

# UPPER TOWNSHIP EXISTING CONDITIONS INVENTORY

Prepared as part of the

*ROUTE 9 CORRIDOR  
SMART GROWTH STUDY FOR  
DENNIS, MIDDLE & UPPER TOWNSHIPS  
CAPE MAY COUNTY, NEW JERSEY*

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## TABLE OF CONTENTS

<b>1.0 INTRODUCTION .....</b>	<b>2</b>
1.1 PLAN ENDORSEMENT DOCUMENTS .....	4
<b>1.2 POPULATION HOUSING AND EMPLOYMENT.....</b>	<b>5</b>
1.2.1 POPULATION .....	5
1.2.2 HOUSING .....	8
1.2.3 EMPLOYMENT .....	9
<b>1.3 NATURAL RESOURCES INVENTORY .....</b>	<b>11</b>
1.3.1 INTRODUCTION.....	11
1.3.2 WETLANDS .....	11
1.3.3 GEOLOGY .....	11
1.3.4 SOILS .....	12
1.3.5 CRITICAL HABITATS .....	13
1.3.6 GREAT EGG HARBOR WILD AND SCENIC RIVER .....	14
<b>1.4 MUNICIPAL ENVIRONMENTAL JUSTICE INVENTORY.....</b>	<b>21</b>
<b>1.5 HOUSING .....</b>	<b>23</b>
1.5.1 DIVERSITY OF HOUSING OPPORTUNITIES .....	23
1.5.2 COMMITMENT TO PLAN FOR APPROPRIATE HOUSING.....	23
1.5.3 ZONING IN SUPPORT OF A COORDINATED PLANNING EFFORT.....	23
<b>1.6 TRANSPORTATION .....</b>	<b>24</b>
1.6.1 DENNIS, MIDDLE, UPPER STUDY AREA (DMUSA) .....	24
1.6.2 UPPER TOWNSHIP.....	29
1.6.3 KEY TRANSPORTATION ISSUES .....	30
<b>1.7 INFRASTRUCTURE.....</b>	<b>32</b>
1.7.1 WATER SUPPLY .....	32
1.7.2 UPPER TOWNSHIP WATER FACILITIES .....	34
1.7.3 SEWER.....	34
1.7.4 UPPER TOWNSHIP SEWER FACILITIES .....	36
1.7.5 STORMWATER MANAGEMENT FACILITIES .....	39
1.7.6 SUMMARY OF INFRASTRUCTURE ISSUES .....	39
<b>1.8 LAND USE INVENTORY.....</b>	<b>40</b>
1.8.1 CURRENT CONDITIONS .....	40
<b>1.9 CENTERS.....</b>	<b>44</b>
1.9.1 STATE DEVELOPMENT PLAN CENTERS .....	44
1.9.2 CAFRA CENTERS.....	44
1.9.3 PINELANDS MANAGEMENT AREA .....	48
<b>1.10 PLANNING POLICIES PROMOTING SMART GROWTH.....</b>	<b>50</b>
1.10.1 LAND DEVELOPMENT REGULATIONS .....	50

## 1.0 INTRODUCTION

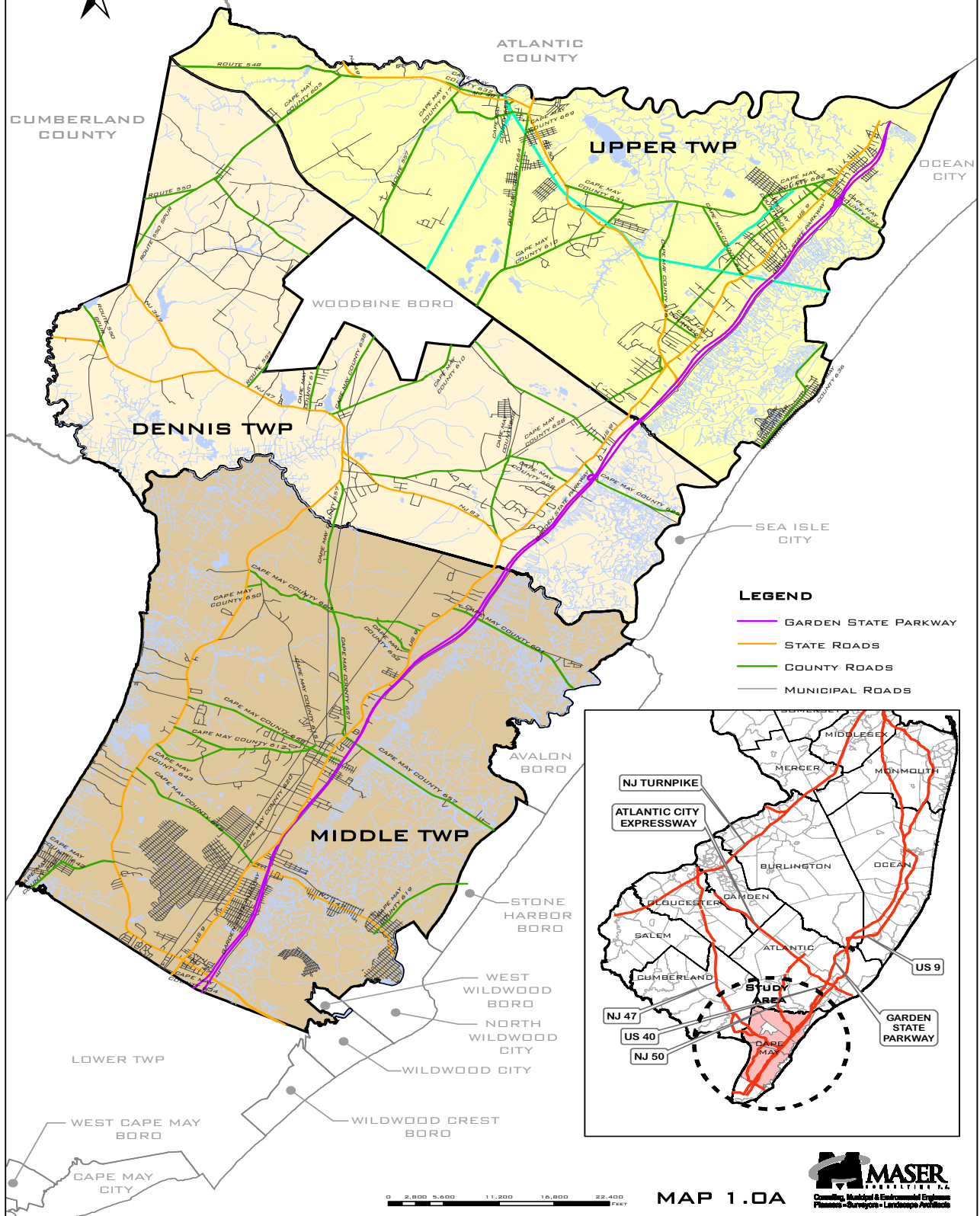
Plan Endorsement is the process established by the New Jersey Office of Smart Growth (NJOSG) to review municipal and regional plans for consistency with the New Jersey State Development and Redevelopment Plan. This process provides for development of a Planning and Implementation Agenda to incorporate planning activities and improvements with State Agencies and to provide priority permitting and funding for these activities.


The NJOSG has funded this study as part of an intermunicipal planning effort for Dennis, Middle and Upper Townships in Cape May County, to provide assistance in the Plan Endorsement Process. Both Middle and Upper Townships had previously been involved in but had not completed the Centers Designation process with NJOSG. Dennis Township had begun to explore the process. This study follows the adopted NJOSG 2004 Plan Endorsement Guidelines for initial endorsement.

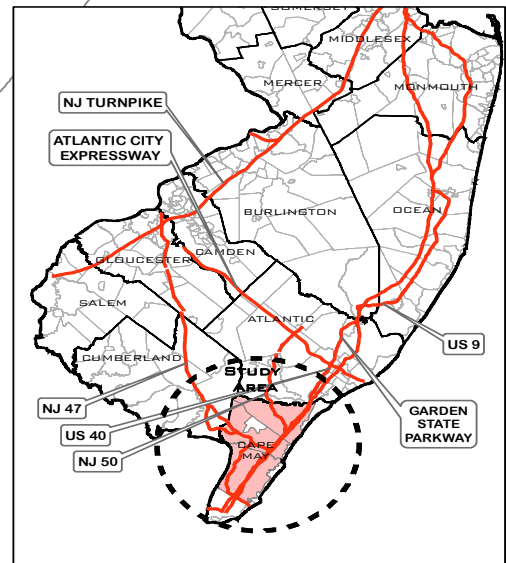
An important part of this study is the reassessment and refined of the development centers in each Township. These centers, which are now regulated through the Coastal Zone Management rules, will be terminated as CAFRA Centers in 2005. Through this Plan Endorsement process through the NJOSG, centers may be established and designated through the State Plan. The centers concept is also strongly forwarded in the State Plan to develop livable, walkable communities of place and to act as a fulcrum for development allowing for preservation and protection of the surrounding environs. For these three Cape May mainline communities, environmental protection and regulatory controls are paramount. NJDEP in the coastal areas regulates development in all three municipalities and both Dennis and Upper Townships are within the Pinelands Management Area. This is of critical importance to these three municipalities since only in CAFRA Centers can more intensive development is concentrated. The Dennis, Middle and Upper Townships are linked through the transportation network with the focus of development along the Route 9 corridor, which parallels the Garden State Parkway. Each municipality has a number of Centers or areas for existing and future development with a majority of these Centers focused on the Route 9 corridor. (Map 1.0A provides the regional context of the Dennis Middle and Upper Townships study area (DMUSA).

The Existing Conditions Inventory for Upper Township provides an inventory of multiple factors influencing development in the municipality including: population and employment, housing, environmental, infrastructure, and transportation conditions. Separate reports have been prepared for each municipality in the DMUSA; however, the regional information is provided where appropriate in each subsection of this report to include a broader context for an evaluation of conditions. The Existing Conditions Inventory is crafted to meet the NJOSG Plan Endorsement Guidelines in terms of information requirements. Originally submitted to the NJOSG in February 2005, the Inventory has been updated as part of the Plan Endorsement Petition.

**DENNIS TOWNSHIP, MIDDLE TOWNSHIP, UPPER TOWNSHIP**  
CAPE MAY COUNTY, NEW JERSEY



 GARDEN STATE PARKWAY  
 STATE ROADS  
 COUNTY ROADS  
 MUNICIPAL ROADS



MAP 1.0A



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## 1.1 Plan Endorsement Documents

In order to initiate the plan endorsement process, the Office of Smart Growth must review the Township's planning documents for consistency with the goals, policies and strategies of the State Plan, with the State Plan Policy Map and with applicable State statutes and regulations. Table 1.1 identifies the applicable documents and the status of each. Copies of these documents were submitted electronically to the NJOSG as part of the plan endorsement process.

**Table 1.1A Upper Township Plan Endorsement Documents**

Document	Date of Document
1 Master Plan	7/21/94
2 Master Plan Amendment and Land Use Plan	6/20/02
3 Master Plan Reexamination Report	7/19/01
4 Board of Education Five Year Facilities Plan	5/21/01
5 Adopted Capital Improvement Program	
6 County Comprehensive Farmland Plan or Municipal Farm Preservation Plan	4/24/90 N/A
7 Existing Land Use Map	See Section 1.8 of this report
8 Current Zoning Map	1/12/04
9 Community Facilities Map	See Master Plan
- Statement of facility capacity where applicable	
10 Existing and Proposed Affordable Housing Sites	N/A
11 Township Land Development Ordinance	6/25/02

## 1.2 POPULATION HOUSING AND EMPLOYMENT

### 1.2.1 Population

The population of Cape May County has significantly increased in the past fifty years and has consistently grown at a rate higher than that of the State. During period between 1970 and 1980, the County experienced its largest growth increment of over 38 percent or 22,712 new residents. The County's total population has more than doubled since 1950 (Table 1.2A) and has only begun to level in the recent years off in terms of percent change. During the period between the years of 1990 through 2000, the County grew at a 7.6 percent increase, compared to an increase of 8.9 percent statewide (Table 1.2B). This represented the first time in forty years that County population had growth below the state average. Growth in the county is still projected, but forecasts indicate this will occur at a slower rate (Table 1.2C).

The population of Upper Township has increased by 13.4 percent or 1,434 new residents from 1990 to 2000. The Township ranked third in rate of growth within the County behind Dennis and Wildwood during the same period. In 2000, Upper had a total population of 12,115 residents. The Township was only behind Middle and Lower in terms of actual population growth. The South Jersey Transportation Planning Organization has projected Upper Township's population will increase to approximately 14,835 through the year 2025. This increase will account for an additional 2,720 residents or a 22.5 percent increase. The buildout analysis associated with the development of the centers will refine these numbers.

The Township is projecting a majority of the growth will take place within the five designated centers, with Seaville Village and the Marmora/ Beesley's Point/Palermo Town Center accounting for most of the growth<sup>1</sup>. This anticipated growth is due in part by the accessibility to major roads and services as well as physical conditions suitable for septic systems. Strathmere Village, the municipality's barrier island community, is the most densely populated section of the Township. Although the Village only has approximately 175 permanent residents<sup>1</sup>, the population swells to over 4,000 in the summer months. The Village has a high density of single-family dwellings typically on 4,000 sf. (40'x100') lots. Although public water is provided, Strathmere relies on on-site septic systems for discharge of wastewater. By the year 2020, Strathmere's permanent population is projected to rise to approximately 275 people, while the summer population is expected to be over 6,750 people<sup>2</sup>. This increase is consistent with the recent building trend experienced throughout the County's barrier island communities.

