

TOWN OF VARNAMTOWN

WORKBOOK LAND USE PLAN

Adopted by the Varnamtown Town Council: March 13, 2006
Certified by the Coastal Resources Commission: _____

Prepared By:

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TOWN OF VARNAMTOWN
CAMA WORKBOOK LAND USE PLAN

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PREFACE

WHY IS A PLAN NEEDED?

This plan is intended to fulfill the Coastal Area Management Act (CAMA) requirements for the preparation of a CAMA Workbook Land Use Plan. This plan is organized to adhere to the 15A NCAC 7B requirements.

This is a Workbook Land Use Plan. The Workbook Plan is defined as follows:

Workbook Plan - This is a simplified CAMA Land Use Plan that addresses the following elements: (1) statement of community concerns, aspirations, and vision; (2) existing land use map; (3) land suitability analysis; (4) local growth and development policies addressing each Management Topic and applicable Areas of Environmental Concern; and (5) future land use map.

In addition to the CAMA requirements, there are other reasons to plan. Varnamtown has a great deal of influence on the way in which the town develops. The buildings, facilities, and improvements provided by Varnamtown affect the daily lives of its citizens, give form to the town, and stimulate or retard the development of privately-owned land. In addition, the workings of the real estate market help determine the uses of private land, but these uses are regulated by Varnamtown. The town has an opportunity to coordinate the overall pattern of physical development.

Once this plan is adopted, the town must realize that the plan is not the end of the process. Varnamtown must continuously work at accomplishing plan implementation and establishing an effective planning program. **The town must view the preparation of this document as the first step in a continually evolving process.**

SECTION 1. INTRODUCTION

This fiscal year 2004/2005 CAMA Workbook Land Use Plan is prepared in accordance with the requirements of the North Carolina Coastal Area Management Act (CAMA). Specifically, this document complies with Subchapter 7B, "CAMA Land Use Planning Requirements," of the North Carolina Administrative Code, as amended, August 1, 2002.

The 7B guidelines provide that each of the twenty coastal counties and municipalities within those counties prepare and adopt a CAMA Land Use Plan that meets the planning requirements adopted by the Coastal Resources Commission (CRC). If a county chooses not to prepare a plan, the guidelines specify that the CRC will prepare and adopt a CAMA Land Use Plan for that county and municipalities within the county which choose not to prepare their own plan. Municipalities not preparing their own plan will be included in the plan for the county in which the municipality is located.

At the beginning of the preparation of this document, the Town of Varnamtown adopted a Citizen Participation Plan which is intended to ensure that all interested citizens have an opportunity to participate in the development of this plan through both oral and written comments. A copy of the Citizen Participation Plan is included as Appendix I. The citizen input received during the development of this plan has greatly influenced the final contents of the plan and its policies.

The Town of Varnamtown Town Council and Town Clerk guided the development of this plan. The committee was composed of the following members:

Judy L. Galloway, Mayor	David Dawson
Lynn McCall	Ada McDonald
William S. Kirby	Ennis Swain
Luellen Norris, Town Clerk	

Following adoption of the plan by the Varnamtown Town Council, it was submitted to the CRC for certification. Certification of the plan was achieved on _____, 2006.

SECTION 2. REGIONAL SETTING

Varnamtown is centrally located in southern Brunswick County just to the north of the beach communities of Oak Island and Holden Beach. The town is situated on the banks of the Lockwoods Folly River, and can be reached by traveling south down Stone Chimney Road, which branches off US Highway 17. Map 1 provides an overview for the regional location of Varnamtown.

Varnamtown acts primarily as a bedroom community, due to its close proximity to not only the beach communities but also other urban centers throughout Brunswick and New Hanover counties. Surrounding cities and towns (with distance in miles) include: Wilmington (33 miles), Southport (23 miles), Shallotte (11 miles), Myrtle Beach (54 miles), and Raleigh (165 miles).

MAP 1 - REGIONAL LOCATION MAP

SECTION 3. VARNAMTOWN COMMUNITY CONCERNS AND ASPIRATIONS

A. KEY ISSUES/DOMINANT GROWTH-RELATED ISSUES

Through ongoing discussions conducted during publicly advertised meetings, the following key issues were identified. These issues have been addressed in the policy statement section of this plan (page 51).

- ▶ Preservation of the waterfront.
- ▶ Infrastructure issues (water system and central sewer system).
- ▶ Speed limit and general traffic control within the planning jurisdiction.
- ▶ Stormwater control.
- ▶ Water quality.
- ▶ Height restrictions along waterfront.
- ▶ Maintaining moderate density development.
- ▶ Provision of recreational opportunities.
- ▶ Public waterfront access development standards.
- ▶ Sidewalk installation.

B. VARNAMTOWN COMMUNITY VISION

The Town of Varnamtown has historically enjoyed a single family, rural lifestyle. The town would like to see this trend continue in an effort to provide citizens with a safe, quiet, and family-friendly community. To attain this desired state, future development will consist primarily of single-family development on lots with moderate densities.

SECTION 4. ANALYSIS OF EXISTING AND EMERGING CONDITIONS

A. POPULATION, HOUSING, AND ECONOMY

1. Varnamtown Permanent Population

a. *Varnamtown and Brunswick County including all Municipalities*

Table 1 below provides an overview of population growth for Brunswick County and all municipalities within the county. This table truly shows the unique nature of the county and its municipalities. Growth in this area has been rapid over the last twenty years, and all indicators show that this trend will continue. Due to the fact that Varnamtown was incorporated in 1988, the demographic data provided only dates back to 1990. A population figure is provided for 1980; however, the 1980 figure shown is a separation count derived after incorporation and is not published in the 1980 census reports. Varnamtown has experienced substantial growth since 1980. Since that time the town has increased by 153 citizens, with a growth rate of 46.7%.

Table 1: Town of Varnamtown and Brunswick County
Population Growth by County and Municipality

Municipality	1980	1990	2000	% Change '80 to '90	% Change '90 to '00	Overall Growth '80 to '90
Bald Head Island*	0	78	173	0.0%	121.8%	121.8%
Belville	102	66	363	-35.3%	450.0%	255.9%
Boiling Spring Lakes	998	1,650	2,972	65.3%	80.1%	197.8%
Bolivia	252	228	148	-9.5%	-35.1%	-41.3%
Calabash	128	179	711	39.8%	297.2%	455.5%
Carolina Shores*	0	1,031	1,482	0.0%	43.7%	43.7%
Caswell Beach	110	175	370	59.1%	111.4%	236.4%
Holden Beach	232	626	787	169.8%	25.7%	239.2%
Leland*	0	1,801	1,938	0.0%	7.6%	7.6%
Long Beach**	1,844	3,816	0	106.9%	N/A	N/A
Navassa	439	445	479	1.4%	7.6%	9.1%
Northwest*	0	611	671	0.0%	9.8%	9.8%
Oak Island	0	0	6,571	0.0%	N/A	N/A
Ocean Isle Beach	143	523	426	265.7%	-18.5%	197.9%
Sandy Creek*	0	243	246	0.0%	1.2%	1.2%
Shallotte	680	1,073	1,381	57.8%	28.7%	103.1%

Table 1 (continued)

Municipality	1980	1990	2000	% Change '80 to '90	% Change '90 to '00	Overall Growth '80 to '90
Southport	2,824	2,369	2,351	-16.1%	-0.8%	-16.7%
St. James	0	0	804	0.0%	N/A	N/A
Sunset Beach	304	311	1,824	2.3%	486.5%	500.0%
Varnamtown*	328	404	481	23.2%	19.1%	46.7%
Yaupon Beach**	569	734	0	29.0%	N/A	N/A
Total Municipalities	8,953	16,393	24,178	83.1%	47.5%	170.1%
Total Unincorporated Areas	26,824	34,622	48,963	29.1%	41.4%	82.5%
Total County	35,777	50,985	73,141	42.5%	43.5%	104.4%

*This municipality was incorporated or reactivated between the 1980 and the 1990 censuses. The overall percentage change reflects 1990 -2000, except Varnamtown.

**Long Beach and Yaupon Beach merged to form the Town of Oak Island on 7/1/1999.

***This municipality was incorporated between the 1990 and 2000 census.

Source: US Census Bureau.

b. Population Profile

The racial composition of Varnamtown is almost entirely Caucasian, making up 99.2% of the population. There is an extremely small minority representation in the town, but this makes up less than one percent (0.8%) of the town's total population. Table 2 provides a breakdown of racial composition for Varnamtown and Brunswick County overall for 1990 and 2000.

Table 2: Town of Varnamtown and Brunswick County
Racial Composition, 1990-2000

	Varnamtown		Brunswick County
	Total	Percentage	Percentage
1990 Population*	404	100.0%	100.0%
White	403	99.8%	81.1%
Black	0	0.0%	18.1%
Asian or Pacific Islander	0	0.0%	0.2%
American Indian, Eskimo, Aleut	1	0.2%	0.5%
Other	0	0.0%	0.2%
2000 Population**	481	100.0%	100.0%
White	477	99.2%	82.3%
Black or African American	0	0.0%	14.4%
Asian or Pacific Islander	1	0.2%	0.3%
American Indian and Alaska Native	2	0.4%	0.7%

Table 2 (continued)

	Varnamtown		Brunswick County
	Total	Percentage	Percentage
Some Other Race	0	0.0%	1.3%
Two or More Races	1	0.2%	1.0%
Hispanic or Latino (of any race)***	2		N/A
Male	243	50.5%	49.1%
Female	238	49.5%	50.9%

*Racial breakdown available for the 1990 Census.

**Racial breakdown available for the 2000 Census.

***In the 2000 Census, the Hispanic race was not considered an ethnic group. However, this is the number of individuals who reported being of Hispanic origin.

Source: 2000 US Census.

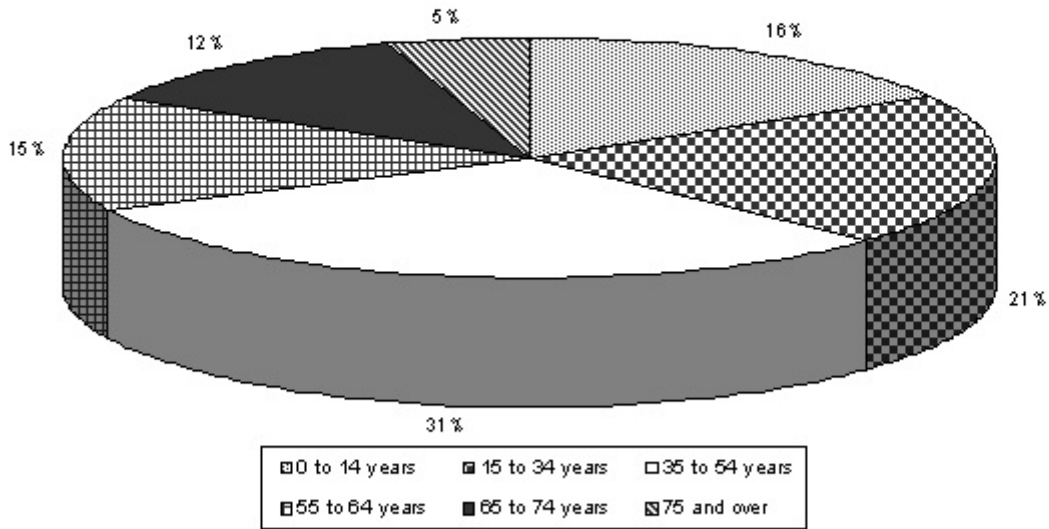
The population of Varnamtown is evenly distributed across all age groups. A majority of the population is under 54 years old, making up 67.9% of the town's citizens. The working age population at 67.1% compares favorably to Brunswick County overall (65.5%). Table 3 and Chart 1 provide a full breakdown of the age composition for all citizens within Varnamtown and Brunswick County overall.

