N. Carolina. Coastal Zone Management Program

CALABASH

Town of Calabash

Seafood Capital Of The World

COASTAL ZONE
INFORMATION CENTER

LAND USE PLAN
AND
GROWTH MANAGEMENT POLICIES
1988 – 1998

TECHNICAL ASSISTANCE PROVIDED BY:

TALBERT, COX & ASSOCIATES, INC.
AN ESPEY, HUSTON COMPANY

HD
211
.N8
T6
1989

AL ADOPTION DATE:
APRIL 11, 1989

CRC CERTIFICATION DATE:
MAY 26, 1989

Town of Calabash

Seafood Capital Of The World

U.S. DEPARTMENT OF COMMERCE NOAA
COASTAL SERVICES CENTER
2234 SOUTH HOBSON AVENUE
CHARLESTON, SC 29405-2413

Property of CSC Library

LAND USE PLAN

AND

GROWTH MANAGEMENT POLICIES

1988 – 1998

TECHNICAL ASSISTANCE PROVIDED BY:

TALBERT, COX & ASSOCIATES, INC.
AN ESPEY, HUSTON COMPANY

FEB 1 8 1999

HD211.N8 T6 1989
20175730

LOCAL ADOPTION DATE:
APRIL 11, 1989

CRC CERTIFICATION DATE:
MAY 26, 1989

CALABASH LAND USE PLAN

AND

GROWTH MANAGEMENT POLICIES

1988-1998

PREPARED FOR

TOWN OF CALABASH, NORTH CAROLINA

BOARD OF COMMISSIONERS

Joel Landis High — Keith Hardee

John E. High — Edward Rice

R. Douglas Simmons, Mayor

Janet Thomas, Town Clerk

WITH ASSISTANCE FROM

TALBERT, COX AND ASSOCIATES, INC.

The preparation of this report was financed in part through a grant provided by the North Carolina Coastal Management Program through funds provided by the Coastal Zone Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management of the National Oceanic and Atmospheric Administration.

TOWN OF CALABASH, NORTH CAROLINA
LAND USE PLAN AND GROWTH MANAGEMENT POLICIES
1988-1998

TABLE OF CONTENTS

	PAGE
SECTION I: Analysis of Existing Conditions and Projected Demand	1
I. INTRODUCTION	
A. Background	1
B. Purpose	1
C. Plan Format	2
II. EXISTING CONDITIONS	
A. Population	4
1. Population Composition	6
2. Seasonal Population	6
B. Economy	7
C. Impact of Seasonal Population	8
D. Existing Land Use Analysis	8
1. Current Conditions	8
2. Land Compatibility Problems	11
3. Problems from Unplanned Development	11
4. Areas Likely to Experience Changes in Predominant Land Use	12
5. Areas of Environmental Concern (AEC)	12
E. Current Plans, Policies, and Regulations	14
1. Transportation	14
2. Community Facilities Plans	15
3. Utilities Extension Policy	16
4. Recreation Policy	16
5. Prior Land Use Plans	16
6. Regulations and Enforcement Provisions	17
7. Federal and State Regulations	18
F. Constraints: Land Suitability	19
1. Physical Limitations	19
2. Well Fields	20
3. Slopes	20
4. Fragile Areas	21
5. Areas with Resource Potential	21
G. Constraints: Capacity of Community Facilities	22
1. Existing Water Service Areas	22
2. Sewer Service Area	22
3. Schools	23
4. Transportation	23
H. Estimated Demand	24
1. Population Trends	24
2. Future Land Need	25
3. Community Facilities Needs	25
4. Summary of Trends and Facilities Demand: Policy Issues	28

SECTION II: Policy Statements 30

A. Resource Protection: Estuarine System 31
1. Areas of Environmental Concern 31
2. Areas of Environmental Concern: Ocean Hazard Areas 34
3. Development in Areas with Constraints 35
4. Hurricane and Flood Evacuation Needs and Plans 37
5. Protection of Potable Water Supplies 38
6. Use of Package Treatment Plants 38
7. Stormwater Runoff 38
8. Marina and Floating Home Development 38
9. Industrial Impacts of Fragile Areas 39
10. Development of Sound and Estuarine System Islands 39
B. Resource Production and Management 41
1. Recreational Resources/Fisheries 41
C. Economic and Community Development 42
1. Local Commitment to Providing Services to Development 43
2. Redevelopment of Developed Areas 44
3. Desired Urban Growth Patterns 44
4. Commitment to State and Federal Programs 46
5. Assistance to Channel Maintenance and Beach Renourishment 46
6. Tourism 47
7. Beach and Waterfront Access, and Parking 47
D. Continuing Public Participation Policies 49
E. Calabash Storm Hazard Mitigation, Post-Disaster Recovery, and Evacuation Plan 50

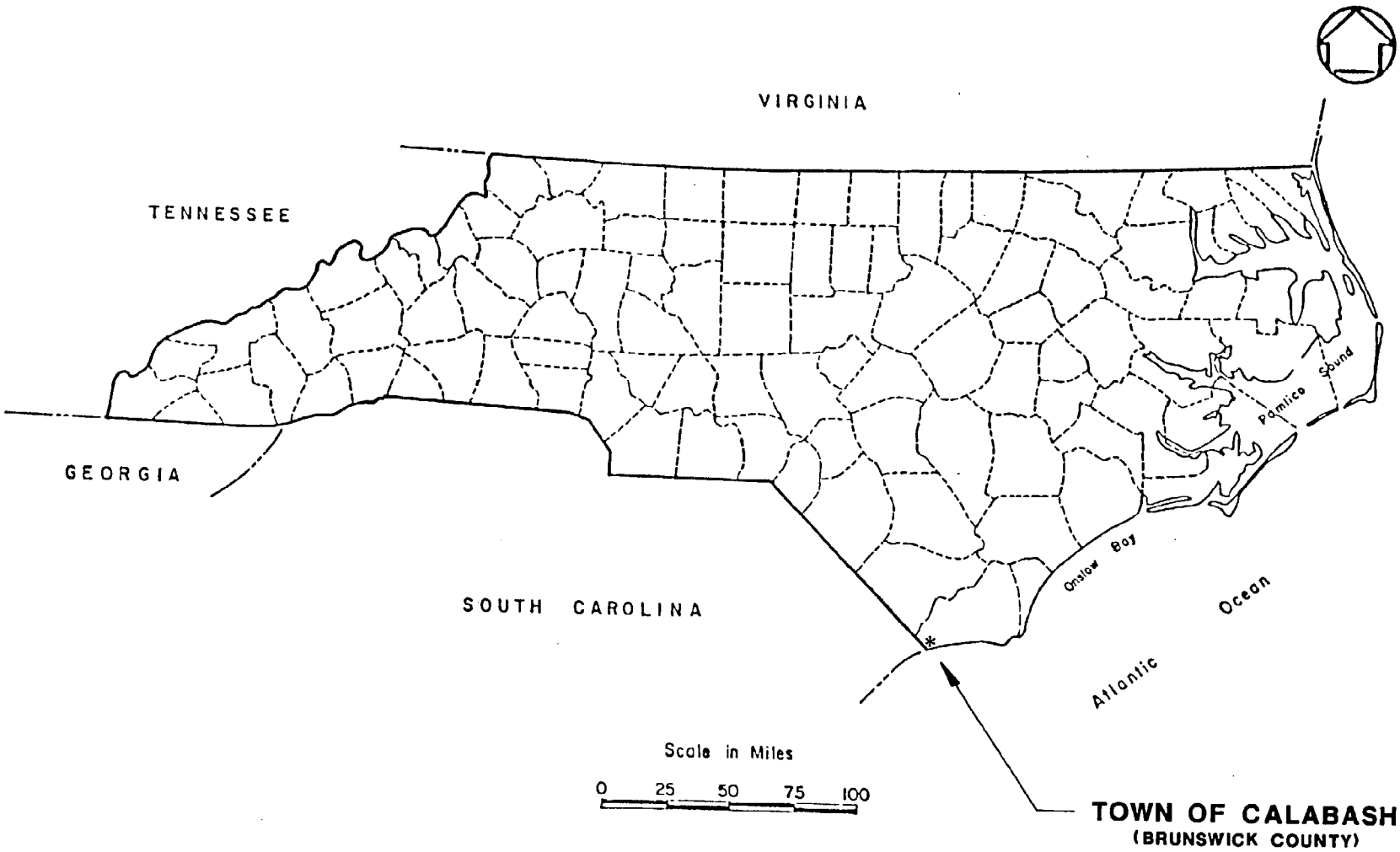
SECTION III: Land Classification System 51

A. Developed 51
B. Transition 52
C. Conservation 53
D. Other Classifications 54
1. Community 54
2. Rural 54

SECTION IV: Relationship of Policies and Land Classification System 55

A. Developed and Transition Classes 55
B. Conservation 55

SECTION V: Intergovernmental Coordination 56



MAP I

Location Map

SECTION I

Analysis of Existing Conditions and Projected Demand

CALABASH LAND USE PLAN

I. INTRODUCTION

A. BACKGROUND

Since the enactment of the Coastal Area Management Act in 1974 (CAMA), all of North Carolina's 20 coastal counties and many of the municipalities within those counties have developed land use plans. Because the law requires each plan to be updated every five years, and since the initial plans were developed in the 1975-77 time frame, nearly all of the earlier plans have undergone two successive rounds of updates. However, the small, but regionally popular, seafood village of Calabash, tucked away in the southeasternmost corner of Brunswick County, has never undergone the CAMA planning process. This document, therefore, represents the first efforts by the Town of Calabash to develop its own "free-standing" coastal management land use plan, including locally adopted policies for managing growth.

B. PURPOSE

All of the North Carolina coast, with its generous endowment of natural beauty--from the gentle ocean surfs and sandy beaches, to the splendid winding waterways and abundant seafood--exists in a uniquely sensitive environment. Increasing permanent populations, the growth in tourism, and ever-expanding residential and commercial development along the coast bears something of a mixed blessing. If poorly or improperly managed, such development threatens the very vital resources, i.e., water, sand, and marine life, which attracted growth and development in the first place. The Coastal Area Management Act, specifically, the "Land Use Planning Guidelines" contained in Subchapter 7B of the North Carolina Administrative Code, as amended, gives coastal local governments the opportunity to develop their own policies for protecting local physical and cultural resources, managing growth, and to plan for the provision of needed facilities and services.

Included within the State's coastal management legislation are specific, statutorily defined, "Areas of Environmental Concern" (AECs), which, due to their fragile nature, require special measures of protection. The Town of Calabash, located somewhat inland, may not be as

affected by the presence of AECs as some beach-oriented communities, but still has valuable resources which need protection and proper management, as well as land-use related issues which must be addressed.

The purpose of this initial land use plan for Calabash is not only to meet all of the required planning elements contained in State guidelines, but also to provide a viable, useful policy document that can form the basis for managing growth and development in this small, but unique, "seafood capital of the world."

C. PLAN FORMAT

In general accord with the CAMA guidelines, but modified as needed to fit the needs of Calabash, this land use plan will consist of four major sections, each with appropriate supportive subsections, as follows:

1. **Analysis of Existing Conditions:** This includes both a "snapshot" of existing population; land use; economy; natural and cultural resources; availability of water, sewer, and other utilities; as well as an analysis of trends which indicate possible future conditions. The future demand for land and services will also be included in this part.

2. **Policy Statements:** After analyzing trends and projected demand, as well as the possible implications for Calabash, specific policy statements, or overall guiding principles on a number of issues, will be presented. This will include all of the areas specified in the CAMA guidelines and other locally identified issues. The policy statements are also based, in part, on direct citizen input which was obtained through the use of a survey questionnaire and public meetings. Along with the statements of policy are specific implementation steps or strategies.

3. **Land Classification System:** All of the land areas within Calabash's jurisdiction have been classified for future uses, in accord with guidelines suggested in the CAMA legislation and which are relevant to the Town. These classifications are also depicted graphically on a "Land Classification Map," which is also an important part of this planning document.

4. **Relationship Between Policies and the Land Classification System:** This is the last major section addressed in the plan and discusses briefly how the policies interact with various uses permitted under each land classification.

Again, this document is expected to provide the Town of Calabash with a useful policy document that addresses all of the required CAMA planning guidelines and serves as a growth/development management tool for the Town's future over the next five years.

II. EXISTING CONDITIONS

A. POPULATION

The beginning point of analysis for a land use plan is the population. Nearly all of the other planning elements depend on the number and geographic location of people.

The Town of Calabash was formally incorporated in May 1973, and, therefore, did not make an appearance in the U.S. Census of Population until 1980. Although the year-round population has historically been very small--starting with 136 in 1973, and showing only 140 in the 1980 Census--the real "population" impact upon Calabash is substantially higher. There are two reasons for this. First, the widespread notoriety of the Town's seafood restaurants attracts thousands of tourists each year from both Carolinas. However, unlike most tourists to coastal destinations, most of Calabash's tourists come primarily to enjoy its fine restaurants. More information on the impact of the seasonal population influx will be presented later. The second major factor in the population impact upon the Town of Calabash is the substantial residential development outside of the Town limits, but within the one-mile extraterritorial jurisdiction. This factor will also be discussed later in greater detail.

Notice the population trends within the Town limits of Calabash, as shown in Table 1, which follows.

TABLE 1: Calabash Population Trends, 1973-1988

Year	Population	-----Change----- Number	Percent
1973	136	--	
1980	140	4	2.9
*1987	212	72	51.4
*1988	221	9	4.2
1973-1988	--	85	62.5

Source: U.S. Census; Town Clerk's Office, Brunswick County Planning Department
*Estimates provided by County Planning Department

Within the Town limits proper, the population of Calabash has grown rather modestly during the 15 years since its formal incorporation as a legal municipality. However, this modest numerical gain was at a respectable compounded annual rate of 3.3% for the 15-year period. But

the population story, as indicated above, goes far beyond the corporate limits of Calabash. In recent years, Brunswick County has been one of the fastest growing counties in North Carolina--growing by 52% from 1980 to 1987. The Shallotte Township, which includes Calabash as well as the ocean-beach towns of Ocean Isle Beach and Sunset Beach, grew at even a more phenomenal rate over the same seven-year period. From 1980 to 1987, the Shallotte Township nearly doubled in year-round residents--growing from 6,542 to 12,141 persons--a total increase of 86%, or at a yearly compounded average rate of 9.2%. It should be noted that most demographers consider an annual average growth rate of 2% per year to be favorable.

According to the 1987 Brunswick County Land Use Plan Update, most of the growth took place in the unincorporated parts of the County, outside of the corporate limits of existing municipalities. This phenomenon has had a significant impact upon Calabash.

In 1978, a large mixed-use development (but primarily single-family residential), known as Carolina Shores, was begun in Calabash's extraterritorial jurisdiction. Today, this development represents the largest single development in the Town's extraterritorial area, although there are 10 other significant residential developments in this area. (It should be noted that residents of Carolina Shores have sought to incorporate into a separate municipality, but, to date, the efforts have not been successful.) The impact and potential impact of populations from the extraterritorial area is illustrated by the fact that of a combined total of 861 developed residential lots within both the Town proper and the extraterritorial area, only 94, i.e., 11%, are located within the existing Town limits.

According to the "Summary Tape File 3-A" of the U.S. Census of Population and Housing for 1980, the average household size in Calabash was 2.33 persons per household. The 1980 Census also indicated a vacancy rate of 9%, i.e., 91% occupancy. However, Town officials expressed a belief that the occupancy rate has been increasing along with the expansion of the housing supply. Assuming the 1980 average household size could be applied to Calabash's extraterritorial jurisdiction and assuming a current occupancy rate of 96% in this area (i.e., 4% of all units being vacant), then the estimated population of the extraterritorial jurisdiction is as shown in Table 2, which follows.