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<sup>1</sup> 2000 US Census

<sup>2</sup> Center Designation Petition for Upper Township – January 1999

**Table 1.2A: Permanent Population Trends 1950-2000**

	1950	1960	1970	1980	1990	2000
New Jersey	4,835,329	6,067,412	7,168,164	7,364,823	7,730,188	8,414,350
Cape May County	37,131	48,555	59,554	82,266	95,089	102,326
Dennis Township	1,981	2,327	2,635	3,989	5,574	6,492
Middle Township	4,599	6,718	8,725	11,373	14,771	16,405
<b>Upper Township</b>	<b>1,922</b>	<b>2,539</b>	<b>3,413</b>	<b>6,713</b>	<b>10,681</b>	<b>12,115</b>

SOURCE: Cape May County Data Book, January 2003

**Table 1.2B: Permanent Population Changes 1950-2000**

	1950-1960		1960-1970		1970-1980		1980-1990		1990-2000	
	Number	%	Number	%	Number	%	Number	%	Number	%
New Jersey	1,232,083	25.5%	1,100,752	18.1%	196,659	2.7%	365,365	5.0%	684,162	8.9%
Cape May County	11,424	30.8%	10,999	22.7%	22,712	38.1%	12,823	15.6%	7,237	7.6%
Dennis Township	346	17.5%	308	13.2%	1,354	51.4%	1,585	39.7%	918	16.5%
Middle Township	2,119	46.1%	2,007	29.9%	2,648	30.3%	3,398	29.9%	1,634	11.1%
<b>Upper Township</b>	<b>617</b>	<b>32.1%</b>	<b>874</b>	<b>34.4%</b>	<b>3,300</b>	<b>96.7%</b>	<b>3,968</b>	<b>59.1%</b>	<b>1,434</b>	<b>13.4%</b>

SOURCE: Cape May County Data Book, January 2003

**Table 1.2C: Permanent Population Projections 2000-2025**

	2000	2010	2020	2025	Change 2000-2025	% Change 2000-2025
New Jersey*	8,414,350	9,062,800	9,780,900	9,780,900	1,366,550	16.2%
Cape May County**	102,326	110,699	119,019	123,066	20,740	20.3%
Dennis Township**	6,492	7,121	7,751	8,058	1,566	24.1%
Middle Township**	16,405	18,142	20,281	21,322	4,917	30.0%
<b>Upper Township**</b>	<b>12,115</b>	<b>13,222</b>	<b>14,307</b>	<b>14,835</b>	<b>2,720</b>	<b>22.5%</b>

\* SOURCE: County Population and Labor Force Projections for New Jersey: 2000 to 2020 –  
Division of Market and Demographic Research - NJ Dept of Labor

\*\* SOURCE: South Jersey Transportation Planning Organization's 12/16/03 Cape May County Forecast

The New Jersey Department of Labor has indicated the largest expansion of population growth in the State took place in that Atlantic Coast Counties (Atlantic, Cape May, Monmouth and Ocean) during the period from 1990 to 2000. Continued growth is expected and should account for 24 percent of the State's population growth for the years 2000 to 2010. According to the 2000 Census, approximately one out of five residents (20.2%) of Cape May County was age 65 or older. The County will continue to be a popular retirement destination and the senior citizen population should continue to account for more than twenty percent of the population through the year 2020<sup>3</sup>.

<sup>3</sup> Source: County Population and Labor Force Projections for New Jersey: 2000 to 2020 – Division of  
Market and Demographic Research

Senior citizens make up 13.8 percent of Upper Township's population, which is considerably lower than the County's average of 20.2 percent (Table 1.2C). The Township's senior's population increase by 226 people between 1990 and 2000, which represents an increased of 2 percent of the total population (Table 1.2D).

**Table 1.2D: Senior Population (age 65+) 1990-2000**

	Number of Persons 1990	% of Population 1990	Number of Persons 2000	% of Population 2000
New Jersey	1,032,025	13.4%	1,113,136	13.2%
Cape May County	19,131	20.1%	20,681	20.2%
Dennis Township	712	12.8%	798	12.3%
Middle Township	2,707	18.3%	2,925	17.8%
<b>Upper Township</b>	<b>1,246</b>	<b>11.7%</b>	<b>1,472</b>	<b>13.8%</b>

SOURCE: 1990 and 2000 US Census

The total countywide population increases over six times during the months of May through September. Much of this growth is concentrated within the barrier island resort communities. The County anticipates a 15.7 percent increase in the summer population by the year 2025. This increase will result in an additional 96,440 summer residents (Table 1.2E). This indicates that Cape May County and its surrounding communities will continue to be an important part of the New Jersey tourist industry for the years to come.

Upper Township's population increases over three times the permanent population (approximately 26,000 total residents) during the summer months. The County has projected an increase of 6,061 summer residents by the year 2025. Many of the summer residents are attracted to the many campgrounds located along the Route 9 corridor, but a majority of the summer growth is attributed to the barrier island Village of Strathmere. The population of Strathmere increases to over 4,000 residents during the summer tourist season, not including the 300-400 day visitors<sup>4</sup>.

**Table 1.2E: Summer Population Projections 2001-2025**

	2001	2010	2020	2025	Change 2000-2025	% Change 2000-2025
Cape May County	614,261	654,837	693,367	710,701	96,440	15.7%
Dennis Township	32,408	34,549	36,582	37,496	5,088	15.7%
Middle Township	58,410	62,268	65,932	67,581	9,171	15.7%
<b>Upper Township</b>	<b>38,607</b>	<b>41,157</b>	<b>43,579</b>	<b>44,668</b>	<b>6,061</b>	<b>15.7%</b>

SOURCE: Cape May County Data Book, January 2003

<sup>4</sup> Center Designation Petition for Upper Township – January 1999

## 1.2.2 Housing

In recent years Cape May County has experienced a significant level of new residential construction, most of which is built as vacation or rental homes. This is further apparent, since the rate of residential construction has exceeded the population growth in the last four decades<sup>5</sup>. The 2000 Census indicated that 47 percent of new construction within the County was built as seasonal rental or vacation home. Between 1990 to 2000, Upper, Middle and Lower Townships accounted for more than 72 percent of the population growth, but only 35 percent of the County's total increase in housing units<sup>6</sup>. This indicates that a large portion of the County's development has targeted the coastal communities. This is not a surprising trend, since the tourist industry is the cornerstone of the County's economy. The increased demand of summer rental properties within the barrier islands has caused these communities to be almost completely developed. This development pressure has forced many older homes to be demolished and replaced by new construction. The future growth of the permanent population within the County will more than likely be concentrated within the undeveloped upland areas of the mainland.

Upper Township's housing stock consists predominantly of single-family homes. The residential development pattern of the Township varies in density and lot size, from the high-density development of Strathmere to the larger lot and rural developments on the mainland.

There have been 454 building permits issued for single-family dwellings between 1990 and 1999. The fact that there were no building permits issued for multi-family residential dwellings further reinforces the single-family residential character of the municipality. This is in contrast to the County, which has built single-family dwellings at a slower rate (see Table 1.2F). Like other mainland municipalities in Cape May County, Upper Township's development has been influenced by the lack of necessary infrastructure and regulation constraints. Building opportunities similar to the barrier island communities and other areas where public sewer and water are available do not exist in the Township. This is part due to the existing environmental constraints as well as strict regulation by various State Agencies under CAFRA and the Pinelands Management Plan.

**Table 1.2F: Residential Building Permits Authorized 1990-1999**

	Total	Single-Family		Multi-Family	
	Build. Permits	Units	% Single	Units	% Multi
New Jersey	239,061	199,207	83.3%	39,854	16.7%
Cape May County	7,152	4,505	63.0%	2,647	37.0%
Dennis Township	416	416	100.0%	0	0.0%
Middle Township	812	786	96.8%	26	3.2%
<b>Upper Township</b>	<b>454</b>	<b>454</b>	<b>100.0%</b>	<b>0</b>	<b>0.0%</b>

SOURCE: NJ Department of Labor and Work Force Development

It appears that the current trend of development would be almost 19 percent greater than the additional 2,720 permanent residents projected by the year (2025 SJTPO forecasts). This is based on calculating the average number of building permits issued per year (45.4) and the 2000 Census average household size (2.84).

<sup>5</sup> *Township of Middle Master Plan*, August 12, 2003

<sup>6</sup> New Jersey Department of Labor – Atlantic Region – Regional Labor Market Review - December 2002

$$\begin{array}{ccccccc}
 \text{2000 Census} & & & & & & \\
 \text{Ave. Household Size} & & \text{Permits per Year} & & \text{Year 2025} & & \text{Total} \\
 2.84 & \times & 45.4 & \times & 25 & = & 3,224 \text{ People}
 \end{array}$$

The issues of availability of land, market demand and infrastructure capacity may affect the amount and type of housing being built in the future. The rate of single-family residential construction is expected to decrease due to the lack of suitable land. The Township's existing trend of single-family development will be at risk, giving way to more multi-family or higher density housing alternatives if infrastructure is available. Housing projections based upon average household size are shown on Table 1.2G.

**Table 1.2G: Housing Projections 2000-2025**

	Household Size*	2000*	2010**	2020**	2025**	% Change 2000-2025
New Jersey	2.68	3,139,683	3,381,642	3,649,590	3,649,590	16.2%
Cape May County	2.36	43,358	46,906	50,432	52,147	20.3%
Dennis Township	2.91	2,231	2,447	2,664	2,769	24.1%
Middle Township	2.58	6,359	7,032	7,861	8,264	30.0%
<b>Upper Township</b>	<b>2.84</b>	<b>4,266</b>	<b>4,656</b>	<b>5,038</b>	<b>5,224</b>	<b>22.5%</b>

\* SOURCE: 2000 US Census

\*\* SOURCE: Information calculated by dividing the projected population (Table 3) by the 2000 census household size.

### 1.2.3 Employment

Cape May County's economy is dependant on the seasonal tourist industry, most of which is concentrated along its coastline. The County's main source of employment is the service industry, which includes tourism. The County's employment market increases by about 20,000 jobs between the months of January and July as a result of the seasonal employment<sup>7</sup>. Employment within the government and retail trades account for the County's next largest job sector. The health service and retail industries have produced the County's most new jobs from 1995 to 2000 and should continue remain vibrant with the projected influx of new residents<sup>8</sup>.

The County's employment opportunities are projected to increase by 23.4 percent by the year 2025 or by an additional 9,363 new jobs. This rate of growth is slightly greater than the population projections of the region during the same time period. It is expected that 50 percent of the new jobs in the service sector would be within the health care field by the year 2025. These new jobs would be directly related to the anticipated growth of the senior population and the in-migration of retirees to the Atlantic Coast Counties.

The Upper Township labor market is similar to the County in the type of occupations and employment opportunities available. The service and tourism industries have historically provided the most jobs within

<sup>7</sup> Source: SJTPO Regional Transportation Plan 2000

<sup>8</sup> Source: New Jersey Department of Labor – Atlantic Region – Regional Labor Market Review  
December 2002

the municipality. Upper Township still relies on these industries along with the retail trade for approximately 55% of the private sector jobs (Table 1.2H)<sup>9</sup>.

**Table 1.2H: Employment by Industry (Private Sector)**

	Dennis Township	Middle Township	Upper Township
Ag. For. Fish. Min. Unc.	96	209	104
Construction	307	299	308
Manufacturing		290	44
Tran. Comm. Utilities	79	390	371
Wholesale Trade	22	197	162
Retail Trade	240	2,287	873
Finance, Insurance & Real Estate		223	144
Services	538	3,233	508
<b>Total</b>	<b>1,282</b>	<b>7,128</b>	<b>2,514</b>

SOURCE: New Jersey Employment and Wages: 1999 Annual Private Sector Report - Municipalities by Industry

Table 1.2I indicates the projected employment growth within the County. Upper Township is projected to increase by 46.2 percent or 1,219 jobs between the years 2000-2025. This projection is a significantly higher rate of growth than both the County and State growth rates. The future build-out analysis will further assess these figures.

**Table 1.2.I: Employment Projections 2000-2025**

	2000	2010	2020	2025	Change 2000-2025	% Change 2000-2025
New Jersey*	3,996,650	4,449,550	4,651,690	4,858,043	861,393	21.6%
Cape May County**	40,012	43,757	47,502	49,375	9,363	23.4%
Dennis Township**	1,168	1,368	1,568	1,668	500	42.8%
Middle Township**	8,766	9,536	10,423	10,667	1,901	21.7%
<b>Upper Township**</b>	<b>2,636</b>	<b>3,124</b>	<b>3,612</b>	<b>3,855</b>	<b>1,219</b>	<b>46.2%</b>

\* SOURCE: Preliminary N.J. State Development and Redevelopment Plan - (pg. 38) 04/27/04

\*\* SOURCE: South Jersey Transportation Planning Organization 12/16/03 Cape May County Forecast

<sup>9</sup> Source: New Jersey Employment and Wages: 1999 Annual Private Sector Report Municipalities By Industry

## 1.3 NATURAL RESOURCES INVENTORY

### 1.3.1 Introduction

The NJOSG Plan Endorsement Guidelines under Section 2.2.A require submittal of Natural Resources Inventory information. The Township of Upper has not prepared a Natural Resources Inventory document; however, the 1994 Master Plan includes discussion and mapping of critical environmental features. The following summarizes maps prepared to identify and discuss critical environmental features that may affect future development potential and opportunities in the Township. Land use characteristics are discussed under Section 1.8.

### 1.3.2 Wetlands

The Township of Upper has approximately 24% of its total land mass covered by freshwater wetlands and another 24% constrained by tidal wetlands. (See Map 1.3A Wetlands.) The portion of the Township east of the Garden State Parkway between Strathmere is a one and half-mile swath consisting of salt marsh wetlands, twisting channels and large tidal water bodies. The physical characteristics of these areas represent an important environmental and scenic resource. These wetlands have become a critical spawning ground for a variety of species and play an important roll in the tidal ecosystem. Ludlum Bay, Corson's Sound, Peck Bay and Great Egg Harbor Bay are the main tidal water bodies that surround the eastern portion of Upper. The Tuckahoe River and the Great Cedar Swamp situated in the center of the mainland make up the other significant areas of wetland cover.

Like most coastal communities in Cape May County, Upper Township is prone to occasional flooding. Approximately 44% of the Township is located within flood prone areas. Much of these areas are situated around existing wetlands, coastal marshes and the coastline of Strathmere. The largest concentration of flood prone areas within Upper Township is located in the eastern portion of the municipality. These constrained areas are located along the Garden State Parkway with small fingerlike pockets projecting west to Route 9.

### 1.3.3 Geology

Cape May County lies with in the Atlantic Coastal Plain consisting of the Cape May and Cohansey Sand formations. Both are composed of deposits of sand and gravel with smaller amounts of sand and clay. Most of Upper lies within the Cohansey Sand Formation. (See Map 1.3B Geology.) The Township is a somewhat flat sandy plain with an elevation range from sea level at the eastern shores to 50 feet along the western border. The surface geological material is dominated by sand and gravel, which allows for rapid infiltration of rainwater and surface runoff. There are isolated areas in the northern portion of Upper, which exhibit the physical characteristics common to areas of the County where saltwater intrusion has been a problem. These are areas where clay and silt lie between the surface and the aquifer resulting in lower permeability and the inability for the aquifer to recharge adequately. This has caused the lowering of the groundwater table thus exposing the aquifer to salt-water intrusion. There have been contaminated groundwater wells in Beesley's Point and Marmora; however the suspected cause is not associated with saltwater intrusion. This situation is further discussed in Section 1.7 of this report.



### 1.3.4 Soils

The *Soil Survey of Cape May County* as prepared by the U.S. Department of Agriculture's Soil Conservation Service indicates that there are 26 different soil types within Upper Township. Most of the soils located within the uplands areas are generally sandy loams. These soils have varying degrees of suitability for different types of land use. The most important soil characteristic in terms of development within the DMUSA is the ability to accommodate septic disposal systems. The important soil properties affecting septic suitability include permeability rate, natural soil drainage, slope and hazard of flooding. Approximately 25% of the soils in the Township are considered to have slight limitations for septic tank absorption fields. The most suitable soils for development have been found outside wetlands areas, away from streams and where the depth to ground water exceeds 5 feet. Most of these areas are located within the interior portion of the Township along the Route 9 Corridor. (See Map 1.3C Soils Map.)

