TOWN OF WINDSOR
LAND USE PLAN UPDATE
1986

HD
211
.N8
W56
1987

AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

HA211.N8 W56 1987 c.1

1986

WINDSOR LAND USE PLAN

UPDATE

Adopted by the Windsor Town Council June 25, 1987

Certified by the Coastal Resources Commission July 24, 1987

PREPARED BY:

MID-EAST COMMISSION
P.O. DRAWER 1787
WASHINGTON, NC

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

1986 WINDSOR LAND USE PLAN UPDATE

ACKNOWLEDGMENTS

Prepared by:

TOWN COUNCIL

L.T. Livermon, Mayor

O. Wint Hale

T.R. "Buddy" Shaw

J.F. "Jimmy" Hoggard, III

Charles W.D. Fulk

Mary Willoughby

PLANNING BOARD

Lawrence Carter, Chairman

Alice Pittman

E.A. Moore

John W. Phelps

Wesley Gray

Jack Curlings

Russell Spivey, Jr.

MID-EAST COMMISSION PLANNING AND DEVELOPMENT STAFF

Lynn Roche Phillips, Technical Advisor

Robert Paciocco, Planner-In-Charge

David Overton, Town Administrator

Diane Dunlow, Town Bookkeeper

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

TABLE OF CONTENTS

DATA COLLECTION AND ANALYSIS	1
Introduction	1
Establishment of the Data Base	2
PRESENT CONDITIONS	3
Present Population and Economy	3
Summary	11
EXISTING LAND USE	12
Introduction	12
Land Use Summary	12
CURRENT PLANS, POLICIES AND REGULATIONS	18
Plans	18
Policies	18
Regulations	20
CONSTRAINTS: LAND SUITABILITY	22
Introduction	22
PHYSICAL LIMITATIONS FOR DEVELOPMENT	22
Hazards	22
Soils	25
Water Supplies	26
Excessive Ground Slope Areas	28
Fragile Areas	28
Areas With Resource Potential	32
CONSTRAINT: CAPACITY OF COMMUNITY FACILITIES	35
Introduction	35
Water and Sewer	35
Solid Waste Collection and Police and Fire Protection	36
Schools	36
Roads	38
ESTIMATED DEMAND	40
Population and Economy	40
Summary	40
REVIEW OF 1981 POLICY STATEMENTS AND ACTIONS	43
Resource Protection	44
Resource Production and Management	45
Economic and Community Development	47
ISSUES AND POLICY STATEMENTS	49
RESOURCE PROTECTION	50
Development in Areas with Constraints	51
AEC Development	54
Other Fragile Areas and AECs	55
Hurricane and Evacuation Needs	58
Protection of Potable Water	58

Use of Septic Tanks 59
Storm Water Runoff 60
Marina and Floating Home Development 62
Industrial Impacts around Fragile Areas 63

RESOURCE PROTECTION AND MANAGEMENT 65
Productive Agricultural Land 65
Existing and Potential Mineral Production Areas 67
Commercial and Recreational Fisheries 68
Commercial Forestry 69
Off-Road Vehicles 70
Impact of Development Types of Resources 70

ECONOMIC AND COMMUNITY DEVELOPMENT 72
Location and Types of Industries Desired 72
Commitment to Providing Services 75
Desired Urban Growth Patterns 76
Redevelopment of Developed Areas 77
Commitment to State and Federal Programs 78
Assistance to Channel Maintenance 80
Energy Facility Siting and Development 80
Tourism and Beach/Water Access 81
Types, Densities, and Location of Anticipated Development 83

HURRICANE AND STORM HAZARD MITIGATION 84
Introduction 84
Hazards Map 86
Effects of Storm Components on Hazard Zones 90
Summary 92
Post-Disaster Reconstruction 93
Introduction 93
Immediate Clean-Up 94
Recovery Task Force 97
Schedule for Repair and Reconstruction Over Longer Period 98
Evacuation Routes and Times 101
Summary 103
Intergovernmental Coordination 104
Storm Hazard Mitigation and Post-Disaster Reconstruction Policies 106

PUBLIC PARTICIPATION 108

LAND CLASSIFICATION 111

RELATIONSHIP OF POLICIES AND LAND CLASSIFICATION 120

INTERGOVERNMENTAL COORDINATION 122

APPENDIX A 124

APPENDIX B 128

APPENDIX C 132

LIST OF FIGURES

FIGURE NUMBER	NAME	PAGE
1	Windsor Planning Area	4
2	Population Change from 1960 to 1984 - Windsor and Bertie County	5
3	Employment by Persons 16 Years and Over by Industry - Windsor	7
4	Windsor Area Manufacturing Firms	9
5	Existing Land Use 1986-A	13
6	Existing Land Use 1986-B	14
7	Flood Prone Area	23
8	Soils Suitable for Septic Tanks and Urban Purposes	24
9	Windsor Area AEC: The Cashie River	29
10	Register of Historic Places in Windsor Area	31
11	Prime Agricultural Soils in the Windsor Planning Area	33
12	Public School Facilities in Windsor	37
13	Population Projections - Windsor and Bertie County 1984-1995	41
14	Inundation Levels for Hurricanes of Specified Intensity	87
15	Inventory of Structures in the Hazard Area	89
16	Land Classification Map	113

DATA COLLECTION AND ANALYSIS

Introduction

Land development generally takes place as the result of a series of decisions by private individuals and government. If left entirely to chance, the resulting pattern of development may not be in the best overall interest of the community. To promote this community interest for both present and future generations, a land use plan is to be developed, adopted and kept current by the local governments in the coastal area.