TABLE 2: 1988 Population Estimate - Calabash's Extra-territorial Jurisdiction

No. Dwelling Units:	736	(767-96%)
Average Household Size:	2.33	
Estimated Population:	1,715	
Calabash Population:	221	
Total Jurisdictional:	1,936	

Source: 1980 U.S. Census; Field Surveys and Calculations, Talbert, Cox & Associates, Inc.

Table 2 points out clearly the impact of the extraterritorial population of Calabash--mainly that nearly 90% of the people within its jurisdiction live outside of the current Town limits. This factor may have serious implications for the Town's annexation policies. However, this will be examined in the Policy Statements section of this plan.

1. **Population Composition**

The 1980 Census reported that all--100%--of the residents within the Town limits of Calabash were white. There were no racial minorities reported as living in the Town. This is not true today, since there are racial minorities in both the Town limits and in the extraterritorial area.

The 1980 Census also reported that 79, or 56%, of the then 140 persons were under the age of 30 and that 53% of the population was female. At that time, 58% of the female population was under 30. Although it will take the 1990 Census to verify any assumptions, it is likely that with the growth of residential developments in the extraterritorial area, more retirees are locating in the general area, indicating an aging population. The 1980 Census also reported a total of 27 school-aged children, i.e., from kindergarten through high school.

2. **Seasonal Population**

Calabash, unlike beachfront communities, does not have a preponderance of hotels, cottages, or condominiums which could greatly increase its "resident" population during the summer. There is only one small, eight-unit motel in the Town. However, the Town is literally flooded with thousands of "day visitors" each year who may be spending vacations in places from North Myrtle Beach to Holden Beach, but

who pilgrimage to the small "Seafood Capital of the World" in search of the delicious bounty from the nearby ocean and water courses. Most visitors come only to eat at one of the many seafood restaurants and/or browse and shop at one of several souvenir and gift shops. It is virtually impossible to estimate how many visitors flow through the Town on any given day during the tourist season, but the numbers are quite substantial.

B. ECONOMY

Unquestionably, the tourist-oriented seafood restaurant business is the economic base of Calabash. In a list of 27 businesses within the Town limits obtained from the Town Hall, 18, or 67%, were restaurants. Other businesses include the small motel, souvenir and gift shops, convenience stores, and real estate offices. There is also a "wacky" golf recreation facility adjacent to the Town limits. It should be noted that there are a number of businesses located outside of the "technical" Town limits, including restaurants. (See Table 3 on the following page, which lists some of these businesses.)

Residential land development in the extraterritorial jurisdiction is also an important element in the Town's economic picture. However, most of this development lies outside of the Town's taxing jurisdiction, which is a matter to be considered in the policy discussion. Ordinarily, an examination of the assessed valuation of property indicates the economic impact of building and development upon an area. Table 4, which follows, shows the amount of assessed valuations, i.e., the Town's taxable base.

TABLE 4: Calabash's Assessed Valuations, 1982 to 1987

Year	Assessed Valuation	% Change
1982	6,017,527	--
1983	6,290,020	4.50
1984	7,055,239	12.20
1985	7,832,589	11.00
1986*	16,293,350	108.00
1987**	16,236,584	- 0.35

Source: Town Clerk's Office
*Year of Revaluation
**Loss of personal property valuation, and two businesses burned down

TABLE 3: Businesses in Calabash

1. A & B Convenient Mart
2. Calabash Seafood House
3. Capt. Nance Restaurant
4. Eastside Restaurant
5. Larry's Seafood Barn
6. Beck's Seafood Restaurant
7. Farmer's Daughter Country Kitchen
8. Calabash Seafood Hut
9. Island House South
10. Ella's Restaurant
11. Llewelyn & Lewis Builders
12. Bennett's Seafood Kitchen
13. Calabash Motel
14. Dockside Seafood House
15. T/A Trawlers
16. High's Seafood Market
17. Original Calabash Restaurant
18. Calabash Beverage Mart
19. Sea Cruiz, Inc.
20. Moore's Grocery
21. Tony's Pizza
22. Tony's Kwik Mart
23. Captain Johns Seafood House
24. Haley's Restaurant
25. Simmons Beverage Mart & Grocery
26. Thomas's Seafood Restaurant
27. Captain John's Riverside Restaurant

Source: Town of Calabash

C. IMPACT OF SEASONAL POPULATION

Although the average visitor to Calabash does not stay for long periods of time, the impacts upon the Town are typical to that of similar communities hosting many "day visitors." There is increased demand for water and sewer services since all of the restaurants are busy. Since June 1988, Calabash has had access to the Brunswick County centralized water system. Some businesses within the Town, however, have had access to the County water system since 1983. Although most residents and businesses can now take advantage of centralized water services, only a few have actually connected onto the system. Prior to the initiation of the County water service to Calabash, some businesses and residents still used private wells and septic tanks. However, there are no immediate or long-range plans for the provision of centralized sewer service within Calabash.

Another significant seasonal impact upon Calabash is the demand for solid waste disposal services. During the off-season, trash collection is twice per week for residences and businesses. However, during the tourist season, business trash collection must be conducted seven days per week. The Town currently contracts with a private solid waste firm for trash pick-up and disposal.

Traffic congestion and increased demand for parking are other seasonal impacts of major concern in Calabash. However, none of the seasonal impacts are currently perceived as causing insurmountable problems.

D. EXISTING LAND USE ANALYSIS

1. Current Conditions

The actual land area within the Town limits of Calabash is relatively small, consisting of about 240 acres (including areas recently annexed). However, the extraterritorial area is substantially larger. The Town of Calabash proper is located on the banks of the Calabash River, which begins in Brunswick County and runs west, then southward into Horry County, South Carolina (see Map 2, attached).

a. **Residential:** Residential uses, primarily single-family conventional units, but also a significant number of mobile homes, are the predominant land use in Calabash's jurisdiction. Most of the land in both the Town limits and the extraterritorial area has been platted and subdivided into building lots, although a number of these lots are vacant. However, within the Town and in the extraterritorial area, there are

several large, unsubdivided vacant tracts of land. These individual tracts range in size from 17 acres to over 240 acres, for a total of 934 acres of unsubdivided, unplatted lands. As will be discussed later, however, some of this land is wooded and may be affected by poor soils or the 100-year flood zone. These factors inhibit, to some degree, the area's overall development potential. The number of platted lots, both developed and vacant, is also substantial in both the Town limits and in the extraterritorial area. Notice Table 5, which follows, and the attached Existing Land Use maps.

TABLE 5: Calabash Land Use Summary - Lot/Parcel Count

Type of Use	Town Limits	ETA	Total
Residential*	159	2,346	2,505
Commercial	50	43	93
Government and Institutional	4	1	5
Total	213	2,390	2,603

Source: Windshield Surveys, Feb.-March 1988, Talbert, Cox & Associates
Town Clerk's Office
*Includes vacant lots, all of which are, for planning purposes, assumed to be residential

The overwhelming majority of the platted lots in the Town's overall jurisdiction--both vacant and developed--are located in the extraterritorial jurisdiction. The assessment of vacant platted lots, in terms of location, provides a strong indication of potential land development trends in the area. Notice Table 6, below.

TABLE 6: Vacant Platted Lots in Calabash's Jurisdiction

	Town Limits	ETA	Total
Vacant Lots	65	1,579	1,644
Developed Lots	148	811	959
Total	213	2,390	2,603

Source: Field Surveys, Talbert, Cox & Associates

Table 6 shows that 1,644 of the existing 2,603 platted lots are yet undeveloped, i.e., 63%. The potential for future residential development and subsequent population increases--especially in the extraterritorial area, is quite substantial.

Within the extraterritorial areas, there are several major residential developments proposed or under discussion within the Town. The patterns and trends for continuing residential development are strong. Notice the building permit trends for Calabash's jurisdiction from 1982 (which is the year the Town began issuing its own building permits) through 1986.

TABLE 7: Building Permit Trends, 1982-1986

	---Town Limits---				-------ETA-------				
Year	S.F.	M.F.	M.H.	C	S.F.	M.F.	M.H.	C	Total
1982	-	-	-	-	6	-	1	4	11
1983	-	-	-	-	66	126	13	6	211
1984	-	-	-	-	94	-	15	7	116
1985	8	5	6	3	56	-	21	2	101
1986	4	-	2	-	43	-	33	-	82
1987	2	-	2	-	50	-	38	-	92
Total	14	5	10	3	315	126	121	19	613

Source: Town Clerk's Office

Considering the amount of vacant developable land in the extraterritorial area, if water and/or sewer is available, then the recent building trends will likely continue throughout the current planning period, i.e., 1988-1998.

b. **Commercial Land Uses:** Most of the commercial activities are located within the Town limits of Calabash and consist primarily of restaurants. There is strip-commercial development along N.C. Highway 179, which is the main thoroughfare running through the Town, extending beyond the Town limits. Most of the restaurants are located along the two local streets which run south of N.C. 179 toward the Calabash River, i.e., Riverview Road and Ivey High Road. Table 5, presented above, showed that currently there are 93 commercially utilized lots within the Town's entire jurisdiction.

c. **Government and Institutional:** There is a total of five lots currently utilized for governmental and/or institutional purposes, including the Town

Hall, Volunteer Fire Department, a fraternal lodge, and two churches.

d. **Recreational:** There are no public recreational lands within Calabash's jurisdiction. Private recreation facilities include the extensive system of golf courses developed for Carolina Shores, the commercial "Wacky Golf" establishment on N.C. 179 adjacent to the Town limits, and the golfing establishments of Marsh Harbour and The Pearl, located outside the extraterritorial area of Calabash.

2. Land Compatibility Problems

In the conventional land use planning concept, a land compatibility problem is generally identified when two or more land use types are adjacent to each other and one is somehow restricted from expansion because of adverse conditions caused by the other use or uses, thus possibly discouraging additional investment. This concept also extends to include a mixture of uses, such as residential, commercial, industrial, etc., which are not compatible with each other. Most of the development within the Calabash Town limits was completed without the benefit of enforced land use controls or regulations such as zoning, and there are instances where homes are next to businesses. This is not as true in the extraterritorial area, where the large Carolina Shores development was done under the guidance of deed restrictions and restrictive covenants. However, Calabash did adopt a zoning ordinance in 1982, which, if consistently enforced, should help to prevent serious incompatibility problems from recurring during the period covered by this initial land use plan. It should be noted, however, that the zoning ordinance is not consistently enforced in either the Town or the extraterritorial jurisdiction.

3. Problems from Unplanned Development

Although Brunswick County enforces subdivision regulations in the area outside of Calabash and Calabash has its own zoning ordinance, the regulations in both ordinances are not strongly prohibitive to certain types of development. For example, mobile home parks or double-wide modular developments could theoretically be placed next to a medium to large lot single-family conventional development. The Town does recognize that it could benefit from having and enforcing its own subdivision regulations. Another problem from unplanned development is that Calabash did not anticipate the extensive development taking place in the extraterritorial area, but outside of the Town limits. There are more people and houses in the extraterritorial area than in the Town by far,

and without any policies on annexation, the Town could theoretically become an "island," surrounded by developments and land uses over which it can exercise little regulatory control.

Preservation of the Calabash River and provision of waterfront access, as well as control of waterfront development, is also a potential problem from unplanned development. Other problems, to varying degrees, include growing demands for water, sewer, adequate parking, solid waste disposal, and public recreational facilities.

4. <u>Areas Likely to Experience Changes in Predominant Land Use</u>

The areas within the Town's current jurisdiction likely to experience changes in predominant land use during the planning period are those areas which are presently vacant, both in the Town's limits and in the extraterritorial area. As previously mentioned, there are several large tracts of developable land in the Town's jurisdiction (including land on both sides of the Calabash River) which will likely experience some development during the planning period. (See Map 2, attached.)

5. <u>Areas of Environmental Concern (AEC)</u>

Since one of the primary aims of the State's Coastal Area Management Act (CAMA) is to protect the sensitive coastal environment, the law contains statutorily defined Areas of Environmental Concern (AECs) which must be considered during the planning process. The AECs for the Town of Calabash come under the Estuarine System category and are defined as follows:

a. **Coastal Wetlands**, which are defined as any salt marsh or other marsh subject to regular or occasional flooding by tides, including wind tides (whether or not the tide waters reach the marshland areas through natural or artificial water sources), provided this shall not include hurricane or tropical storm tides. Coastal Wetlands also contain certain marsh plant species. In Calabash, Coastal Wetlands occur almost exclusively along portions of the immediate shoreline adjacent to the Calabash River. The most substantial amount of wetlands appears to be located on the southern bank of the river. Some of these areas are important because the marsh contains the high productivity of fish and shellfish and

the complex food chains which are typically found in the estuaries.

b. **Estuarine Waters** are defined as "all the water of the Atlantic Ocean within the boundary of North Carolina and all the water of the bays, sounds, rivers, and tributaries thereto seaward to the dividing line between coastal fishing waters and inland fishing waters" (N.C.G.S. 113A-113(b)(2). The Estuarine Waters are very important for a number of reasons, mainly because they serve as the birthplace and nursery areas of many species of fish and shellfish. Estuarine Waters support the valuable commercial and sports fisheries of the coastal area which are comprised of estuarine-dependent species such as menhaden, flounder, shrimp, crabs, and oysters. These species must spend all or some part of their life cycle within the Estuarine Waters in order to mature and reproduce. The Estuarine Waters within Calabash's jurisdiction include the Calabash River and any of its tributaries in that area. It should be noted here that the current water quality classification for the Calabash River is "SA," which is the highest level of protective classification by the N.C. Division of Environmental Management. This classification, theoretically, protects the water for shellfishing. In actuality, however, according to the N.C. Division of Marine Fisheries, the Calabash River has been officially closed for shellfishing for several years. The reason for such closure is degraded water quality through high fecal coliform counts. Septic tank leachate is one of the suspected contributors to this problem.

c. **Public Trust Areas**, which are sometimes partially defined as all waters of the Atlantic Ocean and the land 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 mark; all navigable natural bodies of water and land thereunder to the mean high water level or mean water level, as the case may be. Public Trust Areas are used for both commercial and recreational purposes. Current regulations define that in Calabash, only the Calabash River and tributaries are Public Trust AECs. These areas possibly support recreational uses such as swimming, boating, water skiing, and sportsfishing, as well as commercial fishing.

d. **Estuarine Shorelines** are defined as 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 for a distance of 75 feet inland. These areas are significant because development within the shorelines can influence the quality of estuarine life and can be subject to the damaging process of shorefront erosion and flooding. The shorelines of the Estuarine Waters, i.e., both the north and south banks of the Calabash River, described on this page, and 75 feet landward are the Estuarine Shorelines in Calabash.

Other Areas of Environmental Concern include the Ocean Hazards Areas category, which are those areas considered to be natural hazard areas along the Atlantic Ocean shoreline where, because of their special vulnerability to erosion or adverse effects of sand, wind, and water, uncontrolled or incompatible development could be hazardous. Ocean hazard areas include beaches, frontal dunes, inlet lands, and other areas in which geologic, vegetative, and soil conditions indicate a substantial possibility of excessive erosion or flood damage. There are no Ocean Hazards AECs in Calabash's jurisdiction, since it is not an oceanfront community.

E. CURRENT PLANS, POLICIES, AND REGULATIONS

The Town of Calabash has no previous land use plans and most of the regulatory controls affecting the Town's jurisdiction are imposed by County, State and Federal agencies. A review of these plans, regulations and policies are included below:

1. Transportation

The Town of Calabash is included in the most recent thoroughfare plan for Brunswick County prepared by the N.C. Department of Transportation, Planning and Reasearch Branch. The Brunswick County Throughfare Plan, 1988, was officially adopted by Calabash on September 28, 1987. The document lists a number of deficiencies and proposed improvements for a number of roads and bridges in the County. However, except for a small segment of Thomasboro Road (S.R. 1165), no other improvements are proposed for Calabash or its extraterritorial jurisdiction.