Table 3: Town of Varnamtown and Brunswick County
Age Composition, 1990 and 2000

	Varnamtown				Brunswick County	
	1990 Total	1990 % of Total	2000 Total	2000 % of Total	1990 % of Total	2000 % of Total
0 to 14 years	65	16.1%	78	16.3%	19.4%	17.6%
15 to 34 years	120	29.7%	101	21.0%	27.5%	22.2%
35 to 54 years	104	25.7%	147	30.6%	25.9%	28.6%
55 to 64 years	54	13.4%	74	15.4%	12.5%	14.7%
65 to 74 years	43	10.6%	56	11.7%	10.3%	11.1%
75 and over	18	4.5%	24	5.0%	4.4%	5.8%
Total population	404	100.0%	480	100.0%	100.0%	100.0%
Median age	N/A	N/A	42.5	N/A	N/A	42.2
School Age Population (5-18)	86	21.3%	87	18.1%	18.3%	18.0%
Working Age Population (16-64)	273	67.6%	322	67.1%	64.4%	65.5%
Retired Population (65+)	61	15.1%	81	16.9%	14.7%	16.9%

Source: 2000 US Census.

**Graph 1: Town of Varnamtown
Age Composition, 2000**



c. Population Summary

- ▶ Varnamtown has experienced a growth rate of 46.7% since 1980.
- ▶ Varnamtown’s population is 99.2% Caucasian.
- ▶ Approximately sixty-seven percent (67.1%) of Varnamtown’s population falls within the working age range.

2. Housing

a. Housing Occupancy and Tenure

The housing stock in Varnamtown is predominantly comprised of owner-occupied single-family homes. Approximately seventy-six percent (75.7%) of the housing structures in town are owner-occupied; the remaining occupied residential structures are rental units. The vacant units within Varnamtown are made up primarily of recreational or second homes. Of the 32 vacant structures recorded in the 2000 Census, 75% are considered to be for seasonal, recreational, or occasional use. Table 4 provides a breakdown of housing occupancy and tenure for Varnamtown and Brunswick County.

Table 4: Town of Varnamtown and Brunswick County
Housing Occupancy and Tenure, 1990 and 2000

	Varnamtown				Brunswick County
	1990 Total	1990 % of Total	2000 Total	2000 % of Total	2000 % of Total
Total Housing Units	208	100.0%	235	100.0%	100.0%
Vacant:	48	23.1%	32	13.6%	40.8%
For rent*	0	0.0%	1	3.1%	10.2%
For sale only*	3	6.3%	3	9.4%	4.7%
Rented or sold, not occupied*	0	0.0%	1	3.1%	1.9%
For seasonal, recreational or occasional use*	42	87.5%	24	75.0%	74.0%
For migrant workers*	0	0.0%	0	0.0%	0.1%
Other vacant*	3	6.3%	3	9.4%	9.2%
Occupied:	160	76.9%	203	86.4%	59.2%
Owner-Occupied**	138	86.3%	178	87.7%	82.2%
Renter-Occupied**	22	13.8%	25	12.3%	17.8%

*Indicates breakdown of vacant household types.

**Indicates breakdown of occupied household types.

Source: US Census Bureau.

b. Structure Age

The housing stock in Varnamtown is fairly new. A majority of the housing in town has been constructed since 1980 (57.9%). This can mainly be attributed to the incorporation of Varnamtown in 1988. In 2000, the median age of residential structures in Varnamtown was 1983. Table 5 and Chart 2 provide a comprehensive breakdown of the year that housing has been constructed within Varnamtown dating back to the early 1900s.

Table 5: Town of Varnamtown
Housing Structure, 2000

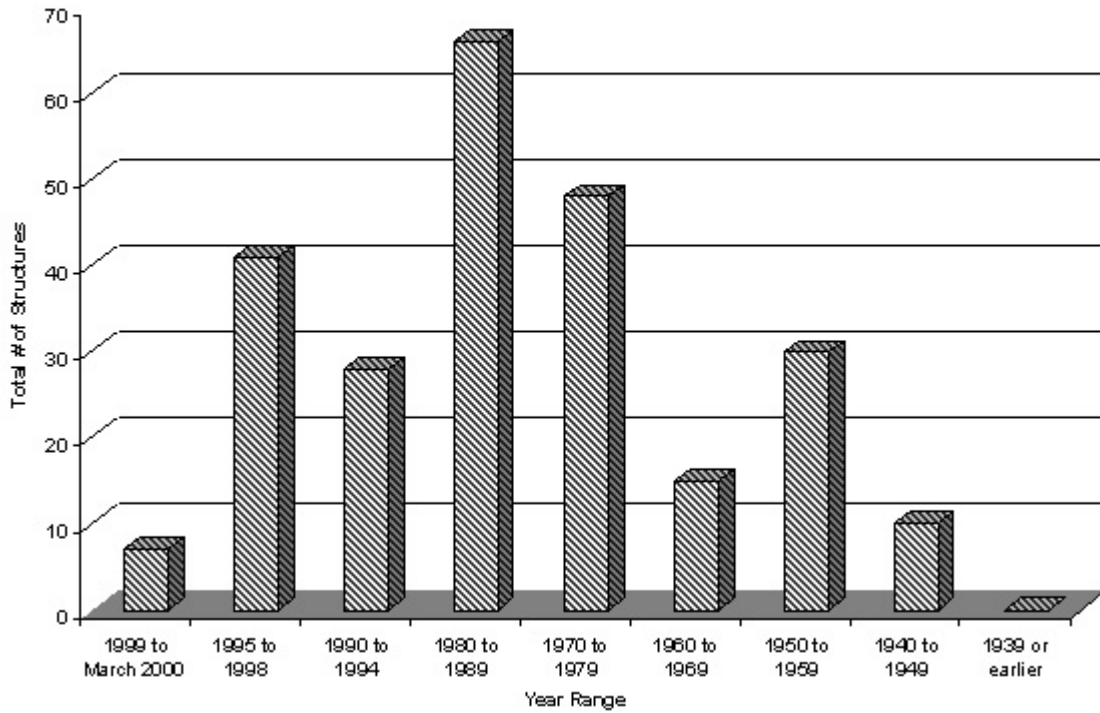
Year	Number of Structures	% of Total
1999 to March, 2000	7	2.9%
1995 to 1998	41	16.7%
1990 to 1994	28	11.4%
1980 to 1989	66	26.9%
1970 to 1979	48	19.6%
1960 to 1969	15	6.1%

Table 5 (continued)

Year	Number of Structures	% of Total
1950 to 1959	30	12.2%
1940 to 1949	10	4.1%
1939 or earlier	0	0.0%
Total Structures	245	100.0%
Median Year Structure Built	1983	

Source: US Census Bureau.

**Graph 2: Town of Varnamtown
Housing Stock - Year Structure Built**



c. Housing Conditions

The housing conditions within Varnamtown compare favorably to Brunswick County, as well as North Carolina overall. Residential structures in Varnamtown average 5.7 rooms per unit, and only two structures, or one percent (0.8%) lack complete kitchen and plumbing facilities. Table 6 is a summary of housing conditions for Varnamtown, Brunswick County and North Carolina overall.

Table 6: Town of Varnamtown, Brunswick County, and North Carolina Housing Conditions

	Varnamtown	Brunswick County	North Carolina
Average Rooms Per Unit	5.7	5.3	5.5
Percent with no bedroom	0.8%	0.7%	1.1%
Percent with 3+ bedrooms	74.7%	62.5%	60.8%
Percent lacking complete kitchen facilities	0.8%	0.7%	1.1%
Percent lacking complete plumbing	0.8%	0.9%	1.1%
Percent occupied with telephones	100.0%	96.2	86.2%

Source: US Census Bureau.

d. Units in Structure and Mobile Home Count

A majority of the residential structures in Varnamtown are single-family homes, comprising 84.1% of the housing stock. The remaining housing units are mobile homes making up 15.9%. Table 7 summarizes the units in structure for all residential structures in Varnamtown.

Table 7: Town of Varnamtown and Brunswick County Units in Structure and Mobile Home Count, 2000

Units in Structure	Varnamtown		Brunswick County
	Total	% of Total	% of Total
1-unit, detached	206	84.1%	55.7%
1-unit, attached	0	0.0%	1.3%
2 units	0	0.0%	1.2%
3 or 4 units	0	0.0%	2.1%
5 to 9 units	0	0.0%	1.9%
10 to 19 units	0	0.0%	1.1%
20 units or more	0	0.0%	0.6%
Mobile home	39	15.9%	35.9%
Boat, RV, van, etc.	0	0.0%	0.2%
Total	245	100.0%	100.0%

Source: US Census Bureau.

e. *Housing Summary*

- ▶ Approximately eighty-six percent (86.4%) of all residential structures in Varnamtown are occupied, and of these 87.7% are owner-occupied.
- ▶ In 2000, the median age of residential structures in Varnamtown was 1983.
- ▶ Less than one percent (0.8%) of all residential structures within in Varnamtown lack complete kitchen and plumbing facilities.
- ▶ Approximately 84.1% of the housing stock within Varnamtown are single-family homes.

3. Employment and Economy

a. *General Economic Indicators*

Varnamtown exists primarily as a bedroom community. Not many job opportunities are afforded to citizens within the town's jurisdiction, and therefore, a majority of individuals must commute to jobs throughout Brunswick County and the region. The per capita income for Varnamtown residents is \$18,394, which is slightly lower than that for Brunswick County and North Carolina overall. The poverty rate is lower than that of the County and state at thirteen percent (13.4%). Table 8 provides a general summary of economic indicators for Varnamtown, Brunswick County and North Carolina overall.

Table 8: Town of Varnamtown, Brunswick County, and North Carolina
Summary of Economic Indicators

	Year	Varnamtown	Brunswick County	North Carolina
Per Capita Income	2000	\$18,394	\$19,857	\$20,307
Mean Income	2000	\$43,906	\$43,808	\$50,814
Unemployment Rate	2000	2.7%	2.6%	3.4%
% of Population in labor force	2000	52.9%	57.7%	65.7%
Poverty Rate	2000	13.4%	15.3%	15.2%

Source: NC Department of Commerce and US Census Bureau.

b. Household Income

Table 9 below lists a summary of household income for citizens of Varnamtown, and Brunswick County overall. The median income for town residents is \$33,750, compared to \$35,888 for Brunswick County overall.

Table 9: Town of Varnamtown and Brunswick County Household Income, 2000

	Varnamtown		Brunswick County
	Total	% of Total	% of Total
Less than \$10,000	23	11.1%	10.3%
\$10,000 to \$14,999	21	10.1%	7.7%
\$15,000 to \$24,999	44	21.2%	15.5%
\$25,000 to \$34,999	20	9.6%	15.2%
\$35,000 to \$49,999	38	18.3%	18.0%
\$50,000 to \$74,999	43	20.7%	18.6%
\$75,000 to \$99,999	9	4.3%	7.4%
\$100,000 to \$149,999	6	2.9%	4.6%
\$150,000 to \$199,999	2	1.0%	1.2%
\$200,000 or more	2	1.0%	1.5%
Total Families	208	100.0%	100.0%
Median Income	\$33,750		\$35,888

Source: 2000 US Census.

c. Employment By Industry

The largest employer of residents in Varnamtown is the construction industry (19.4%), followed by education, health, and social services (17.5%). As noted above, nearly all citizens of Varnamtown are forced to commute to work due to the rural nature of the portion of Brunswick County where Varnamtown is located. Table 10 provides a comprehensive breakdown of the industries that employ the working age population of Varnamtown.

Table 10: Town of Varnamtown
Employment By Industry, 2000

Industry	# Employed	% Employed
Agriculture, Forestry, Fishing, and Mining	15	7.3%
Construction	40	19.4%
Manufacturing	1	0.5%
Wholesale Trade	14	6.8%
Retail Trade	23	11.2%
Transportation, Warehousing, and Utilities	9	4.4%
Information	3	1.5%
Finance, Insurance, Real Estate, and Rental and Leasing	9	4.4%
Professional, Scientific, Management, Administrative, and Waste Management Services	19	9.2%
Education, Health, and Social Services	36	17.5%
Arts, Entertainment, Recreation, Accommodation, and Food Services	20	9.7%
Other Services (except Public Administration)	6	2.9%
Public Administration	11	5.3%
Total Persons Employed 16 Years and Over	206	100.0%

Source: US Census Bureau.

d. Employment Commuting Patterns

Table 11 legitimizes the claim that a majority of Varnamtown citizens must commute to work. The mean travel time to work for town residents is 22.7 minutes. Additionally, 71.3% of town residents must travel 15 minutes or greater to work.

