detached dwellings, has a minimum lot area of five (5.0) acres.

MC-1 Industrial / Commercial district. This nonresidential district is located south of the village of Norma on larger sized lots. Permitted uses include but are not limited to retail and services, gasoline stations, professional offices, vehicle, farm equipment and boat sales, warehouse and distribution facilities and low intensity industrial operations. Conditional uses include but are not limited to planned commercial centers, limited to planned industrial parks and personal storage centers. The required minimum lot size in the district varies by the permitted and conditional uses with no predominant lot size. The average lots size of the permitted use is 4.08 acres. Similarly, the required maximum permitted building cover in the district varies by the permitted and conditional uses; however, the average maximum permitted building cover for permitted uses is 16.5%.

P Public district. This nonresidential district is scattered throughout the Township and consists of publicly owned lands. Permitted uses include but are not limited to municipal uses, educational uses and recreational uses. Conditional uses include but are not limited to windmills and wireless communication facilities. The required minimum lot size in the district varies by the permitted and conditional uses with no predominant lot size. The average lots size of the permitted use is three (3.0) acres. Similarly, the required maximum permitted building cover in the district varies by the permitted and conditional uses; however, the average maximum permitted building cover for permitted uses, excluding conservation uses, is 31.3%.

PHB Planned Highway Business district. This nonresidential district is located along Route 40 and contains a variety of uses on moderate sized lots. Permitted uses include but are not limited to low intensity retail and services, gasoline stations, landscape and garden centers, professional offices and restaurants. Conditional uses include but are not limited to planned commercial centers, personal storage centers and vehicle, boat and farm equipment sales. The required minimum lot size in the district varies by the

permitted and conditional uses with no predominant lot size. The average lots size of the permitted use, excluding the 15 acre lot size for nursing facilities, is 3.50 acres. Similarly, the required maximum permitted building cover in the district varies by the permitted and conditional uses; however, the average maximum permitted building cover for permitted uses, excluding nursing facilities, is 15.8%.

R-1 Residential District. This principally residential district largely consists of moderate sized residential lots south of the Route 40 frontage and along Crow Pond Road. Permitted uses include but are not limited to agricultural, single family detached dwellings and recreation uses. Conditional uses include but are not limited to daycare, planned residential cluster developments, farm businesses and churches. The required minimum lot size in the district varies by the permitted and conditional uses; however, the predominant land use, single family detached dwellings, has a minimum lot area of two (2.0) acres.

R-2 Residential District. This principally residential district largely consists of moderate sized residential lots along Buck Road, Jesse Bridge Road and near the village of Norma. Permitted uses include but are not limited to agricultural, single family detached dwellings and recreation uses. Conditional uses include but are not limited to daycare, churches and windmills. The required minimum lot size in the district varies by the permitted and conditional uses; however, the predominant land use, single family detached dwellings, has a minimum lot area of 45,000 square feet (1.0 acre).

R-3 Residential District. This principally residential district largely consists of moderate sized residential lots north of the village of Norma along Jesse Bridge Road. Permitted uses include but are not limited to agricultural, single family detached dwellings and recreation uses. Conditional uses include but are not limited to daycare, churches and windmills. The required minimum lot size in the district varies by the permitted and conditional uses; however, the predominant land use, single family detached dwellings, has a minimum lot area of 30,000 square feet (0.7 acre).

R-4 Residential District. This principally residential district largely consists of moderate sized residential lots along Buck Road, Jesse Bridge Road and near the village of Norma. Permitted uses include but are not limited to agricultural, single family detached dwellings and recreation uses. Conditional uses include but are not limited to daycare, churches and windmills. The required minimum lot size in the district varies by the permitted and conditional uses; however, the predominant land use, single family detached dwellings, has a minimum lot area of 22,000 square feet (0.5 acres).