Table 1.3A list the most common soils found in Upper Township along with the limitations for septic suitability, dwelling with basements and the depth to seasonal high water. A rating of *slight* means there are few or no significant limitations. *Moderate* means there is one limitation or more that can normally be overcome at moderate cost by careful design and construction. *Severe* means that there is one limitation or more that cannot be overcome without considerable cost. A severe limitation does not imply that the soil is unsuitable, but that the development cost would be high.

**Table 1.3A: Cape May County Soil Suitability**

Soil Series	Map Symbol	Limitations for Dwellings w/out basements	Limitations for Septic Absorption	Depth to Seasonal High Water Table (feet)
Aura	ArB	Slight	Moderate	>5
Berryland	Bp	Severe	Severe	0
Coastal Beach	CU	Severe	Severe	0-3
Downer	DoA	Slight	Slight	>5
	DpA	Moderate	Moderate	3
	DrA, DrB,DsB	Slight	Slight	>5
Evesboro	EvB	Slight	Slight	>5
Fill Land	FL	Slight	Slight	Properties too variable to measure
	FM	Slight	Severe	Properties too variable to measure
Fort Mott	FrB	Slight	Slight	>5
Hammonton	HaA	Slight	Moderate	1.5-4
	HbA	Slight	Moderate	1.5-4
Klej	KmA	Slight	Moderate	1.5-4
Muck	MU	Severe	Severe	0
Pocomoke	Ps, HaA, HbA, WmA	Severe	Severe	0
Sassafras	SaA, SaB	Slight	Slight	>5
	SbA	Slight	Moderate	3
Tidal Marsh	TD, TM,TS	Severe	Severe	0
Woodstown	WmA	Slight	Moderate	1.5-2.5

SOURCE: Soil Survey of Cape May County - U.S. Dept. of Agriculture Soil Conservation Service

### 1.3.5 Critical Habitats

The New Jersey Department of Environmental Protection along with the Division of Fish and Wild Life have developed maps identifying critical areas for threatened and endangered species based on land-use classifications and species location. This effort was coordinated through a study known as the Landscape Project. The project focuses on large areas throughout the State that are ecologically similar in regard to plant and animal communities referred to as Landscape Regions.

Cape May County is situated within three Landscape Regions, the Atlantic Coast, Delaware Bay and the Pinelands Landscape Regions. The Atlantic Coast Region is identified as one of the most productive coastal habitats in the country. The low-lying marsh and beaches of the barrier island communities support some of the state's most important colonies of nesting birds. The Delaware Bay Landscape Region encompasses most of the County and features populations of bald eagles, gray tree frogs and over thirty other endangered species in its vast woodlands. The extensive salt-water marshes support a vital shorebird migration habitat. The Pinelands Landscape Region is unique ecosystem that supports diverse reptile, amphibian and invertebrate populations. The extensive cedar swamps and wetlands systems support large populations of insects, birds and aquatic communities.

The Landscape Project delineates the State into five habitat classes; forest, grassland, forested wetland, emergent wetland and beaches. These classes are based on information extracted from the NJDEP's Land Use/Land Cover data. Habitat patches within these areas are classified by a ranking system based on the status of the species present in each. The prioritized ranking system is as follows:<sup>10</sup>

- Rank 5 is assigned to areas containing one or more occurrences of at least one wildlife species listed on as endangered or threatened on the Federal list of endangered and threatened species.
- Rank 4 is assigned to areas containing one or more occurrences of at least one endangered species.
- Rank 3 is assigned to areas containing one or more occurrences of at least one State threatened species.
- Rank 2 is assigned to areas containing one or more occurrences of at least one non-listed State priority species.
- Rank 1 is assigned to areas that meet habitat-specific suitability requirements such as minimum size criteria for endangered, threatened or priority wildlife species, but do not intersect with any confirmed occurrences of such species.

The largest portion of Upper Township's critical habitat is identified as the forested classification, most of which is recognized as containing one or more State endangered species (Rank 4). (See Map 1.3D Critical Habitats.) The NJDEP has also mapped Natural Heritage Priority Sites which include habitats for threatened and endangered species. (See Map 1.3E.) There are environments within the Pinelands Management Area that are prioritized as Rank 5 for Federal endangered and threatened species. The Petersburg section of the Township is forested containing State threatened species (Rank 3). There are small pockets of forested wetlands all of which are also located within the Pinelands Management Area.

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<sup>10</sup> *New Jersey's Landscape Project, Version 2.0*, NJDEP, Division of Fish & Wildlife, Endangered & Nongame Species Program – 2004.

Upper Township's second most significant critical habitat is identified as emergent wetlands. These wetland areas, which contain Rank 4 habitats, are situated around the Tuckahoe River and the Great Cedar Swamp as well as the coastal marshes between the Garden State Parkway and the barrier island community of Strathmere.

Strathmere is the only area within the DMUSA with a beach habitat classification. The northern most point of the barrier island has been classified with a Rank of 5 for Federal threatened and endangered species. The National Heritage Program Priority Sites Map is shown on Map 1.3F. It represents lands that have been identified as habitat for threatened or endangered species or else suitable to act as habitat for these species.

There are large areas of land within the Township that are owned and managed by State and federal agencies and are as follows:<sup>11</sup>

- The Tuckahoe Wildlife Management Area is located along the northern boundary of Upper Township. The area encompasses the land surrounding Lake Tuckahoe and extends north over the Tuckahoe River into Corbin City.
- The Belleplain State Forest consisting of a total of 12,120 acres in both Dennis and Upper Townships. This area encompasses the northwest portion of Upper from Route 548 south to the Dennis Township boundary.
- The Great Cedar Swamp, a Division of the Cape May National Wildlife Refuge is located in Upper along the southern border of Woodbine and Dennis between Route 610 and Route 628.

The Cape May National Wildlife Refuge is located on the Cape May Peninsula and provides critical habitat to a wide variety of migratory birds and other wildlife. The Refuge's key location in the Atlantic Flyway makes it an important link in the vast nationwide network of National Wildlife Refuges administered by the U.S. Fish & Wildlife Service. The Refuge was established in January 1989 when the U.S. Fish and Wildlife Service acquired a 90-acre parcel from The Nature Conservancy. Since then the Refuge has grown to more than 11,000 acres as the Service continues to buy land. The Refuge has two separate Divisions. The Delaware Bay Division is located in Middle Township and extends along five miles of the Delaware Bay. The Great Cedar Swamp Division straddles Dennis and Upper Townships.

The Refuge supports 317 bird species, 42 mammal species, 55 reptile and amphibian species, and numerous fish, shellfish and other invertebrates. Ultimately, it is the Refuge's goal to protect over 21,100 acres of precious wildlife habitat on the Cape May Peninsula by creating a greenbelt corridor reaching from the Delaware Bay to Great Egg Harbor Bay. The proposed acquisition area contains a wide range of habitats including upland and lowland forests, fields, barrier beach, salt marsh and salt meadows cut through by meandering tidal creeks<sup>12</sup>

### 1.3.6 Great Egg Harbor Wild and Scenic River

The Township of Upper has a partnership agreement with the National Park Sewer and the Great Egg Harbor River Council to protect designated section of the Tuckahoe River, which has been designated by the United States Congress as components of the National Wilde & Scenic River System. With the passing of Public Law 203-536 in 1992, the Tuckahoe River from its confluence with the Great Egg Harbor River to the Route 40 Bridge, approximately nine miles, has been designated as a scenic river and the Tuckahoe River from the Route 50 Bridge to the Route 49 Bridge, approximately 7.3 miles, is designated as a

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<sup>11</sup> Township of Upper Master Plan Reexamination and Master Plan Amendment, July 19, 2001

<sup>12</sup> Cape May National Wildlife Refuge, U.S. Fish and Wildlife Service website <http://capemay.fws.gov>

recreational river. The Township of Upper with its adopted zoning codes controls the River Management Area, which is the same as the Federal boundary along the Tuckahoe River. The zoning district is the TR Tuckahoe River front District, which has the following purpose: "To permit residential opportunities at a density that promotes the water quality of the Tuckahoe River and restricts encroachment in the wetlands and floodplains." The residential zoning permits 1 dwelling unit/ 2 acres of land with a 25 foot buffer requirement and a maximum 30% impervious coverage requirement.

WETLANDS MAP  
UPPER TOWNSHIP  
CAPE MAY COUNTY, NEW JERSEY



MAURICE RIVER  
TWP

ESTELL MANOR CITY

CORBIN CITY

SOMERS  
POINT  
CITY

EGG  
HARBOR  
TWP

Great Egg  
Harbor Bay

OCEAN  
CITY

DENNIS TWP

WOODBINE BORO

DENNIS TWP

SEA ISLE  
CITY

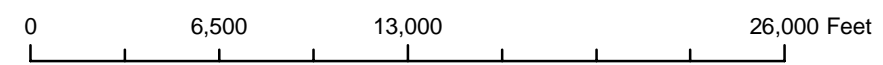
Ludlam Bay

Corson's  
Sound

Peck  
Bay

LEGEND

- MUNICIPAL BOUNDARY
- PARCELS
- FLOODPRONE AREAS
- WATER BODIES
- FRESHWATER WETLANDS
- TIDAL WETLANDS
- C-1 WATERS
- STREAMS
- LOCAL ROADS
- NJDOT ROADS



MAP 1.3A

DIGITAL GIS SPATIAL DATA SOURCES:  
- CAPE MAY COUNTY GEOGRAPHIC INFORMATION SYSTEM  
- NEW JERSEY DEPARTMENT OF COMMUNITY AFFAIRS,  
OFFICE OF SMART GROWTH  
- NEW JERSEY DEPARTMENT OF ENVIRONMENTAL  
PROTECTION, BUREAU OF GEOGRAPHIC INFORMATION  
SYSTEMS



# GEOLOGY MAP

UPPER TOWNSHIP  
CAPE MAY COUNTY, NEW JERSEY



- LEGEND**
- MUNICIPAL BOUNDARY
  - PARCELS
  - CAPE MAY FORMATION
  - COHANSEY SAND
  - WATER
  - LOCAL ROADS
  - NJDOT ROADS
  - STREAMS



0 6,500 13,000 26,000 Feet

## MAP 1.3B

DIGITAL GIS SPATIAL DATA SOURCES:  
- CAPE MAY COUNTY GEOGRAPHIC INFORMATION SYSTEM  
- NEW JERSEY DEPARTMENT OF COMMUNITY AFFAIRS,  
OFFICE OF SMART GROWTH  
- NEW JERSEY DEPARTMENT OF ENVIRONMENTAL  
PROTECTION, BUREAU OF GEOGRAPHIC INFORMATION  
SYSTEMS



# SOILS MAP

## UPPER TOWNSHIP

CAPE MAY COUNTY, NEW JERSEY



### LEGEND

- MUNICIPAL BOUNDARY
- PARCELS
- WATER BODIES
- STREAMS
- LOCAL ROADS
- NJDOT ROADS
- ARB - AURA SANDY LOAM, SL
- BP - BERRYLAND SAND, S
- CU - COASTAL BEACH-URBAN LAND COMPLEX, S
- DDA - DOWNER LOAMY SAND, SL
- DPA - DOWNER LOAMY SAND WATER TABLE, M
- DRA - DOWNER SANDY LOAM, SL
- DRB - DOWNER SANDY LOAM, SL
- DSB - DOWNER SANDY LOAM GRAVELLY SUBSTRATUM, S
- EVB - EVESBORD SAND, SL
- FL - FILL LAND SANDY, SL
- FM - FILL LAND SANDY ORGANIC SUBSTRATUM, S
- FRB - FORT MOTT SAND, SL
- HAA - HAMMONTON LOAMY SAND, M
- HBA - HAMMONTON SANDY LOAM, M
- KMA - KLEJ LOAMY SAND, M
- ML
- MU - MUCK, S
- PT -
- PS - POCOMOKE SANDY LOAM, S
- SAA - SASSAFRAS SANDY LOAM, SL
- SAB - SASSAFRAS SANDY LOAM, SL
- SBA - SASSAFRAS SANDY LOAM, WATER TABLE, M
- TD - TIDAL MARSH DEEP, S
- TM - TIDAL MARSH MODERATELY DEEP, S
- TS - TIDAL MARSH SHALLOW, S
- WMA - WOODSTOWN SANDY LOAM, SL

SL = SLIGHT LIMITATION FOR SEPTIC TANK APSORBTION FIELDS = 25%

M = MODERATE LIMITATION FOR SEPTIC TANK APSORBTION FIELDS = 21%

S = SEVERE LIMITATION FOR SEPTIC TANK APSORBTION FIELDS = 42%



0 6,500 13,000 26,000 Feet

## MAP 1.3C

DIGITAL GIS SPATIAL DATA SOURCES:  
- CAPE MAY COUNTY GEOGRAPHIC INFORMATION SYSTEM  
- NEW JERSEY DEPARTMENT OF COMMUNITY AFFAIRS,  
OFFICE OF SMART GROWTH  
- NEW JERSEY DEPARTMENT OF ENVIRONMENTAL  
PROTECTION, BUREAU OF GEOGRAPHIC INFORMATION  
SYSTEMS

UPPER\_TWP/11X17SOILS.MXD



# CRITICAL HABITATS MAP

UPPER TOWNSHIP  
CAPE MAY COUNTY, NEW JERSEY



## LEGEND

- MUNICIPAL BOUNDARY
- PARCELS
- BALD EAGLE FORAGING
- FORESTED WETLANDS**
  - STATE THREATENED
  - STATE ENDANGERED
  - FEDERAL THREATENED OR ENDANGERED
- EMERGENT WETLANDS**
  - STATE THREATENED
  - STATE ENDANGERED
  - FEDERAL THREATENED OR ENDANGERED
- GRASSLANDS**
  - STATE THREATENED
  - STATE ENDANGERED
- FORESTS**
  - STATE THREATENED
  - STATE ENDANGERED
  - FEDERAL THREATENED OR ENDANGERED
- BEACHES**
  - FEDERAL THREATENED OR ENDANGERED
- LOCAL ROADS
- NJDOT ROADS
- STREAMS



0 6,500 13,000 26,000 Feet

## MAP 1.3D

DIGITAL GIS SPATIAL DATA SOURCES:  
- CAPE MAY COUNTY GEOGRAPHIC INFORMATION SYSTEM  
- NEW JERSEY DEPARTMENT OF COMMUNITY AFFAIRS,  
OFFICE OF SMART GROWTH  
- NEW JERSEY DEPARTMENT OF ENVIRONMENTAL  
PROTECTION, BUREAU OF GEOGRAPHIC INFORMATION  
SYSTEMS



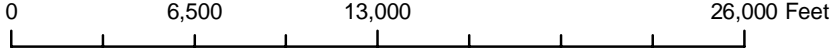
# CENTERS WITH NATURAL HERITAGE PRIORITY SITES

## UPPER TOWNSHIP

### CAPE MAY COUNTY, NEW JERSEY



- LEGEND**
- MUNICIPAL BOUNDARY
  - DRAFT CENTERS
  - PINELANDS VILLAGES
  - CAFRA BOUNDARY
  - WETLANDS
  - NATURAL HERITAGE PRIORITY SITES
  - PARCELS
  - WATER BODIES
  - STREAMS
  - LOCAL ROADS
  - NJDOT ROADS



**MAP 1.3E**

DIGITAL GIS SPATIAL DATA SOURCES:  
 - CAPE MAY COUNTY GEOGRAPHIC INFORMATION SYSTEM  
 - NEW JERSEY DEPARTMENT OF COMMUNITY AFFAIRS,  
 OFFICE OF SMART GROWTH  
 - NEW JERSEY DEPARTMENT OF ENVIRONMENTAL  
 PROTECTION, BUREAU OF GEOGRAPHIC INFORMATION  
 SYSTEMS

## 1.4 MUNICIPAL ENVIRONMENTAL JUSTICE INVENTORY

The term 'Environmental Justice' as identified 2004 Preliminary State Plan, refers to the adoption of planning principles that ensure fair treatment and meaningful involvement of the public in land use decision making. Identifying brownfield sites under Initial Plan Endorsement is a first step of a strategy to identify these sites during the planning process to avoid, preserve or mitigate 'disproportionate adverse expose to environmental health risks for communities of color and low income communities."<sup>13</sup>

In accordance with the NJOSG Plan Endorsement Guidelines, an inventory of brownfield sites is required as part of initial Plan Endorsement. Map 1.4A provides the NJDEP listed contaminated sites identified for the Township. This is a planning tool that can be used to identify potential areas for brownfield remediation and land reclamation. It can also be used to assess potential redevelopment areas that the Township may wish to consider in their planning efforts. Grant funding is available through NJOSG to assist in these efforts.