Table 11: Town of Varnamtown
Travel Times to Work

Travel Time	Total	% of Total
Total workers 16 years and over	199	
Travel Time:		
Less than five minutes	10	5.3%
5 to 9 minutes	29	15.3%
10 to 14 minutes	15	7.9%
15 to 19 minutes	40	21.2%
20 to 24 minutes	22	11.6%
25 to 29 minutes	12	6.3%
30 to 34 minutes	34	18.0%
35 to 39 minutes	5	2.6%
40 to 44 minutes	3	1.6%
45 to 59 minutes	11	5.8%
60 to 89 minutes	5	2.6%
90 minutes or more	3	1.6%
Did not work at home	189	
Worked at home	10	
Mean travel time to work	22.7	

Source: 2000 US Census.

e. Industries

There are no industrial operations within Varnamtown. The primary source of revenue for the town is Ad Valorem property taxes and State sales and use taxes.

f. Employment and Economy Summary

- ▶ The mean income for Varnamtown residents is \$43,906, compared to \$43,808 for Brunswick County overall.
- ▶ Approximately forty-eight percent (48.2%) of the working age population in Varnamtown makes an annual salary of \$35,000 or greater.
- ▶ The construction industry is the largest employer of Varnamtown residents, comprising 19.4% of total jobs.

- ▶ The average commuting time to work for Varnamtown residents is 22.7 minutes.

4. Population Projections

Table 12 provides population projections for Varnamtown through the year 2030. These estimates have been calculated utilizing growth rates provided for Brunswick County from the North Carolina Office of State Planning. Based on these projections, it is estimated that Varnamtown will increase by a total of 396 citizens for a growth rate of 82.3% between the years 2000 and 2030.

Table 12: Town of Varnamtown
Population Projections, 2000-2030

	2000	2010	2020	2030	% Change '00-' '30
Varnamtown	481	631	759	877	82.3%

Source: Holland Consulting Planners, Inc.

B. **NATURAL SYSTEMS ANALYSIS**

The following analysis will review many of the natural features that have an impact on existing and future development within Varnamtown. Many of the factors in this section will be included in the Land Suitability Analysis discussed later in the plan.

1. Topography

Varnamtown is located in south central Brunswick County, North Carolina. Varnamtown falls within the lower coastal plain of North Carolina, with elevations ranging from sea level to 31 feet. All of the soils in the area are formed by Coastal Plain sediment or by sediment deposited by rivers and streams flowing through the area. Varnamtown is nearly flat and the rivers and streams adjacent to the town are fairly shallow, with the exception of navigation channels which are periodically dredged. Varnamtown is immediately adjacent to the Lockwoods Folly River, which eventually empties into the Intracoastal Waterway and the Atlantic Ocean.

2. Climate

The Varnamtown climate is marked by hot and humid summers, and cool winters with occasional cold spells. During summer months, the area is cooled by offshore breezes. Rain typically falls throughout the year and can be quite heavy at times. Varnamtown is vulnerable to tropical storms and the flooding associated with them because of the town's proximity to the waterfront.

In winter, the average temperature in Varnamtown is approximately 47° F, and the average daily minimum temperature is 37° F. The coldest recorded temperature on record for the region was 9° F occurring in 1977. During summer months, the average temperature is 78° F. The highest temperature on record for summer months was 103° F. Approximately 60% of all annual precipitation within the town typically falls between the months of April and September. Thunderstorms typically occur on roughly 45 days annually. Snowfall in the area is rare; however, the most significant snowfall on record was approximately 18 inches.

3. Flood Zones

Varnamtown is located within the Lumber River Basin. The flood zone maps for this river basin have recently been updated as part of the North Carolina Floodplain Mapping Initiative. At this time the new flood maps have not been adopted. Twenty-seven percent (144.7 acres) of Varnamtown's corporate limits fall within a FEMA-defined flood zone. The flood zone locations within Varnamtown are shown on Map 2, and Table 13 provides a summary of the acreage within each flood zone.

Table 13: Town of Varnamtown
Flood Zones in Acres

Flood Zone	Acres	% of Total Town Acreage
A	18.7	3.4%
AE	88.7	16.3%
VE	5.7	1.0%
X	421.6	77.5%
X500	9.0	1.7%
Total	543.6	100.0%

Source: US Army Corps of Engineers Floodplain Maps.

MAP 2 - FLOOD ZONES

Varnamtown is also vulnerable to flooding associated with hurricanes. Hurricane intensity is measured using the Saffir-Simpson Scale, ranging from 1 (minimal) to 5 (catastrophic). The following scale categorizes hurricane intensity linearly based upon maximum sustained winds, minimum barometric pressure, and storm surge potential.

Category 1: Winds of 74 to 96 miles per hour. Damage primarily to shrubbery, trees, foliage, and unanchored mobile homes. No appreciable wind damage to other structures. Some damage to poorly constructed signs. Storm surge possibly 3 to 5 feet above normal. Low-lying roads inundated, minor pier damage, some small craft in exposed anchorage torn from moorings.

Category 2: Winds of 97 to 111 miles per hour. Considerable damage to shrubbery and tree foliage; some trees blown down. Major damage to exposed mobile homes. Extensive damage to poorly constructed signs. Some damage to roof materials of buildings; some window and door damage. No major wind damage to buildings. Storm surge possibly 6 to 8 feet above normal. Coastal roads and low-lying escape routes inland cut by rising water 2 to 4 hours before arrival of hurricane center. Considerable damage to piers. Marinas flooded. Small craft in unprotected anchorages torn from moorings. Evacuation of some shoreline residences and low-lying island areas required.

Category 3: Winds of 112 to 131 miles per hour. Foliage torn from trees; large trees blown down. Practically all poorly constructed signs blown down. Some damage to roofing materials of buildings; some window and door damage. Some structural damage to small buildings. Mobile homes destroyed. Storm surge possibly 9 to 12 feet above normal. Serious flooding at coast and many smaller structures near coast destroyed; larger structures near coast damage by battering waves and floating debris. Low-lying escape routes inland cut by rising water 3 to 5 hours before hurricane center arrives.

Category 4: Winds of 132 to 155 miles per hour. Shrubs and trees blown down; all signs down. Extensive damage to roofing materials, windows, and doors. Complete failure of roofs on many small residences. Complete destruction of mobile homes. Storm surge possibly 13 to 18 feet above normal. Major damage to lower floors of structures near shore due to flooding and battering by waves and floating debris. Low-lying escape routes inland cut by rising water 3 to 5 hours before hurricane center arrives. Major erosion of beaches.

Category 5: Winds greater than 155 miles per hour. Shrubs and trees blown down; considerable damage to roofs of buildings; all signs down. Very severe and extensive damage to windows and doors. Complete failure of roofs on many residences and industrial buildings. Extensive shattering of glass in windows and doors. Some complete building failures. Small buildings overturned or blown away. Complete destruction of mobile homes. Storm surge possibly greater than 18 feet above normal. Major damage to lower floors of all structures less than 15 feet above sea level. Low-lying escape routes inland cut by rising water 3 to 5 hours before hurricane center arrives.

In 1986, the US Army Corps of Engineers prepared maps of coastal North Carolina which delineated the flooding which may be expected to occur as a result of hurricanes. The maps were prepared utilizing a computer based model named SLOSH (Sea, Lake, Overland Surges from Hurricanes). The model plots hurricane related flooding which may result from a number of characteristics including wind speed, wind direction, time, tide, etc. According to the National Hurricane Center, the SLOSH model is generally accurate within plus or minus 20 percent. For example, if the model calculates a peak 10 foot storm surge for the event, you can expect the observed peak to range from 8 to 12 feet. The point of a hurricane’s landfall is crucial to determining which areas will be inundated by the storm surge. Where the hurricane forecast track is inaccurate, SLOSH model results will be inaccurate. The SLOSH model, therefore, is best used for defining the potential maximum surge for a location.

Map 3 indicates the areas of Varnamtown which are most susceptible to hurricane-generated storm surge from slow and fast moving hurricanes. Table 14 below provides a summary of storm surge inundation acreage for the Town of Varnamtown. The town would like to reiterate that SLOSH is a diagnostic model. The storm surge information shown on the map is a hypothetical representation of what could happen. Varnamtown has never experienced this degree of storm surge inundation.

Table 14: Town of Varnamtown
Storm Surge Inundation Acreage

Hurricane Strength	Acreage*	% of Total Acreage
Category 1 - 2	56.2	10.5%
Category 3	134.1	25.0%
Category 4 - 5	454.2	84.8%

*It should be noted that all acreage falling within a Category 1 - 2 storm surge area will also fall within the storm surge boundary of a Category 3 storm. The same applies to a Category 5 storm.
Source: US Army Corps of Engineers.

MAP 3 - STORM SURGE INUNDATION

4. Soils

There are nine different soil series within Varnamtown’s jurisdiction. Observations regarding the soils and soils conditions were taken from the Soil Survey of Brunswick County, North Carolina, which was issued in November 1986. Some of the soil series identified within Varnamtown are considered to have severe conditions for septic tank usage.

Of the nine soil series identified, four are comprised entirely of hydric soils, while the remaining five have inclusions of hydric soils or wet spots. The definition of a hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept of hydric soils. Also, soils in which the hydrology has been artificially modified are hydric if the soil, in an unaltered state, was hydric. Some series, designated as hydric, have phases that are not hydric depending on water table, flooding, and ponding characteristics. The following table provides a summary of the soil conditions within Varnamtown.

Table 15: Town of Varnamtown
Soil Conditions

Soil	Acreeage	Flooding Frequency	Suitability for Dwellings with a Basement
BaB**	29.0	None	Moderate: wetness
BO*	142.8	Frequent	Severe: flooding, ponding, shrink-swell
Fo**	111.5	None	Moderate: wetness
KrB**	81.6	None	Slight
LO*	83.5	None	Severe: wetness
Mk*	6.5	Frequent	Severe: flooding, wetness
Mu*	0.7	None	Severe: ponding
PaA**	55.1	None	Severe: wetness
WaB**	20.5	Slight	None

*Indicates soil series that are made up entirely of hydric soils.

**Indicates soil series with inclusions of hydric soils or wet spots.

Source: Soil Survey of Brunswick County, North Carolina.

5. Water Supply

The water supply for Brunswick County is comprised primarily of groundwater from surficial deposits. The water supply is good quality but may have a high iron content. The surficial deposits are a valuable aquifer and furnish water for many rural residents. Generally the aquifer is 10 to 30 feet thick, and can be up to 40 feet thick in certain locations. Most of Varnamtown is currently tied into the county's water supply system.

6. Fragile Areas

Fragile areas are areas which could easily be damaged or destroyed by inappropriate, unplanned, or poorly planned development. These areas include Areas of Environmental Concern (AECs), Natural Resource Fragile Areas, and 404 Wetlands. Varnamtown AECs include 404 wetlands (as defined by the Clean Water Act), public trust areas, estuarine waters and estuarine shoreline, and significant natural heritage areas. The presence and protection of fragile areas can provide many environmental benefits. Additionally, wetlands and open space areas in general act as natural flood controls by storing tremendous amounts of floodwater and slowing and reducing downstream flows. Riparian (vegetated buffer) habitat protection programs can help preserve the natural mitigating features of streams while also achieving wildlife preservation objectives. Following are definitions of the types of fragile areas that can be found in Varnamtown.

a. *404 Wetlands (as defined by the Clean Water Act)*

404 wetlands are areas covered by water or that have water-logged soils for long periods during the growing season. Plants growing in wetlands are capable of living in soils lacking oxygen for at least part of the growing season. Some wetlands, such as swamps, are obvious. Others are sometimes difficult to identify because they may be dry during part of the year. Wetlands include, but are not limited to, bottomlands, forests, swamps, pocosins, pine savannahs, bogs, marshes, and wet meadows.

Section 404 of the Clean Water Act requires that anyone interested in depositing dredged or fill material into "waters of the United States," including wetlands, must apply for and receive a permit for such activities.

404 wetland areas are scattered throughout Varnamtown’s planning jurisdiction. Specific wetlands locations must be delineated in the field on a case-by-case basis by either the US Army Corps of Engineers or field representatives from the Division of Coastal Management. Map 4 provides an overview of the location of wetlands within Varnamtown, and Table 16 provides a summary of the wetland types and acreages.