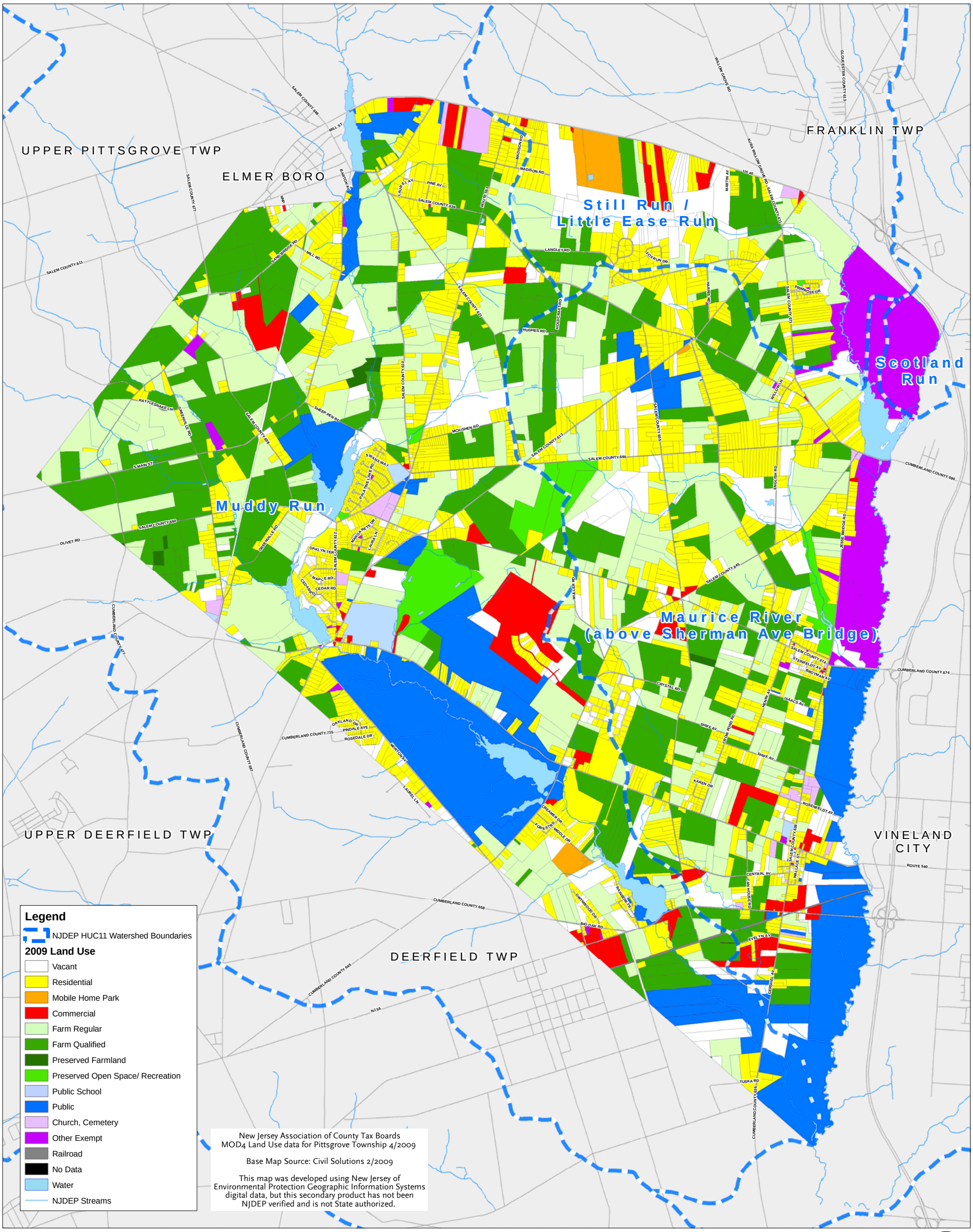
RR Rural Residential district. This principally residential district, which is the largest in the Township, contains much of the Township's farmland and scattered single-family residential development. Permitted uses include but are not limited to agricultural, churches, single family detached dwellings, educational uses and recreation uses. Conditional uses include but are not limited to daycare, planned residential cluster developments, farm businesses and golf courses. The required minimum lot size in the district varies by the permitted and conditional uses; however, the predominant land use, single family detached dwellings, has a minimum lot area of three (3.0) acres.

Table 9. below provides information on the total area of each district (including roadways) and the area within each HUC 11.

Table 9. Zone District Areas and Developed/Undeveloped/Underdeveloped Land Area

	Total Area*	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
A District	5,206.9	4,000.3	943.8	262.8	0
B-1 District	321.7	82.9	238.8	0	0
HB-40 District	144.1	63.3	0	80.8	0
HB-56 District	161.1	49.0	112.1	0	0
C District	6,261.5	3,000.4	2,185.7	813.1	262.3
MC-1 District	412.6	202.2	210.4	0	0
P District	1,423.8	1,354.8	69.1	0	0
PHB District	282.6	74.9	42.6	165.2	0
R-1 District	2,282.7	5,66.9	1,280.5	435.3	0
R-2 District	1,383.8	826.0	400.2	157.6	0
R-3 District	296.6	0	296.6	0	0
R-4 District	369.2	305.2	64.1	0	0
RR District	9,979.1	4,466.4	4,675.2	837.5	0