Within the Town limits, most of the streets are paved and are state-maintained. The Town does, however, receive a

small allocation of Powell Bill funds annually, which it utilizes for the maintenance or repair of some streets within the Town limits on an "as needed" basis as the funds permit. The Town does not have a local road improvement plan. It should be noted that during the peak tourist seasons, traffic back-ups along Highway 179 through the Town and to U.S. 17 at the South Carolina border are quite common. Except for occasional turning lanes, Highway 179 consists of only two lanes all the way through the Town.

2. <u>Community Facilities Plans</u>

a. **Water:** Until June 1988, Calabash did not have centralized water within the Town limits. Throughout the previous years, businesses and residences alike relied on private wells for water. However, in June 1988, the Town began purchasing water from the Brunswick County Water System, as several other nearby communities, e.g., Sunset Beach and Ocean Isle Beach, had been doing. However, there are still some private wells in use. Although Brunswick County has set no cap or limit on the amount of water Calabash can receive, the distribution conduit for all of the communities cited above is one single 12-inch line. This could become a constraint in the future.

In the extraterritorial area, however, the large Carolina Shores development and other emerging subdivisions and developments have had access to centralized water for several years from a private utility. Carolina Blythe Utilities, which is based in Florence, South Carolina, has a water plant in the Town's extraterritorial jurisdiction with a current capacity of 360,000 gallons per day (gpd). The current peak usage is 75,000 gpd, so there is ample excess capacity. In addition to serving all of Carolina Shores (460 current residences out of 1246 total lots), the private utility has committed itself to serving several new and proposed residential developments in Calabash's extraterritorial jurisdiction, including the Village at Calabash, Saltaire Village, and Marsh Harbour. According to officials with the utility company, the company has the capacity to serve all of the developing extraterritorial area, since it possesses expansion capacity.

a. **Wastewater Treatment Plans:** Calabash was included in a 1978 201 Facilities Plan for southeast Brunswick County. This plan, which showed a proposed wastewater treatment plant using land application methods, has never been implemented for Calabash. During 1985, meetings between the Town, area developers, and businessmen were held to discuss the feasibility of providing centralized sewer service to the area

between Sunset Beach, Ocean Isle Beach, and Calabash. The Lower Cape Fear Water and Sewer Authority acted as lead agency in these discussions. Although a feasibility study was prepared and presented by a consulting engineering firm, no action has been taken. Calabash still relies on ground absorption systems, i.e., septic tanks, for all sewage disposal with the Town limits. Septic tank placement is regulated by the Brunswick County Health Department.

Within the extraterritorial area, however, as with the private water system, the same private utility provides centralized sewer service to Carolina Shores with the potential to serve other areas as well. The Town of Calabash has had discussions in the past with private utility companies regarding sewer services; however, plans have not yet been finalized. In addition to Carolina Blythe Utilities Company, several new developments in the extraterritorial area are proposing to develop package treatment plants.

3. **Utilities Extension Policy**

As noted above, Calabash began receiving water from the Brunswick County System in June 1988. As of the writing of this report, the Town has not developed any definitive water extensions policies. Also, as noted, the Town does not have centralized sewer services and therefore, no extension policies.

4. **Recreation Policy**

Calabash does not have any public recreation facilities within its jurisidiciton. There are several private golf courses in the extraterritorial area (existing and proposed) and one mini-golf facility, but no other significant recreational facilities. Presently, the Town does not have any formal or informal recreational policies.

5. **Prior Land Use Plans**

This current Land Use Plan for Calabash is the Town's first attempt at developing its own land use plan. In both 1976 and 1981, the Town was included as part of Brunswick County's Plans. However, in 1975, Calabash received assistance from the Wilmington office of the North Carolina Department of Natural and Economic Resources, Division of Land Use Planning and Management Assistance, to develop an issues, objectives, and policies paper. The brief report (two and one-half pages long), titled "Existing Problems, Issues, Future Policies, and Objectives," contained listings of recognized problems, needed community services and facilities, and

future growth policies. The report was adopted November 3, 1975, by the Town Board of Commissioners.

The Town officials determined in 1987 that it would be in the best interest of Calabash to formulate its own land use and land development policies, partly because of increasing development within the extraterritorial area. Unlike the 1975 policies and objectives paper, the previous County Plans did not contain specific, detailed policies for Calabash.

6. Regulations and Enforcement Provisions

a. **CAMA Permits:** Because of its proximity to the Calabash River, a significant amount of new development is regulated by the CAMA permit process. Local permits are handled by either the Brunswick County Planning Department or the Wilmington office of the Division of Coastal Management. The Areas of Environmental Concern which were described in the preceding section i.e., coastal wetlands, estuarine waters and shorelines, and public trust areas, are areas which need protection. Enforcement of the CAMA permit processes is a principal means for that protection.

b. **Zoning Ordinance and Zoning Map:** Calabash adopted a Zoning Ordinance and Zoning Map in September, 1982. The Ordinance initially established six use districts (three for residential uses, one for commercial uses, a "conservation" district, and an agricultural district). However, the Town has only enforced provisions of two of these six districts, i.e., R-15 residential and general business and the enforcement has been limited to the Town limits only, thus excluding the extraterritorial area. The Zoning Map also shows some land area zoned Agricultural. A minimum of 15,000 square feet lot area is required for the R-15 zone, subject to septic tank approval by the Brunswick County Health Department. This ordinance, since it is only partly enforced is somewhat confusing, especially since most of the growth and development is occuring outside of the Town limits. Since zoning can be an effective land development tool, the Town recognizes the need to reconsider its provisions and/or revise the existing ordinance. Also, there is some inconsistency between the Town's description of its extraterritorial jurisdiction and the County's.

c. **Subdivision Regulations:** The Town of Calabash does not enforce its own subdivision regulations. In the early 1980s, however, the N.C. Division of Community Assistance prepared a draft ordinance for the Town. The ordinance was not adopted. The extraterritorial area, however, is currently covered by the County Subdivision regulations. The County regulations have

minimal design standards. With all of the growth occuring in its jurisdiction, the Town recognizes the need to consider adoption of its own subdivision regulations.

d. **Septic Tank Regulation:** Currently, septic tanks provide the only wastewater treatment system within Calabash's town limits. There are both limited centralized sewer service and some proposed package treatment plants in the extraterritorial area. Septic tank installation is regulated by the Brunswick County Health Department. Each application is followed up with a site evaluation by a County Sanitarian, who determines suitability. If the lot or property is determined to be suitable for septic tank installation, a permit is granted. This practice will continue unless at some point, all of the Town's jurisdiction is served by centralized sewer.

e. **Flood Damage Prevention Ordinance:** Calabash, unlike most other communities in Brunswick County, did not participate in the emergency phase of the Federal Flood Insurance Program in the 1970s. However, as of February 4, 1988, with the publishing of final Flood Insurance Rate Maps by the Federal Emergency Management Administration, the Town entered the regular phase of the program. Base flood elevation in the Town is classified "A-E" and is 13 feet, all located along the Calabash River. The Flood Ordinance is enforced as part of the Town's building permit program and reviewed by the Building Inspector. (See Map 3, attached.)

f. **Sign Ordinance:** Provisions for a sign ordinance, which regulates the placement of all signs in the Town are contained within the previously mentioned Town Zoning Ordinance. This is designed to enhance and maintain the Town's aesthetics, as well as protect property values. However, the sign provisions, like other parts of the Ordinance, do not appear to be strictly enforced.

7. **Federal and State Regulations**

In addition to the local ordinances and County regulations listed and described above, there are various State and Federal regulations which could also affect land development in Calabash. The most notable is the "404" Permit Process, for areas classified as "404 Wetlands" and which is administered by the U.S. Army Corps of Engineers.

F. CONSTRAINTS: LAND SUITABILITY

As noted in the discussion of Existing Land Uses, there is still a considerable amount of undeveloped land in both Calabash's Town limits and the extraterritorial area which might have future development potential. However, the Town recognizes the importance of being aware of existing physical limitations to development. Physical limitations are important to recognize, both from the standpoint of guiding land use decisions and in protecting the health, safety, and welfare of the general public. Below is a discussion of the physical limitations to development in Calabash's jurisdiction.

1. Physical Limitations

The only natural hazard areas in Calabash are basically the same as the AEC's described and discussed previously and the Flood Hazard Area (see Map 3, attached, "Composite Hazards," which also shows the 100-year flood area). These areas to some extent do present physical limitations to development in Calabash. Although erosion has not been a particularly severe problem in Calabash, poor surface drainage does cause problems occasionally -- especially after unusually heavy rains.

Soil types which are not conducive for structural foundations and/or septic tank placement can also present physical limitations to development. According to the 1986 report, Soil Survey of Brunswick County, all of the 17 soil types which occur within Calabash's town limits and in the extraterritorial area, have severe limitations for septic tank placement and/or heavy structural foundations, except one. This soil type, Blanton, occurs within the Town limits and has significant areas to the immediate east and west of the Town limits (See Map 3, attached). The 17 soil types and their general suitability for septic tanks and building foundations are listed below:

TABLE 8: General Soils Limitations in Calabash

SOIL SERIES	SEPTIC TANK SUITABILITY	STRUCTURAL* FOUNDATIONS
Rains	Severe	Severe
Goldsboro	Severe	Moderate
Leon	Severe	Severe
Kureb	Severe	Slight
Blanton	Moderate	Slight
Tomahawk	Severe	Moderate
Muckalee	Severe	Severe
Mandarin	Severe	Moderate
Murville	Severe	Severe
Torhunta	Severe	Severe
Baymeade	Severe	Moderate
Pantego	Severe	Severe
Lynchburg	Severe	Severe
Wando	Severe	Slight
Bohicket	Severe	Severe
Pactolus	Severe	Moderate
Fireston	Severe	Slight

Source: Soil Survey of Brunswick County, N.C., USDA Soil Conservation Service, November, 1986
* Buildings without Basements

According to Soil interpretation records, 16 of the 17 types have severe limitation for septic tank placement, and five have limitations for structural foundations. However, these general declarations of limitations do not mean that sites within those areas are absolutely unsuitable. The Soils Survey report points out that individual on-site investigations must be conducted to determine final suitability. A sanitarian with the Brunswick County Health Department stated that no general areas in Calabash's jurisdiction had presented any severe problems with septic tank placement. Reports of septic tanks difficulties are rather isolated, he added.

2. **Well Fields**

Although there are still some private wells in Calabash, the Town's primary source of water, as of June 1988, is the Brunswick County water system, and the balance of the area has access to privately provided water. The remaining wells in Calabash pose no physical limitations to development.

3. **Slopes**

There are no areas where the slope exceeds 12 percent in Calabash's jurisdiction.

4. Fragile Areas

These are areas which could easily be damaged or destroyed by inappropriate or poorly planned development. Again, in Calabash, the fragile areas coincide with the previously mentioned Areas of Environmental Concern. These areas are described in part of this section and are summarized below:

- Coastal Wetlands: Some of the marsh areas adjacent to both sides of the Calabash River, are considered Coastal Wetlands.

- Estuarine Waters: This includes primarily the Calabash River and related tributaries. (See discussion on existing water quality in Section 5.6, page 13.)

- Public Trust Areas: According to current regulations, all of the estuarine waters are the Public Trust Areas of Calabash.

- Estuarine Shorelines: This applies to the shorelines and 75 feet inward from the Estuarine Waters noted above.

Calabash does not contain any of the following fragile areas: complex natural areas; areas that sustain remnant species; areas containing unique geologic formations; registered natural landmarks; wooded swamps, prime wildlife habitats; or scenic or prominent high points. However, within the Town limits, there is one historic property listed on the National Register of Historic Places, i.e., the Hickory Hall Plantation House. Consultations with the N.C. Division of Archives and History indicate that there are 15 archaeological sites within the general vicinity of Calabash. As a general policy, the Town does support the preservation of historic and archaeological resources. In addition, the Town will consider the establishment of an "Historic District" in the area of the Hickory Hall Plantation House.

5. Areas with Resource Potential

There is a significant amount of agricultural land within Calabash's extraterritorial jurisdiction. There are none of the following in the Town's jurisdiction, potentially valuable mineral sites; publicly owned forests, parks, fish, and wildlife gamelands; or non-intensive outdoor recreation lands (besides the golf courses), or privately-owned wildlife sanctuaries. However, the Calabash River and estuaries near Calabash are considered to be important breeding areas for both finfish and shellfish.

Calabash River is still considered to be important commercial fishing waters. Also, the golf courses can be considered areas with resource potential which pose physical limitations for those particular tracts of land.

G. CONSTRAINTS: CAPACITY OF COMMUNITY FACILITIES

1. Existing Water Service Areas

Since the Town has become a customer of the Brunswick County Water System, and the private utility outside of the Town appears to have excess capacity, the provision of water may no longer be a constraint to further development. According to the Brunswick County Water Department, the County plans to double its pumping capacity to the Ocean Isle Beach-Sunset Beach-Calabash area, within the next five years.

It is unlikely that limited water supplies will pose a constraint to development throughout the period covered by this plan, i.e., 1988-1998. The Brunswick County water system is proposed to eventually make centralized water available to the entire County. Presently, a little less than half of the County is served. The County's current water treatment plants can provide up to 24 million gallons of water per day (MGD), whereas during the peak month of July 1988, the average daily usage was 11.4 MGD, which is about 48% of capacity. Also, there is no "cap" or limits proposed as to how much water Calabash or other communities can purchase from the system. If, by 1998, the daily average per capita water consumption for the "resident" population within the Town limits is 70 gallons per day, and about 13 gallons per day for "day visitors," the peak demand would be about 94,000 GPD. Although the County will have the capacity, there is some concern over the adequacy of distribution mains to the South Brunswick communities.

2. Sewer Service Area

As discussed previously, Calabash does not have a centralized sewer system and is currently served by a ground absorption disposal system, i.e., septic tanks. All septic tanks must be approved by and permits granted from the Brunswick County Health Department. Although the most recent soils analysis reports indicate that most of the general soils classifications in the Calabash jurisdiction area have limitations for septic tank placement, the existing system appears to have worked very well in general. It should be noted also that most of the development is occurring in the extraterritorial area, which has access to private sewer service and/or package

treatment plants. The latter two occurrences help mitigate the soils limitation problem.

3. Schools

The relatively few school-age children who reside in the Town's jurisdiction attend the three schools in Shallotte, which is about 15 miles away. All of the three schools, West Brunswick High School, Shallotte Middle School, and Union Primary, are currently operating near or over capacity levels. If the number of school-age children increases significantly in the Calabash area, then an expansion of school facilities may be needed. This is indicated by Table 9, below:

TABLE 9: Enrollment Levels and School Capacity: Shallotte, N.C.

School	1987-88 Enrollment	Design Capacity	Percent Utilization
W. Brunswick High (9-12)	967	1,000	96.7
Shallotte Middle (4-8)	1,111	1,200	92.5
Union Primary (K-3)	847	810	104.6

Source: Brunswick County Board of Education

However, by and large, residents in Calabash's jurisdiction--especially the newer developments--consist of middle-age adults and retirees, a trend that is likely to continue throughout the planning period.

4. Transportation

The major traffic arteries in Calabash's jurisdiction are N.C. 179, which is the main commercial thoroughfare running through the Town and crossing the state line into South Carolina. The other major access routes in the Town's jurisdiction are S.R. 1167 (Persimmon Road), S.R. 1168 (Calabash Road), and S.R. 1165 (Thomasboro Road). All of these are paved and are maintained by the State Department of Transportation. The design capacities of these roads is indicated by the Brunswick County Thoroughfare Plan, as being adequate to handle present and future traffic volumes (to the year 2005). However, as stated previously, the current two lanes of Highway 179 are often backed up to the South Carolina line during peak seasons.