Table 16: Town of Varnamtown
404 Wetlands

Wetland Type	Acres	% of Total Wetland Acres
Bottomland Hardwood	1.40	3.02%
Cleared Hardwood Flat	0.01	0.02%
Cutover Hardwood Flat	0.35	0.76%
Hardwood Flat	3.70	7.98%
Human Impacted	6.20	13.38%
Managed Pineland	22.50	48.53%
Riverine Swamp Forest	1.80	3.88%
Salt/Brackish Marsh	10.40	22.43%
Total	46.36	100.00%

Source: North Carolina GIA.

b. Public Trust Areas

Public trust areas are all waters of the Atlantic Ocean and the lands thereunder from the mean high water mark to the seaward limit of state jurisdiction; all natural bodies of water subject to measurable lunar tides and lands thereunder to the mean high water mark; all navigable natural bodies of water and lands thereunder to the mean high water level or mean water level as the case may be, except privately-owned lakes to which the public has no right to access; all water in artificially-created bodies of water containing significant public fishing resources or other public resources which are accessible to the public by navigation; and all waters in artificially-created bodies of water in which the public has acquired rights by prescription, custom, usage, dedication, or any other means. Map 5 (see page 28) provides an overview of the public trust waters adjacent to Varnamtown.

MAP 4 - AREAS OF ENVIRONMENTAL CONCERN

c. *Estuarine Waters and Estuarine Shoreline*

Estuarine waters are generally brackish waters found in coastal estuaries and bays. Estuarine shorelines are those non-ocean shorelines which are especially vulnerable to erosion, flooding, or other adverse effects of wind and water and are intimately connected to the estuary. This area extends from the mean high water level or normal water level along the estuaries, sounds, bays, and brackish waters as set forth in an agreement adopted by the Wildlife Resources Commission and the Department of Environment and Natural Resources for a distance of 75 feet landward. In estuarine shoreline areas, the state requires that impervious surfaces not exceed 30% of a given lot. Map 5 (see page 28) provides an overview of the estuarine waters and shorelines within Varnamtown, as well as those adjacent to the town's planning jurisdiction.

d. *Protected Lands/Significant Natural Heritage Areas*

Among the state and federal agencies reporting the status of plant and animal species within North Carolina are the North Carolina Natural Heritage Program and the United States Department of the Interior. These agencies rank species by the severity of the threat to their continued existence. The most severely threatened species are labeled endangered. The next lower level species are labeled threatened, followed by species of special concern and significantly rare. Areas that are determined to be habitats for these species are labeled as Significant Natural Heritage Areas (SNHA). There are no Significant Natural Heritage Areas within Varnamtown; however, there is a large SNHA immediately adjacent to Varnamtown on the north and south as shown on Map 4 (page 25).

7. Water Quality

Varnamtown falls within Subbasin 03-07-59 of the Lumber River Basin. In order to address water quality concerns throughout North Carolina, the North Carolina Division of Water Quality (DWQ) established the Basinwide Water Quality Planning Program. Basinwide water quality planning is a nonregulatory, watershed-based approach to restoring and protecting the quality of North Carolina's surface waters. Basinwide water quality plans are prepared by the DWQ for each of the 17 major river basins in the state. The water quality plan for the Lumber River Basin was updated and adopted in 2003. While these plans are prepared by the DWQ, their implementation and the protection of water quality

entail the coordinated efforts of many agencies, local governments, and stakeholder groups in the state.

a. Water Quality in Subbasin 03-07-59

Varnamtown falls immediately adjacent to the Lockwoods Folly River portion of Subbasin 03-07-59. Map 5 provides an overview of these waters including the locations of water quality monitoring stations and primary fisheries nursery areas. Table 17 provides a summary of the water quality and monitoring data for the sites listed on Map 5.

Table 17: Town of Varnamtown
Water Quality Monitoring Stations

Site	Waterbody	Location	Noted Parameters
A-4	Lockwoods Folly River	Varnamtown	Fecal coliform bacteria
A-5	Lockwoods Folly River	CM R8 - Downstream of Varnamtown	None
A-6	Lockwoods Folly River	West Channel Islands	Fecal coliform bacteria
A-7	Intracoastal Waterway	CM R42 West of Lockwoods Folly River	Fecal coliform bacteria

Source: NC Division of Water Quality.

The North Carolina Division of Water Quality assigns water quality classifications to all named waters in the State of North Carolina. The classifications are based upon the existing or contemplated best usage of the various streams and segments of streams within a basin, as determined through studies, evaluations, and comments received at public hearings. The state water classification system is provided in Table 18.

MAP 5 - WATER QUALITY

Table 18: NC Division of Water Quality
Water Body Classifications

PRIMARY FRESHWATER AND SALTWATER CLASSIFICATIONS*	
<u>CLASS</u>	<u>BEST USES</u>
C and SC	Aquatic life propagation/protection and secondary recreation
B and SB	Primary recreation and Class C uses
SA	Waters classified for commercial shellfish harvesting
WS	<i>Water Supply watershed.</i> There are five WS classes ranging from WS-I through WS-V. WS classifications are assigned to watersheds based on land use characteristics of the area. Each water supply classification has a set of management strategies to protect the surface water supply. WS-I provides the highest level of protection and WS-V provides the least protection. A Critical Area (CA) designation is also listed for watershed areas within a half-mile and draining to the water supply intake or reservoir where an intake is located.
SUPPLEMENTAL CLASSIFICATIONS	
<u>CLASS</u>	<u>BEST USES</u>
Sw	<i>Swamp Waters:</i> Recognizes waters that will naturally be more acidic (have lower pH values) and have lower levels of dissolved oxygen.
Tr	<i>Trout Waters:</i> Provides protection to freshwaters for natural trout propagation and survival of stocked trout.
HQW	<i>High Quality Waters:</i> Waters possessing special qualities including excellent water quality, Native or Special Native Trout Waters, critical habitat areas, or WS-I and WS-II water supplies.
ORW	<i>Outstanding Resource Waters:</i> Unique and special surface waters that are unimpacted by pollution and have some outstanding resource values.
NSW	<i>Nutrient Sensitive Waters:</i> Areas with water quality problems associated with excessive plant growth resulting from nutrient enrichment.

* Primary classifications beginning with an “S” are assigned to saltwaters.
Source: NC Department of Environment and Natural Resources.

Water quality varies slightly within Varnamtown’s planning jurisdiction. Table 19 provides a listing of all waterbodies within the town that are classified by the NC Division of Water Quality along with their assigned classification.

Table 19: Town of Varnamtown
 Alphabetical Listing of Waterbodies

Name of Stream	Description	Stream Index Number	Class
Intracoastal Waterway	From Cape Fear River Basin at buoy FI R ev. 4 sec 22 to North Carolina-South Carolina state line, including all sloughs, sounds, inlets and connecting channels	15-25	SA; HQW
Lockwoods Folly River	From source to mouth of Royal Oak Swamp	15-25-1-(1)	C; SW
Lockwoods Folly River	From mouth of Royal Oak Swamp to Brunswick County SR 1200	15-25-1-(11)	SC; HQW
Lockwoods Folly River	From Brunswick County SR 1200 to Intracoastal Waterway	15-25-1-(16)	SA; HQW

Source: NC Division of Water Quality.

b. Primary Nursery Areas and Submerged Aquatic Vegetation

The NC Marine Fisheries Commission (MFC) has established definitions in rule for anadromous spawning and nursery areas. Anadromous fish spawning areas are those areas where evidence of spawning of anadromous fish has been documented by direct observation of spawning, capture of running ripe females, or capture of eggs of early larvae as established under NCAC 15A 31.0101 (20) C. Anadromous fish nursery areas are those areas in the riverine and estuarine systems utilized by post-larval and later juvenile anadromous fish as established under NCAC 15A 31.0101 (20) D. The primary fish nursery area located within Varnamtown is shown on Map 5 (page 28). There are no instances of submerged aquatic vegetation within Varnamtown.

c. Status and Recommendations for Waters with Noted Impacts (Lockwoods Folly River)

Lockwoods Folly is a significant asset for Varnamtown. The river is fed by the Green Swamp and numerous Brunswick County black water creeks. There is great potential to develop a base of eco-tourism for kayak paddlers who wish to explore the Cape Fear region's flora and fauna. Preservation of water quality in the river is a critical issue.

Lockwoods Folly River from north of Varnamtown to the mouth is impaired for the shellfish harvesting category. The data from ambient monitoring sites I9440000 and I9450000 show the fecal coliform values exceeded the geometric mean of 14/100 ml in more than 10 percent of the samples for Class SA waters. DWQ will continue to monitor these stations.

C. EXISTING LAND USE

1. Existing Land Use Map

The land use within Varnamtown is predominantly residential in nature. The citizens within the town prefer to maintain this residential character through existing and future land use controls. This plan will focus on this issue in the policy development section. Map 6 provides a detailed inventory of the existing land use on a per-parcel basis within Varnamtown. The land use on this map is based on a windshield survey conducted in November 2004. Subsequent to this land use survey, the map was provided to the Varnamtown Land Use Planning Committee for verification of accuracy.

As stated, land use within the town is predominantly residential or vacant. There are several large vacant tracts of land scattered throughout the town, and there are several commercial operations: four fish houses, two oyster processing operations, two shellfish markets, a beauty shop, and a restaurant. A majority of the commercial land use within Varnamtown is situated along the waterfront and serve the fisheries industry. These businesses are comprised of four fish houses and two oyster processing operations. The remaining land use consists of a town park and several churches scattered throughout the town's planning jurisdiction, as well as the town's municipal building. Table 20 provides a comprehensive breakdown of land use acreage within Varnamtown. Land uses within the town's corporate limits have been broken down into five districts. The following provides a general definition of each land use category are:

Commercial: This land use category includes private business operations located throughout the town's corporate limits. These include retail operations and businesses related to the fisheries industry.

Office & Institutional: These properties include all professional office related uses, as well as any institutional uses. Institutional uses include churches and governmental properties.

Recreational: This land use category includes all public recreational facilities.

Map 6 - Existing Land Use

Single-Family Residential: This land use category includes all single-family residential dwellings.

Undeveloped: All vacant land falls under this category.

Table 20: Town of Varnamtown
Existing Land Use

Existing Land Use	Parcels	Acres	% of Total
Commercial	11	4.6	0.9%
Office & Institutional	8	9.3	1.7%
Recreational	1	3.0	0.6%
Residential	246	246.3	46.0%
Undeveloped	235	272.5	50.9%
Total	501	535.7	100.0%

Source: Holland Consulting Planners, Inc.

2. Potential Growth Areas

Development within Varnamtown is expected to continue at a moderate pace. Approximately 43% of the town remains vacant. Of this vacant land, a majority of the acreage exists as large undeveloped tracts. However, there are also a significant number of undeveloped tracts that have been platted for potential single-family residential development.

One of the most significant deterrents to rapid growth in the area is the lack of a central sewer system. The citizens of Varnamtown have made a decision to hold off on tying into the county's sewer system. This decision is based on two primary concerns. The most significant factor is the cost associated with this system, although the town also feels that installation of a central sewer system could result in more rapid uncontrolled growth within and immediately adjacent to the town's corporate limits.

Varnamtown would like to maintain its residential character, and provide its citizens with a quiet moderate density residential community. It is not expected that any portion of the town will experience rapid growth during the planning period. Expected growth patterns throughout the town's corporate limits will involve infill development resulting in the construction of additional single-family and possibly some multi-family housing. The town is not opposed to commercial development taking place, but would restrict this type of development to low volume retail stores, such as boutique shops and galleries. This issue will be discussed further within the future land use and policy discussion portions of the plan.

SECTION 5. ENVIRONMENTAL COMPOSITE AND LAND SUITABILITY MAPS

A. ENVIRONMENTAL COMPOSITE MAP

Under the updated CAMA Planning Guidelines, there is a requirement for the preparation of an Environmental Composite Map. The preparation of this map involves an overlay analysis of geographic data layers involving natural features and environmental conditions. The layers are classified into three categories based on their environmental sensitivity. The intent of this analysis is to break the jurisdiction into three separate land classifications in an effort to identify what portions of land are most and least suitable for future development with respect to environmental conditions and sensitive areas. A land suitability analysis will also be performed in the context of this plan that will incorporate community facilities into an analysis similar to the environmental composite map. The following table details the Geographic Information System (GIS) data that was utilized in the preparation of the environmental composite map.