The B.L. England Power Plant is an identified brownfield site. The owner, Atlantic City Electric Company, has been working with NJDEP to address remediation efforts for the property to allow possible sale or decommission of the plant. The Township has identified this site and surrounding areas in Beesley's Point as being a prime candidate for redevelopment. The Township has currently authorized preparation of an Area in Need of Redevelopment Study as the first step in a possible redevelopment process. This area is part of the Marmora-Palermo-Beesley's Point Center and would be a prime candidate for clean up and reuse for mixed-use development focused on the Great Egg Harbor River and Bay.

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<sup>13</sup> 2004 Preliminary New Jersey State Development and Redevelopment Plan, page 24.



# CONTAMINATED SITES MAP

UPPER TOWNSHIP  
CAPE MAY COUNTY, NEW JERSEY



## LEGEND

-  MUNICIPAL BOUNDARY
-  PARCELS
-  CONTAMINATED SITES
-  LOCAL ROADS
-  NJDOT ROADS
-  WATER BODIES
-  STREAMS

## CONTAMINATED SITES

- 01 CAPE MAY COUNTY MUA SANITARY LANDFILL - KEARNEY AVE
- 02 UPPER TOWNSHIP DIVISION - RTE 610
- 03 ROUTE 50 GROUND WATER CONTAMINATION - RTE 50
- 04 EXXON SERVICE STATION UPPER TOWNSHIP - RTE 50
- 05 NJ DEPARTMENT OF TRANSPORTATION - RTE 50 & 3RD AVE
- 06 29 TYLER ROAD
- 07 WAWA FOOD MARKET - RTE 50 & HOPE CORSON RD
- 08 NJ MARINE SCIENCES CONSORTIUM - 1731 RTE 9 S
- 09 UPPER TOWNSHIP SANITARY LANDFILL - BUTTER RD
- 10 WHIPPOORWILL CAMPGROUND - 810 S SHORE RD
- 11 GARDEN STATE PARKWAY MILE MARKER 23.1
- 12 TEXACO SERVICE STATION UPPER TOWNSHIP - RTE 9 & ROOSEVELT BLVD
- 13 ALLENDALE ROAD GROUND WATER CONTAMINATION
- 14 BEESLEYS POINT GRD WTR CONTAMINATION - MAPLE SHADE LN & GRANT AVE
- 15 15 DIRT RD
- 16 GARDEN STATE PARKWAY MILE MARKER 27
- 17 ATLANTIC CITY ELECTRIC COMPANY - 900 SHORE RD (RTE 9)



0 6,500 13,000 26,000 Feet

## MAP 1.4A

DIGITAL GIS SPATIAL DATA SOURCES:  
- CAPE MAY COUNTY GEOGRAPHIC INFORMATION SYSTEM  
- NEW JERSEY DEPARTMENT OF COMMUNITY AFFAIRS,  
OFFICE OF SMART GROWTH  
- NEW JERSEY DEPARTMENT OF ENVIRONMENTAL  
PROTECTION, BUREAU OF GEOGRAPHIC INFORMATION  
SYSTEMS

UPPER\_TWP/11x17CONTAMINATEDSITES.MXD

## 1.5 HOUSING

### 1.5.1 Diversity of Housing Opportunities

Upper Township is predominantly single-family, with only fifty building permits issued for multi-family developments between the years 1971 and 1990 and zero multi-family permits issued from 1990 to 2000. The R District offers a unique housing option in the Township by permitting attached age-restricted dwellings. Permitted minimum lot sizes for residences range greatly in the Township from 4,000 square feet in the RR Resort Residential district to twenty-five acres in the F25 District.

### 1.5.2 Commitment to Plan for Appropriate Housing

Upper Township currently has an affordable housing obligation of 341 low and moderate income units, of which none (0) are rehabilitation units. The Township does not have a filed or certified Housing Element and Fair Share Plan. In 1989, the Upper Township Planning Board adopted a Housing Element and Fair Share Plan that provided for the then required 401 low and moderate income units and later filed a petition for Substantive Certification. However, on October 28, 1991, the Township Committee adopted a Resolution withdrawing its petition from the Council on Affordable Housing (COAH) due to a lack of resources to fund the required rehabilitation of 105 indigenous housing units.

The Township has substantial environmental constraints; about 58% of the Township's total land area is wetlands, and of the remaining acres, only 2,943 acres were potentially developable in 2002<sup>14</sup>. In addition, of this number, some land has ownership that restricts development and some has no opportunity for access/egress. It is due to these constraints that the Township has limited options for providing a substantial increase in housing units or housing diversity. Currently, the Township is in the process of evaluating COAH's options for providing affordable housing to determine which would be most appropriate. Also the lack of public sewer and limited public water system infrastructure limits development opportunities. As a condition of Plan Endorsement, the Township will prepare an updated Housing Element and Fair Share Plan and submit the same of COAH certification.

### 1.5.3 Zoning in Support of a Coordinated Planning Effort

The Upper Township Master Plan process established land use patterns based upon environmental constraints, which are also overlain by regulatory controls including Pinelands and CAFRA regulations. This supports planning that is coordinated with the carrying capacity of the land and acknowledging of the lack of infrastructure to accommodate more intensive development at this time. As part of the Plan Endorsement Process, the zoning within the Township's centers will be evaluated to address the Township's affordable housing obligation. The Township currently has certain limited policies that coordinate transportation access and other linkages with development areas to focus on Centers based growth. The Township requires sidewalks in four higher density zones (CM, RR, RC, TV); therefore providing linkages for residents are most likely to desire them. Design standards will be refined to facilitate pedestrian activity within the planned Centers.

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<sup>14</sup> Numbers provided by the Township Engineer.

## 1.6 TRANSPORTATION

### 1.6.1 Dennis, Middle, Upper Study Area (DMUSA)

The County of Cape May has experienced a considerable influx of growth over the past fifty years, due in part to its popularity as a tourist destination. The tourist season is most prominent during the months of May through September, when the County population increases over six times. Most of this growth takes place within the barrier island resort communities. Directly related to the population growth is the amount of cars and trucks on the County's roadways. The effect on local traffic conditions during the summer months is evident in each municipality, when resorts bound traffic descends on Friday afternoons and exits en mass on Sunday evenings. The County transportation system faces many challenges due heavy congestion and limited road capacity. The limited public transportation and pedestrian and bicycle routes further advances the congestion problems.

The County has three major roadways, running north and south providing access from Central and Northern New Jersey. The Garden State Parkway is a toll road with limited access points throughout the County. The Parkway carries the lion's share of the incoming and outgoing traffic in the region. The Parkway's Cape May Toll Plaza has an average daily traffic (ADT) of over 29,000 a day, which increases to over 47,000 during the summer months. The Toll Plaza has a total yearly traffic count of over 10 million trips per year<sup>15</sup>. New Jersey Route 9 through Cape May is classified as Urban Minor Arterial Road by the NJDOT, and provides access to a more localized regional traffic base. The third major traffic corridor is Route 47, which accommodates north/south travel through Dennis and Middle Townships.

There are a number of local, county and other state highways, which traverses Cape May County. Many of these roads provide a link between the barrier islands to the east and Route 55 to the west. Route 55 serves as a north-south connector through Gloucester and Cumberland Counties. The network of state roads, which link, to the Route 55 corridor includes Rt. 47, Rt. 347, Rt. 49 and Rt. 50. Many of these highways are two lane roadways, which become extremely congested during the summer months. The Route 55/47 Corridor draws traffic from the Atlantic, Cumberland and Salem Counties as well as the Philadelphia metropolitan area. In addition to the importance as a connection to the recreational areas of the County, the Route 55/47 Corridor also serves as an important emergency evacuation route.

Cape May along with Atlantic, Cumberland and Salem counties fall under the jurisdiction of the South Jersey Transportation Planning Organization (SJTPO). The SJTPO is the designated Metropolitan Planning Organization responsible for making regional transportation planning decisions. The SJTPO is required to prepare a Regional Transportation Plan (RTP) that serves as the long-range guide for the transportation decision making of the region. The RTP has addressed a number of issues directly relating to the DMUSA and has developed both short and long range plans of action to provide necessary improvements.

The SJTPO has conducted a number of transportation studies specifically dealing with the major travel movements in the DSMUA Region, most notably the *1998 Route 55/47 Corridor Transportation Study*. This study indicated that the Route 55/47 Corridor experienced significant seasonal traffic variation due to the influx of recreational travel. A 70 percent increased of daily traffic was identified during the summer tourist months compared to the off-season periods. The previous traffic estimates have predicted limited spot congestion within the Corridor on an average day, but severe congestion during summer weekend periods.

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<sup>15</sup> Cape May County Transportation Plan 2000

This study defined the problems concerning roadway congestion, traffic safety and local access, as well as the impacts on the local quality of life<sup>16</sup>.

The study identified the following problem areas:

- **Rts. 49/50 Corridor from Rt. 55 to GSP/US 9**
  - *Queuing on Rt. 55 at Rt. 49.*
  - *Congestion on Rt. 50 through Tuckahoe, and at times at the Rt. 49 signals.*
  - *No flow problems through to US 9.*
- **US 9/GSP Corridor from Rt. 50 to Cape May**
  - *GSP congestion at Cape May toll plaza, Sea Isle Blvd. exit ramps, and Stone Harbor Blvd. Intersection (CR. 550).*
  - *Severe Rt. 9 congestion at Sea Isle Blvd. and at Stone Harbor Blvd./GSP.*
- **Rts. 47/347 Corridor from Rt. 55 to Rio Grande**
  - *No flow problems at south end of Rt. 55.*
  - *Spotty congestion at Rts. 47/347 split (SB).*
  - *Severe congestion at Rts. 47/347 convergence (SB) – Queue 3-4 miles long.*
  - *Congestion at Tyler Road intersection.*

*The peak movement of travel back from the shore occurs on a Sunday from afternoon to early evening. The predominant directions of travel in this period are northbound (NB) and westbound (WB). Sunday existing conditions and problem locations grouped by travel corridors follow.*

- **Rts. 49/50 Corridor from GSP/US 9 to Rt. 55**
  - *Continuous, steady flow through corridor.*
  - *Heavy traffic on Rt. 50 through Tuckahoe.*
- **US 9/GSP Corridor from Cape May to Rt. 50**
  - *Continuous, steady flow through corridor.*
  - *Heavy traffic on US 9 in several areas.*
  - *Congestion at Sea Isle Blvd and US 9.*
- **Rts. 47/347 Corridor from Rio Grande to Rt. 55**
  - *Continuous, steady flow through corridor.*
  - *Heavy traffic on Rt. 47 at CR. 585 and Rt. 83.*
  - *Heavy traffic between Rt. 83 and Tyler Road.*
  - *Congestion at Rts. 47/347 convergence (NB).*
  - *Congestion on Rt. 47 through Port Elizabeth central business district*

The 1998 Route 55/47 Corridor Transportation Study recommended that the new four-lane highway from the existing terminus in Port Elizabeth to the Garden State Parkway in Dennis Township, as part of the Tier 2 or long term plan. The study notes that new roadway would alleviate daily congestion and delays on Route 47 and 49 as well as provide significant relief during the summer months. The expansion would address the growing population and divert traffic away from the already taxed two lane roads within Cape May County. This plan could be activated only following additional studies or implementation of Tier 1 (Near Term Plans).

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<sup>16</sup> Shore Connection Committee Report – Route 55/47 Corridor Transportation Study, Nov. 1998

The Tier 1 plans included a number of interchange, capacity, intersection and alignment improvements to the problematic areas identified above.

The completion of the Route 55 link to the Garden State Parkway would have a significant impact on Dennis Township. The *1994 Township of Dennis Master Plan* indicated that this extension would be inconsistent with its goals and objectives and should be discouraged and actively opposed. In 2002, the Dennis Township Committee reaffirmed their position by adopting a resolution opposing the Route 55 extension, unless it could be done in an environmentally safer manner

In 2004, the SJTPO 2025 Regional Transportation Plan concluded that improving the Route 55/47 Corridor, in a manner that is respectful of the communities through which it passes is a critical need<sup>17</sup>. It was determined that the benefits of the improvements to the corridor would far outweigh the cost and impacts of such a project. Completion of Route 55 would address the long-term needs of the region by improving the ability to move people and goods to and from the shore communities, while alleviating congestion and providing a better and safer evacuation route.