To summarize the discussion of Constraints, it should be pointed out that it is difficult to separate the major inhibitors of future development in Calabash into categories of "land suitability" and "capacity of facilities" because the two areas of constraint are closely

connected. All of the constraints, however, do form a basis for discussion of issues leading to the formulation of policy alternatives.

H. ESTIMATED DEMAND

1. Population Trends

The demand for housing and other goods and services and the use of public facilities is a direct function of population levels.

As noted in the discussion of the existing population in Calabash, growth in the year-round permanent population appears to be a definitive trend in Calabash's jurisdiction, with this trend being especially pronounced in the extraterritorial area. Within the extraterritorial area, there is more availability of the key ingredients for residential/population growth, i.e., developable land, centralized water, and centralized sewer. However, the pattern appears set, i.e., more residential development in the form of retirement homes and second homes, will take place in the extraterritorial area than inside the Town of Calabash. (Calabash, however, does have access to centralized water within its Town limits through the Brunswick County Water System.) This will mean an even greater population in the extraterritorial area than inside the Town limits.

The following population projections, prepared by Talbert, Cox and Associates, are based on a careful analysis of recent trends in population growth inside Calabash, in the extraterritorial area, in the Shallotte Township, and in the County as a whole. The projected annual rates of growth were selected by Talbert, Cox and Associates.

TABLE 10: Calabash Jurisdictional Population Projections 1988-1998

	1988	5-year Rate	1993	5-year Rate	1998	10-year Change
Town Limits	221	5.0%	282	(5%)	360	139 (63%)
Extraterritorial Area	1,715	9.5%	2,700	(9.5%)	4,250	2,538 (148%)
TOTAL	1,936		2,982		4,610	2,677 (138%)

SOURCE: Talbert, Cox & Associates, with data provided by the Brunswick County Planning Department.

As Table 10 shows, the permanent population is expected to grow steadily, contributing to the demand for land, utilities, and other public services. This projection

does not include the transient "day visitor" population, which should be substantially higher than year-round population during the seasonal peaks. According to the 1987 Brunswick County Land Use Plan, throughout Brunswick County, the "peak day" population was an estimated 152,000 persons. The estimated 1988 population of Calabash's entire jurisdiction is estimated to be 3.5% of the County's 1988 population. If it is assumed that Calabash's "share" of day visitors, although few come to stay more than a few hours in the Town, is proportionate to its permanent population share, then the "peak day" population at Calabash would be 5,320 persons. This projection is important to consider because of the impact upon the demand for parking, solid waste disposal, as well as water and sewer services.

The year-round population projection, however, is important to consider for the above-stated reasons and the demand for land for new residences. For example, if Calabash follows the current national trend of declining average household size, then the 1980 2.33 persons could be down to about 2.0 during the 1990s. At an average household size of 2.0 persons, by 1998, the additional 139 in-town residents will need 70 new dwelling units, while the 2,538 new extraterritorial residents would require 1,269 additional dwelling units. The absence of consistently enforced local land use controls is significant in light of this potential growth.

2. <u>Future Land Need</u>

Calabash, as noted previously, has considerable amounts of undeveloped, but developable, land remaining, especially in the extraterritorial area, with many vacant lots already platted. Tables 5 and 6, page 9 and the "Existing Land Use Map" show that there are a number of vacant, platted lots, as well as vacant, currently undeveloped land. Because of the rather extensive developable land, even without centralized sewer services, the projected 1998 density should pose no difficulties from the standpoint of land availability. For example, in the extraterritorial area, there are currently 1,644 vacant platted lots, but only 1,269 additional dwelling units are forecast as needed. However, inside the Town limits, 70 dwellings are forecast as needed, but there are currently only 65 vacant lots in town. Nevertheless, there are several large, unplatted tracts of land within the current Town limits.

3. <u>Community Facilities Needs</u>

a. <u>Water</u>: With the growth in populations at Calabash will come an increased demand for water services. However, as discussed previously, Calabash, through

its connection with the Brunswick County regional water system, will be able to tap a substantial supply of water to meet peak demands. Currently, the County can pump up to 2 MGD to the Town. At an assumed consumption rate of 70 gallons per day per capita, the 2 MGD could serve a peak population of over 28,500 people. This will be substantially more than enough to meet Calabash's needs for some time to come, without even considering the private water company in the extraterritorial area. The County-wide water system, which is to be completed prior to 1995, is projected to have a total capacity of 30.0 MGD. Although concern has been expressed over the County's simultaneous provision of water to several communities in tourist areas, sufficient water supplies for Calabash should not be a problem during the period covered by this plan.

b. **Sewer:** Centralized sewer service is not projected to be available inside the Town limits of Calabash during the planning period; thus, septic tank systems (as permitted by the County Health Department) will continue to be the primary source of sewage disposal there. To date, no major difficulties have been reported for Calabash. However, during the upcoming planning period, the impact of increasing ground absorption systems should be closely monitored. Centralized sewer and package treatment plants will likely be available in the extraterritorial area.

c. **Solid Waste Disposal:** The Town of Calabash provides its trash collection and disposal service through a private contractor. The refuse eventually ends up in the Brunswick County Landfill. According to the County Landfill Director, at current rates of disposal, the County landfill has a capacity of from 8 to 10 years. The Town has no plans to change its system of solid waste disposal during the planning period.

d. **Recreation:** The nearby oceanfront communities and adjacent waterways, and increasingly so, golf courses, provide the major recreational opportunities for residents and visitors to the Calabash area. Currently, there are no public parks or other Town-provided recreational facilities. Additional public recreational facilities may be needed for the increasing levels of year-round residents and "day visitors." Improved waterfront access and public parking facilities are examples of recognized needs.

e. **Police Protection:** There are no local police officers employed by Calabash. The entire jurisdiction is served by the Brunswick County Sheriff's Depart-

ment. An officer from the Sheriff's Department is assigned to the Calabash general area 24 hours/day. According to the Sheriff's office, a call from Calabash can be answered within 10 to 12 minutes. Although some citizens have voiced concern over the frequency of the Sheriff's patrol within Calabash, there are no present plans by either the Town or County to increase the current level of service.

f. **Fire Protection:** The Town of Calabash is served by a Volunteer Fire Department, which perhaps with the addition of more volunteers, should be adequate throughout the planning period. The Volunteer Fire Department provides fire protection for both the Town of Calabash and a five-mile radius, including the extraterritorial area. The department is well equipped and is housed in its own building adjacent to the Town Hall. The department currently has a 7/9 rating, i.e., with some residents being within 1,000' of a fire hydrant (7), and some beyond 1,000' (9). The equipment consists of two pumper trucks, with capacities of 900 gallons and 750 gallons, respectively; one 2,100-gallon tanker truck; one 280-gallon brush truck; and ladders to meet the minimum State standards. The staffing currently consists of 22 volunteers. If development densities increase, it will be imperative that all access routes be well-planned and clear of potential obstructions, e.g., on-street parking during peak population periods.

g. **Emergency Rescue and Safety:** Emergency medical rescue services are provided by the Calabash Volunteer Rescue Squad. The rescue squad has two ambulances, 14 certified EMTs, three Ambulance Attendants (AAs), and a 24-hour emergency number. This service is in need of more volunteers as EMTs or AAs during the planning period, according to the Squad Director.

h. **Parking Facilities:** Perhaps the most dramatic impact of the projected influx of tourists and day visitors over the next few years relates to public parking. Currently, Calabash does not have any public parking facilities. Restaurants and businesses provide their own customer parking. Unless consideration is given to developing at least some public parking facilities, or other alternatives, serious traffic problems (both vehicular and pedestrian) could result.

i. **Thoroughfare Access:** According to the Brunswick County Thoroughfare Plan, the principal access roads into Calabash appear adequate. In actuality, how-

ever, during the peak tourist seasons, traffic back-ups are a daily occurrence in the restaurant areas and all along N.C. 179 through the central part of Town.

j. **Administrative Services:** Currently, all of Calabash's administrative and personnel matters are co-ordinated by the Town Clerk. The Town also employs a part-time Building Inspector. As the population increases, and especially if the Town annexes areas currently in the extraterritorial area, the administrative service load will also increase. The Town may need to consider employing additional personnel.

4. Summary of Trends and Facilities Demand: Policy Issues

The following statements are presented in summary of Section I of this Land Use Plan for Calabash, analyzing development trends and policy implications for the next 10 years.

- Both the in-town and extraterritorial populations at Calabash have shown increases in recent years and are projected to continue increasing throughout the planning period, especially in the extraterritorial area.

- The resort-tourist based economy of Calabash will increase in strength, contributing to growing tourism revenues in Brunswick County each year. Proposed developments in the extraterritorial area, such as more golf courses, marinas, and hotels, if materialized, will definitely affect the local economy.

- Although residential and some commercial development in the community will continue, it is unlikely that all of the developable land within the Town's current jurisdiction will be developed during the period.

- At current and projected demand rates, water and solid waste disposal capacities will need to increase during the planning period in order to adequately handle "peak" demands, particularly from growing numbers of tourists. However, the issue of adequate water supply has been addressed by the Town via the County water system; sewage service will continue to be handled primarily by ground absorption systems in the Town limits, and by centralized sewer and package treatment plants outside the Town limits in the extraterritorial area.

- Public safety, i.e., provision of adequate police and fire protection needs, will have to be continually

assessed. Internal traffic, both pedestrian and vehicular, as well as public parking provisions will also have to be addressed.

- Although not stated elsewhere in this section, increased development, if unplanned or poorly planned, could easily be detrimental to the natural resources in and around Calabash.

All of the above issues and others, including storm hazard mitigation, and post-disaster recovery, will be addressed in more detail in Section II of this Plan, "Policy Statements."

SECTION II

Policy Statements

II: POLICY STATEMENTS

The formulation of specific policies regarding growth, development, and management objectives is perhaps the most important part of any land use plan prepared under the State's Coastal Area Management Act. Because of regulatory requirements, these policies must often strike a delicate balance between desires and objectives of citizens and a local government such as Calabash and the objectives of the CAMA program, as overseen by the Coastal Resources Commission. Land development policies, which should be based on an analysis of existing conditions and projected trends, serve as general guides for effectuating desired development patterns. The land use policies, ideally, also have important interface with local regulations, such as the zoning ordinance or subdivision regulations, as well as with State and Federal regulations and programs. For example, development permits issued under CAMA must be consistent with the local land use plans. Also, projects supported by State and Federal funds must be consistent with the local land use plans, prior to allowing expenditures. Land Use policies can also provide an indication where and when certain public services should be extended.

Some relevant trends for Calabash's jurisdiction which were identified in Section I of this Plan include: the population of Calabash--especially in the extraterritorial area--is constantly increasing, consistent with overall growth projections for Brunswick County and the Shallotte Township; there will be continued growth in residential and commercial development; additional demands will be placed on public facilities and services, such as solid waste disposal, water, sewer, police and fire protection, and parking, as the permanent population and tourists increase. However, it should be noted that Calabash has taken steps to address water service needs inside the Town by purchasing water from the Brunswick County Regional Water System. Also, a private utility serves a large portion of the current extraterritorial area. Another important trend is the intense development in the extraterritorial area and the lack of enforcement of regulations by Calabash. Water service should be adequate during the period. These are some of the issues which need to be addressed by the Town during the planning period.

The Coastal Resources Commission, recognizing the diversities which exist among the coastal communities, requires the Town to specify particular development policies under five broad topics. In most cases, policies developed under these topics will cover most of the local development issues, but in some cases, they do not. In the latter case, Calabash has the

flexibility to address its own locally defined issues. The five required broad topics are:

- -- Resource Protection
- -- Resource Production and Management
- -- Economic and Community Development
- -- Continuing Public Participation
- -- Storm Hazard Mitigation

After an analysis of the existing conditions and trends and input from the Town's citizens through surveys and public information meetings, the following policies were developed to provide an overall framework for guiding growth and development in Calabash's jurisdiction throughout the next ten years, i.e., 1988 through 1998.

A. RESOURCE PROTECTION: ESTUARINE SYSTEM

1. Areas of Environmental Concern:

Calabash recognizes the primary concern of the Coastal Resources Commission, in terms of protecting resources, is managing Areas of Environmental Concern (AECs). The Town also shares this concern for the protection and sound management of these environmentally sensitive lands and waters. The AECs which occur in Calabash were identified in Section I of this Plan on pages 12 through 14, with these areas occurring only within the Estuarine System category. In terms of developing policies, the Estuarine System AECs, which include Coastal Wetlands, Estuarine Waters, Estuarine Shorelines, and Public Trust Areas, will be treated as one uniform grouping since they are so closely interrelated. Another reason for grouping these AECs together is the fact that the effective use of maps to detail exact on-ground location of a particular area, often poses serious limitations.

Calabash's overall policy and management objective for the Estuarine System is "to give the highest priority to the protection and perpetuate the biological, social, economic, and aesthetic values and to ensure that development occurring within these AECs is compatible with natural characteristics so as to minimize the likelihood of significant loss of private property and public resources" (15 NCAC 7H. 0203). In accordance with this overall objective, Calabash will permit those land uses which conform to the general use standards of the North Carolina Administrative Code (15 NCAC 7H) for development within the Estuarine System. Specifically, each of the AECs within the Estuarine System is discussed below.

a. **Coastal Wetlands:** Coastal wetlands, which are defined as any salt marsh or other marsh subject to regular or occasional flooding by tides, including wind tides (whether or not the tide waters reach the marshland areas through natural or artificial water courses), provided this shall not include hurricane or tropical storm tides. Coastal wetlands also contain certain marsh plant species. In Calabash, coastal wetlands occur generally in the areas adjacent to and on both sides of the Calabash River. Also, smaller amounts of coastal wetlands may occur along the banks of tributaries to the Calabash River. These areas are important because the marsh maintains the high productivity of fish and shellfish and the complex food chains which are typically found in the estuaries. The first priority of uses of land in these areas should consider "conservation" of the sensitive areas, with conservation meaning the lack of imposition of irreversible damage to the wetlands. Generally, uses which require water access and uses such as utility easements, fishing piers and docks, will be allowed, but must adhere to use standards of the Coastal Area Management Act (CAMA: 15 NCAC 7H).

b. **Estuarine Waters and Estuarine Shorelines:** The importance of the estuarine waters and adjacent estuarine shorelines in Calabash was discussed in Section I of this document on pages 13-14. The Town is very much aware that protection of the estuarine waters i.e., Calabash River, and adjacent estuarine shorelines can be important to fishing, both commercially and for recreation, and for the continued maintenance of quality development. Calabash recognizes that certain actions within the estuarine shoreline, which is defined as the area extending 75 feet landward of the mean high waterline of the estuarine waters, could possibly have a substantial effect upon the quality of these waters. The estuarine waters within Calabash's jurisdiction include the Calabash River and connecting tributaries. The adjacent shorelines, up to 75 feet inland, are the estuarine shorelines.

In order to promote the quality of the estuarine waters, Calabash believes the uses should be evaluated as to compatibility with both the estuarine shorelines and the protection of the

estuarine system. Residential, recreational, and commercial uses may be permitted within the estuarine shoreline, after consideration has been given to the following:

1. a substantial chance of pollution occurring from the development does not exist;
2. development does not have a significant adverse impact on estuarine resources;
3. development does not significantly interfere with existing public rights or access to, or use of, navigable waters or public resources.