* *Excludes water*

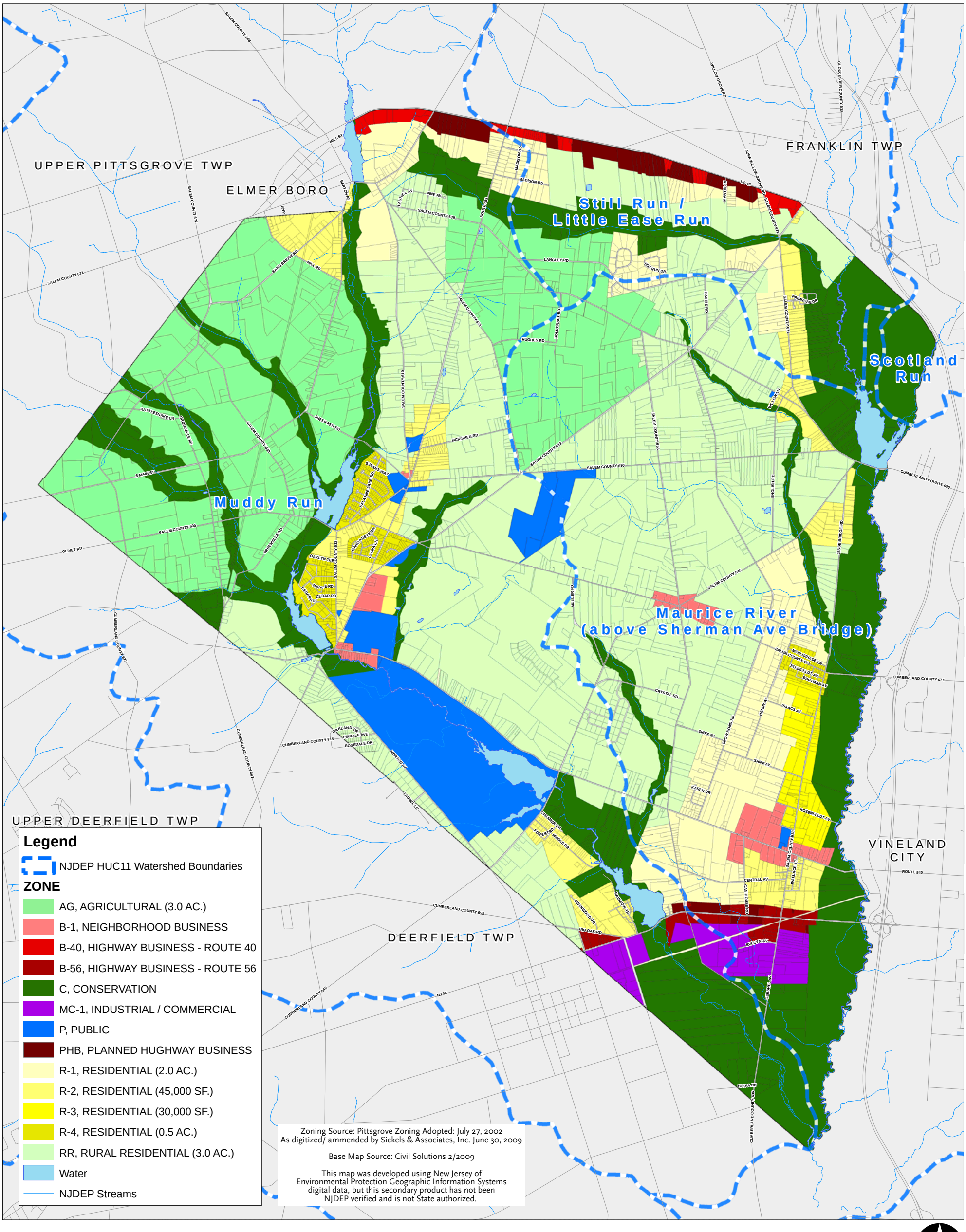


Build-out Analysis

Existing Land Use

Pittsgrove Township, Salem County, NJ August 2009

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture



Build-out Analysis

Zoning

Pittsgrove Township, Salem County, NJ August 2009

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture

New Jersey State Development and Redevelopment Plan

The adopted 2001 and draft 2009 New Jersey State Development and Redevelopment Plan ("State Plan") has designated Pittsgrove Township lands as one of three planning areas: the Rural Planning Area (PA4), the Rural Environmentally Sensitive Planning Area (PA 4B) and the Environmentally Sensitive Planning Area (PA 5). The Township also has significant lands designated as Parks and Recreation Areas. The below table provides additional information on the Township's Planning Areas.

Table 10. State Plan Planning Areas

Planning Area	2001 Adopted State Plan		2009 Draft State Plan	
	Acres	% of Total	Acres	% of Total
Rural	640.4	2.2%	591.7	2.0%
Rural Environmentally Sensitive	16,759.0	57.3%	16,269.6	55.6%
Environmentally Sensitive	9,299.6	31.8%	8,411.7	28.7%
Parks and Recreation	2,570.7	8.8%	3,677.6	12.0%

The Rural Environmentally Sensitive Planning Area is described as the following in the State Plan:

> *"Some lands in the Rural Planning Area (PA4) have one or more environmentally sensitive features qualifying for delineation as Rural/Environmentally Sensitive (PA4B).This subarea contains valuable ecosystems or wildlife habitats. Rural/Environmentally Sensitive Planning Areas are supportive of agriculture and other related economic development efforts that ensure diversity within New Jersey. Any development or redevelopment planned in the Rural/Environmentally Sensitive Area should respect the natural resources and environmentally sensitive features of the area."*

The Environmentally Sensitive Planning Area is described as the following in the State Plan:

> *"The Environmentally Sensitive Planning Area contains large contiguous land areas with valuable ecosystems, geological features and wildlife habitats particularly in the Delaware Bay and other estuary areas, the Highlands Region, and coastal area. The future environmental and economic integrity of*

> *the state rests in the protection of these irreplaceable resources. Some of these lands have remained somewhat undeveloped or rural in character. Other areas, particularly New Jersey's coastal barrier islands, have experienced advanced levels of development, but remain highly vulnerable to natural forces. Environmentally Sensitive Planning Areas are characterized by watersheds of pristine waters, trout streams and drinking water supply reservoirs; recharge areas for potable water aquifers; habitats of endangered and threatened plant and animal species; coastal and freshwater wetlands; prime forested areas; scenic vistas; and other significant topographical, geological or ecological features, particularly coastal barrier spits and islands. These resources are critically important not only for the residents of these areas, but for all New Jersey citizens."*

In addition to these planning areas, the Township also has several areas of Critical Environmental Constraints. These areas, are described as the following the in State Plan.