Table 21: Town of Varnamtown
Environmental Composite Map Layers

Layer	Class I	Class II	Class III
Coastal Wetlands			✓
Exceptional or Substantial Non-Coastal Wetlands			✓
Beneficial Non-Coastal Wetlands		✓	
Estuarine Waters			✓
Soils with Slight or Moderate Septic Limitations	✓		
Flood Zones		✓	
Storm Surge Areas		✓	
HQW/ORW Watersheds		✓	
Water Supply Watersheds		✓	
Significant Natural Heritage Areas		✓	
Protected Lands			✓

NC Division of Coastal Management has provided the town with a model that breaks the town's jurisdiction into one-acre portions of land. Breaking the town's planning jurisdiction into these one-acre divisions distorts the outcome of this analysis, mainly because a majority of the lots within the town are smaller than one-acre in total area. In order to produce an environmental composite map that more accurately depicts the true nature and location of environmentally sensitive areas within Varnamtown, a different approach was taken.

The map was compiled by merging all of the GIS data listed under each of the classes in Table 21. All data listed under Class III was merged to form the boundaries shown on the environmental composite map. This process was repeated for Classes I and II. Map 7 displays the outcome of the environmental composite overlay analysis and Table 22 provides a summary of the land area within the town that falls within each of the defined classes. This classification corresponds to the development potential of a defined area with respect to environmentally sensitive areas located throughout the corporate limits of the town. The following provides a definition of the three classes:

Class I: Land that contains only minimal hazards and limitations that can be addressed by commonly accepted land planning and development practices. Class I land will generally support the more intensive types of land uses and development.

Class II: Land that has hazards and limitations for development that can be addressed by restrictions on land uses, special site planning, or the provision of public services, such as water and sewer. Land in this class will generally support only the less intensive uses, such as low density residential, without significant investment in services.

Class III: Land that has serious hazards and limitations. Land in this class will generally support very low intensity uses, such as conservation and open space.

Table 22: Town of Varnamtown
Land Use Acreage by Class

	Acreage	% of Total Acreage
Class I	471.3	79.3%
Class II	80.6	13.6%
Class III	42.1	7.1%
TOTAL	594.0	100.0%

Source: Holland Consulting Planners, Inc.

Map 7 - Environmental Composite

B. LAND SUITABILITY MAP

A thorough analysis of all impediments to development, as well as existing community facilities, has been completed in the preceding sections. All of these variables factor into suitability for development of a specific piece of property. In order to assess what effect the various man-made and environmental constraints will have on development throughout Varnamtown, an overlay analysis was performed. This overlay analysis is a Geographic Information System (GIS)-based process geared toward evaluating the suitability of land for development. The procedure is very similar to the practice developed by Ian McHarg, in which geospatial data layers are referenced to each other in an effort to determine what portions of a land mass appear to be the most favorable sites for a specific land use.

The land suitability analysis methodology involves the application of criteria to the landscape to assess where land is most and least suitable for development of structures and infrastructure. A computer application is not essential for this analysis, but greatly simplifies the process and improves accuracy. There are eight key steps to completing the overlay analysis:

1. **Define criteria for the analysis:** The criteria utilized for the LSA were based on CAMA guidelines, and modified according to available GIS data sets.
2. **Define data needed:** The GIS data used for the LSA was compiled from several sources. A majority of the data was provided through the North Carolina Center for Geographic Information & Analysis, although some of the data used was compiled from the Town of Varnamtown's GIS database. All of the data used in this process are listed on page 38 (in bold).
3. **Determine what GIS analysis operations should be performed:** This step involved determining what GIS operations would be required to effectively execute the overlay analysis.
4. **Prepare the data:** All of the datasets defined in step 2 are prepared to be run through the model.
5. **Create a model:** This step involved the actual construction of the LSA computer model.
6. **Run the model:** The GIS data is run through the developed LSA model.
7. **Analyze results:** The LSA map as depicted in Map 8 is the output of the model, and the results of the model must be analyzed to determine if the model needs to be revised.

8. **Refine model as needed:** Modifications are made to the model, and then the process starts again from step 6 until satisfactory results are reached.

All of these steps have been completed and the end product is displayed on Map 8, Town of Varnamtown Land Suitability Analysis. Prior to producing the map, data was compiled and each data layer in conjunction with criteria was assigned a weight. The criteria utilized in the LSA are listed below, along with the GIS data set associated with each criterion:

- ▶ Land within **Beneficial Non-Coastal Wetlands** has low suitability
- ▶ Land within **Storm Surge Areas** has low suitability
- ▶ Land within **Severe Septic Limitations** (based on soils data) has low suitability; moderate limitations have medium suitability; slight limitations have high development suitability
- ▶ Land within 100-year **Flood Zones** has low development suitability
- ▶ Land within **HQW/ORW Watersheds** has low suitability
- ▶ Land within **Water Supply Watersheds** has low suitability
- ▶ Land within 500 feet of a **Significant Natural Heritage Area** has low suitability
- ▶ Land within 500 feet of a **Hazardous Substance Disposal Site** has low suitability
- ▶ Land within 500 feet of an **NPDES Site** has low suitability
- ▶ Land within 500 feet of a **Wastewater Treatment Plant** has low suitability
- ▶ Land within 500 feet of a **Municipal Sewage Discharge Point** has low suitability
- ▶ Land within 500 feet of a **Land Application Site** has low suitability
- ▶ Land within a half-mile of **Primary Roads** has high suitability; within a half-mile to a mile has medium suitability; areas greater than one mile outside of primary roads have low suitability
- ▶ Land within a half-mile of **Developed Land** has high suitability; areas within a half-mile to a mile have medium suitability; areas further than one mile away from developed land have low suitability
- ▶ Land within a quarter-mile of **Water Pipes** has high suitability; areas within a quarter-mile to a half-mile of water pipes have medium suitability; areas further than a half-mile away from water pipes have low suitability
- ▶ Land within a quarter-mile of **Sewer Pipes** has high suitability; areas within a quarter-mile to a half-mile of sewer pipes have medium suitability; areas further than a half-mile away from water pipes have low suitability
- ▶ Land within **Coastal Wetlands** is LEAST suitable
- ▶ Land within **Exceptional and Substantial Non-Coastal Wetlands** is LEAST suitable
- ▶ Land within **Protected Lands** is LEAST suitable
- ▶ Land within **Estuarine Waters** is LEAST suitable

Map 8 - Land Suitability Analysis

The town was divided into one-acre portions of land to conduct the analysis, similar to the process utilized for the environmental composite map (see pages 34-36). Each of these one-acre portions of land was given a score based on how that respective piece of property related to each of the criteria listed above. The scores for each layer were added together to determine a suitability rating for that one-acre portion of property.

The overall process utilized Arcview GIS software with the Spatial Analyst extension along with a variety of data layers as listed above including: several layers provided by the North Carolina Center for Geographic Information and Analysis (NCGIA), and existing land use data established as part of the planning process. The analysis takes into consideration a number of factors, including natural systems constraints, compatibility with existing land uses and development patterns, existing land use policies, and the availability of community facilities. The end product of this analysis is a land suitability map which depicts underutilized land that is suited or not suited for development. This map can be used as a foundation for the discussion and formation of town-wide land use policy.

Table 23: Town of Varnamtown
LSA Acreage

Suitability	Acreage	% of Total
Least Suitable	42.1	7.9%
Low Suitability	63.7	11.9%
Medium Suitability	305.7	57.1%
High Suitability	124.4	23.2%
Total	535.7	100.0%

Source: Holland Consulting Planners, Inc., and NC Division of Coastal Management.

SECTION 6. COMMUNITY FACILITIES

A. TRANSPORTATION

The general location of Varnamtown was discussed earlier in the plan, and can be found on page 3 (Regional Setting). According to the North Carolina Department of Transportation (NCDOT), there are a total of 5.9 miles of public right-of-way within Varnamtown, of which approximately 70% are maintained by NCDOT. The remaining public right-of-ways are either maintained by adjacent property owners or the Riverside Property Owners Association. The following named roads are maintained by NCDOT: Stone Chimney Road, Sabbath Home Road, Varnamtown Road, Riverside Drive, Gal-Var Road, and Fisherman's Road. The remaining roads within town, as stated, are neither the responsibility of the town or NCDOT with regards to maintenance.

B. HEALTH CARE

When emergency response calls are dispatched to Varnamtown, the ambulance service transfers patients to Brunswick Community Hospital. If necessary patients are transferred to a different facility from this location. J. Arthur Doshier Memorial Hospital in Southport is also a nearby resource for health care available to the citizens of Varnamtown.

Brunswick Community Hospital, located in the heart of the County, has been providing medical care to residents since 1977 and is accredited by the Joint Commission on Accreditation of Healthcare Organizations. The hospital is staff with over 96 physicians and specialists. The hospital offers a variety of medical and surgical services from general surgery to cardiology. Following are some of the services provided at the facility. This is not a comprehensive list of services at the hospital.

Birthing	Nuclear Medicine
Cardiac Rehab	Obstetrics/Gynecology
Diagnostic Imaging	Ophthalmology
Emergency Services	Orthopedics
Endoscopy/Special Procedures	Outpatient Diagnostic Services
Immunology	Outpatient Surgery
Inpatient Surgery	Pediatrics
Intensive Care	Physical Therapy
Laboratory Services	Plastic/Reconstructive
Mammography	Radiology
MRI	Respiratory Therapy Services
Neurosurgery	Speech Therapy

J. Arthur Doshier Memorial Hospital, founded in 1930, provides comprehensive medical care to residents of Southport and the Smithville Township. The hospital is owned by the Smithville Township taxpayers and is managed by an elected seven member Board of Trustees. Doshier Memorial Hospital and the Skilled Nursing Center are both accredited by the Joint Commission on Accreditation of Healthcare Organizations. The laboratory and Cardiopulmonary Service are accredited by the College of American Pathologists. The Diagnostic Imaging Department is accredited by the American College of Radiology in Mammography and the hospital has been certified in Mammography by the Food and Drug Administration. The hospital is licensed for 36 acute care beds and 64 nursing center beds and has a staff of 300. Following are services provided at the facility:

- Acute Nursing Care
- Cardiopulmonary and Respiratory Therapy
- Diagnostic Imaging
- Emergency Services
- Lab Services
- Nutritional Counseling
- Skilled Nursing Center
- Social Services
- Therapy Services (Speech, Physical, and Occupational)
- OR Procedures and Surgeries (General, Gynecology, Ophthalmology, Orthopedic, Otolaryngology, and Urology)
- Cardiac Rehabilitation - Coming 2005

In addition to the hospital facilities located within the County, there are a number of general practice doctors and specialists located within Southport, Supply, and Shallotte. For some treatments requiring a specialist, it may be necessary to travel to the City of Wilmington.

C. LAW ENFORCEMENT

Law enforcement is provided to Varnamtown by the Brunswick County Sheriff's Department. The department is located in Building J at the Brunswick County Government Complex. There are 91 full-time deputies, 15 part-time/auxiliary deputies, 25 employees at the Detention Center, and seven office employees. The department operates 13 units: Uniform Patrol, Criminal Investigations, Narcotic Investigations, School Resource Officers, D.A.R.E., Crime Prevention, K-9, SWAT, Water Search and Rescue, Major Crimes, Investigations, Transportation, and Community Policing. The county is in the process of constructing a second jail that will hold 198 beds. The county plans to move into the jail around the end of May. The Brunswick County Sheriff's department does not provide any specific services to Varnamtown, other than responding to emergency response calls dispatched through the county's E-911 call center. The Sheriff's Department does occasionally check on the security of businesses operating within Varnamtown's corporate limits.

D. FIRE/RESCUE

Fire and EMS service is provided to the town through the Tri-Beach Volunteer Fire Department. This department is referred to as fire station number eight within Brunswick County, and is located at 854 Sabbath Home Road. The Insurance Services Office (ISO) Rating for this fire department is 5/9. This rating is utilized as a basis for the establishment of insurance rates for residences and businesses. The rating for the Tri-Beach fire department involves two separate figures. The initial figure (5) is the rating for structures located within one thousand feet of a fire hydrant, while the latter figure (9) is for residences and businesses located greater than one thousand feet from a fire hydrant. ISO ratings are based on a scale of one to ten, with one being the best possible score.

E. ADMINISTRATION

Varnamtown is governed by a Mayor-Council form of government. The town only retains one part-time staff person. The town clerk is the only paid employee, and maintains office hours at the Town Hall on Wednesdays from 9:00 am to 2:00 pm. The Town Hall is located at 100 Varnamtown Road. Town Council meetings are held on the second Monday of every month at 7:30 pm at the Town Hall.