The Town will also consider the establishment of standards for pier head lines along the Calabash River.

c. **Public Trust Areas:** Calabash recognizes that the public has certain established rights to certain land and water areas. In Calabash, the previously discussed estuarine waters and lands thereunder are all Public Trust AECs. These areas support recreational uses such as swimming, boating, water skiing, and sportsfishing and commercial fishing. These public areas also support tourism and are of significant aesthetic value both of which are important to Calabash being known as the "Seafood Capital of the World". Appropriate uses should include those which protect public rights for navigation and recreation. Projects which would directly or indirectly block or impair existing navigation channels, increase shoreline erosion, deposit spoils below mean high tide, cause adverse water circulation patterns, violate water quality standards, or cause degradation of shellfish waters, shall not be allowed. Allowable uses shall be those which do not cause detriment to the physical, chemical or biological functions of public trust areas. Such uses as navigational channels, drainage ditches, bulkheads to prevent erosion and inland canals, piers or docks, shall be generally permitted, as long as they conform to State development standards.

d. **Policy Statements: Development in AECs:** Sections a, b, and c, above, included a brief discussion of Calabash's policy on land uses in the statutorily defined Areas of Environmental Concern (AECs). Protection of environmentally sensitive as well as vitally important public

resources is a strong ongoing concern of the Town of Calabash. The overall policy of the Town in relation to Resource Protection shall be as follows:

Calabash believes that priority should be given to those uses which are compatible with appropriate management of the Estuarine System. It is the intent of the Town to safeguard and perpetuate the system's biological, social, economic and aesthetic values and to insure that any development occurring within the system is compatible with natural characteristics, so as to minimize the likelihood of significant loss of private property and public resources.

e. **Policy Implementation:**

(1) The Town will continue to support and comply with the federal, state and local development permits processes, as administered by the U.S. Army Corps of Engineers, Division of Coastal Management, and the Brunswick County Health Department.

(2) In FY89, the Town of Calabash will seriously review its existing zoning ordinance for the purpose of either revising the ordinance and map and/or enforcing all of its provisions--including the "conservation" district as an estuarine system protective measure.

(3) In FY89, the Town will expand enforcement of its zoning ordinance to include its entire jurisdiction, i.e., in-town and in the current extraterritorial jurisdiction.

(4) Also, in FY89, the Town will seek technical assistance from the N.C. Division of Community Assistance, or a private consultant, to help develop its own set of subdivision regulations and other land use protective measures.

2. **Areas of Environmental Concern: Ocean Hazards Areas**

Unlike many other tourist-oriented coastal communities, Calabash is not on the oceanfront and therefore has no Ocean Hazard Areas of Environmental Concern.

3. Development in Areas with Constraints

The constraints to development in Calabash were discussed in Section I, pages 18-23 of this report. Elements posing constraints to growth and development can relate to physical land capability constraints such as availability of developable land, man-made or natural hazards, AECs, special fragile areas, or areas with soils limitations. Also, the capacity of community facilities and services such as water, sewer, solid waste disposal, police and fire protection and parking can often pose constraints to development. The presence of special natural or cultural resources, such as the historic Hickory Hall Plantation House, which was discussed on page 21, is also a "constraint" to be considered, in the sense that special protective measures may be warranted. All of these are factors which need to be considered by any community in proposing land development policies.

There are no known man-made hazards in Calabash prohibiting development and the natural hazards are closely linked to the AECs in the Estuarine System category, as are also the "fragile" areas. Limitations noted were: certain soil types, which were described by the Brunswick County Soil Surveys as having limitations for septic tank suitability, and fragile areas that coincide with the Town's AECs and which were included in the preceding policy discussion. The 100-year flood zone was also listed as a natural constraint. The only major limitation in terms of community facilities is the lack of a central sewer system for areas within the Town limits.

But the 100-year flood zones include a significant portion of the Town's jurisdiction, both inside the Town limits and in the current extraterritorial area. It is not practical to prohibit development in all such areas. However, within both the Town and in the extraterritorial jurisdiction, there are substantial amounts of land classified as either Zone "C", Minimally Flooded areas, or Zone "X", not subject to the 100-year flood.

As the discussion on pages 23-28 indicated, at current and projected demand rates during "peak" utilization, Calabash may need expanded capacity in the provision of solid waste disposal, police protection, and fire protection services during the next 10 years. Also, the need for improved vehicular access, and parking will increase in significance during the

planning period because of present limitations on commercial and neighborhood roadways. Calabash has developed from being a quiet, almost unknown river-front fishing village, to a well-known location for some of the best seafood restaurants in the south-east. This appeal attracts thousands of visitors each year. It is vital, therefore, to the Town's economy that this appeal continue to be maintained at the highest level. In consideration of all of the constraints relating to the physical capacity of the land, and the capacity of community facilities, the following policies are proposed:

a. **Policy Statements: Physical Constraints to Development:**

(1) Since in many cases, conditions posing physical limitation to growth and development in Calabash are closely associated with identified areas of environmental concern or other sensitive areas, the Town believes that these areas should generally be protected from any adverse or potentially adverse development. Also, development in certain areas which could result in unnecessary risks to the safety and protection of life and property will be seriously evaluated. Specifically:

(a) Calabash's policies on development in fragile areas are basically the same as those stated for Areas of Environmental Concern.

(b) Until such time as a central sewage collection and disposal system can be developed for the entire jurisdiction, growth and development will not be permitted in areas where septic tanks will not function. All septic tanks must be in compliance with State Health Regulations through the Brunswick County Health Department.

(c) Development will be discouraged in areas where soils are not suitable for proposed construction. Development may be constructed if corrective measures for stabilizing building foundations are incorporated into development design.

(2) Allowable land uses in areas posing physical constraints should be only those approved through the CAMA and Army Corps of Engineers

"404" permitting processes and by the County or Town of Calabash's building and development ordinances.

(3) All uses allowed in the Town's Zoning Ordinance shall be permissable in the 100-year flood zones, provided that all new construction and substantial improvements comply strictly to the Town's Flood Damage Prevention Ordinance, which has been adopted in conjunction with Calabash's participation in the National Flood Insurance Program.

(4) In relation to capacity of community facilities, it shall be the policy of the Town of Calabash to attempt to provide services, such as water, fire protection (which is presently being provided by volunteers), solid waste collection, and traffic accessibility, to meet needs and anticipated peak demand throughout the planning period.

(5) The Town Board will give close attention to provisions for adequate access and traffic circulation for all new developments.

b. **Policy Implementation:**

(1) The existing local ordinances and building regulations in Calabash, including the County's subdivision regulations for the current extraterritorial area shall continue to be enforced. (See policies in Section e, page 33.) Also, the Town will continue to comply with State and Federal regulatory programs for areas with physical constraints to development, including CAMA and the Corps of Engineers 404 program.

(2) The Town Board will request technical assistance from the Division of Community Assistance of the North Carolina Department of Natural Resources and Community Development, or a private consultant to help review subdivision plats and major development proposals. (See policies in Section e, page 34.)

4. **Hurricane and Flood Evacuation Needs and Plans**

This area will be treated in a separate section of this Land Use Plan, which will include policy statements on hurricane and flood evacuation as well as storm mitigation and post-disaster recovery policies.

5. **Protection of Potable Water Supplies**

Beginning in June 1988, some businesses and residences within Calabash began receiving their water supply from the Brunswick County water system. The Town would like to see all water users within the Town limits eventually connect onto the County system so that the existing private wells will no longer be the principal source of potable water. The Town recognizes the importance of protecting potable water supplies, and is supportive of federal, state, and other local initiatives to do so.

6. **Use of Package Treatment Plants**

Although there is centralized sewer service provided outside of the current Town limits through a private utility company, the Town of Calabash has no definite plans for developing a centralized sewer system because of the extensive costs. Currently, ground absorption systems are the main means of sewage disposal for the Town limits area. However, the Town does allow package treatment plants if they can comply with applicable state, local, and federal environmental regulations.

7. **Stormwater Runoff**

The Town of Calabash shares the concern of the State Division of Environmental Management (DEM) that stormwater runoff from urbanized areas may be contributing to declining surface water quality in some areas. With significant existing development along the banks of the Calabash River, maintenance of water quality is of serious concern to Calabash. The Town recognizes the value of water quality maintenance both in terms of protecting commercial and recreational fishing resources and providing clean water for other recreational purposes. The Town is also very much concerned about the potential adverse effect on water quality from large open-area recreational developments such as golf courses. The Town will continue to enforce local ordinances and support other state, environmental and building regulations relating to stormwater runoff resulting from development. The Town plans to seek assistance, perhaps through CAMA planning funds, to conduct a drainage improvement study.

8. **Marina and Floating Home Development**

The development of bulkheads, marinas, and private boatslips has not been significant in Calabash

although there is significant waterfrontage. However, a large marina-oriented development is being developed in the extraterritorial area. Such uses will be allowed, as long as they are in compliance with State, federal and any additional local regulations. Calabash is aware of, and supports, the Governor's Coastal Initiatives Program, which seeks, among other things, to increase the economic development potential of waterfronts of many coastal communities.

In recent years, some coastal communities have become increasingly concerned over the issue of "floating homes", i.e., waterborne vessels used not only as "boats" but as permanent domiciles. The legal aspects of this issue have been debated in many areas.

In Calabash, the issue of floating homes has not been a significant problem and the Town has never developed any ordinances or regulations regarding floating homes. However, the Town is supportive of the State's policies on "floating structures" and believes that such structures should not be allowed within Public Trust waters within its jurisdiction. Because of the potential adverse impact upon the water quality, Calabash does not support the concept of "floating homes" in a marina or elsewhere. During the planning period, the Town will seek assistance in developing and will consider the adoption of local regulations regarding floating homes.

9. <u>Industrial Impacts of Fragile Areas</u>

There are no conventional industrial impacts on fragile areas in Calabash's jurisdiction and neither does the Town anticipate any industrial development. However, the Town is aware of proposals for OCS oil and gas exploration in the northeast coastal area of the State. The Town recognizes both the potential economic impacts, as well as the potential environmental degradation. Calabash, therefore, takes the position of not being opposed to such operations, provided adequate environmental impact assessments were conducted and all recommended "safeguarding" measures were strictly adhered to.

10. <u>Development of Sound and Estuarine System Islands</u>

Policies related to managing growth and development in these environmentally sensitive areas would be included in policy statements regarding development

in Areas of Environmental Concern and in areas with physical constraints, particularly dealing with "fragile" areas. However, there are no estuarine system islands in Calabash's jurisdiction.

B. RESOURCE PRODUCTION AND MANAGEMENT

1. Recreational Resources/Fisheries:

In most coastal counties and towns, "resource production and management" usually relates to agriculture, forestry, mining, and fisheries, as well as recreational resources. In Calabash, however, recreational and fisheries resources are the only primary concerns, although there is a small amount of agriculture in the extraterritorial area. In tourist areas such as Calabash, because of the nearby beach communities (which also contain Estuarine and/or Public Trust Waters), recreational and fishery resources quite often overlap. Fishing, both as a recreational and commercial resource, is very important to Calabash and to all of Brunswick County. Proper utilization of water resources is of utmost concern to Calabash. The Town recognizes the value of water quality maintenance both in terms of protecting commercial and recreational fishing resources and providing clean water for other recreational purposes. Recreational opportunities, such as boating, swimming, water skiing, and sports fishing, are not only viable resources for Calabash, but also are important economic attractions for the overall area, bringing tourists to the Town's many seafood restaurants. The tourist-based economy, as noted in Section I of this plan, is dependent, to some extent, upon the continued preservation and maintenance of these resources. Projections for the 10-year planning period indicate growth both in the number of residents within its jurisdiction and tourists in Calabash. Both the aesthetics and potential recreational opportunities of the Town are important resources which need to be protected and properly managed.

a. **Policy Statements:** With the above-stated concerns in mind, the Town of Calabash adopts the following policy:

(1) The Town supports current on-going State and federal programs designed to enhance the proper utilization of water resources within its jurisdiction.

b. **Implementation:**

(1) The Town will continue to enforce local regulations as well as support State and Federal initiatives, related to maintaining and enhancing water quality and proper water use.

Having developed primarily as an inland community, some of the typical resource production policy areas are not relevant and will not be addressed here. These areas include: commercial forestry and agriculture, mining, and impact of off-road vehicles.

C. ECONOMIC AND COMMUNITY DEVELOPMENT

The economic vitality of Calabash, although not a beach community, still relates directly to tourism because of the Town's attraction as a "seafood capital". Also, the continued growth of both residential and commercial development within the Town's jurisdiction is an important element in the local economy. A substantial amount of growth is projected to take place in the extraterritorial area. Some developments currently on the "drawing board" for the extraterritorial area include a new motel, golf courses and a large mixed use marina-oriented community to be called "Marsh Harbour Yacht Club." The Marsh Harbour Yacht Club developers, although the project is still in the preliminary planning stages, have nearly completed the basic marina. This development is also proposed to contain a motel, and residential and commercial areas.

In the existing land development patterns in Calabash's jurisdiction, there is a mixture of residential and commercial uses, although residential uses dominate. At the writing of this report, there were more than 2,600 vacant, platted lots in the Town's overall jurisdiction. Since most of these lots are in or adjacent to residential areas, the existing development patterns are likely to continue although commercial development will also increase (See Map 2, attached and Table 6, page 9). Also, as noted previously and as shown on Map 2, there are still large unplatted tracts of land within Calabash's jurisdiction.

The entire Town now has access to centralized water services through the Brunswick County Water System and most of the extraterritorial jurisdiction has access to sewer service provided by a private utility company. Other community and economic development issues that currently face or that will face the Town over the next 10 years include: annexation of developing areas in the extraterritorial jurisdiction; possible provision of sewer within the Town's limits; development and enforcement of effective land development regulations at the local level; maintenance of the Town's "character"; improving aesthetics along the waterfront; and provision of public recreation facilities.

Prior to presenting the Town's policy positions on these and other community and economic development issues, it should be noted that at the beginning of the land use planning process for Calabash, an extensive effort was made to obtain the input of citizens and property owners. A "1988 Land Use Plan Citizen Survey Form" was developed and mailed to all the taxpayers in the Town (including absentee landowners) in February, 1988. Most of the ques-

tions dealt with the Town's land use and community development concerns. A summary of the survey results is presented below: (Also, see Appendix 1)

--- The top three "critical development issues" in Calabash according to the respondents were (in order): provision of adequate water and sewer, control and guidance of land development within the Town, and maintaining the "character" of the Town.

--- Most respondents wanted to see growth take place in Calabash, but at a moderate rate.

--- Most respondents agreed that the Town needs more public recreational facilities (several specifically mentioned a waterfront park with a boat access ramp).

--- Annexation of adjacent developing areas was also favored by a majority of those responding to the survey.

--- Other local concerns expressed in the survey results included improvements in trash pick-up, street improvements, more frequent patrols by law enforcement officers, and a concern over the number of mobile homes in the area.

--- Additional information of interest obtained by the survey included:

- nearly 70% of residents have lived in Calabash 14 years or less
- 97% of residents own their residences, as opposed to only 3% rentals
- 44% of property owners are non-resident owners, and
- more than one-half of the responding households had household incomes over $30,000/year

The relevant policy areas to be addressed are discussed below, along with the Town's policy position.

1. <u>Local Commitment to Providing Services to Development</u>

As areas develop, it will be the policy of the Town that the developer/owner share in the financial responsibility of providing basic urban services. Within this initial planning period, the Town has begun to be served by the Brunswick County water system but does not expect to have a central sewer system. The Town will remain committed to providing water service to new areas as they develop. The citizens of Calabash have expressed a desire to main-

tain its relatively low-density, "seafood village" character. The Town will not pursue development of a centralized sewer system at this time, primarily because of the cost of such a system.

2. **Redevelopment of Developed Areas:**

There are some areas of Calabash which may need to be considered for redevelopment. It is feasible that in some older sections of the Town, older structures, including residences and commercial establishments may be torn down to allow for the construction of new similar uses on the same site. Calabash supports such activity as a positive re-use of land resources, enhancing the Town as a whole. Such redevelopment shall be permitted as long as the activity complies with the spirit and intent of existing regulatory requirements. It is the Town's policy that density allowances for redevelopment areas conform to existing building and zoning regulations.