> *"The Critical Environmental Sites (CES) and Historic and Cultural Sites (HCS) designations are used to help organize planning for new development or redevelopment by singling out the elements of natural systems, small areas of habitat, historic sites, and other features that should continue to be expressed in the future landscape through protection and restoration. Riparian corridors are excellent examples of eligible features for mapping, as are remnants of forest and small wetlands. The presence of CES and HCS gives land owners and developers important advance information on how to shape their proposals for development of the land around them, focusing on including them within he design and function of the development whenever possible, while at the same time protecting them from adverse impacts."*

Pole Tavern
Elmer Ext. N.
Elmer Ext. S.
ELMER BORO
UPPER PITTSGROVE TWP
FRANKLIN TWP
Centerton-Olivet
Brotmanville
Norma
Seabrook
Rosenhayn
Morton & Lebanon Rds.
UPPER DEERFIELD TWP
DEERFIELD TWP
VINELAND CITY

Legend

2001 STATE PLAN

PLANNING AREA

- 1, METROPOLITAN
- 2, SUBURBAN
- 3, FRINGE
- 4, RURAL
- 42, RURAL ENV. SENSITIVE
- 5, ENVIRONMENTALLY SENSITIVE
- 8, STATE PARK
- 11, WATER
- IDENTIFIED CENTER BOUNDARIES

Planning Areas of the NJ State Development and Redevelopment Plan, adopted March 1, 2001.
Who created the data: NJ Department of Community Affairs, Office of Smart Growth (formerly the Office of State Planning)
Beginning date and time: 3/1/2001
Ending date and time: 12/2/2008