F. WATER AND SEWER FACILITIES

Varnamtown is served by the Brunswick County water system. The Brunswick County Utilities Department operates two water plants: one groundwater plant and one surface water plant. Property owners within the corporate limits of Varnamtown have the option of connecting to the county's system. Approximately 60% of the town's residents and businesses are currently tied into the county water system. Map 9 depicts the town's water lines.

There is no central sewer system within Varnamtown. The town relies solely on private septic tank systems for wastewater treatment. There is no significant history of problems regarding these private systems. The town recognizes that there may be need to address this issue in the future. Brunswick County is in the process of installing a main sewer line along NC Highway 130. The county has approached the town about establishing central sewer service that would tie into the line along NC Highway 130. The Varnamtown Town Council has decided not to address the need for sewer at this time; however, they will revisit the issue in 2010. It is anticipated that eventually the town will tie into the county's sewer system.

MAP 9 – WATER LINES

G. SOLID WASTE

Brunswick County provides curb side solid waste pickup to Varnamtown residents. The county contracts out this service to Waste Industries, and the fees for this service are recouped by the county through tax payments. Trash pickup takes place once weekly on Mondays.

H. SCHOOLS

Varnamtown’s school age population is served by the Brunswick County School System. The following table provides a summary of the schools serving Varnamtown and the facilities located at each school.

Table 24: Brunswick County
Public Schools Serving Varnamtown School Children

School	Enrollment	Teaching Staff	Recreational Facilities
Supply Elementary*	638	47	Multi-purpose room (Gymnasium), a field, and 4 playgrounds
Virginia Williamson Elementary	572	51	Basic playgrounds
Shalotte Middle	926	90	Gymnasium, soccer field, football field, softball field, baseball field, and 2 bocci courts
West Brunswick High	1,283	80	Gymnasium, football field, practice field, baseball field, softball field, and track

*Children in Varnamtown only attend Supply Elementary School for Pre-K.
Source: Brunswick County School System.

I. RECREATION

Varnamtown maintains one town-owned park located on Sabbath Home Road in the southwestern portion of the town’s corporate limits. In addition to this park, the town has recently constructed an addition to the town hall building that can be reserved for use by citizens. The new facility has kitchen and restroom facilities available. The following recreation facilities are available at the Varnamtown Park:

- | | |
|------------------------|---------------------------------------|
| One Basketball Court | One Softball Diamond (with bleachers) |
| One Horseshoe Facility | Playground |
| Picnic Shelter | Indoor Restroom Facilities |

SECTION 7. EXISTING CODES, PLANS, AND ORDINANCES

A. TOWN OF VARNAMTOWN DEVELOPMENT ORDINANCE

The purpose of this ordinance is to establish setback standards for the development of property not included in the Subdivision Ordinance or Riverside I Subdivision Ordinance. It is designed to provide orderly growth and development.

B. TOWN OF VARNAMTOWN SUBDIVISION ORDINANCE

The purpose of this ordinance is to establish procedures and standards for the development and subdivision of land within the territorial jurisdiction of the Town of Varnamtown. It is further designed to provide for the orderly growth and development of Varnamtown; for the coordination of streets and highways within proposed subdivisions with existing or planned streets and highways, and with other public facilities such as water, sewer, and storm drainage lines; for the dedication or reservation of recreation areas serving residents of the subdivision and of rights-of-ways or easements for street and utility purposes; and for the distribution of population and traffic in a manner that will avoid congestion and overcrowding and will create conditions essential to public health, safety, and general welfare.

C. TOWN OF VARNAMTOWN RIVERSIDE-SECTION I SUBDIVISION ORDINANCE

The purpose of this ordinance is to establish procedures and standards for the development of Riverside I within the territorial jurisdiction of the Town of Varnamtown. It is further designed to provide for the orderly growth and development of Riverside I and to establish the restrictions and conditions applicable to all lots located in Section I of the Riverside Subdivision.

D. TOWN OF VARNAMTOWN CAMPGROUND ORDINANCE

This ordinance establishes guidelines and provisions for the establishment of commercially operate campground facilities within the corporate limits of Varnamtown. The ordinance establishes strict guidelines relating to campground design and layout. The ordinance also discusses requirements for wastewater collection and treatment for each individual site located within a proposed campground.

E. TOWN OF VARNAMTOWN MANUFACTURED HOME PARK ORDINANCE

The purpose of the manufactured home park ordinance is to inform the developer and the design engineer of the minimum requirements of the Town of Varnamtown for both design and construction of utilities, pavements, easements, parks, buffer zones, and drainage of lands.

F. TOWN OF VARNAMTOWN ADULT ENTERTAINMENT ORDINANCE

This ordinance is intended to establish guidelines for the development of adult entertainment establishments within Varnamtown's planning jurisdiction. This ordinance specifies guidelines that must be adhered to regarding where these establishments can be constructed. Additionally, this ordinance establishes regulations regarding the operation and license requirements related to operating an adult oriented business within the corporate limits of Varnamtown.

G. BRUNSWICK COUNTY HAZARD MITIGATION PLAN

The town currently falls under the jurisdiction of the Brunswick County Hazard Mitigation Plan, which was adopted in 2003. This plan was developed and adopted in response to new federal and state legislation. This legislation, the Disaster Management Act 2000 (Federal) and NC Senate Bill 300 (State), makes it mandatory that each jurisdiction must adopt a current Hazard Mitigation Plan in accordance with new guidelines in order to receive Public Assistance and HMGP funding in the event of a disaster. Under these new guidelines, local municipalities have the option to be included under the umbrella of a county plan, but the town must be thoroughly represented in the scope and adoption of the report.

H. NC STATE BUILDING CODE

Varnamtown utilizes the North Carolina State Building Code to oversee the erection of all structures within its planning jurisdiction. The town receives inspections services through the Brunswick County Planning and Inspections Department.

The minimum use standards, provisions, and requirements for safe and stable design, methods of construction, and usage of materials in buildings and structures erected, enlarged, altered, repaired, moved, converted to other uses, or demolished, and the equipment, maintenance, use, and occupancy of all buildings and structures in the town and its extraterritorial jurisdiction, are regulated in accordance with the terms of the North Carolina State Building Code.

I. TOWN OF VARNAMTOWN MANUFACTURED HOME ORDINANCE

This ordinance is intended to regulate the location of manufactured homes within the corporate limits of Varnamtown. This ordinance establishes regulations for the following with regards to manufactured homes: Class and age of structure, lot size, and connection to water and sewer utilities.

SECTION 8. PLAN FOR THE FUTURE

A. LAND USE/DEVELOPMENT GOALS AND IMPLEMENTING ACTIONS

This section of the plan is intended to guide the development and use of land in Varnamtown's planning jurisdiction. The future land use maps and policies are intended to support Varnamtown's and CAMA's goals. Specifically, this section includes Varnamtown's land use development policies and the future land use map for the town's planning jurisdiction. The future land use map and the specified development goals are based on the Town of Varnamtown community concerns (identified on page 4 of this plan).

In addition, this document is intended to serve as Varnamtown's Comprehensive Plan and Future Land Use Plan. The future land use plan or "map" is an essential tool for implementing land use planning. The map is intended to serve as a guide for the Town Council when they review private development proposals and make decisions on the location of public facilities.

B. POLICIES/IMPLEMENTING ACTIONS

It is intended that the policies included in this plan are consistent with the goals of CAMA. This plan will address the CRC management topics for land use plans and comply with all state and federal rules and regulations. The following will serve as a guideline to assist in assuring that this land use plan will guide the development and use of land in a manner that is consistent with the management goal(s), planning objective(s), and land use plan requirements of this plan. These policies/implementing actions will apply to the town's entire planning jurisdiction. All policies/implementing actions shall be used for consistency review by appropriate state and federal agencies.

Resource conservation and impact analysis issues are addressed throughout the policies and implementing actions included in this plan. However, the following conservation related policies and implementing actions are emphasized:

- ▶ Public Access, page 51.
- ▶ Conservation, page 55.
- ▶ Stormwater Control, page 56.
- ▶ Natural Hazard Areas, page 60.
- ▶ Water Quality, page 61.

Varnamtown does not currently have an adopted zoning ordinance. Because of this fact, this plan will serve as a guide for development within the town's planning jurisdiction. If, and when the town does choose to establish a zoning ordinance and respective districts, this plan will serve as the basis for that document. Varnamtown has taken a fairly relaxed approach to land use regulation until this point. Due to the rapid development occurring throughout Brunswick County the town sees this plan as a first step towards controlling future development and redevelopment within Varnamtown.

It is intended that this plan will serve as the basic tool to guide development/growth in Varnamtown's planning jurisdiction subject to the following:

- ▶ Varnamtown Land Development Ordinances should be revised from time to time to be consistent, as reasonably possible, with the recommendations of this plan and the evolving nature of the town's growth and development policy.
- ▶ Varnamtown will coordinate all development proposals with appropriate State and/or Federal agencies.

C. LAND USE PLAN MANAGEMENT TOPICS

1. Introduction

The purposes of the Coastal Resources Commission (CRC) management topics are to ensure that CAMA Land Use Plans support the goals of CAMA, to define the CRC's expectations for the land use planning process, and to give the CRC a substantive basis for review and certification of CAMA Land Use Plans. Each of the following management topics (Public Access, Land Use Compatibility, Infrastructure Carrying Capacity, Transportation, Natural Hazard Areas, Water Quality, and Local Areas of Concern) include three components: a management goal, a statement of the CRC's planning objective, and requirements for the CAMA Land Use Plan. The local concerns which should be addressed in this plan are identified on page 63.

These concerns and issues were utilized to develop the goals and objectives which are included in this plan. Most of the policies and implementing actions are continuing activities. In most situations, specific timelines are not applicable. Please note: Policies and Implementing Actions are numbered consecutively throughout this document with the letter "P" denoting a policy and the letter "I" denoting an implementing action.

2. CAMA Land Use Plan Policies on Management Topics

This plan is intended to support the Varnamtown vision statement which was developed based on the key issues identified on page 4 of this document and the CAMA AEC regulations.

3. Public Access

a. *Management Goal*

Varnamtown supports access to the public trust waters within its planning jurisdiction.

b. *Planning Objective*

Varnamtown supports the state's shoreline access policies as set forth in NCAC Chapter 15A Subchapter 7M. The town will conform to CAMA and other state and federal environmental regulations affecting the development of estuarine access areas.

c. *Land Use Plan Requirements*

The following are Varnamtown's policies/implementing actions for waterfront access. All policies are continuing activities.

Policies:

P.1 Varnamtown supports providing shoreline access for persons with disabilities. *Schedule: Continuing Activity.*

P.2 Varnamtown supports the frequency of shoreline access as defined by 15A NCAC 7M, Section .0300, Shorefront Access Policies. *Schedule: Continuing Activity.*

P.3 Varnamtown supports state/federal funding of piers for fishing and pedestrian access. *Schedule: Continuing Activity.*

Implementing Actions:

- I.1 Varnamtown will consider submission of grant applications for funding under the North Carolina CAMA Shoreline Access funding program (15A NCAC 7M, Section .0300, Shorefront Access Policies). *Schedule: Continuing Activity.*
- I.2 Varnamtown will pursue the donation or dedication of public access easements in the event that the waterfront is redeveloped, this may include the private donation of land. *Schedule: Continuing Activity.*

4. **Land Use Compatibility**

a. *Management Goal*

Varnamtown will strive to ensure that inconsistent/conflicting land uses are not permitted within its planning jurisdiction. This is intended to avoid adverse impacts on public safety, health, welfare, transportation, and the environment. This goal should also take into consideration the desire of Varnamtown residents to maintain a predominantly residential community consisting of development at moderate densities.

b. *Planning Objective*

- ▶ Local policies should balance growth demands with protection of the environment.
- ▶ Varnamtown's policies should be utilized to assist in making decisions for consistency findings, subdivision ordinance changes, and approval of public and private projects.

c. *Land Use Plan Requirements*

The following are Varnamtown's policies/implementing actions for land use compatibility.