3. **Desired Urban Growth Patterns**

As noted in the citizen survey results, it is important to the local citizens that the atmosphere and character of Calabash, i.e., a quiet, seafood village and low-density residential area, be maintained. Calabash has no interest in developing heavy manufacturing industries within its current jurisdiction, for example. Commercial accommodations and similar developments related to serving tourists are considered desirable in Calabash. Continued residential development is also regarded as desirable for the Town, as long as no major or irreversible damage threatens any environmentally sensitive area. Single-family detached dwellings remain the predominant residential-type in Calabash's jurisdiction, although some multi-family units have been developed and others are proposed.

Mobile homes are allowed within the Town's jurisdiction and a number of units are currently located both within the Town limits and in the extraterritorial area. There are several mobile home parks in the area. It is the Town's intention, as reflected in its zoning ordinance and zoning map, to allow a mixture of residential-type accommodations in a balanced manner.

a. **Policy Statements:**

(1) It is the desire of the Town of Calabash to avoid incompatible land uses. The Town further believes that land use regulations, along with

a building permit program, should be used to help achieve a desired balance between commercial and residential development. The Town also supports the continued enforcement of the State CAMA permit process and State Health Regulations regarding septic tank placement (until such time as a central sewer system may serve the Town limits).

(2) It is the belief of the Town of Calabash that residents of developed areas in the extraterritorial area make substantial use of the Town's facilities; enjoy the benefits of access to the Town's commercial areas; and to some extent, share the community's interests, but do not share the responsibility for the support, maintenance, and future orderly development of the Town. It shall be the policy of the Town of Calabash, therefore, that such areas be considered for annexation, if allowable under state regulations and are economically feasible.

b. **Policy Implementation:**

(1) The Town will continue to support and comply with the federal, state and local development permits processes, as administered by the U.S. Army Corps of Engineers, Division of Coastal Management, and the Brunswick County Health Department.

(2) In FY89, the Town of Calabash will seriously review its existing zoning ordinance for the purpose of either revising the ordinance and map and/or enforcing all of its provisions--including the "conservation" district as an estuarine system protective measure. The Town will consider special provisions for mobile homes and mobile home parks.

(3) In FY89, the Town will expand enforcement of its zoning ordinance to include its entire jurisdiction, i.e., in-town and in the current extraterritorial jurisdiction.

(4) Also, in FY89, the Town will seek technical assistance from the N.C. Division of Communtiy Assistance, or a private consultant, to help develop its own set of subdivision regulations.

(5) In FY89, Calabash will seek assistance from the N.C. Division of Community Assistance or a pri-

vate consultant to conduct preliminary annexation feasibility studies in selected portions of the current extraterritorial area.

4. **Commitment to State and Federal Programs**

Calabash is generally receptive to State and Federal programs, particularly those which either enhance or improve the Town's facilities. The Town will continue to cooperate with such programs, including CAMA. The North Carolina Department of Transportation road and bridge improvement programs are also very important to Calabash because of increasing traffic volumes and resultant access and parking problems during peak seasons.

Examples of other State and Federal programs which are important to and supported by Calabash include: the Governor's Coastal Initiatives Program, dredging and channel maintenance by the U.S. Army Corps of Engineers, the NRCD Beach and Estuarine Access Program, and Federal and State projects which provide efficient and safe boat access for sports fishing.

5. **Assistance to Channel Maintenance and Beach Renourishment**

Proper maintenance of channels, particularly the Calabash River, is very important to the Town of Calabash because of the impact of commercial and recreational fisheries and general boating. Calabash is supportive of the Corps of Engineers' maintenance of the River, however, it has been more than 10 years since the last dredging. Although local residents say the River is in serious need of dredging, two major obstacles have prevented timely dredging. First, the inability to locate a suitable spoil site has been a problem. Secondly, the mouth of the Calabash River is in South Carolina and therefore under the jurisdiction of the Charleston District of the Corps of Engineers. According to the Town, the Charleston District's dredging schedule has been inconsistent with the timing considered best for dredging by the EPA and North Carolina environmental officials. If the Calabash River were to be included in the Charleston District's maintenance program, then, according to the Corps dredging officials, it would be most economical and efficient to conduct the operations during the same time the Atlantic Intercoastal Waterway is being maintained, i.e., during the summer months. However, in North Carolina, there is a moratorium on such dredging from April through August. Therefore, until suitable spoil sites are found and scheduling differences can be worked out, the Calabash River may not receive maintenance by

the Corps of Engineers. However, the Town would like to see these obstacles overcome.

Calabash is also supportive of renourishment projects in beach communities.

6. **Tourism**

The importance of tourism to Calabash is paramount, as has been discussed in other parts of this plan. The Town's reputation in the Carolinas as a seafood haven has steadily grown, and along with its proximity to beach communities in both North and South Carolina, golf courses and marinas, thousands will continue to be attracted to Calabash. Tourism and related expanded developments are vital generators of income. The tourist season also provides employment for some Town residents and for some residents of other parts of Brunswick County as well. According to the Travel and Tourism Division, North Carolina Department of Commerce, in 1987, travel and tourism accounted for $134,287,000 in expenditures in Brunswick County compared to only $16.7 million in 1979. Although detailed figures are not available for Calabash, relative to its size, the seafood community probably generates a respectable percentage of this annual total. However, presently there is no mechanism whereby Calabash can "recapture" some of the tourist dollars to help improve or expand municipal services. Such a mechanism, e.g., a special "tax" needs to be considered as the number of tourists and amounts of tourist dollars increase.

Policy alternatives concerning support of tourism are few in an area where it essentially forms the economic base. In fact, all of the other policy statements under Economic and Community Development relate to tourism. Therefore, Calabash will continue to support and promote tourism as its main economic base. The development of non-intensive recreational and commercial land uses will be encouraged in order to enhance services for the public. Also, the Town will seek to become a "Coastal Initiatives" community, in order to enhance its economic development and resource protection goals.

7. **Beach and Waterfront Access, and Parking**

Free and open access to the Calabash River is presently limited.

There is one private boating access ramp in the Town near Captain John's Restaurant. The owners have traditionally allowed parking and boating access to

the public. The Town supports the provision of public access to the River. The Town has discussed attempting to lease this private access site from the owners, make improvements, and utilize the area as a public recreation and access site.

During the peak of the tourist season, the parking lots of restaurants and shops are virtually filled to capacity and parking is a problem. Currently, there are no public parking facilities in Calabash other than that associated with commercial establishments. As the number of visitors to Calabash increase, expanded parking facilities will also need to increase. As a policy, the Town of Calabash will begin exploring both means to improve public parking and pedestrian access. Calabash will seek state and federal assistance in planning for waterfront access, public parking and improved pedestrian access. Specifically, the Town will seek assistance from the N.C. Division of Wildlife Resources, the CAMA access program, and the State Department of Transportation. The Town hopes that plans for waterfront access can be combined with plans for a public recreation facility, i.e., a waterfront park.

D. CONTINUING PUBLIC PARTICIPATION POLICIES

Calabash recognizes that an important element in developing and implementing any local policies or plans regarding the use of land in the Town, is involvement of the Town's citizenry. From the initial stages of development of this Land Use Plan, Calabash has sought to provide open opportunities for citizen input. Although public involvement was generated primarily through the Town Board of Commissioners and through "public information" meetings, advertised in local newspapers and open to the general public, the principal vehicle for citizen input was through the previously described survey questionnaire.

In February, 1988, a survey form questionnaire was mailed, along with a letter of explanation, to owners ~f property in Calabash (See Appendix 1). The questionnaire consisted of questions addressing issues such as provision of public services (water, sewer, drainage, etc.), recreational facilities, and the desired types of urban growth and development patterns. Generally, the response rates were good and the information was useful in developing policies (especially those dealing with economic and community development, as discussed in the previous section).

An advertised public information meeting and an advertised public hearing were both held during the preparation of this Land Use Plan. Additionally, several "work sessions" were held with the Town Board of Commissionsers and all such meetings were open to the public.

The preliminary draft plan, prior to submission to the CRC, was presented to the Town Board of Commissioners on August 23, 1988.

In addition to direct citizens' input through the public meetings, information was received from representatives of various agencies in the Calabash-Brunswick County area. These included the County Planning Department, Emergency Management Office, County Health Department, and the North Carolina Department of Transportation. The Town will continue to use published public notices to inform citizens of pending decisions involving land use planning matters in order to provide opportunities for input.

E. CALABASH STORM HAZARD MITIGATION, POST-DISASTER RECOVERY, AND EVACATION PLAN

Although Calabash is not an oceanfront community, the Town is not located sufficiently inland so as not to feel the direct effects of a hurricane or northeaster. In both 1984 and 1985, when Hurricanes Diana and Gloria, respectively, visited the North Carolina coast, Calabash fared relatively well, sustaining no damage. Nevertheless, it is not totally inconceivable that a weather-related disaster could strike the small community, and Calabash would definitely be affected by high winds, tides, and potential flooding. Therefore, the Town of Calabash, in case of such emergency, agrees to comply with the plans and procedures adopted by Brunswick County and contained in the 1987 Update of the Brunswick County Land Use Plan (see Appendix 2).

SECTION III

Land Classification System

III. LAND CLASSIFICATION SYSTEM

The CAMA land classification system provides a uniform way of looking at how the use of land interacts with environmentally sensitive areas and with the development needs of a particular locality. It is not a strict regulatory device in the sense of a zoning ordinance or zoning map. It represents more of a tool to aid in understanding the relationships between various land use categories and how these relationships help shape local policy. Particular attention is focused on the intensity at which land is used and the level of services needed to support that intensity. The regulations for the Coastal Area Management Act state:

"The land classification system provides a framework to be used by local government to identify the future use of all lands in each county. The designation of land classes allows the local government to illustrate their policy statements as to where and to what density they want growth to occur, and where they want to conserve natural and cultural resources by guiding growth." (7B.0204) (a)

The five land classifications, along with a land classification map, are therefore intended to serve as a visual representation of the policies stated in Section II of this plan. The map depicting these classifications must be as flexible as the policies that guide them. (See the attached Land Classification Map, Map 4.)

Only three of the Coastal Resources Commission's five land classifications are relevant to the land development policies of Calabash. They are identified and described below.

A. DEVELOPED

The developed class of land use provides for continued intensive development and redevelopment of existing cities. Areas to be classified as "developed" include lands currently developed for urban purposes or approaching a density of 500 dwellings per square mile that are provided with usual municipal or public services, including at least public water, sewer, recreational facilities, police and fire protection. Areas which exceed the minimum density but which do not have public sewer service may best be divided into a separate class to indicate that although they have a developed character, they will need sewers in the future.

Within Calabash's jurisdiction, the areas complying with the above definition include the existing developed residential and commercial areas in both the Town limits and portions of the extraterritorial area. Nearly half

of all of the land area in the Town's jurisdiction has been platted into building lots. A substantial number of these lots in the extraterritorial area (especially in Carolina Shores) have been developed or are undergoing steady development. The most intensely developed areas are classified as "developed". All of Carolina Shores and most of the extraterritorial area have access to to both centralized water and sewer services. However, it should be noted that within the "proper" Town limits of Calabash, only centralized water is currently available. Nevertheless, the platted portions of the Town's limits are, for all intents and purposes, "developed" (See Map 4, attached). It should be noted that a portion of the "developed" area is in the 100 year flood hazard area according to the most recent FEMA maps.

B. TRANSITION

Transition land is classified as those lands providing for future intensive urban development within the ensuing ten years on lands that are most suitable and that will be scheduled for provision of necessary public utilities and services. They may also provide for additional growth when additional lands in the developed class are not available or when they are severely limited for development.

Lands classified "transition" may include:

1. lands currently having urban services, and
2. other lands necessary to accommodate the urban population and economic growth anticipated within the planning jurisdiction over the next ten years.

Lands classified for the latter reason must:

a. be served or be readily served by water, sewer, and other urban services, including streets, and
b. be generally free of severe physical limitations for urban development.

The "transition" class should not include:

a. lands of high potential for agriculture, forestry, or mineral extraction, or land falling within extensive rural areas being managed commercially for these uses, when other lands are available;
b. lands where urban development might result in major or irreversible damage to important environmental, cultural, scientific, or scenic values; or

c. land where urban development might result in damage to natural systems or processes of more than local concern; and
d. lands where development will result in undue risk to life or property from natural hazards or existing land uses, e.g., frequently flooded areas.

The lands in Calabash that will be classified "transitional" are primarily those unplatted areas adjacent to the currently developed areas. This includes some areas where lots have been platted but not yet developed, as well as the sizeable unsubdivided tracts.

The relationship between the "developed and transition" classification is usually an important one. The first class is meant to define the already intensively developed areas and/or those areas where intensive urban-type development is likely to occur. Transitional lands are those areas where public investment decisions will be required to provide future necessary urban services. These become important areas to closely monitor. The Coastal Resources Commission has further clarified this relationship as described below.

The Developed and Transition classes should be the only lands under active consideration by a county or municipality for intensive urban development requiring urban services. The area within these classes is where detailed local land use and public investment planning will occur. State and federal expenditures on projects associated with urban development (water, sewer, urban street systems, etc.) will be guided to these areas. Most of the "transitional" lands in Calabash's jurisdiction already have access to centralized water service and in most of the extraterritorial area, sewer service.

C. CONSERVATION

The "conservation" class provides for effective long-term management of significant limited or irreplaceable areas. This management may be needed because of its natural, cultural, recreational, productive, or scenic values. This class should be limited to lands that contain: major wetlands; essentially undeveloped shorelands that are unique, fragile, or hazardous for development; necessary wildlife habitat or areas that have a high probability for providing necessary habitat conditions; publicly-owned water supply watersheds and aquifers; and forestlands that are undeveloped and will remain undeveloped for commercial purposes.

In Calabash, the lands described as Areas of Environmental Concern are included in this classification, i.e.,

Coastal Wetlands; Estuarine Waters; Estuarine Shorelines (excluding areas presently developed or adjacent to already-developed lots); Public Trust Area. In addition to the AECs, which are by law "conservation", shoreline areas consisting of soil types described as being consistently wet or flooded, according to the Brunswick County Soil Survey, were also classified as conservations. Specifically, this applies to the Bohicket (Bo) soils classification (see Map 4, attached).

D. OTHER CLASSIFICATIONS

According to planning guidelines, there are two other major land use classifications, neither of which are applicable in Calabash. They are described below:

1. Community

The "community" classification provides for clustered land uses to meet housing, shopping, employment, and public service needs within the rural areas of a county. It is usually characterized by a small grouping of mixed land uses which are suitable and appropriate for small clusters of rural development not requiring municipal sewer service.

2. Rural

The "rural" class provides for agriculture, forest management, mineral extraction, and other low-intensity uses on large sites, including residences where urban services are not required and where natural resources will not be unduly impaired. These are lands identified as appropriate locations for resources management and allied uses: land with high potential for agriculture, forestry, or mineral extraction; lands with one or more limitations that would make development costly and hazardous; and lands containing irreplaceable, limited, or significant natural, recreational, or scenic resources not otherwise classified.

SECTION IV

Relationship of Policies and Land Classification System

IV. RELATIONSHIP OF POLICIES AND LAND CLASSIFICATIONS

After the Land Classification System is developed, the Coastal Resources Commission requires each land use plan to relate the Policy Section to the land classification map and to provide some indication as to which land uses are appropriate in each class.