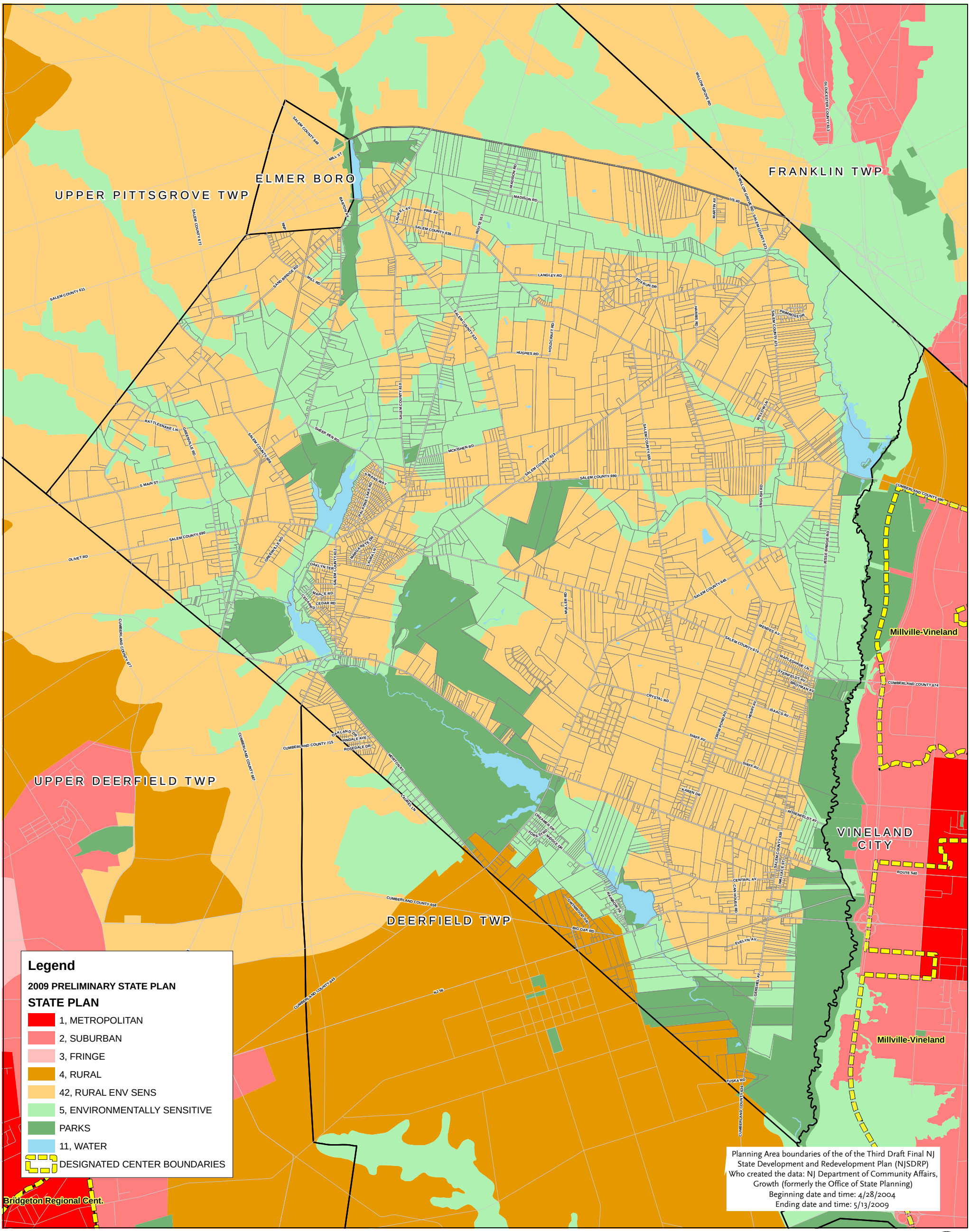
1 0.5 0 1 Miles

BUILD-OUT ANALYSIS

2001 NJ Adopted SDRP

Pittsgrove Township, Salem County, NJ August 2009

Clarke Caton Hintz
Architecture
Planning
Landscape Architecture



Build-out Analysis

2009 NJ Draft SDRP

Pittsgrove Township, Salem County, NJ August 2009

Clarke Caton Hintz

Architecture
Planning
Landscape Architecture

BUILD-OUT ANALYSIS METHODOLOGY

This report provides an analysis of the development capacity in areas served by septic systems under the following scenario:

- Existing Zoning;
- Net Nitrate Dilution: DEP nitrate dilution standards applied to available lands which *exclude* permanently preserved properties and environmentally constrained lands.

Note that the Township's few sites with a NJPDES discharge permit are not served by septic systems and are therefore excluded from the build-out analysis. These sites are listed below in Table 11.

Table 11. NJPEDS Discharge Permits

NJPDES No.	Facility Name	Facility Address
NJ0061841 / NJ0103039	B & B Poultry Co. Inc.	Almond Road
NJ0090221	Arthur Schalick High School	Route 553
NJ0099678	Harding Woods Inc.	187 Harding Highway
NJ0157716	Daytop of NJ	4 Harding Highway
NJG0084883	The Villages I	388 Porchtown Road
NJG0108405	Holly Tree Acres Mobile Home Park	109 Middle Drive
NJG0112305	Lee Transport Inc.	Garden Road
NJG0129577	Centerton Country Club	1022 Almond Road
NJG0133167	Parvin State Park	701 Almond Road
NJG0154512	Pittsgrove Township	989 Centerton Road
NJG0160652	Region South Drainage	Route 40
NJG0165042	NJDOT Rt 40.	Route 40 4, Elmer
NJG0169129	NJDOT Rt. 56 Rainbow Lake Dam Replacement	Route 56 Rainbow Lake

The DEP provided the septic densities to be approved by each HUC 11 in the build-out analyses. The septic densities have been converted to nonresidential floor area ratio in order to provide a development intensity equivalent for nonresidential districts. There are four HUC 11 areas in Pittsgrove. The below table lists each HUC 11 and the associated septic density.

Table 12. HUC 11 Area Septic Densities

HUC 11 Drainage Area	Residential Septic Density	Nonresidential Floor Area Ratio
Still Run / Little Ease Run (02040206120)	6.6 acres	.0139
Scotland Run (02040206130)	6.4 acres	.0140
Maurice River – above Sherman Ave. Bridge (02040206140)	6.8 acres	.0133
Muddy Run (02040206150)	6.9 acres	.0135

Existing Zoning Build-out Analysis

The existing zoning analysis was conducted pursuant to the Water Quality Management Planning regulations, *N.J.A.C.* 7:15. As such, an analysis of the development capacity for areas served by septic systems was conducted for each zone district and broken down by each HUC 11 area.

The first step in the analysis was to determine the "available" lands. Available lands include lots that either do not contain a septic system or contain one septic system and the unconstrained lands area is capable of being subdivided pursuant to the minimum lot area required by the zoning standards. Environmental constraints and lots which are permanently preserved via a deed restriction permitting only conservation, recreation or agriculture are excluded from the available lands in this scenario. The land use information is largely based on a land use survey completed for the Township; a land use survey is advantageous over the DEP Land Use Land Cover data since the Land Use Land Cover, which is current as of 2002, is out dated and a land use survey provides more detailed information. Environmental constraints, for this purpose, are defined as areas of water, wetlands, wetlands buffers, stream corridor buffers, 100 year flood plain and steep slopes. It is important to note that the Water Quality Management Planning Rules do not permit the analysis to assign a unit, or septic system, to existing lots whose available area (excludes environmental constraints) is undersized pursuant to the zoning regulations. Instead, the undersized lots must be excluded from the available land area.