The SJTPO is currently conducting a study on the US 9/Garden State Parkway Corridor. The study has targeted an area located in the northern most part of Cape May County and southern Atlantic County. The purpose of the study is to address the problems at locations of heavy congestion during the summer and weekday peak periods. The areas of concern are as follows<sup>18</sup>:

- *10.2-mile section of Route 9 from Route 50 (Upper Twp.) to Route 52 (Somers Point City, Atlantic County).*
- *Garden State Parkway from interchange 20 (Upper Twp.) to Interchange 30 (Somers Point City, Atlantic County).*
- *A 2-mile stretch of Roosevelt Boulevard (Upper Twp.) from Route 9 to Bay Avenue (Ocean City).*
- *A 2.7-mile portion of Bay Avenue in Ocean City between 34th Street and 9th street.*

The draft study concluded with a number of long and short-term solutions to relieve the congestion problems. Some of the recommendations that affect the transportation network of Cape May County are:

- **Route 9 from Route 50 to Tuckahoe Road:**
  - *Improve bicycle safety by providing bicycle compatible inlets.*
  - *Pedestrian crosswalks.*
  - *Improve sight distances.*
  - *Construct a center turn lane from Church Road (CR 602) to Tuckahoe Road (CR 631).*
  - *Installation of curbs and sidewalks for better pedestrian access.*
- **Tuckahoe Road**
  - *Pedestrian crosswalks.*
  - *Improvement to the road geometry and sight distances.*
  - *Construction of north and south bound turn lanes.*

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<sup>17</sup> SJTPO 2025 Regional Transportation Plan – Executive Summary June 2004

<sup>18</sup> *U.S. 9/Garden State Parkway Corridor Study – Draft Final Report* – SJTPO – April 2004

- **Route 9 from Tuckahoe Road to Roosevelt Boulevard**
  - *A center turning lane should be constructed.*
  - *Improve downtown Marmora to include landscaping, street furniture and other site amenities that would create a sense of place*
  - *Drainage improvements to reduce flooding.*
- **Roosevelt Boulevard**
  - *Re-stripe the portion east of Route 9 to extend left turn lanes and to provide for two eastbound travel lanes.*
  - *Capacity Improvements to the Roosevelt Blvd./Rt. 9 intersection could be improved with a high-speed northbound right turn ramp.*
  - *Curbs and sidewalks should be constructed to improve pedestrian access.*
- **Tuckahoe Road Extension (Rt. 9 intersection between Hollyberry Ave. & Redwish Ln.)**
  - *Improve pedestrian safety by providing crosswalks at the northbound, southbound and eastbound approaches.*
  - *Provide advanced directional signals.*
- **Route 9 from Roosevelt Boulevard to Beesley's Point Bridge**
  - *Improve pavement*
  - *Rehabilitation of the Beesley's Point Bridge and the U.S. 9 Over Drag Channel Bridge.*
- **Improvements to the Garden State Parkway Interchange 25**
  - *On ramp acceleration lanes should be lengthened.*
  - *Pavement Improvements.*
  - *Signage improvements.*
- **Improvements to the Garden State Parkway Interchange 20**
  - *On ramp acceleration lanes should be lengthened.*
  - *Reconfigure interchange to include connections from the southbound GSP to Route 50 and Route 9 and from Route 50 and Route 9 northbound.*

The *Cape May County 2000 Transportation Plan*<sup>19</sup> has indicated a number of recommendations related to general and specific areas of transportation within the County. The following are selected recommendations affecting the DMUSA Region:

- *Greater emphasis should be placed on transportation projects and programs in the area.*
- *Improved and expanded transit services should be provided.*
- *Explore the possibility of providing the approximately 16,000 campsites with transit service to the beaches and recreational facilities of the barrier island.*
- *Encourage mass transit, car pools and vanpools and alternative means of transportation. Develop strategies to reduce the amount of single occupancy vehicles.*
- *Encourage the funding and competition of the Route 55 highway expansion.*

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<sup>19</sup> Cape May County – Department of Planning – *Transportation Master Plan 2000*



- *Encourage the wise distribution of commercial and residential development at suitable access points to major arterial.*
- *Pursue plans for grade-separated interchanges at the three intersections on the Garden State Parkway in Middle Township. These intersections require traffic signals and cause significant delays and congestion.*

Although NJ Transit provides bus routes within Cape May County, service in the DMUSA only provides a few daily trips with no service at night or weekends. Most of the service is geared toward the Atlantic City commuter bus route from Cape May to Atlantic City. This route provides service to Rio Grande via Rt. 47, Cape May Court House and Burdette Tomlin Hospital via Rt. 9, as well as the Crest Haven County Complex from the Parkway. In addition to providing local bus service, NJ Transit operates an interstate route from Philadelphia to Cape May with local stops in Goshen, Tuckahoe, Cape May Court House and Rio Grande.

The County offers Fare-Free Transportation, which provides free bus transportation to senior citizens, persons with disabilities, veterans and persons of low income. The service operates a modified fixed-route service, which provides residents access to local shopping areas two times per week. Appointments are not necessary and service is provided at any corner along the route. Door-to-door service is also provided to all areas of Cape May and requires a reservation.

The Cape May Seashore Line operates a seasonal excursion line through a lease agreement with NJ Transit. Currently the line focuses on the recreational tourist market and provides service from County 4-H Fairgrounds to Cape May City. NJ Transit has developed a plan that depicts the transit possibilities for the future. The plan shows the current rail lines, projects committed for construction and candidate projects, which are potential projects with some degree of planning. The rail link from Hammonton to Cape May Courthouse has been identified as candidate project. This project needs additional work and identified funds in order to advance to a committed project<sup>20</sup>.

The majority of the bicycle facilities in the DMUSA are non-designated facilities consisting of paved shoulders and shared roadways. Middle Township has a bicycle connection that links the Park and Zoo to the Middle Township Recreation Complex. The County and Middle Township have proposed a 1.4 mile shared use path, which would connect the existing bikeway system to the center of Cape May Courthouse. The Belleplain State Forest located in the northwest are of the county has 31 miles of roadways accessible to bicyclists. Most of the County's designated bike routes are located in the southern portion of the County and the barrier island communities. Some of the other facilities include Seashore Road bike lane connecting West Cape May and the Cape May Canal and a number of other bicycle accessible paths in Ocean City, Wildwood Crest and North Wildwood.

In recent years the County has emphasized the importance of bicycles as an alternative means of transportation. The County is actively pursued efforts to improve bicycle travel by promoting the development of facilities designed specifically for bicycles. In their efforts to improve the intermodal transportation system, the County has secured funding to construct the 0.85-mile Cold Spring Bikeway connecting the existing Seashore Road bike lanes with Historic Cold Spring Village. A second phase of the project will extend the path north an additional 1.27 miles into Lower Township. A project sponsored by the Division of Parks and Forestry will provide a fourteen-mile long bike path from Belleplain through Woodbine and Dennis to Middle Township. The path will be utilized for bicycles and hikers and will connect with the existing bikeway in Woodbine.

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<sup>20</sup> *SJTPO Regional Transportation Plan – Chapter Four – June 2004*

The Department of Transportation plans to designate a bicycle accessible route the entire length of the State from Cape May Point to High Point. The route will use a combination of existing State highways, County and local roads. The route has not been finalized and is likely to include County Roads 557, 657 and 626 along with Highway 9 and 47<sup>21</sup>.

## 1.6.2 Upper Township

Upper Township like many of the municipalities in Cape May experience increase roadway congestion and seasonal variations in the local traffic flows. The Township of Upper has four major roadways, which fall under the jurisdiction of the New Jersey Department of Transportation: Routes 49, 50, 9 and the Garden State Parkway. Route 49 and 50 provide east west access to the barrier island communities from the metropolitan Philadelphia area and New Jersey's southwestern counties. Both the Parkway and Route 9 provide highway connections to Cape May from northern New Jersey. The Township has a number of roads that are under the authority of Cape May County. These roads are classified as follows:

- Primary – connecting large population centers in and out of the County servicing high traffic counts, includes Routes 623 and 631. These roads have an ultimate right-of-way (R.O.W.) of 86 feet.
- Secondary – act as minor links between County population centers and have smaller counts, includes Routes 557, 605, 610, 617, 619, and 628. These roads have an ultimate R.O.W. of 66 feet.
- Local – provide access to private residential property; include Routes 548, 602, 616, 637, 662, 632, 659, and 669. These roads have an ultimate R.O.W. of 50 feet.

The *1994 Township of Upper Master Plan* indicated that the road and pedestrian network, which had worked efficiently in the past, would no longer be able to support the traffic related to the increase of suburban development. The problems associated with the lack of efficiency and roadway congestion are attributed to the increase in both the permanent and summer populations.

The NJDOT has recently made improvements to the intersection of Route 9 and Route 50. These improvements included the installation of traffic lights and the reconfiguration of approach lanes. The NJDOT has also improved the intersections of Route 50 and Route 610 and County Road 662 at the Garden State Parkway Interchange<sup>22</sup>. These improvements should improve the traffic safety of Upper, although additional solutions for reducing summertime congestions still need to be explored. The long and short-term recommendations of the SJTPO's study on the US 9/Garden State Parkway Corridor (discussed in section 1.6.1) outline a number of possible solutions that would further enhance traffic safety and improve the Township circulation system.

Upper Township is further hindered by the limited public transportation system. Bus service is currently provided by New Jersey Transit, which operates the Route 552 between Cape May and Atlantic City along the Garden State Parkway. This service is oriented toward the casino crowds and passengers making travel connections in Atlantic City. Service is provided from the Garden State Parkways Park and Ride

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<sup>21</sup> *Cape May County Bicycle Study*, Cape May County Planning Department, June 2002

<sup>22</sup> *The Township of Upper Master Plan Reexamination and Master Plan Amendment*, adopted July 19, 2001

facility in Seaville. NJ Transit also provides intrastate service between Philadelphia and Cape May via Route 315, with two stops daily at Rt. 50 and Reading Avenue in Tuckahoe.

The Township has an active rail line, which provides freight and coal to the existing B.L. England Power Plant. The Cape May Seashore Lines Railroad currently provides regularly scheduled excursion service between the 4-H Fairgrounds Rail Station located in Middle Township and Cape May City. Plans are underway for the extension of service between the 4-H Fairgrounds (present northernmost station) and Tuckahoe (Upper Township), and then north for the interchange of passengers with NJ Transit on their Atlantic City Rail Line. The Township has recently renovated the historic Tuckahoe train station, which included improvements to the building facades and parking areas. The NJDOT, as part of their improvements to Routes 49 and 50, will be improving the streetscape in and around the area of the rail station.

Upper lacks pedestrian walkways and accessibility that would encourage residents to walk to retail and service destinations. This should be required for all commercial development with linkages to residential neighborhoods. It is especially important in the planned Centers to reduce vehicle trips. Design standards should be assessed and revised to require sidewalks for commercial development. The implementation of bike paths from Amandas Fields in Petersburg to Woodbine and north to Tuckahoe will provide off road public access and recreational path. In addition, a 1.6-mile path is proposed in the Palermo section of the Township from Route 9 east along the inactive NJ Transit rail right-of-way to Crook Horn Creek. The path will accommodate both pedestrians and bicycles and will provide scenic overlooks to the wetlands and the barrier islands<sup>23</sup>.

### 1.6.3 Key Transportation Issues

Tourism is the engine, which drives the Cape May County economy, and improvements to the transportation system will help support projected growth. Limited public transit systems have added to the traffic congestion within the County and Upper Township. The forecasted expansion of the population, housing, employment and tourism will further diminish the already congested road network, unless some of the recommended of both the SJTPO and the County Transportation Master Plan can be accomplished. The following summarizes key regional and local transportation issues.

#### REGIONAL

- Address near term transportation improvements as recommended in the 2025 Regional Transportation Plan and County Transportation Plan.
- Provide improved transit services.
- Develop seasonal shuttle services for the campgrounds in coordination with the County and NJ Transit.
- Expand passenger rail service.

#### LOCAL

- Improve pedestrian facilities.
- Improve bicycle facilities.
- Explore shuttle services to serve summer visitors and campgrounds.

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<sup>23</sup> *Cape May County Bicycle Study*, Cape may County Planning Department, June 2002

- Support further improvements for Tuckahoe rail station.
- Improve Garden State Parkway Exit 20 as a full Interchange.

## 1.7 INFRASTRUCTURE

### 1.7.1 Water Supply

The potable water supply for Cape May County and the Dennis, Middle, Upper Study Area (DMUSA) is derived from ground water through fresh water aquifers. The County does not have a system of reservoirs and relies on two major aquifer systems for its water supply: the shallow aquifer system and the deep aquifer system. The shallow system consists of the Holly Beach Water Bearing Zone, the Estuarine Sand aquifer and the Cohansey Sand aquifer. The deep aquifer system consists of the Rio Grande Water Bearing Zone and the Atlantic City 800-Foot Sand aquifer.

The County's public water supply has been declining in recent years, due in part to the increased pumping of groundwater associated with the population growth and the reduction of aquifer recharge by the discharge of stormwater drainage systems. This has resulted in the lowering of the groundwater table and saltwater contamination of groundwater wells. Wells in Wildwood, Cape May City and areas of Lower Township have been forced to close as a result. In the DMUSA, wells in the Beesley's Point and the Marmora section of Upper Township have been closed due to chemical contamination. The depletion of the current water supply and the ability of the existing aquifer systems to meet future needs has become a countywide concern.

The concerns of how the County's current and future water supply needs will be accomplished, as well as how to protect the aquifer system while avoiding adverse ecological impacts, has prompted the Gibson Bill. Enacted by the New Jersey State Senate and General Assembly on July 20, 2001, the Bill funds an assessment of water resources in Cape May County including the County's pinelands area. Specifically, Section Three of the Bill directs the NJDEP in cooperation with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service and the U.S. Geological Survey to prepare reports and analysis addressing a number of issues including:

- A report on sustainable water supply alternatives necessary to meet the current and future water supply needs of the county while avoiding adverse ecological impact.
- A county-wide water hydrological assessment and survey
- A county-wide water supply alternative water supply design.
- A county-wide water supply cost effectiveness study.
- Identification of water conservation and reuse methods.
- Analysis of potential future water supply demands based on future development.

The New Jersey Department of Environmental Protection and the U.S. Geological Survey have prepared a draft Project Work Plan describing the objectives and approaches of the study to determine the extent of the sustainable water supply and the capability of meeting the current and future needs of Cape May County. The Project Work Plan indicates that future water supplies would be pumped to places of need from a line of wells located along the middle of the County north of Lower Township with aquifer storage and recovery systems used to supplement high demand during the summer months. The County should consider wastewater reuse and continue its current conservation practices. It was further recommended that desalinization and piping water into the County from outside sources should be a last resort.<sup>24</sup>

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<sup>24</sup> Executive Summary of the Project Work Plan – Development of a Plan for Sustainable Future Water Supply for Cape May County, New Jersey prepared by the N.J.D.E.P. and the U.S. Geological Survey – August 2003

The proposed study will be a four-phase process completed over a two-year period. The study will address the following issues:

*Phase 1: Develop the detailed plans for the project and to organize the multi-agency team that will undertake the activities of the project.*

*Phase 2: Develop the necessary information and tools that will provide a predictive understanding of hydrologic, ecologic, and regulatory issues that pertain to planning a sustainable water supply for Cape May.*

*Phase 3: Integrate the water demand projections, the information about hydrologic limitations, the ecological sensitivities, and regulatory policy considerations to define possible well locations and pumping rates for water supply production that will meet future needs while minimizing hydrological problems and minimizing impacts to the ecosystem.*

*Phase 4: Determine and rank the engineering feasibility and cost effectiveness of the leading Phase 3 scenarios.*

Phase 2 of the proposed study will include analysis to determine the future water demand utilizing population projections, zoning, build-out analysis, development plans and wastewater plans. This analysis will focus on the projections and build-out scenarios for the years 2025 and 2055. This phase is particularly important to the Initial Plan Endorsement Report, since it may have an affect on the character, development options and public facilities of each of the municipalities in the DMUSA.