A. Developed and Transition Classes

As discussed in Section I, Analysis of Existing Conditions, the development of primarily single-family structures is likely to continue in Calabash--especially in its extraterritorial area. Some areas in the extraterritorial area may be considered for annexation feasibility during the planning period. The developed and transition classes were specifically designed to accommodate the projected more intensive developments and land uses. This may include commercial uses, parks and open space, community facilities, and transportation facilities. Hazardous or offensive uses, such as power plants, airports, and storage facilities, will not be in these classes. Where identified constraints, such as poor soils, or other fragile areas occur within these classes, the areas will not be considered as Developed or Transition. However, since this is Calabash's first attempt at preparing a local land use plan, prior development has already taken place in areas which may otherwise be considered "fragile." To the maximum extent practicable, this will not be perpetuated.

B. Conservation

The Conservation Class is designated to provide for effective long-term management of significant limited or irreplaceable areas which include wetlands; undeveloped shorelines that are unique, fragile, or hazardous for development; wildlife habitat areas; publicly-owned watersheds and aquifers; unique undeveloped forestlands; and cultural and historical sites. Policy Statements under Resource Protection and Resource Production and Management issues, address the Town's intentions concerning the Conservation Class.

SECTION V

Intergovernmental Coordination

V. INTERGOVERNMENTAL COORDINATION

Throughout the preparation of this Land Use Plan, the Town of Calabash had contact with various state and federal government agencies as well as Brunswick County. These included the N.C. Division of Coastal Management, the Brunswick County Planning Department, Town of Sunset Beach, and the U.S. Army Corps of Engineers (Wilmington and Charleston Districts). Calabash will continue to coordinate with various levels of federal, state, and local governments throughout the implementation of its planning program.

APPENDICES

APPENDIX 1

CALABASH LAND USE PLAN

RESULTS OF CITIZEN SURVEY: IDENTIFICATION OF 1988 PLANNING ISSUES

INTRODUCTION: As part of the Land Use Planning Process, the Town of Calabash distributed 164 survey forms to all households and property owners in Calabash, based on town tax records. The purpose was to solicit citizens' input in the identification of possible policy issues which need to be addressed in the Land Use Plan. Attached is a summary of the results of the survey: (32 responses to most questions)

1. Length of Residence: 69% of residents have lived here 14 years or less.

   a. Type of Residence: 48% mobile homes; 52% conventional houses

   b. Tenure: 97% owner; 3% renter

   c. Resident Owner: 56% resident; 44% non-resident

2. Household Income: Nearly all (93%) had income over $10,000 with 52% having income over $30,000.

3. a. Critical Development Issues (Top Three)

      1. Provision of adequate water and sewer

      2. Control and guidance of land development within the Town

      3. Maintaining the character of the Town

   b. Summary of Frequent Comments/Concerns

      1. Trash pick-up

      2. Preservation of the river/riverfront development

      3. Restrict burning by builders

4. How Calabash should grow: Most respondents would like to see Calabash grow, but at a moderate rate.

5. Most respondents strongly agreed that the Town needs more public recreational facilities. Some of the comments specified a desire for a waterfront park with a boat ramp facility.

6. Slightly more respondents favored Calabash having a full-time policeman, although nearly an equal number either disagreed or strongly disagreed.

7-8. Most respondents did not think the Town needed its own rescue squad, and very few volunteered for this service.

9. The response to keeping the Town's ordinances updated was overwhelmingly positive (86% in favor).

10. More respondents felt the Town should have its <u>own</u> subdivision regulations, as opposed to relying on the County (82%).

11. There was much support for grants application for a sewer system (80%).

12. Annexation of adjacent developing areas also received a favorable response (24 of 32 responses--75%, with 6 (19%) expressing no opinion).

13. Most respondents favored the adoption of a leash law in Calabash (88%).

14. About 60% of those responding would like to see a waterfront park developed in Calabash, while 8 (29%) disagreed.

15. Generally, most respondents indicated a willingness to pay more taxes for all of the services and/or facilities listed on the form. However, the top three items, in order, clearly were:

    a. Sewer system

    b. Water system

    c. Street improvements

16. Other Land Use Issues:

    a. Enforcement of existing zoning laws and CAMA

    b. Too many mobile homes

    c. Too far a distance to haul trash

    d. Limit commercial development and signs

    e. No high-rise buildings

    f. Request more frequent patrolling by Sheriff's Department and Highway Patrol.

Summary: These issues will be further analyzed and the Town Board and Planning Board may propose specific policies to address these issues. After policy formulation, citizens will again have a chance to provide input.

APPENDIX 2

2.5 Storm Hazard Mitigation, Post-Disaster Recovery and Evacuation Plan

Introduction

Brunswick County, like other coastal counties, is vulnerable to hurricanes. Because of this vulnerability, the county must devise means by which development can be managed to mitigate the hazards associated with hurricanes. To achieve this objective, hazardous areas must be mapped in order to assess the county's vulnerability to damage, mitigation processes must be identified and existing mitigation measures must be reviewed.

Flooding

Flooding is a hazard along the rivers in the county as well as the area immediately adjacent to the Intracoastal Waterway. Since much of this area is attractive for residential development, there is considerable private investment in these flood prone areas. Information gathered from a land use survey conducted in spring, 1985, indicated that nearly 1,500 residential structures were located in flood hazard zones as identified by the Federal Emergency Management Agency (FEMA). The total value placed on these structures by the Brunswick County Tax Supervisors office is approximately $41.2 million.

FEMA Flood Insurance Rate Maps identify those areas of land with a one percent chance of flood inundation in any given year. These flood prone areas are primarily the result of flooding that would be the result of storm surge, i.e. water that is pushed upstream by strong winds. Some flooding on small tributaries could be attributed to the more typical heavy rainfall over a short time period.

Storm surge flooding has been studied by the US Army Corps of Engineers. The Special Program to List the Amplitude of Surge from Hurricanes (SPLASH) model was used to map Storm Surge Inundation Areas so that evacuation studies could be made. The SPLASH map shows surge levels based on class one through class five hurricanes. By using these maps, local emergency management authorities can plan evaucation routes based on anticipated inundation levels. The SPLASH map is available for inspection at the Brunswick County Planning Office. Both the FEMA map and the SPLASH map are lacking in accuracy due to the lack of detailed topographical information in Brunswick County.

The most populated unincorporated areas of the county are generally not subject to flooding. Populated areas include; the Leland area, the area between Southport and Oak Island, and much of the area near the Intracoastal Waterway from the Lockwood Folly River westward to the South Carolina state line. Lands immediately abutting the waterway are subject to flooding.

Winds

Hurricane force winds can cause serious structure damage as well as damage to overhead utilities. Brunswick County is located in a zone identified by the State Building Code as having a reasonable expectation of having 100 mph winds from a hurricane. The State Building Code requires that any new structure built in the county be able to withstand winds of 100 mph. The Building Code sets standards for design, anchorage and tie downs for structures.

Composite Hazard Map

The Composite Hazards Map includes areas identified on the FEMA Flood Insurance Rate Map as being within the 100 year flood zone and areas identified by the Storm Surge Inundation Areas Map. It serves as a general guide as to where flooding could occur; however, it should not be used for site specific land use interpretation since detailed elevation information is not provided.

Existing Development at Risk

Development in Brunswick County has historically taken place in a generally sweeping pattern that runs east of NC 87 in the northeast, and south of US 17 in the Waccamaw area which is in the northwest quadrant of the county. In the past five years, the greatest amount of development has been occurring in those areas adjacent to the beach communities, the Intracoastal Waterway and the rivers. This growth is primarily reflected in summertime populations rather than permanent populations. Development within the county's municipalities is addressed within individual municipal land use plans.

As stated earlier, there is considerable development located within flood hazard areas. There are, however, no recurring flooding problems on the mainland. Highway 17 in the Winnabow area is subject to flooding during extreme rainfalls. There are other isolated drainage problems that usually are associated with small area drainage basins.

None of the potentially hazardous industries located in Brunswick County (Sunny Point Army Terminal, which stores and transfers hazardous materials, Carolina Power and Light nuclear facility, and Pfizer Company which produces citric acid) are located in flood hazard areas. These facilities are all located on Highway 133 near Southport.

Unfortunately, the same environmental conditions and geographic locations that make the County so suceptible to hurricanes, also makes the County very attractive for seasonal, second home and permanent populations. Land development in the flood prone areas will continue to occur as the tourism/retirement economy of Brunswick County continues to expand. The County estimated that in 1985 there were residential structures valued at approximately $41.2 million within flood prone areas. 1987 Planning Department estimates the value of all structures within flood prone areas has increased to nearly $58 million.

2.5.1 Storm Hazard Mitigation

Storm hazard mitigation involves "activities which reduce the probability that a disaster will occur and minimize the damage caused by a disaster. Such activities can range from the establishment of a nationwide hurricane tracking system to the adoption of local land use regulations which discourage residential construction in floodprone areas. Mitigation activities are not geared to a specific disaster; they result from a long-term concern for avoiding the damages of future natural disasters." (McElyea, et al, *Before The Storm: Managing Development to Reduce Hurricane Damages,* 1982).

Current Measures

Current storm hazard mitigation measures are incorporated in various County and State ordinances and guidelines including the following:

- Brunswick County Flood Damage Preventors Ordinance.
- Brunswick County Building Code Ordinance.
- Brunswick County Subdivision Ordinance.
- Brunwick County Flood Insurance Rate Maps.
- Guidelines for Areas of Environmental Concern.
- NC Residential Building Code.

Brunswick County regulates development in hazard areas primarily through the flood plain management regulations which are outlined in Article 5, Articles A-E in Ordinance No. 62, an Ordinance Enacting a Building Code for Brunswick County, North Carolina. All development occurring in AEC areas must conform to state guidelines.

The following is a summary of findings relevant to the ability of current Brunswick County regulaitons to adequately manage development in hazard areas:

BRUNSWICK COUNTY BUILDING CODE ORDINANCE

The Brunswick County Building Code Ordinance which was enacted April, 1985 contains an element entitled "Provisions for Flood Hazard Reduction, (Article 5). This section cites the requirements for new construction or substantial improvements in areas of special flood hazard.

GENERAL STANDARDS

All structures shall be anchored to prevent flotation, collapse or lateral movement.

Construction materials and utility equipment must be resistant to flood damage.

Construction shall be by methods and practices that minimize flood damage.

All new replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.

New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.

On-site waste disposal systems (e.g., septic) shall be located and constructed to avoid impairment to them or contamination from them during flooding.

SPECIFIC STANDARDS

Residential structures shall have the lowest floor, including basement, elevated no lower than (1) foot above flood elevation.

Non-residential structures shall be either elevated no lower than (1) foot above the 100 year base flood elevation or be flood proofed. A registered professional engineer or architect must certify compliance with these standards.

No mobile home shall be placed in a floodway or coastal high hazard area, except in an existing mobile home park or existing mobile home subdivision.

All mobile homes shall be anchored to resist flotation, collapse, or lateral movement by providing over-the-top and frame ties to ground achors.

In new mobile home parks and subdivisions, stands, or lots must be elevated on compacted fill or on pilings so that the lowest floor of the mobile home will be at or above the base flood level.

The design and installation of anchorings and pilings must be certified by a registered professional engineer or achitect.

No alteration of frontal dunes or use of fill for structural support shall occur in the V zone, except as may be specifically allowed under applicable CAMA regulations.

Open space or breakaway walls (E.G. lattice work) must be used below base flood elevations in V and A zones.

BRUNSWICK COUNTY SUBDIVISION ORDINANCE

The Brunswick County Subdivision Ordinance, which was adopted in 1980, is essentially a registration ordinance for new divisions of land. It contains no specific design criteria for the approval or disapproval of new subdivisions. Only streets that are to be dedicated to the state require design and construction standards. This results in some private roads in older subdivsion deteriorating and causing problems for vehicular traffic. The Subdivision

Ordinance does contain general design requirements as they apply to flooding. These requirements are as follows:

All minor subdivisions shall be designed so as to minimize flood damage to any lots, building, or other facilities within the development.

All utilities in a subdivision shall be designed and constructed so as to eliminate or minimize flood damage to those facilities.

All water supply and sewerage systems shall be designed so as to eliminate infiltration of flood waters into the systems and to eliminate discharge from the systems into flood waters.

Adequate drainage shall be provided in all minor subdivisions so that exposure to flood hazards will be at a minimum.

THE NORTH CAROLINA UNIFORM RESIDENTIAL BUILDING CODE

The North Carolina Uniform Residential Building Code is the tool that the County uses to manage development to minimize potential wind damage. Structures must be designed upon the size of the unit. The County does not have the authority to modify the Building Code to better meet its needs. Under the laws of the State each county must enforce these uniform regulations.

Zoning and Growth Management

Brunswick County does not have a zoning ordinance in effect in the unincorporated area. Without a zoning ordinance, the county does not possess the primary means available to local governments for controlling the location of different land uses and development in general. It is apparent that the primary need of the County, in relation to storm hazard mitigation, is the development of an ordinance to control how and where development occurs.

Countywide zoning could serve as an effective tool to guide growth and development to areas which would mitigate storm hazards. The provision, extension and timing of public utilities such as piped water and sewer can also be an effective growth management and storm hazard mitigation tool.

Storm Hazard Mitigation Policies

Policy 2.5.1(a)

BRUNSWICK COUNTY SHALL DISCOURAGE HIGH INTENSITY USES AND LARGE STRUCTURES FROM BEING CONSTRUCTED WITHIN THE 100-YEAR FLOODPLAIN, EROSION-PRONE AREAS, AND OTHER LOCATIONS SUSCEPTIBLE TO HURRICANE AND FLOODING HAZARDS.

Policy 2.5.1(b)

BRUNSWICK COUNTY, IN COOPERATION WITH THE STATE OF NORTH CAROLINA, SHALL CONSIDER PURCHASING PARCELS LOCATED IN HAZARD AREAS OR RENDERED UNBUILDABLE BY STORMS OR OTHER EVENTS, FOR THE PURPOSES OF SHOREFRONT ACCESS. DEVELOPERS MAY ALSO BE REQUIRED TO PURCHASE SUCH PROPERTIES FOR PUBLIC ACCESS AS A CONDITION FOR PROJECT APPROVAL.

Policy 2.5.1(c)

BRUNSWICK COUNTY SHALL CONTINUE TO ENFORCE THE NORTH CAROLINA BUILDING CODE, PARTICULARLY THOSE PROVISIONS WHICH REQUIRE CONSTRUCTION STANDARDS TO MEET WIND RESISTIVE FACTORS, I.E., DESIGN, WIND VELOCITY.

Policy 2.5.1(d)

BRUNSWICK COUNTY ENCOURAGES THE PLACEMENT OF UTILITIES UNDERGROUND FOR ALL NEW DEVELOPMENT.

2.5.2 Post Disaster Reconstruction

In order for the County to succeed in orderly reconstruction, each of the municipalities must prepare reconstruction plans. This is especially imperative of the beaches since they possess the greatest potential for destruction. The levels of hazard present in the County and the small number of persons qualified to handle reconstruction, makes it necessary for communities to make as many advance preparations as possible. The officials in each of the jurisdictions in the county must review each of their policies to determine which ones will be used in the guidance of reconstruction. Although each municipality will prepare its own reconstruction plan, the plans will have to be coordinated. This is especially true of the beaches because the beach communities are closely related and the actions of one municipality may affect conditions in the others.

In the wake of a hurricane that causes a great deal of structural damage, the importance of jurisdictional boundaries may be completely ignored as property owners return to repair or rebuild their property. A reconstruction plan prepared in advance will alleviate much of the confusion and make it possible for residents of all areas to rebuild quickly. It will also offer the additional advantage of requiring them to rebuild safely.

The local authorities should work closely with the Division of Emergency Management to determine if adequate evaluation has taken place. Local government authorities should be mindful of evaulation considerations when development is proposed in hazard areas.