Once the available lands within each district have been determined, the permitted residential density or nonresidential floor area, as applicable, is applied to the lands in each zone in order to yield the residential and nonresidential development capacities. Chapter 60 of the Township's Code, Land Use and Development, limits development in the nonresidential districts via building cover. While the Township permits multi-story

buildings in the nonresidential zones, nearly every nonresidential building in the Township is a single story. As such, this analysis assumes the construction of single story buildings in the nonresidential districts and the floor area is limited by the building cover standard.

This application yields the number of new septic systems – or new homes – and the nonresidential floor area permitted under the existing zoning.

The permitted density of each residential zone is applied to the available lands in the residential zone districts. The available lands include underdeveloped lots that contain a septic system and are capable of being subdivided; however, the GIS model does not recognize that existing units are present on a portion of the land. The build-out must be adjusted to account for the existing septic systems/units, so that the existing units are not double counted and included in the model. Accordingly, the number of existing housing units on the underdeveloped lots is subtracted from the development capacity. The result is the existing zoning residential build-out – the number of new septic systems (i.e. new homes) that are permitted in each residential district.

The permitted building cover of each nonresidential zone is applied to the available lands in the nonresidential districts. This results in the building cover (floor area of a single story building) permitted in each nonresidential district. Data to account for existing floor area on the nonresidential underdeveloped lots is not available; as a result this build-out analysis accounts for the existing buildings in the underdeveloped lots by reducing the unconstrained underdeveloped land area by half. This reduction provides an estimate of the land area devoted to the existing commercial use and accommodates the fact that the best lands in terms of access and suitability are generally developed first, leaving the less desirable lands to be developed at a future point in time. However, these resulting nonresidential floor areas must be converted to equivalent dwelling units, as defined in *N.J.A.C.* 7:15. An equivalent dwelling unit represents one septic system accommodating the maximum permitted nonresidential construction. More specifically, the definition states it is the nonresidential floor area that is the equivalent to a three-bedroom, three-person single family detached home from the perspective of release of nitrate into the environment; this standard is 500 gallons per day. As such, to determine the equivalent dwelling unit, the permitted floor area is multiplied by .1 – the standard for wastewater generation per square foot of nonresidential development; every 500 gallons that results from this calculation requires one septic system. The nonresidential building cover and nonresidential equivalent dwelling units is the existing zoning nonresidential build-out.

Net Nitrate Dilution

The net nitrate dilution analysis excludes environmental constraints and permanently preserved properties from the available lands.

The first step in the analysis was to determine the "available" lands. Available lands include lots that either do not contain a septic system or contain one septic system and the unconstrained lands area capable of being subdivided pursuant to the minimum lot area required by the zoning standards. This information is largely based on a land use survey completed for the Township; a land use survey is advantageous over the DEP Land Use Land Cover data since the Land Use Land Cover, which is current as of 2002, is out dated and a land use survey provides more detailed information. Environmental constraints and lots which are permanently preserved via a deed restriction permitting only conservation, recreation or agriculture are excluded from the available lands in this scenario. Environmental constraints, for this purpose, are defined as areas of water, wetlands, wetlands buffers, stream corridor buffers, 100 year flood plain and steep slopes. It is important to note that the Water Quality Management Planning Rules do not permit the analysis to assign a unit, or septic system, to existing lots whose available area (excludes environmental constraints) is undersized pursuant to the zoning regulations. Instead, the undersized lots must be excluded from the available land area.

Once the available lands within each district have been determined, the residential septic density or nonresidential floor area ratio, as applicable, is applied.

The residential septic density, per the DEP, is applied to the available lands in the residential zone districts. The available lands include underdeveloped lots that contain a septic system and are capable of being subdivided; however, the GIS model does not recognize that existing units are present on a portion of the land. The build-out must be adjusted to account for the existing septic systems/units, so that the existing units are not double counted and included in the model. Accordingly, the number of existing housing units on the underdeveloped lots is subtracted from the development capacity. The result is the existing zoning residential build-out – the number of new septic systems (i.e. new homes) that are permitted in each residential district.

The nonresidential floor area, per the DEP, is applied to the available lands in the nonresidential districts. This results in floor area permitted in the nonresidential districts within each HUC 11 area. Data to account for existing floor area on the nonresidential underdeveloped lots is not available; as a result this build-out analysis accounts for the existing buildings in the underdeveloped lots by reducing the unconstrained underdeveloped land area by half. This reduction provides an estimate of

the land area devoted to the existing commercial use and accommodates the fact that the best lands in terms of access and suitability are generally developed first, leaving the less desirable lands to be developed at a future point in time. However, these resulting nonresidential floor areas must be converted to equivalent dwelling units, as defined in *N.J.A.C.* 7:15. An equivalent dwelling unit represents one septic system accommodating the maximum permitted nonresidential construction. More specifically, it is the nonresidential floor area that is the equivalent to a three-bedroom, three-person single family detached home from the perspective of release of nitrate into the environment; this standard is 300 gallons per day. As such, to determine the equivalent dwelling unit, the permitted floor area is multiplied by .1 – the standard for wastewater generation per square foot of nonresidential development; every 500 gallons that results from this calculation requires one septic system. The nonresidential building cover and nonresidential equivalent dwelling units is the net nitrate dilution nonresidential build-out.