Policies - Residential:

- P.4 Varnamtown supports maintaining an inventory of standard housing. *Schedule: Continuing Activity.*
- P.5 Where feasible Varnamtown supports the establishment of buffers between residential and non-residential areas. *Schedule: Continuing Activity.*
- P.6 Varnamtown supports residential development and redevelopment at moderate densities. Moderate density is defined and discussed in detail in the future land use section of the plan. *Schedule: Continuing Activity.*

Implementing Actions - Residential:

- I.3 Varnamtown will consider applying for Community Development Block Grant Community Revitalization and North Carolina Housing Finance Agency funds to address substandard housing within the town's planning jurisdiction. *Schedule: As needs are identified.*
- I.4 Varnamtown will support state and federal programs that assist with housing rehabilitation. *Schedule: Continuing Activity.*
- I.5 Varnamtown will continue to encourage a variety of choice in existing neighborhoods through a balance of preservation, rehabilitation, and new development. *Schedule: Continuing Activity.*
- I.6 Varnamtown will develop a zoning ordinance in an effort to control future growth and redevelopment within the town's planning jurisdiction. This will allow for the establishment of concrete land use controls that will protect the residential character of the town. *Schedule: Fiscal Year 2006-2007.*
- I.7 Varnamtown will consider submitting a grant application to the NC Division of Coastal Management to secure technical assistance funds for the preparation of a zoning ordinance. *Schedule: Annually in coordination with state funding cycles.*

- I.8 Varnamtown will continue to maintain an agreement with the Brunswick County Planning and Inspections Department for the strict enforcement of housing construction and maintenance codes. *Schedule: Continuing Activity.*
- I.9 The Brunswick County Storm Hazard Mitigation, Post-Disaster Recovery, and Evacuation Plan (which includes the Town of Varnamtown) provides policies for responding to hurricanes or other natural disasters. Those policies address reconstruction needs. The town will allow the reconstruction of any residential structures demolished by natural disaster when the reconstruction complies with all applicable local, state, and federal regulations. *Schedule: Continuing Activity.*

Policies - Commercial

- P.7 Varnamtown opposes the construction of any signs, except public regulatory signs, in public trust areas. *Schedule: Continuing Activity.*
- P.8 Commercial operations that are noxious by reason of the emission of smoke, odor, dust, glare, noise, and vibrations, and those that deal primarily in hazardous products, should not be located in Varnamtown. *Schedule: Continuing Activity.*
- P.9 Commercial development and/or potential commercial zoning should not infringe on established residential development. *Schedule: Continuing Activity.*
- P.10 Varnamtown opposes the construction of large retail outlets and strip development within the town's planning jurisdiction. Commercial development should consist of small retail establishments that will not be a nuisance to adjacent residential areas. *Schedule: Continuing Activity.*

Implementing Actions - Commercial:

- I.10 Varnamtown supports and requests full disclosure of development plans, with mitigative measures that will be undertaken to prevent adverse impacts on the environment, the infrastructure, and the social systems of Varnamtown. The town also requests full disclosure of any adopted plans. *Schedule: Continuing Activity.*

- I.11 In guiding commercial development, the following locational guidelines will be supported:
1. Commercial development should be eliminated in portions of town that are currently predominantly residential.
 2. Where feasible, vegetated buffers should be established between commercial and residential areas *Schedule: Continuing Activity.*
- I.12 All commercial development and redevelopment efforts will be coordinated with the Varnamtown Town Council. *Schedule: Continuing Activity.*
- I.13 The Brunswick County Storm Hazard Mitigation, Post-Disaster Recovery, and Evacuation Plan (which includes the Town of Varnamtown) provides policies for responding to hurricanes or other natural disasters. Those policies address reconstruction needs. The town will allow the reconstruction of any commercial structure demolished by natural disaster when the reconstruction complies with all applicable local, state, and federal regulations. *Schedule: Continuing Activity.*

Policies – Conservation:

- P.11 Except as otherwise permitted in this plan, residential and commercial should not be supported in natural heritage areas or coastal wetlands. *Schedule: Continuing Activity.*
- P.12 Residential and commercial development which meets 15A NCAC 7H use standards will be allowed in estuarine shoreline, estuarine water, and public trust areas. *Schedule: Continuing Activity.*
- P.13 The Town of Varnamtown will support larger lots in conservation classified areas through enforcement of its subdivision and development ordinances. *Schedule: Continuing Activity.*

Implementing Actions - Conservation:

- I.14 Protect Varnamtown’s fragile areas from inappropriate, unplanned, or poorly planned development through the following:
1. Limit land uses in the vicinity of historic sites and natural heritage areas to compatible land uses. *Schedule: Continuing Activity.*
 2. Coordinate all housing code enforcement/redevelopment projects/public works projects with the NC Division of Archives and History to ensure the preservation and identification of significant historic structures and archaeological sites. *Schedule: Continuing Activity.*

Policies – Stormwater Control

- P.14 Varnamtown supports and encourages use of the U.S. Soil Conservation Service “Best Management Practices” program (see Appendix II). *Schedule: Continuing Activity.*
- P.15 Varnamtown supports reducing soil erosion, runoff, and sedimentation to minimize the adverse effects on surface and subsurface water quality. *Schedule: Continuing Activity.*
- P.16 Varnamtown supports the enforcement of all controls and regulations, specifically design standards, tie-down requirements, construction and installation standards, elevation requirements, flood-proofing, CAMA regulations, and FEMA regulations, deemed necessary by the Town Council to mitigate the risks to lives and property caused by severe storms and hurricanes. *Schedule: Continuing Activity.*
- P.17 Varnamtown supports the Brunswick County NPDES Phase II Stormwater Management Program, and all efforts involved with this program to mitigate adverse impacts of stormwater on surface water within and adjacent to the corporate limits of Varnamtown. *Schedule: Continuing Activity.*

Implementing Actions – Stormwater Control:

I.15 The town will support existing state regulations relating to stormwater runoff resulting from development (Stormwater Disposal Policy 15 NCAC 2H.001-.1003) through enforcement of the town’s subdivision ordinance. *Schedule: Continuing Activity.*

I.16 Varnamtown will cooperate with the NCDOT, the North Carolina Division of Water Quality, and other state agencies in mitigating the impact of stormwater runoff on all conservation classified areas. The town will support the Division of Water Quality stormwater runoff retention permitting process. *Schedule: Continuing Activity.*

5. **Infrastructure Carrying Capacity**

a. *Management Goal*

Varnamtown supports the construction of adequate infrastructure throughout its planning jurisdiction. However, the AECs and other fragile areas should be protected when infrastructure systems are constructed.

b. *Planning Objective*

The construction of future infrastructure should be consistent with future growth/land use needs. It is recognized that some service lines will have to extend through environmentally sensitive areas.

c. *Land Use Plan Requirements*

The following are Varnamtown’s policies for infrastructure carrying capacity.

Policies:

P.18 Varnamtown supports the construction of lines to and through environmentally sensitive areas to serve development which meets all applicable state and federal regulations. *Schedule: Continuing Activity.*

P.19 Varnamtown will revisit the issue of tying in to the county's central sewer system. At this time, the town will continue to rely on private septic tank systems. *Schedule: Continuing Activity.*

P.20 The town supports all efforts to secure available state and federal funding for the construction and/or expansion of public and private sewer systems if the town decides to move forward with the construction of town-wide central sewer service. *Schedule: Continuing Activity.*

Implementing Actions:

I.17 Varnamtown will consult the future land use map when considering new public facilities and private development. *Schedule: Continuing Activity.*

I.18 Varnamtown has officially notified Brunswick County that it is not currently interested in moving forward with the installation of central sewer system in Varnamtown. The town will revisit this issue on an annual basis. This review will factor in the financial costs and environmental benefits of establishing town-wide sewer. *Schedule: Fiscal Year 2010.*

6. **Transportation**

a. *Management Goal*

Varnamtown will support improvements which address the transportation needs of the town as future development and redevelopment occur.

b. *Planning Objective*

Varnamtown will strive to improve the efficiency of traffic flow and pedestrian safety.

c. *Land Use Plan Requirements*

The following are Varnamtown's policies/implementing actions for transportation.

Policies:

- P.21 The town supports limited access from development along all roads and highways to provide safe ingress and egress. *Schedule: Continuing Activity.*
- P.22 Varnamtown supports interconnected street systems for residential and non-residential development. *Schedule: Continuing Activity.*
- P.23 Varnamtown will support road/transportation improvements to improve the efficiency of its ground transportation system including the installation of sidewalks. *Schedule: Continuing Activity.*
- P.24 Varnamtown is opposed to the construction of marina facilities along the town's waterfront. *Schedule: Continuing Activity.*

Implementing Actions:

- I.19 Varnamtown will continue to monitor speed limits within the town's planning jurisdiction as future development takes place. If necessary, town wide speed limits will be reduced. *Schedule: Annually and/or as necessary.*
- I.20 Varnamtown will continue to support NCDOT in maintaining the primary right-of-ways within the town's planning jurisdiction. *Schedule: Continuing Activity.*
- I.21 Varnamtown will research opportunities for grant funding that may be utilized for the installation of sidewalk infrastructure along the town's major thoroughfares. *Schedule: As funding becomes available.*

7. **Natural Hazard Areas**

a. *Management Goal*

Varnamtown will support preservation of the Lockwood Folly River, the river shorelines, associated swamp areas, and Areas of Environmental Concern (AEC).

b. *Planning Objective*

Varnamtown will support policies which minimize development in natural hazard areas such as floodplains, AECs, and wetlands.

c. *Land Use Plan Requirements*

The following are Varnamtown's policies/implementing actions for natural hazard areas.

Policies:

- P.25 Varnamtown supports the construction of bulkheads as long as they fulfill the use standards set forth in 15A NCAC 7H. *Schedule: Continuing Activity.*
- P.26 Varnamtown opposes the location of floating structures within its planning jurisdiction. *Schedule: Continuing Activity.*
- P.27 Varnamtown supports relocation of structures endangered by erosion, if the relocated structure will be in compliance with all applicable policies and regulations. *Schedule: Continuing Activity.*
- P.28 Varnamtown is supportive of resource protection, in particular preservation of conservation areas as defined by this plan. All 15A NCAC 7H minimum use standards will be supported by the policies contained in this plan. *Schedule: Continuing Activity.*

Implementing Actions:

- I.22 Varnamtown will support the Brunswick County Hazard Mitigation Plan. *Schedule: Continuing Activity.*
- I.23 Varnamtown will consider becoming a participant in the Community Rating System (CRS), in an effort to reduce flood insurance rates for residential property owners, and increasing the safety of property owners within flood hazard areas within the town's planning jurisdiction. *Schedule: Fiscal Year 2006-2007.*

8. Water Quality

a. *Management Goal*

Varnamtown will strive to protect and improve water quality within the Lockwood Folly River, its tributaries, and adjacent swamps. Preservation of water quality is important to the town's environment and economy.

b. *Planning Objective*

The Town of Varnamtown will work with Brunswick County to ensure that water quality is improved.

c. *Land Use Plan Requirements*

The following provides Varnamtown's policies and implementing actions for water quality.

Policies:

P.29 Varnamtown supports the Lumber River Basinwide Management Plan. *Schedule: Continuing Activity.*

P.30 Varnamtown supports the policy that all State of North Carolina projects should be designed to limit to the extent possible stormwater runoff into coastal waters. *Schedule: Continuing Activity.*

P.31 The Town of Varnamtown supports the use standards for public trust areas as specified in 15A NCAC 7H.0207. *Schedule: Continuing Activity.*

P.32 The town will support enforcement of current state, federal, and local regulations to improve water quality. *Schedule: Continuing Activity.*

P.33 Varnamtown supports the Brunswick County NPDES Phase II Stormwater Management Program, and all efforts involved with this program to mitigate adverse impacts of stormwater on surface water quality within and adjacent to the corporate limits of Varnamtown. *Schedule: Continuing Activity.*

Implementing Actions:

- I.24 Varnamtown will enforce, through the Brunswick County Planning and Inspections Department, all current regulations of the NC State Building Code and the NC Division of Health Services relating to building construction and septic tank installation/replacement in areas with soils restrictions. *Schedule: Continuing Activity.*

- I.25 Varnamtown will coordinate, through the Brunswick County Planning and Inspections Department, all development activity with appropriate Brunswick County and state regulatory personnel, and in particular with the Brunswick County Sanitarian when septic tank permits are required. *Schedule: Continuing Activity.*

- I.26 Varnamtown will revisit the issue of establishing central sewer service in 2010. *Schedule: Continuing Activity.*

- I.27 Varnamtown will permit redevelopment of previously developed areas, provided all applicable policies, regulations, and ordinances are complied with. The town will encourage redevelopment as a means for correcting housing problems, upgrading commercial structures, and historic preservation (through rehabilitation and adaptive reuse). Redevelopment, including infrastructure, should be designed to withstand natural hazards. *Schedule: Continuing Activity.*

- I.28 Varnamtown, through the Brunswick County Planning and Inspections Department, will coordinate building inspections with state and federal regulations governing underground storage tanks and will endeavor to advise building permit applicants of those regulations. *Schedule: Continuing Activity.*

9. **Local Areas of Concern**

a. *Management Goal*

The Town of Varnamtown will reflect the requirements of NCAC 7H and NCAC 7B in its goals addressing local concerns.

b. *Planning Objective*

Varnamtown will implement policies to address local concerns which include economic development, general health, funding sources, and preservation of cultural and historic areas.

c. *Land Use Plan Requirements*

The Town of Varnamtown will support the following policies/implementing actions that address areas of local concern. All policies are continuing activities.