To insure that there is coordination between the various municipalities and County government, periodic meetings are held. These meetings, which are both of a formal and informal nature are conducted to assure a constant state of preparedness for any foreseeable disaster or emergency. The County Emergency Management Coordinator acts as a liasion between municipal and county government on emergency preparedness matters.

Major Reconstruction Steps

It is of primary importance that local officials be aware of the federal, state and local procedures for assessing damages and filing for disaster aid. Due to this need, a discussion of the current procedures followed by the various agencies will be presented. These procedures provide the framework within which officials must work to carry out recovery activities. The major federal legislation geared towards disasters is the Disaster Relief Act of 1974, which embodies a variety of financial and direct assistance to local government and private citizens. The steps to be taken after a major storm event are as follows:

1. Local damage assessment teams surveys the affected areas to determine the extent of storm drainage within the community.

2. Damage information is compiled and the nature and extent of damage is reported to the North Carolina Division of Emergency Management (DEM).

3. The DEM evaluates the damage information and advises the Governor of the seriousness of the situation.

4. The Governor may declare a State of Emergency and put the State's disaster relief and assistance plan into effect as well as direct state resources to places in needs.

5. If it is determined by the Governor that the severity of the situation exceeds the capabilities of state and local government, the Governor may ask the President, via FEMA to declare an "emergency" or "major disaster".

6. Federal relief assistance given to a community after a declaration of an "emergency" usually ends one month after the initial Presidential declaration. Federal assistance for emergency work after a major disaster has been declared typically ends 6 months after the declaration and federal assistance for permanent work ends after 18 months.

Federal Disaster Assistance

Federal disaster assistance programs in the past allowed communities to rebuild to the same standards that existed before the storm. In recent years, however, policy has changed in order to keep communities from repeating the same mistakes. The following are two examples of such legislation:

1. <u>Executive Order 11988 - Flood Plain Management</u>

Directs federal agencies "to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of flood plain development wherever there is a practicable alternative."

2. Section 406 - Hazard Mitigation

FEMA can approve or prescribe hazard mitigation measures that a community must undertake as a prerequisite for issuing federal disaster aid. This can take the form of developing land use regulations, construction standards, and other means of avoiding storm hazards.

The County has a listing of the Federal Disaster Assistance Programs that it may be eligible for after a major storm event. The programs listed fall in the categories of Temporary Housing, Home/Personal Property Loans, Aid to Major Sources of Employment, Repair of Public Facilities, and a variety of others. The County, due to Hurricane Diana in September, 1984, has considerable expertise in identifying and applying for aid for which it is eligible.

Local Damage Assessment Team

A local damage assessment team must necessarily be composed of individuals who are capable of giving reliable estimates of the original value of structures, estimations of the value amount of damages sustained, and an account of reparis. Due to the vast amount of land and structures found in the unincorporated area, this calls for the organization of several assessment teams. The following are recommended team members as are delineated in the Brunswick County Disaster Relief and Assistance Plan.

PLAN PROPERTY SURVEY TEAM

Building and Grounds (driver)
Parks and Recreation Department Representative
Building Standard and Code Enforcer (Captain)
Architect

BUSINESS AND INDUSTRY SURVEY TEAM

Tax Collector (Captain)
Building Inspector
Realtor
Volunteer Fireman (driver)

PRIVATE DWELLINGS SURVEY TEAM

Tax Supervisor (Captain)
Volunteer Fireman (driver)

Realtor
Architect

PRIVATE DWELLINGS SURVEY TEAM

Building Contractor (Captain)
Civil Engineer
Realtor (driver)
Architect

The Emergency Management Coordinator should immediately begin efforts to secure volunteers and several alternates needed to complete the damage assessment teams. It will facilitate the speed at which the teams can be assembled if persons are already aware that their services will be needed following a disaster. In addition, if the persons who are to form these teams have already been chosen, then they can easily be informed of the necessity to attend training sessions and also where to meet immediately following a storm. These sessions will acquaint them with the damage classification procedures and reporting requirements that are in effect.

It would be advantageous if the County established such a training program and opened it to both County and local damage assessment teams. This would insure that all of the teams are evaluating structures and recording the information in the same manner. Also, to foster this goal and to increase preparedness, the team members should complete damage assessment forms as part of their training programs. This will allow them the opportunity to ask questions or receive clarification on any of the procedures.

It is extremely important that the status of damage assessment teams be updated on a frequent periodic basis in order to maintain an accurate file.

Damage Assessment Procedures and Requirements

Damage assessment is a rapid means of determining, to the best extent possible, an estimate of the amount of damage caused by either a natural or manmade disaster. In the advent of a major storm, it is expressed in terms of 1) the total number of structures damaged; 2) the extent of damage by type of structure; 3) estimated total dollar loss, and 4) estimated total dollar loss covered by insurance.

Immediately following a major storm, Damage Assessment Team members should report to the Emergency Operations Center for a briefing by the Emergency Management Coordinator. In the aftermath of a storm, it may be difficult to determine which areas received the most damages given the vastness of the County and possible unsafe road conditions. Since it is imperative that the Damage Assessment Teams be deployed to those areas that are worst hit, it would be particularly useful if those areas could be identified from the air. An aircraft of some type would be able to cover a great distance and obtain an overall picture of the damages. This information would assist the Emergency Manage-

ment Coordinator in dispatching the Damage Assessment Teams to the most heavily damaged areas. This could be accomplished through a prearranged commitment with organizations such as the Marine Corps or the Civil Air Patrol who could provide helicopter assistance.

The magnitude of damages will depend, to a large extent, on the severity of the storm and where it enters upon land. Because of the potential of the task, the limited personnel available to conduct the assessments, and the limited time frame for assessing damages, the first phase of the assessment should be restricted to external surveying of damaged structures. After filing the initial damage reports, a more detailed second phase assessment can be conducted.

The first phase of damage assessment should make an estimate of the damage caused to each structure. This damage assessment should also identify the cause of the damage to a structure - whether it be due to wind, flooding, wave action or a combination of events.

Damaged structures should be classified in accordance with the following suggested state guidelines:

DESTROYED - repairs that would cost more than 80 percent of the structure's value.

MAJOR - repairs that would cost 30 percent of the structure's value.

MINOR - repairs that would cost less than 30 percent of the structure's value, but the structure is presently uninhabitable.

HABITABLE - minor damage, with repairs less than 15 percent of the structure's value.

The Damage Assessment Team will color code tax maps according to the damage classification scheme outlined in the preceding paragraph.

DESTROYED - red
MAJOR - orange
MINOR - yellow
HABITABLE - green

In many cases mailboxes and other sources used to identify property will not be present following a major storm. This could pose a significant problem, however, because of the necessity of thoroughly documenting each assessment. One way to circumvent this problem is to provide the Damage Assessment Teams with tax maps and cameras in order to document their field observations. Enough information on each structure must be gathered to complete the Damage Assessment Worksheet.

In the second phase of the Damage Assessment Operation, estimates of the value of sustained damages must be calculated. This phase should be completed in the Office of Emergency Management under the direct supervision of the Emergency Management

Coordinator. The team who will be conducting these calculations should consist of the County tax clerks, tax assessors, and other personnel who are similarly qualified. This team should be organized by the Emergency Management Coordinator and included in the Damage Assessment Plan.

The materials that are listed below should be available in the office of Emergency Management. They will be needed in order to estimate total damage values.

- A set of property tax maps that are identical to those used by Damage Assessment Team members.
- A set of aerial photographs.
- Several County maps which show the survey areas covered by each team.

A complete copy of County property tax records which indicate the estimated values of all structures existing in the unincorporated area on the appropriate lots. It is recognized that this would be a time-consuming task, but it would provide information that would be of great use in the event of a disaster. Also, in order to keep the information up-to-date, it should be reviewed annually before the onset of the hurricane season. This information should be kept in the office of Emergency Management so that all data will be centrally located.

The County should take responsibility for contacting area lending agencies to determine the average value of flood insurance coverage carried by Brunswick County program participants. This information should be updated on an annual basis before the hurricane season begins. These updates should be kept in the office of Emergency Management and be made available to all of the towns for estimating the value of sustained damages covered by hurricane insurance.

The information on the value of damages sustained should be derived through the following recommended methodology.

1. The number of businesses and residential structures that have been damaged within unincorporated areas of the County should be summarized by damage classification category.
2. The value of each damaged structure should be obtained from the market set of tax maps and multiplied by the following percentages for appropriate classification category:

   DESTROYED - 100%
   MAJOR DAMAGE - 50%
   MINOR DAMAGE (uninhabitable) - 25%
   HABITABLE - 10%

3. The total value of damages for unincorporated areas of the County should then be summarized.
4. The estimated value loss covered by hazard insurance should then be determined by: 1) estimating full coverage for all damaged structures where the average value of such coverage exceeds the amount of damage to the structure; and 2) multiplying the number of structures where damage exceeds the average value of insurance coverage by the average value of such coverage.
5. Damage to public roads and utility systems should be estimated by utilizing current construction costs for facilities by lineal foot (e.g. 10' water line replacement cost = xs/ L.F.)

   SOURCE: Carteret County Storm Hazard Mitigation Plan and Post Disaster Reconstruction Plan.

The procedures recommended above provide a relatively time efficient and uncomplicated means by which to estimate overall property damage. In order for this method to be utilized, however, it is necessary that flood insurance information is obtained and that the value of each structure is placed on the tax maps. These two components must be attended to immediately in order to insure the effectiveness of the Damage Assessment Plan.

Organization of Recovery Operations

The preceding section dealt with the procedure and requirements that must be completed during the emergency period in order to restore public health and safety. There are also procedures and guidelines which must be followed after the preliminary damage assessment has been completed. The state suggests that a Recovery Task Force be appointed to guide restoration and reconstruction activities during the post-emergency phase. This task force may be active from a period of a few weeks up to one year. The responsibilities of this group will be as follows:

1. Develop a restoration schedule.
2. Set priorites concerning restoration.
3. Obtain a predisaster agreement between the localities and the County that covers the pole of local officials and County officials during a disaster.
4. Determine the need for outside assistance and request such assistance when it is needed.
5. Keep state officials abreast of conditions through the use of Situation and Damage Reports.
6. Maintain accurate records of activities and expenditures through the use of standardized forms that will be available at the office of Emergency Management.
7. Pronounce a local "State of Emergency" if such a determination is warranted.
8. Authorize debris removal and restoration of public utilities. (In the case of private utility companies, the Task Force will act as coordinator for restoration activites.)

9. Commence the repair and restoration of public facilities and services in order of need.
10. Keep an up-to-date listing of various types of federal and state assistance that may be available to private businesses and individual property owners.
11. Organize personnel to assist disaster victims in understanding the different types of assistance available and in applying for such assistance.

Because of the variety of duties that this Task Force must perform, it is necessary that it be composed of a cross section of the public. The Task Force should include the following persons.

Chairman of the Board of County Commissioners
Brunswick County Manager
Emergency Management Coordinator
County Tax Appraiser
County Finance Director
County Building Inspector
County Engineer
Minor CAMA Permit Officer

State and Federal agencies need to confer with the State Major CAMA Permit Officer during local recovery planning efforts.

It is not possible to devise a rigid schedule for local recovery decisions before a storm occurs due to the unpredictability of those events. The amount of time that it takes to assess storm damages and make reconstruction decisions directly correlated with the level of damage caused in the community. It is possible, however, to establish a sequence of activities that the County will need to follow in assessing damages and granting permits for repairs and reconstruction. The sequence of activities that follow should be reviewed by the Recovery Task Force and be amended as necessary after damage assessment operations have been completed.

ACTIVITY	TIME FRAME
1. Complete Initial Damage Assessment	Immediately after storm is over
2. Begin Repairs to Critical Utilities and Facilities	As soon as possible after storm is over
3. Access, Classify and Map Damages	Complete by second week after the storm
4. Summarize Reconstruction Priorities and Develop Master Reconstruction Schedule	Complete one week after second phase damage assessment is completed

ACTIVITY	TIME FRAME
5. Decide whether Temporary Development Moratorium is needed	One week after second phase damage assessment completed
6. Issue Permits for all Structures needing Minor Repairs	One week after second phase damage assessment completed
7. Issue Permits for Conforming Structures needing Major Repairs	Two weeks after second phase damage assessment completed
8. Begin Assessment of Existing Mitigation Policies	Two weeks after second phase damage assessment completed
9. Evaluate Hazardous Areas and the Effectiveness of Mitigation Policies	The length of time needed to conduct re-evaluations and receive comments from the state (not to exceed two months)
10. Amend Mitigation Policies and Development Standards for Areas under Development Moratorium and Lift Development Moratorium for Major Repairs with Changes to Conform	Two months after Development Moratorium is imposed
11. Issue Permits for New Development	As soon as the Tempory Development Moratorium is suspended

Post Disaster Reconstruction Policies

Policy 2.5.2(a)

THE BOARD OF COUNTY COMMISSIONERS OF BRUNSWICK COUNTY SHALL BE ULTIMATELY RESPONSIBLE FOR SUPERVISING THE IMPLEMENTATION OF POLICIES AND PROCEDURES CONTAINED IN THE DISASTER RELIEF AND ASSISTANCE PLAN, AND THE POST-DISASTER RECOVERY POLICIES OF THE LAND USE PLAN. UNDERGROUND UTILITIES WILL ALSO BE ENCOURAGED.

Policy 2.5.2(b)

IN THE EVENT OF EXTENSIVE HURRICANE DAMAGE TO PUBLIC UTILITIES REQUIRING REPLACEMENT OR RELOCATION OF THESE UTILITIES, EFFORTS SHALL BE MADE TO LOCATE DAMAGED UTILITIES AWAY FROM HURRICANE HAZARD AREAS OR TO STRENGTHEN THEIR CONSTRUCTION.

Policy 2.5.2(c)

PRIORITY SHALL BE GIVEN TO THOSE REPAIRS THAT WILL RESTORE SERVICE TO AS MANY PERSONS AS SOON AS POSSIBLE.

Policy 2.5.2(d)

THE BOARD OF COUNTY COMMISSIONERS MAY DECLARE A MORATORIUM OF UP TO 180 DAYS ON THE PERMITTING OF ANY NEW CONSTRUCTION, INCLUDING NEW UTILITY HOOKUPS, OR REDEVELOPMENT CONSTRUCTION THAT WOULD INCREASE THE INTENSITY OF THE LAND USES EXISTING BEFORE THE HURRICANE.

2.5.3 Evacuation Plan

Evacuation refers to the range of activities involved in the assignment of evacuation routes and shelter locations, the determination of when to issue an evacuation order, the procedures for notifying the public of both the evacuation routes and the order to evacuate, and the implementation of the evacuation during the storm event. Evacuation activities are related to both specific storm events (e.g., actual evacuations) and storm events in general (e.g., establishment of evacuation routes and shelter locations; notification of the public of routes and shelters).

Brunswick County has an official Hurricane Evacuation Plan which has been prepared at the request of and approval by the Brunswick County Board of Commissioners, and mayors of towns and municipalities in the County. This plan was prepared with the assistance of the Brunswick County Civil Preparedness Agency and the North Carolina Department of Crime Control and Public Safety, Division of Civil Preparedness.

Evacuation Policies

Policy 2.5.3

BRUNSWICK COUNTY SHALL CONTINUE TO WORK CLOSELY WITH EMERGENCY MANAGEMENT AGENCY PERSONNEL IN THE PREPARATION OF THE COUNTY'S EVACUATION PLAN. THE COUNTY SHALL ALSO CONTINUE TO PRESS FOR NECESSARY IMPROVEMENTS FOR EFFECTIVE EVACUATION OF THREATENED AREAS.

DATE DUE

GAYLORD No. 2333 PRINTED IN U.S.A.

NOAA COASTAL SERVICES CENTER LIBRARY

3 6668 14108 6944