Water conservation practices, groundwater recharge using treated effluent or other aquifer recharge alternatives would allow the County to continue to pump potable water from the Cohansey aquifer without increasing the threat of saltwater intrusion. Some of the aquifer recharge alternatives recommended in the *Feasibility Study for Reuse of Wastewater Effluent* prepared for Cape May County Municipal Utility Authority are as follows:

- Direct recharge through injection wells.
- Indirect recharge through infiltration/percolation ponds.
- Indirect recharge through land application (spray irrigation systems).
- Indirect recharge by discharge to a receiving surface water feeding groundwater, including streams and wetlands.

Countywide groundwater recharge efforts would be a major undertaking, but could provide significant benefits. Such efforts would include implementation of a plan that would satisfy the NJDEP's regulatory requirements for wastewater reuse including water quality issues and location of applications. Additional wastewater treatment as well as upgrading all or portions of the existing treatment plants would also need to be addressed<sup>25</sup>.

The Cape May County Planning Board has recognized the urgency of the water supply problem and has encouraged municipalities to adjust zoning and control growth to protect the water supply systems. It is the County's policy to limit growth so development does not exceed the ability to provide an adequate water

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<sup>25</sup> Feasibility Study for Reuse of Wastewater Effluent – Malcolm Pirnie – July 2000

supply. The County has further committed to protecting the water sources through its involvement with the Open Space and Farmland Preservation Program, support of the New Jersey Statewide Water Supply Plan and implementation of the Watershed Management Planning Program as funded by the NJDEP<sup>26</sup>.

The County has implemented a pilot Well Head Protection Program to identify domestic well cluster areas within the County. The purpose of the program is to minimize the risk of pollution of domestic wells and ground water resource preservation. Seventy-two clusters were identified in the mainland communities including Lower Township and the DMUSA. Well Head Protection Areas has been delineated and management programs have been developed<sup>27</sup>.

Septic systems, above and underground storage tanks, and cemeteries were found to be some of the sources of pollution in the areas surrounding the well clusters. The County Health Department has provided public education packets to homeowners explaining the County's hydrology and groundwater systems as well as proper care of septic systems and under ground storage tanks. The County has also collected hundreds of water samples from the seventy-two clusters and continues to monitor contamination levels. There has been contamination of the wells in areas of Cape May Court House, Beesley's Point, Marmora, and Tuckahoe. These areas have received public water or treatment systems to address the problems.

### 1.7.2 Upper Township Water Facilities

The Township of Upper lies above the Cohansey aquifer and most of the Township's potable water is derived from on-site private wells. Water mains have been installed in the Marmora and Beesley's Point section of the Township. This area includes Route 631 from Stagecoach Road to Route 9, north to Roosevelt Boulevard from Old Tuckahoe Road east to 34<sup>th</sup> Street. Water service has also been provided to the entire portion of Beesley's Point north of Roosevelt Boulevard to Cedar Hollow Court. Water service has recently been extended through Palermo to Seaville serving Osprey Point (a 149 unit age-restricted development). The waterline then runs down Stagecoach Road south to Evergreen Drive, then east to Route 9 and continues east for approximately 1,000 feet. New Jersey American Water Company services the Township's barrier island community of Strathmere through an extension of the Ocean City system<sup>28</sup>.

### 1.7.3 Sewer

Sewer service in the Cape May County is divided into five service area regions with publicly owned wastewater treatment plants (Table 1.7A). The regions are identified as the Ocean City – Upper Township Region, Dennis Township – Woodbine Region, Seven Mile – Middle Township Region, Wildwood – Lower Township Region and the Cape May Region. The County's Water Quality Management Plan is prepared and directed by the Cape May County Board of Health<sup>29</sup>.

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<sup>26</sup> Cape May County Comprehensive Master Plan prepared by the Cape May County Planning Department–July 2002.

<sup>27</sup> Cape May County Water Quality Management Plan / Waste Water Management Plan (208 Plan) – Sept. 28, 2001

<sup>28</sup> Township of Upper Master Plan Reexamination and Master Plan Amendment – July 19, 2001

<sup>29</sup> Cape May County Quality Management Plan / Waste Water Management Plan (208 Plan) – Sept. 28, 2001

**Table 1.7A: Cape May County Sewer Service Regions**

1. **Ocean City - Upper Township Region**  
Ocean City Regional Wastewater Treatment Plant -  
Cape May County Municipal Utilities Authority (CMCMUA)  
Upper Township  
Ocean City
2. **Dennis Township Woodbine Region**  
No Regional Wastewater Treatment Plant  
Dennis Township  
The Borough of Woodbine
3. **Seven Mile - Middle Township Region**  
Seven Mile/Middle Regional Wastewater Treatment Plant (CMCMUA)  
Middle Township  
Sea Isle City  
Avalon Borough  
Stone Harbor Borough
4. **Wildwood - Lower Township Region**  
Wildwood/Lower Regional Wastewater Treatment Plant (CMCMUA)  
Lower Township M.U.A. Sewage Treatment Plant  
North Wildwood City  
Wets Wildwood Borough  
Wildwood City  
Wildwood Crest Borough  
Portions of Middle Township (south)  
Lower Township
5. **Cape May Region**  
Cape May Regional Wastewater Treatment Plant (CMCMUA)  
Portions of Lower Township (south)  
The City of Cape May  
West Cape May Borough  
Cape May Point Borough

SOURCE: Cape May County Water Quality Management Plan / Waste Water Management Plan

The Dennis, Middle, Upper Study Area (DMUSA) along with Lower Township are communities in Cape May County with the largest areas of undeveloped and environmentally constrained lands. These municipalities rely on on-site ground water discharge for most of the wastewater disposal. Table 1.7B indicates the proposed expansion of the Regional Sewage Treatment Plant capacity.



**Table 1.7B: Cape May Regional Sewage Treatment Plant Capacities**

<b>1 Ocean City - Regional Sewage Treatment Plant</b>			
Design Capacity =	8.240	MGD (Million Gallons per Day)	
Permitted Flow =	8.240	MGD	
Current Flow =	5.399	MGD	
Planning Flow =	8.240	MGD	
<b>2 Seven Mile - Middle Township Regional Sewage Treatment Plant</b>			
Design Capacity =	9.240	MGD	
Permitted Flow =	7.670	MGD	
Current Flow =	5.814	MGD	
Planning Flow =	8.387	MGD	
<b>3 Wildwood - Lower Township Regional Sewage Treatment Plant</b>			
Design Capacity =	17.590	MGD	
Permitted Flow =	14.180	MGD	
Current Flow =	9.221	MGD	
Planning Flow =	14.180	MGD	
<b>4 Lower Township M.U.A. Sewage Treatment Plant</b>			
Design Capacity =	4.000	MGD	
Permitted Flow =	4.000	MGD	
Current Flow =	2.500	MGD	
Planning Flow =	4.000	MGD	
<b>5 Cape May Regional Sewage Treatment Plant</b>			
Design Capacity =	3.200	MGD	
Permitted Flow =	3.000	MGD	
Current Flow =	1.943	MGD	
Planning Flow =	3.372	MGD	

SOURCE: Cape May County Water Quality Management Plan / Waste Water Management Plan

The Cape May County adopted Septic Management Plan (SMP) establishes guidelines for development which utilizes septic systems. The SMP's goal is to establish a minimum lot size to reduce the risk of well contamination when septic systems are placed on lots. The SMP is administered by the County Health Department, who reviews development applications for consistency to the SMP as follows:

- New subdivisions may not create lots less than 35,000 square feet.
- Proposed developments on existing lots generating 500 gallons per day of wastewater are grand fathered.
- Proposed developments, excluding single-family residences, generating more than 500 and less than 2,000 gallons per day of wastewater must comply with the 35,000 square foot minimum lot size.

#### 1.7.4 Upper Township Sewer Facilities

Upper Township is located in the Ocean City – Upper Township Regional Sewerage Authority Service Region (Figure 1.7A). The municipality has no public sanitary sewer system and relies on a combination of

on-site package treatment systems and individual septic systems for its wastewater disposal. The Township is consistent with the County's Septic Management Plan by maintaining a minimum lot size of 35,000 square feet for the mainland portion of the Township. However, undersized lots are permitted in Strathmere section of the Township<sup>30</sup>. Strathmere is serviced by individual subsurface disposal systems and was shown as a sewer area with a projected build-out of 0.360 million gallons per day (MGD) on the County's 208 plan.

The Cape May County Municipal Utilities Authority (CMCMUA) has adopted a Capacity Assurance Plan (CAP) to insure that wastewater flows for each of the participating communities does not exceed their flow allocation. The flow allocation for each community is based on design flows from a build-out analysis in the 201 Plan. The purpose of the analysis was to ensure that the wastewater from each community could be properly treated by the CMCMUA. The 1996 CAP Community Flow Status identifies flow allocation projections for the year 2020.

The following figures represent the maximum daily average flows that can be transmitted from Strathmere, the numbers represent the not-to-exceed flows enforced by the CMCMUA<sup>31</sup>.

	<u>1995 Allocation</u>	<u>2020 Allocation</u>
Strathmere	0.240 MGD	0.360 MGD

This projection is based upon actual flows from dwellings in existing sewer areas, new dwellings permissible under current zoning in existing sewer areas and additional flow contributions from future sewer service areas. In order to expand the County's treatment plants beyond the permitted flow, the CMCMUA will need to apply to the NJDEP for an amendment to the Water Quality Management Plan and provide justification for the proposed flows.

The 1993 Township of Upper Master Plan had indicated that the Township was considering sewer service to Strathmere for health and safety reasons. Public sewers would connect into the Sea Isle City system through Whale Beach and then processed by the Seven Mile Middle Township Wastewater Treatment Plant. The NJDEP had reviewed this proposal and indicated that the sewer extension through Whale Beach was in direct conflict with the Rules on Coastal Zone Management. The plan was opposed by many in the community, fearing that providing sewers to Strathmere would increase development and encourage the same high density growth experienced by the other barrier island communities of Cape May County. The County has explored alternatives to the extension including servicing the area from the north via the Ocean City Regional Wastewater Treatment Plant, and incorporation of various on-site alternatives for failing septic systems such as individual or community holding tanks, composting toilets or recycling systems<sup>32</sup>.

Recent changes to the County's Water Quality Management Plan indicate the following facilities in Upper Township:

- Areas of Upper Township which are zoned Commercial District (CD) have been identified as being designated for wastewater facilities with planning flows less than 20,000 GPD which discharge to groundwater.

<sup>30</sup> Township of Upper Master Plan Reexamination and Master Plan Amendment – July 19, 2001.

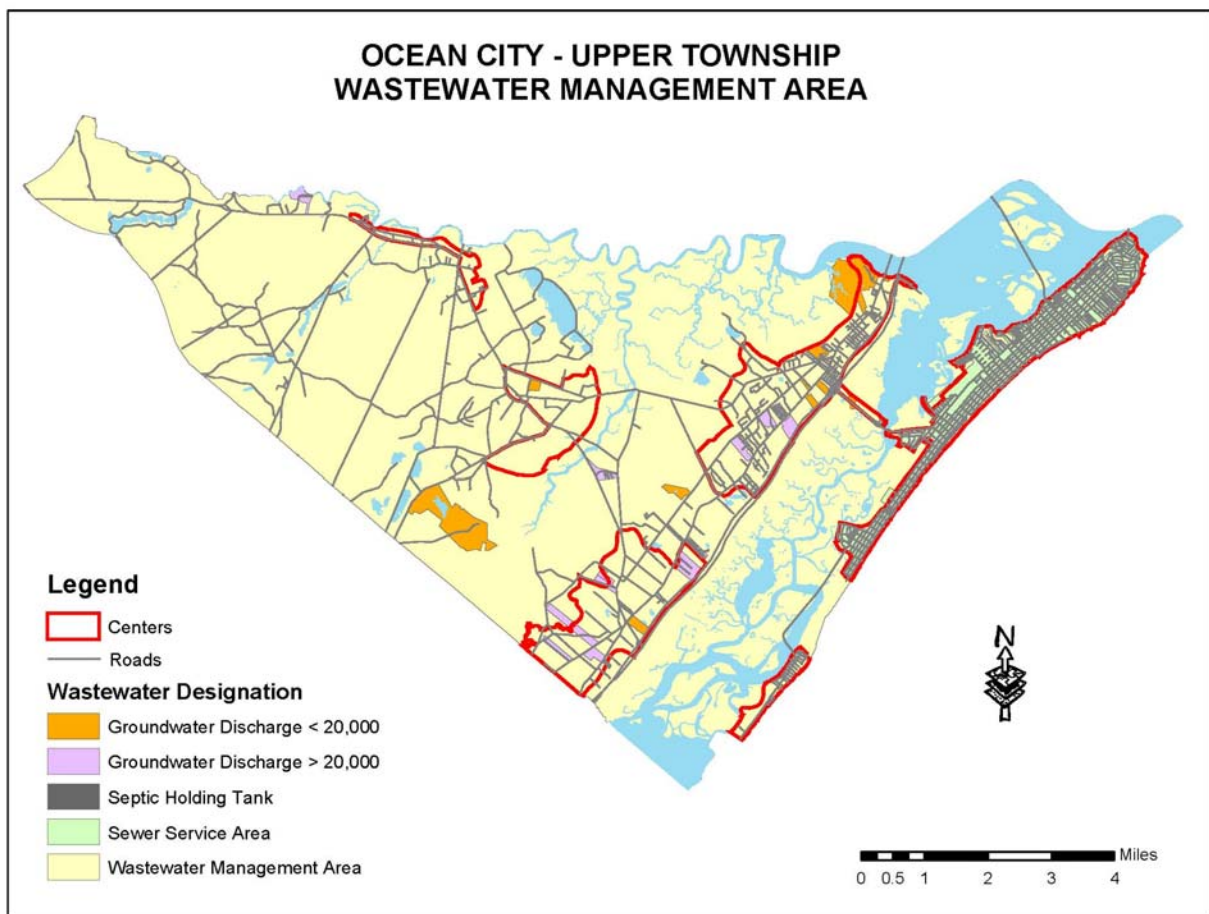
<sup>31</sup> Cape May County Quality Management Plan / Waste Water Management Plan (208 Plan), Sept 28, 2001

<sup>32</sup> Cape May County Quality Management Plan / Waste Water Management Plan (208 Plan), Sept 28, 2001

- The B.L. England Generating Plant has been designated under the categories of “Surface Water Discharge Area” for its industrial discharge into the Tuckahoe River and for its “Wastewater Facilities with Planning Flows less than 20,000 GPD which Discharges to Ground Water” for its underground sewerage discharge.
- Osprey Village has been approved for the construction of 149 unit age-restricted planned community with onsite package treatment. The total discharge is 25,330 GPD.