Policies - Economic Development:

P.34 The town will encourage development in Varnamtown's planning jurisdiction to protect the town's resources, preserve its small town atmosphere, and simultaneously promote mild commercial growth limited to small retail establishments. *Schedule: Continuing Activity.*

P.35 The town will encourage commercial development in areas that do not infringe on existing residential areas. *Schedule: Continuing Activity.*

Implementing Actions - Economic Development:

I.29 Varnamtown will support NC Department of Transportation projects to improve access to and within the town. *Schedule: Continuing Activity.*

I.30 Varnamtown will consider the development of a zoning ordinance in an effort to control future growth and redevelopment within the town's planning jurisdiction. This will allow for the establishment of concrete land use controls that will protect the residential character of the town. *Schedule: Continuing Activity.*

Policies – General Health and Human Services Needs:

P.36 Varnamtown supports the continued public provision of solid waste disposal, law enforcement, and educational services to all citizens within its planning jurisdiction. *Schedule: Continuing Activity.*

- P.37 In an effort to improve health conditions, Varnamtown supports efforts to secure available state and federal funding for the construction of public and private water and sewer systems. *Schedule: Continuing Activity.*

Implementing Actions - General Health and Human Services Needs:

- I.31 Varnamtown has officially notified Brunswick County that it is not currently interested in moving forward with the installation of central sewer system in Varnamtown. In conjunction with this notification, Varnamtown has specifically stated that they will revisit the issue in 2010. *Schedule: Continuing Activity.*
- I.32 Varnamtown will consider revising the subdivision ordinance to incorporate provisions to allow for the dedication of public park property, open space, and public waterfront access easements. This may include a provision for payment in lieu of dedication if approved by the town. *Schedule: Fiscal Year 2006-2007.*

Implementing Actions – Funding Options:

- I.33 Varnamtown will support state and federal programs that are necessary, cost-effective, and within the administrative and fiscal capabilities of the town. *Schedule: Continuing Activity.*

D. FUTURE LAND USE

1. Introduction

The future land use map (Map 10) depicts application of the policies for growth and development and the desired future patterns of land use and land development. The future land use map must include the following:

- ▶ Areas and locations planned for conservation or open space and a description of compatible land uses and activities.
- ▶ Areas and locations planned for future growth and development with descriptions of the following characteristics:

- Predominant and supporting land uses that are encouraged in each area;
 - Overall density and development intensity planned for each area; and
 - Infrastructure required to support planned development in each area.
- ▶ Land use which reflects existing and planned infrastructure.
 - ▶ Reflect the information depicted on the Environmental Composite Map (Map 7) and Land Suitability Analysis Map (Map 8).

2. Future Land Use Acreages

Table 25 summarizes the future land use acreages, as depicted on Map 10. Based on the land suitability and environmental composite maps, some areas are committed to the conservation categories on the future land use map. The future land use plan map depicts areas for development which are consistent with the land suitability analysis (Map 8).

Varnamtown does not currently utilize a zoning ordinance to regulate development within its planning jurisdiction. As noted earlier in the plan, the town does have several development ordinances, including subdivision regulations. Currently, however, the town does not have a locally adopted zoning ordinance. The town sees the development of a zoning ordinance as the key to protecting the character and residential nature of the community. The town will move forward subsequent to the certification of this plan with the development of a town-wide land development code. Throughout the ordinance drafting process, this plan will serve as the basis for the establishment of zoning districts within Varnamtown. A land use plan serves as a precursor to zoning. North Carolina General Statutes require that the establishment of zoning and zoning districts within a county or municipality must be grounded in principles established in a locally adopted land use plan. In summary, this land use plan serves solely as a statement of how the town would like to see future development take place. This document and the land use districts established herein have no legal authority, and future development will not be held to the recommendations outlined in this document, unless a zoning ordinance is adopted.

Map 10 - Future Land Use

Table 25. Town of Varnamtown
Future Land Use Acreages

	Corporate Limits	
	Acres	%
Neighborhood Business District	81.7	15.3%
Conservation	42.1	7.9%
Waterfront Development District (Mixed Use)	60.2	11.2%
Moderate-Density Residential	351.7	65.6%
TOTAL	535.7	100.0%

Source: Holland Consulting Planners, Inc.

Moderate-Density Residential: The purpose of this district shall be to maintain a minimum lot size of 20,000 square feet and to allow for single-family dwellings and such other uses permitted as special uses which would not substantially interfere with the district and would not be detrimental to the quiet residential nature of the areas included within the district.

Neighborhood Business District: The purpose of this district is to provide areas where a limited range of business establishments can be located near or adjacent to residential development without adversely impacting the adjacent residential area. The lot area shall be a minimum of 20,000 square feet (0.5 acre) and a maximum of 43,560 feet (1 acre). Building height in this district should be kept to a maximum of 40 feet from average ground level. Where feasible within this district, a vegetated buffer should be established between commercial establishments and adjacent residential areas.

Waterfront Development District: The purpose of this district is to protect the portion of Varnamtown which lies adjacent to the Lockwood Folly River. The town would like to see future development and redevelopment take place in a fashion that will allow for a mix of uses including residential, commercial, and possibly, multi-family residential development. The mixed use zone allows various uses for all land located within this district, but none specific to any particular property. Varnamtown views the waterfront as one of the town's most valuable resources, and wants to ensure that this resource is protected. Building height should be limited to 36 feet from average ground level on each individual lot that a building is to be situated. Lot area for commercial development should not exceed 43,560 square feet.

Conservation: The conservation class is designated to provide for effective long-term management of significant limited or irreplaceable areas which include the following categories: natural resource fragile areas, 404 wetlands, and public trust waters. Policy statements in this plan address the town's intentions under this classification and support the 15A NCAC 7H CAMA regulations for protection of AEC's. Land that falls within the conservation district corresponds to the least suitable portions of land identified through the land suitability analysis.

SECTION 9: TOOLS FOR MANAGING DEVELOPMENT

A. GUIDE FOR LAND USE DECISION MAKING

It is intended that this document be an integral part of the Varnamtown decision making process concerning future land use. This document should be consulted prior to any decision being made by the Varnamtown Town Council concerning land use and development. If and when the town should decide to establish a zoning ordinance, this plan should serve as the basis for delineating zoning districts. Additionally, the policies and goals set forth in this plan should guide the establishment of development guidelines that will be placed on property within each of the respective zones.

B. EXISTING DEVELOPMENT PROGRAM

The existing management program includes the following ordinances: the Varnamtown Development Ordinance, the Varnamtown Riverside Section I Subdivision Ordinance, the Varnamtown Subdivision Ordinance, the Varnamtown Adult Entertainment Ordinance, the Varnamtown Manufactured Home Park Ordinance, the Varnamtown Campground Ordinance, the North Carolina Building Code, the 1996 Brunswick County Land Use Plan, and the Brunswick County Storm Hazard Mitigation Plan.

C. ACTION PLAN/SCHEDULE/CITIZEN PARTICIPATION

For the preparation of this plan, the Varnamtown Town Council adopted a citizen participation plan on November 8, 2004. A copy of that plan is included as Appendix I. Following adoption of this plan, Varnamtown will implement the following to ensure adequate citizen participation:

- ▶ The town will encourage public participation in all land use decisions and procedure development processes and encourage citizen input.
- ▶ Advertise all public meetings where significant issues regarding the future development of the town will take place. This includes discussion of new codes and ordinances, as well as proposed infrastructure projects.

APPENDIX I

TOWN OF VARNAMTOWN CITIZEN PARTICIPATION PLAN

PREPARATION OF A WORKBOOK LAND USE PLAN

The Town of Varnamtown is about to undergo the process of developing a Workbook Land Use Plan. Adequate citizen participation in the development of the plan is essential to the preparation of a document responsive to the needs of the citizens of the Town of Varnamtown. To ensure such input, the following citizen participation program will be utilized by the town.

The Varnamtown Town Council will appoint a Land Use Plan Committee (LUPC) to work with the town's planning consultant to ensure that the final product will be a plan suitable for adoption by the town. The committee will include representatives from the Town Council.

Specifically, the planning consultant and the LUPC will be responsible for ensuring accomplishment of the following:

- Develop and adopt the Citizen Participation Plan; conduct public information meeting; and conduct a meeting to identify community concerns, key planning issues, and aspirations. In addition, prepare analysis of existing and emerging conditions.
- Complete analysis of existing and emerging conditions; prepare natural systems analysis and analysis of land use and development (including Existing Land Use Map).
- Prepare community facilities analysis; prepare/review land suitability analysis and map; review existing CAMA plan, ordinances, and policies.
- Complete plan for the future (including future land use map and tools for managing development).
- Submit plan to state/DCM for review; make revisions based on state comments.
- Conduct public hearing; Town Council adoption; submit for CRC certification.

The following schedule will be utilized:

1. October, 2004
 - Conduct public information meeting.
 - Town Council adopt the Citizen Participation Plan.
2. November, 2004
 - Conduct initial meeting with LUPC and review Citizen Participation Plan and process for preparing the land use plan.
 - Conduct town issues identification meeting.

3. November, 2004 to April, 2005 – Prepare preliminary draft land use plan which will include analysis of existing conditions, land suitability analysis, natural systems analysis, and community facilities analysis. Prepare plan for the future including future land use map. Conduct monthly meetings with the LUPC.
4. May, 2005 – Submit draft plan to state/DCM for review.
5. July, 2005
 - Present draft plan to the Town Council.
 - Hold public hearing on plan.
 - Town Council adopt plan.

All meetings of the LUPC and Town Council at which the Plan will be discussed will be advertised in a local newspaper. The public information meeting, town meeting, and public hearing will also be advertised in a local newspaper. In addition, public service announcements will be posted at the Town Hall and other public buildings as directed by the LUPC and Town Council. All meetings will be open to the public. The town will encourage and consider all economic, social, ethnic and cultural viewpoints. No major non-English speaking groups are known to exist in the Town of Varnamtown.

10/5/04

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Appendix II

Agricultural Best Management Practices

I. Crop and Pasture Lands

A. BMPs for Sediment Control

- Conservation Tillage System
- Critical Area Planting
- Diversion
- Field Border
- Filter Strip
- Grade Stabilization Structure
- Grassed Waterway
- Rock-Lined Waterways or Outlets
- Sediment Control Structure
- Sod-Based Rotation
- Stripcropping
- Terrace
- Water Control Structure
- Pastureland Conversion

B. BMPs for Nutrient Control

- Legumes in Rotation
- Soil Testing
- Liming
- Setting Realistic Crop Yield Goals (determines fertilization rates)
- Fertilizer Waste Application (method, rate, and timing)
- Sediment Control BMPs

C. BMPs for Pesticide Control

- Alternative Pesticides
- Optimize Pesticide Formulation, Amount, Placement, Timing, Frequency
- Crop Rotation
- Resistant Crop Varieties
- Other Cultural or Biological Controls
- Optimize Crop Planting Time
- Plant Pest Quarantines
- Proper Disposal of Obsolete Pesticides and Containers
- Certification of Applicators
- Sediment Control BMPs

II. Animal Production (esp. Confined Animal Operations)

BMPs for Bacteria and Nutrient Control

Grade Stabilization and Nutrient Control
Heavy Use Area Protection
Livestock Exclusion
Spring Development
Stock Trails and Walkways
Trough and Tank
Waste Management System
Waste Storage Pond
Waste Storage Structure
Waste Treatment Lagoon
Land Application of Waste
Water Control Structure

Source: North Carolina Department of Agriculture and Consumer Services.