Population Projection

Once the residential development capacity calculations were completed, the anticipated population increase was determined. The anticipated people per household is best determined using demographic multipliers for New Jersey. The most recent document which addresses this data is one which was developed in November 2006 by the Center for Urban Policy Research and is titled "*Who Lives in New Jersey Housing? A Quick Guide to New Jersey Residential Demographic Multipliers*"[3]. The multipliers for a four bedroom single family detached home, all values, was used in the population projection. The Tax Assessor reported in June 2009 reported that the majority of new homes built in the Township contain four bedrooms. Furthermore, this housing type is appropriate since, excluding mobile home units, approximately 96% of the Township's housing stock consists of single family detached units[4].

[3] Listokin, David. Who Lives in New Jersey Housing? A Quick Guide to New Jersey Residential Demographic Multipliers. Center for Urban Policy Research, Edward J. Bloustein School of Planning and Public Policy, Rutgers, The State University of New Jersey. November 2006.
[4] 2000 US Census

EXISTING ZONING BUILD-OUT ANALYSIS

This office has constructed a development capacity analysis of the Township based on the existing zoning conditions, pursuant to the methodology described previously. Table 13. demonstrates the number of new residential units that can be constructed in the Township within each zone district, and broken down by HUC 11, based on the existing zoning. These figures indicate that the existing zoning standards would permit an additional 4,542 housing units in the Township at full build-out. This would result in an approximate total of 8,061 housing units in Pittsgrove Township.[5]

Table 13. Residential Zone Capacity Based on Existing Zoning Standards

	Zone District Subtotal	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
A District	955.6	697.6	184.4	73.6	0
C District	104.0	56.4	22.5	25.1	0
R-1 District	587.4	108.4	375.6	103.4	0
R-2 District	727.8	410.1	214.6	103.1	0
R-3 District	342.3	0	342.3	0	0
R-4 District	143.3	107.3	36.0	0	0
RR District	1,555.2	701.9	853.3	1,28.1	0
Total	*4,416*	*2,081*	*2,028*	*433*	0

These residential capacity figures are translated into population projections using the demographic multipliers discussed in the Methodology section of this report. The population of the existing zoning build-out is 16,666 additional persons, of which 4,892 are school-aged children. Table 14 below illustrates these population projections.

[5] This figure is derived from the 2008 estimate of housing units added to the Existing Zoning Build-out of housing units.

Table 14. Existing Zoning Population Projection

	Population Multiplier	Projected Units	Population Projection
Total Persons	3.774	4,416	16,666
School-aged Children	1.077	4,416	4,756

The Township has 6 nonresidential districts. The nonresidential development capacity determines the number of septic systems, illustrated in this report as equivalent dwelling units, which can be accommodated as well as the floor area that can be accommodated. Table 15. demonstrates the development capacity for new nonresidential buildings and floor area by zone district and HUC 11.

Table 15. Nonresidential Development Capacity Based on Existing Zoning Build-out

	Zone District Subtotal	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
B-1 District					
Equivalent Dwelling Units	71.8	18.8	53.0	0.0	0.0
Floor Area	358,895.1	93,934.6	264,960.5	0.0	0.0
HB-40 District					
Equivalent Dwelling Units	25.8	10.6	0.0	15.2	0.0
Floor Area	128,949.5	52,777.4	0.0	76,172.1	0.0
HB-56 District					
Equivalent Dwelling Units	89.1	25.4	63.7	0.0	0.0
Floor Area	445,572.9	126,946.8	318,626.1	0.0	0.0
MC-1 District					
Equivalent Dwelling Units	325.5	185.2	140.4	0.0	0.0
Floor Area	1,627,610.8	925,829.7	701,781.1	0.0	0.0
P District					
Equivalent Dwelling Units	52.6	39.8	12.8	0.0	0.0
Floor Area	262,860.3	198,979.7	63,880.7	0.0	0.0

	Zone District Subtotal	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
PHB District					
Equivalent Dwelling Units	163.9	39.7	45.9	78.4	0.0
Floor Area	819,614.2	198,271.3	229,477.1	391,865.8	0.0
Total Equivalent Dwelling Units	728.7	319.3	315.7	93.6	0.0
Total Floor Area	*3,643,502.6*	*159,6739.4*	*157,8725.4*	*468,037.8*	0.0

NET NITRATE DILUTION BUILD-OUT ANALYSIS

This office has constructed a development capacity analysis of the Township based on the existing zoning conditions, pursuant to the Net Nitrate Dilution methodology described above. Table 16. demonstrates the number of new residential units that can be constructed in the Township within each zone district, and broken down by HUC 11. These figures indicate that the existing zoning standards would permit an additional 1290 housing units in the Township at full build-out. This would result in an approximate total of 4,809 housing units in Pittsgrove Township.[6]

Table 16. Residential Zone Capacity Based on Net Nitrate Dilution Build-out Analysis

	Zone District Subtotal	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
A District	404.6	294.8	77.5	32.4	0
C District	74.0	38.7	16.3	19.0	0
R-1 District	129.6	20.0	96.3	13.2	0
R-2 District	15.4	14.5	0.0	0.9	0
R-3 District	9.5	0.0	9.5	0.0	0
R-4 District	0.0	0.0	0.0	0.0	0
RR District	658.5	268.5	334.5	55.5	0
Total	*1,292*	*637*	*534*	*121*	*0*

These residential capacity figures are translated into population projections using the demographic multipliers discussed in the Methodology section of this report. The population of the existing zoning build-out is 4,868 additional persons, of which 1,389 are school-aged children. The below table illustrates the population projections.