It should be noted that upland portions of Roosevelt Boulevard were originally included in the proposed sewer service area, but were not adopted as part of the County's Water Quality Management Plan.<sup>33</sup> Existing ground water disposal facilities and the Bridge Commission Property, as well as future development were proposed to discharge to Ocean City Regional Treatment Plant. This should be further evaluated during Plan Endorsement and future changes to the County Wastewater Management Plan.

**Figure 1.7A Ocean City – Upper Township Wastewater Management Area**



<sup>33</sup> Note that the Wastewater Management Plan Map (provided in the 208 Plan) is incorrect. It includes Roosevelt Blvd, although this was later removed from the sewer service area. Upper Township has a Consent Agreement to connect properties on Roosevelt Blvd. to the Ocean City Regional Treatment Plan.

### 1.7.5 Stormwater Management Facilities

The NJDEP rules on stormwater management (N.J.A.C. 7:8-1 et. seq. require municipalities to prepare a Storm Water Management Plans by February 2, 2006. Upper Township has prepared the Storm Water Management Plan which will be adopted as an element of the Township Master Plan.

### 1.7.6 Summary of Infrastructure Issues

- Future development should be planned around existing development centers to avoid sprawl and to protect environmentally constrained areas and to reduce infrastructure extension costs.
- Coordination of future development with water and sewer facilities focused on the Township Centers.
- Upper Township will not fund public sewers facilities; however, private treatment facilities will be encouraged within the Centers.
- Completion of the Cape May County water supply study will assess build out conditions. This study should continue to be tracked and the results evaluated in regards to the Township's land use planning and zoning regulations.
- Protection of ground water is crucial including wells, groundwater recharge areas and stream protection. Storm water management plan will be adopted to address water quality.
- Wellhead protection areas should be identified and designated. Stream protection is currently accommodated through wetlands and C-1 waters regulations.
- Continue to assess need for public sewers in Strathmere.

## 1.8 LAND USE INVENTORY

### 1.8.1 Current Conditions

The existing land use patterns within Upper Township are indicated on Map 1.8A. It is evident that the largest portion of the town falls into the “public property” category, which is made up environmentally constrained land and wildlife management areas. The Township has approximately 24% of its total land mass covered by freshwater wetlands and another 24% constrained by tidal wetlands. There are large areas of land within the Township that are owned and managed by State and Federal agencies for the protection of threatened and endangered species and wildlife habitats (See Section 1.3 of this report). These areas represent a significant amount of undeveloped land consisting of the Tuckahoe Wildlife Management Area, Belleplain Forest and the Great Cedar Swamp Wildlife Refuge.

Cape May County has established a trust fund to preserve open space and agricultural lands. The trust is funded by a County property tax of 1 cent per 100 dollars of assessed valuation and currently generates approximately 1.3 million dollars a year. Since its inception, the program has preserved approximately 3,000 acres of open space and farmland (almost 5 square miles) in the County. There is only one preserved farm of approximately 28 acres in Upper Township. This farm is known as Cedar Villas and is located in Tuckahoe.

The most significant region of undevelopable land is located along the entire eastern portion of the municipality. This stretch of land is situated between the Garden State Parkway and the barrier islands and is constrained by tidal wetlands. There is limited development in these areas; most of the land consists of very small pockets of vacant lots and commercial development located along Route 623 (Roosevelt Blvd.) leading to the barrier island communities. The other sizable areas of undevelopable lands are located adjacent to the Great Cedar Swamp, Lake Tuckahoe and the Belleplain State Forest.

Residential uses account for 17% of the land within the Township. The existing residential development consists mainly of single-family homes with the most concentrated areas located in Seaville, Petersburg and Marmora/Beesleys Point/Palermo. The barrier island community of Strathmere represents the Township’s highest density of residential development with an average lot size of 8,000 square feet.

It is no surprise that most of Upper Township’s commercial developments are located along its major roadways. A considerable amount of retail, office and service related development is located along the Route 9 corridor. The larger shopping centers and retail stores are located in Seaville and Marmora/Beesley’s Point/Palermo. In addition there are commercial uses, which are primarily mining operations, along Route 610 and Route 664 in the southern portion of the Township adjacent to Woodbine Borough.

Tuckahoe has some village commercial development along Route 50 and Route 47 in the village center. This area is planned for future economic growth buttressed by the recent renovation of the Tuckahoe train station with planned extension of excursion rail service from Cape May City (when the rail line is extended)

Table 1.8A represents the land use breakdown of the Township as well as a comparison with the other municipalities in the DMUSA.

**Table 1.8A Land Use**

	Dennis Township		Middle Township		Upper Township	
	Percentage	Acreage	Percentage	Acreage	Percentage	Acreage
Vacant Land	11.00%	4,585	14.20%	7,515	23.00%	10,057
Residential	13.00%	5,301	14.30%	7,592	17.00%	7,417
Farm Regular	2.50%	1,010	3.40%	1,812	0.04%	18
Farm Qualified	7.40%	3,031	2.90%	1,537	4.00%	1,764
Commercial	3.00%	1,244	5.00%	2,645	3.70%	1,619
Industrial	0.00%	0	0.06%	31	0.68%	298
Apartment	0.00%	0	0.01%	7	0.01%	3
Rail Road Class 1	0.00%	0	0.07%	35	0.30%	128
Public School Property	0.07%	30	0.36%	193	0.25%	108
Public Property	51.00%	21,000	1.30%	709	47.00%	20,381
Church & Charitable Property	0.03%	13	0.43%	230	0.13%	55
Cemeteries	0.05%	21	0.09%	47	0.18%	77
Other Exempt	0.63%	258	42.40%	22,481	0.60%	254
Not Classified	12.00%	4,755	12.80%	6,786	4.00%	1,761

SOURCE: Municipal Property Code Classification Information



LAND USE MAP  
UPPER TOWNSHIP  
CAPE MAY COUNTY, NEW JERSEY

MAURICE RIVER  
TWP

ESTELL MANOR CITY

CORBIN CITY

SOMERS  
POINT  
CITY

EGG  
HARBOR  
TWP

Great Egg  
Harbor Bay

Peck  
Bay

OCEAN  
CITY



DENNIS TWP

WOODBINE BORO

DENNIS TWP

SEA ISLE  
CITY

Ludlam Bay

Corson's Sound

LEGEND

- MUNICIPAL BOUNDARY
- VACANT LAND
- RESIDENTIAL
- FARM (REGULAR)
- FARM (QUALIFIED)
- COMMERCIAL
- INDUSTRIAL
- APARTMENT
- RAILROAD CLASS I
- PUBLIC SCHOOL PROPERTY
- OTHER SCHOOL PROPERTY
- PUBLIC PROPERTY
- CHURCH & CHARITABLE PROPERTY
- CEMETARIES & GRAVEYARDS
- OTHER EXEMPT
- NOT CLASSIFIED
- PRESERVED FARMLAND
- PARKS AND OPEN SPACE
- LOCAL ROADS
- NJDOT ROADS
- WATER BODIES
- STREAMS

0 6,500 13,000 26,000 Feet

MAP 1.8A

DIGITAL GIS SPATIAL DATA SOURCES:  
- CAPE MAY COUNTY GEOGRAPHIC INFORMATION SYSTEM  
- NEW JERSEY DEPARTMENT OF COMMUNITY AFFAIRS,  
OFFICE OF SMART GROWTH  
- NEW JERSEY DEPARTMENT OF ENVIRONMENTAL  
PROTECTION, BUREAU OF GEOGRAPHIC INFORMATION  
SYSTEMS

The State Development and Redevelopment Plan established planning areas throughout the State that share common development and environmental characteristics. These Planning Areas serve as the framework for application of the Policies of the State Plan. Each Planning Area has Policy Objectives that guide growth. These Objectives are intended to guide local and regional planning to establish a system of Centers to encourage livable neighborhoods with a variety of housing types, price ranges and multi-modal forms of transportation, while preserved green space. The five Planning Areas are as follows<sup>34</sup>:

- **Metropolitan Planning Area: PA1**  
*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; and protect the character of existing stable communities.*
- **Suburban Planning Area: PA2**  
*Provide for much of the state's future development; promote growth in Centers and other compact forms; protect the character of existing stable communities; protect natural resources; redesign areas of sprawl; reverse the current trend toward further sprawl; and revitalize cities and towns.*
- **Fringe Planning Area: PA3**  
*Accommodate growth in Centers; protect the Environs primarily as open lands; revitalize cities and towns; protect the character of existing stable communities; protect natural resources; provide a buffer between more developed Metropolitan and Suburban Planning Areas and less developed Rural and Environmentally Sensitive Planning Areas; and confine programmed sewers and public water services to Centers.*
- **Rural Planning Area: PA4 and Rural/Environmentally Sensitive Planning Area: PA4B**  
*Maintain the Environs as large contiguous areas of farmland and other lands; revitalize cities and towns; accommodate growth in Centers; promote a viable agricultural industry; protect the character of existing stable communities; and confine programmed sewers and public water services to Centers.*
- **Environmentally Sensitive Planning Area: PA5 and Environmentally Sensitive/Barrier Islands Planning Area: PA5B**  
*Protect environmental resources through the protection of large contiguous areas of land; accommodate growth in Centers; protect the character of existing stable communities; confine programmed sewers and public water services to Centers; and revitalize cities and towns.*

Like most of Cape May County, a large portion of Upper Township is designated as PA5 due to the large amounts of coastal wetlands and other environmentally constrained lands. The bulk of the Township development, which runs along the Route 9 Corridor, is designated as PA2. The western portion of the municipality has large isolated areas designated PA4. These areas are surrounded by environmentally sensitive lands and linked together by major roads such as Route 557, 631 and 49. Map 1.9A indicates the location of both the Office of Smart Growth Identified Centers (2001 State Plan Policy Map) as well as the now expired CAFRA Coastal Centers.

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<sup>34</sup> NJDEP website 2004 <http://www.state.nj.us/dca/osg/plan/stateplan>



## 1.9 CENTERS

### 1.9.1 State Development Plan Centers

The State Plan guides development and economic expansion in each of the planning areas, but encourages such “Smart Growth” in compact forms of development that consume less land, deplete fewer natural resources and are more efficient in the delivery of public services. These areas are known as Centers and are categorized as Regional Centers, Towns, Villages and Hamlets. The Office of Smart Growth classifies each of these centers as Designated, Proposed or Identified. Designated Centers are formally adopted and are officially recognized by the NJOSG.

In 1999, the Township of Upper had submitted a petition in an attempt to qualify certain areas within the Township as Designated Centers. The goal was to formally adopt boundaries in suitable areas where future development and redevelopment activities could take place. These boundaries would represent the areas most compatible for growth, with minimal environmental constraints, existing public services. These areas were not officially designated by the Office of Smart Growth and have been classified as Identified Centers. These areas include Marmora/Beesleys Point/Palermo, Petersburg, Seaville, Strathmere and Tuckahoe. These Identified Centers represent the existing areas of the Township with the largest concentration of population and development<sup>35</sup>.

### 1.9.2 CAFRA Centers

Approximately two thirds of Upper Township is located within the Coastal Area Facilities Act (CAFRA) Zone, where the New Jersey Department of Environmental Protection (NJDEP) regulates development. The CAFRA Zone is divided into different centers and planning areas. CAFRA administers restrictions on the intensity of development in each of the various Planning Areas. Consistent with the State Plan, CAFRA regulations encourage growth within centers and minimize development potential outside these centers by requiring more stringent regulations. It should be noted that the CAFRA Center designations would be eliminated by February 2005 and incorporated into the Office of Smart Growth centers via the plan endorsement process. CAFRA restrictions for impervious cover and tree preservation are indicated in Table 1.9A.

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<sup>35</sup> *Centers Designation Petition for Upper Township, January 1999*

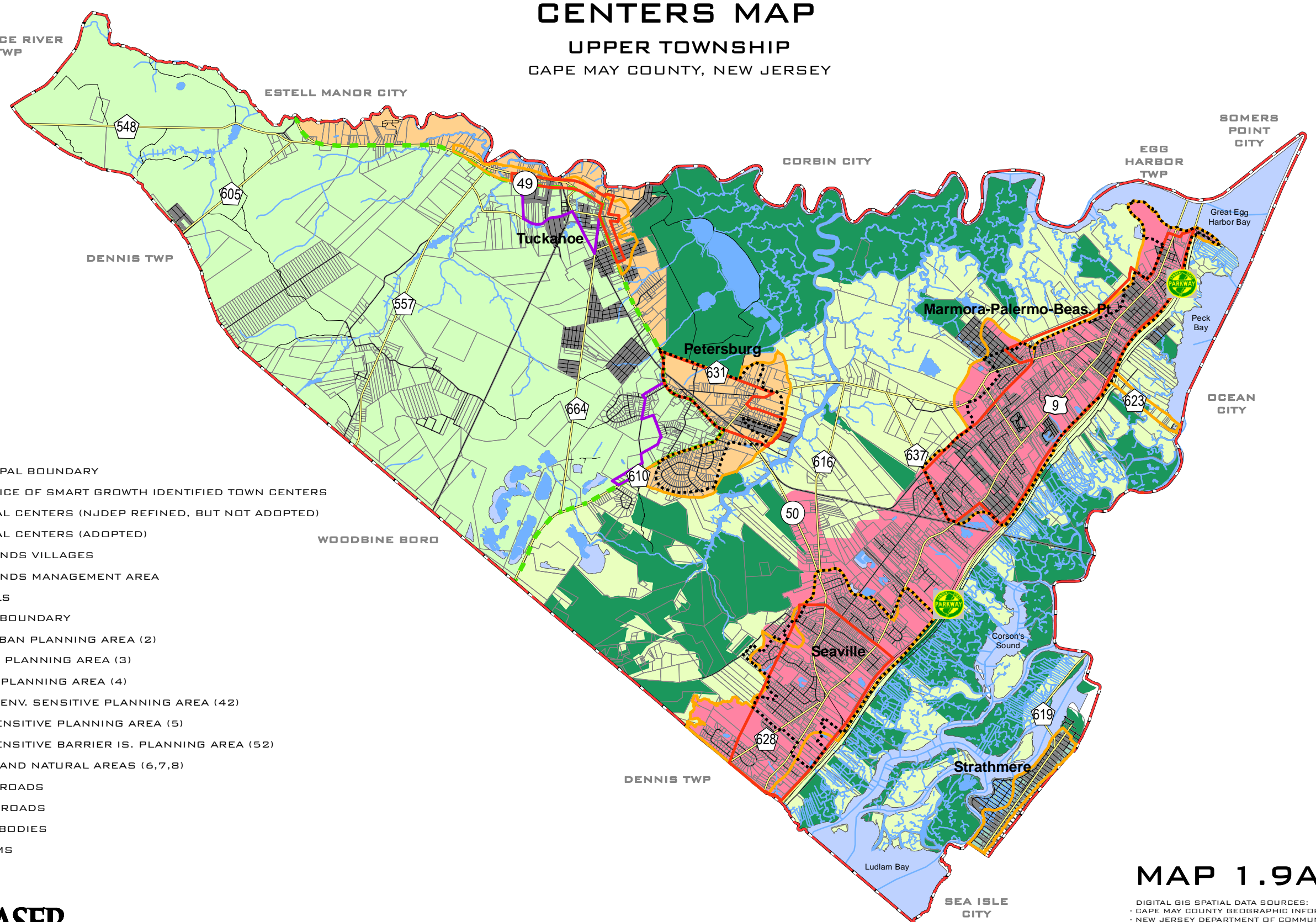
# CENTERS MAP

UPPER TOWNSHIP  
CAPE MAY COUNTY, NEW JERSEY



## LEGEND

- MUNICIPAL BOUNDARY
- NJ OFFICE OF SMART GROWTH IDENTIFIED TOWN CENTERS
- COASTAL CENTERS (NJDEP REFINED, BUT NOT ADOPTED)
- COASTAL CENTERS (ADOPTED)
- PINELANDS VILLAGES
- PINELANDS MANAGEMENT AREA
- PARCELS
- CAFRA BOUNDARY
- SUBURBAN PLANNING AREA (2)
- FRINGE PLANNING AREA (3)
- RURAL PLANNING AREA (4)
- RURAL/ENV. SENSITIVE PLANNING AREA (42)
- ENV. SENSITIVE PLANNING AREA (5)
- ENV. SENSITIVE BARRIER IS. PLANNING AREA (52)
- PARKS AND NATURAL AREAS (6,7,8)
- LOCAL ROADS
- NJDOT ROADS
- WATER BODIES
- STREAMS



## MAP 1.9A

DIGITAL GIS SPATIAL DATA SOURCES:  
 - CAPE MAY COUNTY GEOGRAPHIC INFORMATION SYSTEM  
 - NEW JERSEY DEPARTMENT OF COMMUNITY AFFAIRS,  
 OFFICE OF SMART GROWTH  
 - NEW JERSEY DEPARTMENT OF ENVIRONMENTAL  
 PROTECTION, BUREAU OF GEOGRAPHIC INFORMATION  
 SYSTEMS



**Table 1.9A: CAFRA Land Use Regulation**

Site Location	Impervious Coverage Percentage	Tree preservation for forested portion of site	Tree preservation and/or planting for unforested portion of site
CAFRA Urban Center	90%	10%	0%
CAFRA Regional Center	80%	10%	0%
Coastal Regional Center	80%	10%	0%
CAFRA Core	80%	10%	0%
CAFRA Node	80%	10%	0%
CAFRA Town	70%	25%	5%
Coastal Town	70%	25%	5%
Military Installation	70%	10%	0%
CAFRA Village	60%	30%	5%
Coastal Village	60%	30%	5%
CAFRA Hamlet	50%	40%	5%
Coastal Hamlet	50%	40%	5%
Coastal Metropolitan Planning Area	80%	10%	0%
Coastal Suburban Planning Area within sewer service area	30%	35%	5%
Coastal Suburban Planning Area outside sewer service area	5%	70%	5%
Coastal Fringe Planning Area	5%	70%	5%
Coastal Rural Planning Area	3%	70%	5%
Coastal Environmentally Sensitive Planning Area	3%	70%	5%

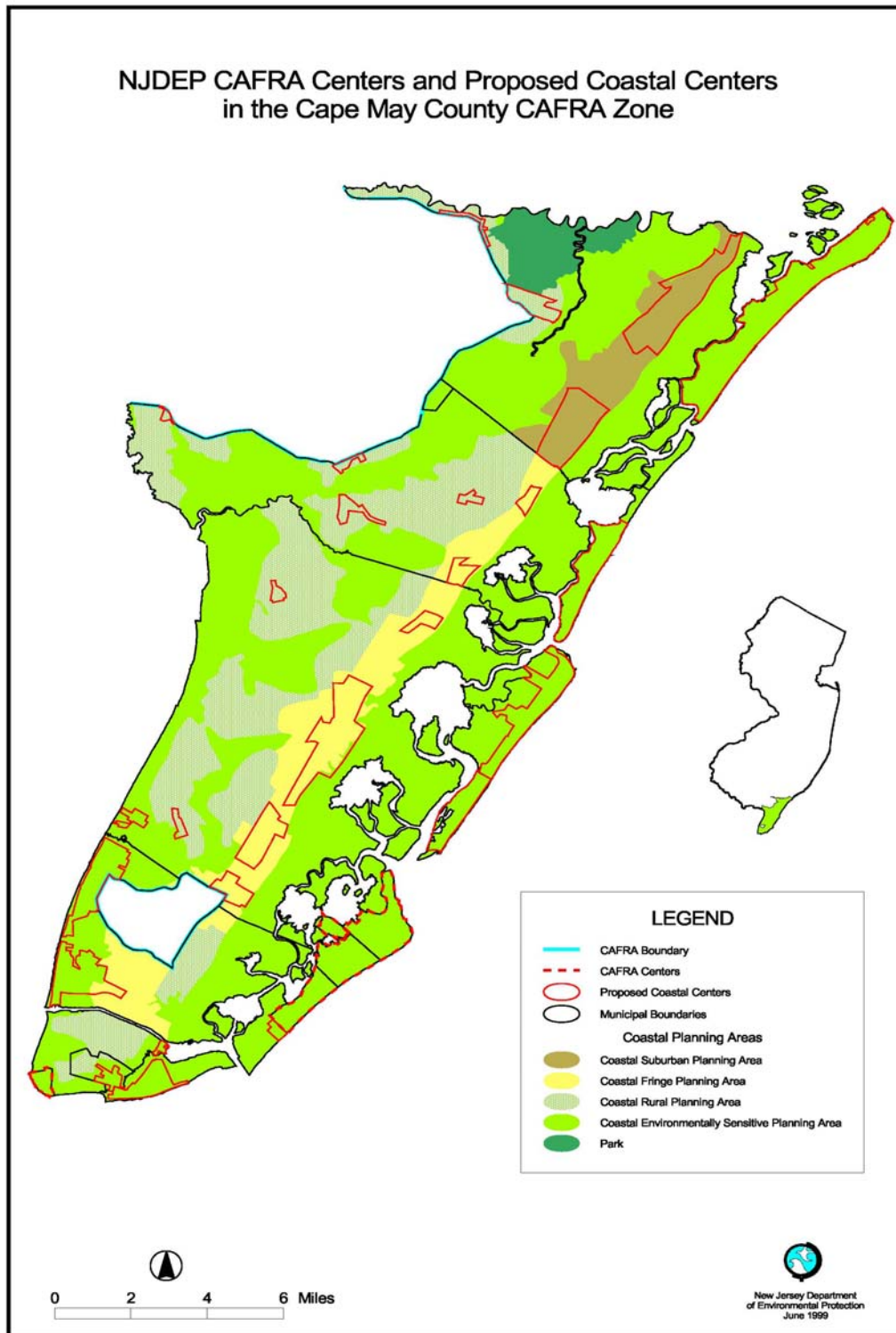
Source: Coastal Zone Management rules NJAC 7:7E, February 2, 2004

The Township's four CAFRA centers areas are identified as follows<sup>36</sup>:

- Marmora/Beesley's Point/Palermo – Coastal Town
- Petersburg – Coastal Village
- Seaville – Coastal Hamlet
- Tuckahoe– Coastal Hamlet

<sup>36</sup> Coastal Zone Management rules NJAC 7:7E, February 2, 2004

Map 1.9B NJDEP CAFRA Centers and Proposed Coastal Centers



Source: New Jersey Department of Environmental Protection web site (<http://www.state.nj.us/dep>)

Marmora/Beesley's Point/Palermo and Seaville are located within the Coastal Suburban Planning Area, which are generally located adjacent to the Coastal Metropolitan Planning Area, but can be distinguished by a lack of high-density development. The existing inventory of undeveloped and underdeveloped land should be enough to accommodate much of the future growth and development. Mixed-use centers should be encouraged and development intensities should be highest in the centers. Development in areas not in centers and not in or adjacent to sewer service areas should not be encouraged. The policy objectives of the Coastal Suburban Planning Area are as follows<sup>37</sup>:

- 1) Encourage mixed-use development and redevelopment in compact centers.
- 2) Guide economic opportunities and employment in centers.
- 3) Encourage links from coastal suburban areas to employment centers with public transit.
- 4) Ensure adequate wastewater treatment capacity and minimize off-site storm water runoff by encouraging the use of best management practices, which protect the character of the natural drainage systems.

Tuckahoe and Petersburg are located within the Coastal Rural Planning Area, which usually contain prime agriculture lands and large tracts of forested areas. It is usually served by rural road network and on-site well water and wastewater systems. The policy objectives of the Coastal Rural Planning Area are as follows<sup>38</sup>:

- 1) Protect and enhance rural character and agricultural viability of the Coastal rural planning area by guiding growth to centers. Maintain low-density development, encourage creative land use techniques to minimize the impact of new development, ensure development that does not exceed the carrying capacity of the natural and built systems of the community.
- 2) Encourage transportation network to accommodate agricultural and access to markets.
- 3) Encourage rural economic activities in centers that support rural and agricultural communities, provide a rural economy which accommodates the economic activities outside the centers and enhances the rural environment and has a minimal impact on agricultural resources and has a minimal need for infrastructure improvements.
- 4) Protect large areas of farmland and open space to preserve environmentally features and minimize conflict between development and agricultural practices.

### 1.9.3 Pinelands Management Area

The western portion of the Township outside the CAFRA Zone is part of the Pinelands Management Area. This area represents a partnership between the State and Federal government to preserve, protect and enhance the natural and cultural resources of Pinelands. The Pinelands Comprehensive Management Plan protects the region in a manner that maintains its unique ecology while permitting compatible development. The communities within the Pinelands are designated as either Pinelands Villages or Towns and allow traditional development under certain rules. The Pinelands Protection Act established a requirement that county and municipal master plans and land use ordinances be brought into conformance with the Pinelands Comprehensive Management Plan. While some of the Plan's provisions are mandatory, such as the density limitations and the requirement that growth areas accept development credits, many other

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<sup>37</sup> Ibid.

<sup>38</sup> Ibid.

aspects are intended to give municipalities resource management goals to work toward as they revise their land use regulations. The specific means chosen to meet those goals are open to negotiation between the Pinelands Commission and the local government. The Pinelands Commission certified the Township Master Plan and Zoning Ordinance for the Pinelands area on March 12, 2004.

The villages of Tuckahoe and Petersburg are split between the Pinelands Management Area and the CAFRA Zone. The purpose of this Smart Growth Study is to assess the boundaries of the Township's centers as part of the Plan Endorsement process. There will be no proposed changes to the boundaries of Pineland centers although changes to the CAFRA centers will be incorporated into the NJOSG centers as part of this study.



## 1.10 PLANNING POLICIES PROMOTING SMART GROWTH

### 1.10.1 Land Development Regulations

The Upper Township Land Development Ordinance only partially advances common smart growth planning principles. Addressed in the Ordinance are environmental protections, cluster residential development, a density transfer program, and sidewalk requirements in selected residential zones. Topics important to smart growth that are not addressed or should be expanded upon in the Land Development Ordinance include, but are not limited to, mixed use, design guidelines for residential and nonresidential developments, pedestrian and bicycle linkages, emphasis on center design, and historic preservation. Specifically, Section 20-5.9 does not permit more than one use or structure on one lot (exceptions contained for agriculture uses).

The following table summarizes key elements of the Land Development Ordinance. Areas without Zoning Ordinance Excerpts indicate omission of the topic or a lack of adequate standards in the Ordinance. These topics should be addressed during the upcoming smart growth planning efforts that will occur as part of the Plan Endorsement Process.

**Table 1.10A Land Development Ordinance Regulations Supporting Smart Growth**

Category	Zoning Ordinance Excerpts
<b>Site Design and Layout</b>	
<i>Nonresidential</i>	
<i>Residential</i>	<ul style="list-style-type: none"><li>• Section 19-6.9 requires that residential subdivisions provide recreation facilities in accordance with a schedule based on the size of the subdivision (payment in lieu may be permissible).</li><li>• Section 20-6.2 permits cluster developments in the AR zone. The minimum tract size is fifty acres and the minimum cluster lot size is 40,000 square feet, a reduction from 120,000 square feet.</li><li>• Section 20-4.11 requires that uses in the RD zone are compatible with the character of the Pinelands Area and the characteristics of the basin in which the use is to be located.</li><li>• Section 20-6.7 permits a Residential Density Transfer Program for the RD, F3 and F25 zones.</li></ul>
<i>Mixed Use</i>	
<i>Other</i>	
<b>Design Guidelines</b>	
<i>Nonresidential</i>	
<i>Residential</i>	
<i>Mixed Use</i>	
<i>Historic Preservation</i>	
<i>Other</i>	

<b>Transportation</b>	
<i>Pedestrian Facilities</i>	<ul style="list-style-type: none"> <li>• Sidewalks in residential areas are required as per the New Jersey Residential Site Improvement Standards (RSIS)</li> <li>• Section 19-7.4 requires sidewalks in the CM, RR, RC, and TV zones.</li> </ul>
<i>Bicycle Facilities</i>	
<i>Access Management</i>	
<i>Other</i>	
<b>Environmental Protection</b>	
<i>Vegetation Related</i>	<ul style="list-style-type: none"> <li>• Section 20-4.15 provides for the Recreation and Park District, which is intended to provide commercial and public recreation opportunities that are compatible with the rural surroundings.</li> <li>• Section 20-6.4 requires that golf courses be sensitive to environmental conditions. This is accomplished through such measures as preservation of existing wooded areas, and preparation of an inventory of wildlife and plant species, a Wildlife Habitat and Enhancement Plan, and Integrated Pest Management Plan.</li> <li>• Section 19-7.9 requires that subdivisions preserve natural features and worthwhile trees and shrubs whenever possible.</li> <li>• Section 20-5.14 requires a minimal amount of clearance and soil disturbance and an overall minimum impact on existing vegetation and wildlife in the Pinelands Area.</li> <li>• Section 20-5.8 includes provisions for landscape buffers in the CM zone and off-street parking.</li> </ul>
<i>Water Related</i>	<ul style="list-style-type: none"> <li>• Section 20-5.14 requires a 300-foot wetland buffer in the Pinelands.</li> </ul>
<b>Miscellaneous</b>	
<i>Miscellaneous</i>	<ul style="list-style-type: none"> <li>• Section 20-5.14 requires a cultural resource survey to be conducted for all applications in the PV, RPPV, and TV zones and the portion of the CM zone in the Pinelands Village.</li> </ul>