[6] This figure is derived from the 2008 estimate of housing units added to the Net Nitrate Dilution Build-out of housing units.

Table 17. Existing Zoning Population Projection

	Population Multiplier	Projected Units	Population Projection
Total Persons	3.774	1,292	4,876
School-aged Children	1.077	1,292	1,391

The Township has 6 nonresidential districts. The nonresidential development capacity determines the number of septic systems, illustrated in this report as equivalent dwelling units, that can be accommodated as well as the floor area that can be accommodated. Table 18. demonstrates the development capacity for new nonresidential buildings and floor area by zone district and HUC 11.

Table 18. Nonresidential Development Capacity Based on Net Nitrate Dilution Build-out

	Zone District Subtotal	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
B-1 District					
Equivalent Dwelling Units	33.1	18.8	14.3	0.0	0
Floor Area	96,525.9	24,986.6	71,539.3	0.0	0
HB-40 District					
Equivalent Dwelling Units	11.9	10.6	0.0	1.3	0
Floor Area	11,143.9	4,442.7	0.0	6,701.2	0
HB-56 District					
Equivalent Dwelling Units	30.7	25.4	5.3	0.0	0
Floor Area	37,204.0	10,486.9	26,717.1	0.0	0
MC-1 District					
Equivalent Dwelling Units	26.4	14.9	11.5	0.0	0
Floor Area	132,045.9	74,627.5	57,418.5	0.0	0
P District					
Equivalent Dwelling Units	2.3	1.7	0.6	0.0	0
Floor Area	11,210.3	8,455.1	2,755.2	0.0	0

	Zone District Subtotal	Muddy Run	Maurice River (above Sherman Ave. Bridge)	Still Run / Little Ease Run	Scotland Run
PHB District					
Equivalent Dwelling Units	14.1	3.3	3.9	6.9	0
Floor Area	70,771.4	16,689.9	19,607.2	34,474.3	0
Total Equivalent Dwelling Units	*118.5*	*74.7*	*35.6*	*8.2*	*0*
Total Floor Area	*358,901.40*	*139,688.60*	*178,037.30*	*41,175.50*	*0*

BUILD-OUT ANALYSIS CONCLUSION

The results of the build-out scenarios indicates that the existing zoning yields radically more construction than net nitrate dilution. The existing zoning yields 350% more housing units than do net nitrate dilution scenario.

Table 19. Comparison of Build-out Scenarios

	Housing Units	Population	School Aged Children	Nonresidential Floor Area	Nonresidential Equivalent Dwelling Units
Existing Zoning	4,542	16,666	4,756	3,643,502.6	1,214.6
Net Nitrate Dilution	1,292	4,876	1,391	358,901.4	119.6

The available lands in the build-out scenarios include lands which have received approval for construction. However, as a practical matter many of these approved units and nonresidential construction will be built in the future, before revised zoning or permitting is implemented. As such, these approved units and nonresidential floor area must be accounted for in the number of units and nonresidential floor area which the Township's zoning may accommodate.

To date, there are 79 approved residential units that have not been constructed. The below table indicates the impact of these units on the Township's remaining residential capacity.

The results from the two build-out scenarios differ from those completed as part of the 2000 Master Plan. At this time, it was estimated that the Township could accommodate an additional 8,423 residential lots and 25,600 additional residents. Since 2000, the Township has created 364 new residential units[7]. The build-out of the Township's residential zones has been adjusted downward since the 2000 due to changes in the zoning and changes in New Jersey DEP regulations. However, these nitrate dilution standards will result in a significant further reduction of the 2000 projected build-out.

[7] Department of Community Affairs Construction Reporter; reported residential certificates of occupancy minus reported residential demolition permits.

Table 20. Impact of Approved but Unbuilt Residential Units

	Build-out Housing Units	Approved but Unbuilt Units	Remaining Development Capacity
Existing Zoning	4,542	79	4,463
Net Nitrate Dilution	1,290	79	1,211

To date, there is 21,100 square feet of approved but unbuilt nonresidential space – all of which is storage space. The below table indicates the impact of this floor area on the Township's remaining nonresidential development capacity.

Table 21. Impact of Approved but Unbuilt Nonresidential Floor Area

	Build-out Nonresidential Space	Approved Nonresidential Space	Remaining Development Capacity
Existing Zoning	3,643,502	21,100	3,622,402
Net Nitrate Dilution	358,901	21,100	337,801