The land use plan is a framework to guide local leaders as they make decisions affecting development. Private individuals and other levels of government will also use the plan to guide their land use decisions. Effective use of the plan by these groups will lead to the more efficient and economical provision of public services, the protection of natural resources, sound economic development, the protection of public health and safety, and enhancement of the community's quality of life.

The Town of Windsor has responded to these needs by electing to complete and update its land use plan. The preparation of this plan represents an effort by the Town to guide development in a way which will maximize public benefits. This plan was financed in part through a grant provided by the Coastal Zone Management Act of 1972. These funds are administered by the Office of Coastal Resource Management of the National Oceanic and Atmospheric Administration through the North Carolina Department of Natural Resources and Development (DNRCD) Division of Coastal Management.

ESTABLISHMENT OF THE DATA BASE

One purpose of the 1986 land use plan is to update information given in the 1981 plan and to outline development that has taken place since the completion of the last plan. The 1981 plan and its counterpart, the original 1976 land development plan, serve as the primary sources of information for this effort. Various other sources were used to update and expand the data base.

Socioeconomic data were gathered from a variety of sources. The 1980 U.S. Census of Population provided updated population figures, which were then made current with data provided by the N.C. Department of Administration. The North Carolina Department of Natural Resources and Community Development Division of Marine Fisheries provided data on the fishing industry in the Windsor area. Additional statistics were gathered from The Directory of Manufacturing Firms, 1984, and the Bertie County School Superintendent. The DNRCD Divisions of Environmental Management and Soil and Water Conservation were very helpful in providing information. Various other sources were consulted, including the Town Administrator and Bookkeeper.

Information on land use within the Town's jurisdiction was acquired from a variety of sources. United States Geological Survey 7 1/2 minute quadrangles, the Bertie County soil survey, zoning maps, building permit records and on-site inspections were used to assess the development that has occurred since the

1981 plan. Personal interviews with various technical experts, such as the District Soil Conservationist, supplemented information on land development trends in the area.

The accuracy of this plan was checked throughout its development period. The Planning Board, Town Administrators and Town Council proofread the text to ensure its accuracy and direction. These combined sources aimed to provide the most concise picture of the development trends within the community.

PRESENT CONDITIONS

Present Population and Economy

The Town of Windsor is situated in central Bertie County on the Cashie River, which drains into the Albemarle Sound (Figure 1). It serves as the county seat. Windsor is a Town which, until the 1960s, existed primarily to serve the farming and logging community. The population of the Town has risen and fallen during the past 25 years (Figure 2). In the 1960s, Windsor grew by more than 20 percent and in contrast, Bertie County had a net loss of population. Since 1970, the population of Windsor has steadily been declining at a very low rate. During the past 25 years, most of Windsor's growth occurred in the decade from 1960 to 1970. This coincides with the change in the economy from traditional rural industries like farming and logging to manufacturing. Several manufacturing firms located in Windsor during this time. The Town developed residential areas as well as service industries to accommodate the growth brought

Figure 1

WINDSOR PLANNING AREA

The preparation of this map 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, National Oceanic and Atmospheric Administration.

Figure 2

POPULATION CHANGE FROM 1960 TO 1985:

WINDSOR AND BERTIE COUNTY

	1960 POPULATION	1970 POPULATION	1980 POPULATION	1985* POPULATION	1960-1985 PERCENT POPULATION CHANGE	1980-1985 PERCENT POPULATION CHANGE
Windsor	1,813	2,199	2,126	2,091	15.3%	-1.6%
Bertie	24,350	20,528	21,024	21,341	-12.4%	1.5%

SOURCE: US Census of Population, 1980

* 1985 estimates provided by N. C. Department of Administration

on by industry. Since 1970, however, the population has shown a slight decrease. This loss can probably be attributed to the out-migration of workers to larger cities in the region.

A seasonal population flux does not play an important role in the public service demands placed on Town facilities. Recreational activities such as hunting and fishing attract a small number of tourists and summer residents to the area. This limited number of visitors, however, does not tax the adequate provision of water and wastewater services nor any other Town services.

Additional statistics may shed light on the composition and lifestyle of the residents of Windsor. The population is composed of approximately 36.5 percent minorities and the median age is 33.3 years. This implies that one half of the population is older than 33.3 years and the other half is younger. Windsor's $ 6,050 per capita income is higher than $ 4,376 for Bertie County (NC Census of Population, 1980).

The economy of Windsor is mixed, but dominated by manufacturing. Figure 3 shows employment of persons 16 years and older by industry in Windsor. A large proportion of the work force is engaged in the manufacturing, retail trade or education fields. Unemployment in Bertie County is high (5.9 percent) compared to the 4.56 percent average for Region Q (Employment Security Commission).

Although not reflected in the employment statistics, agriculture is still an important component of the Windsor economy. Agriculture, forestry, fishing and mining employ less

Figure 3

EMPLOYMENT BY PERSONS 16 YEARS AND OVER BY INDUSTRY, 1984

WINDSOR

Industry	Total Persons	Percent
Agriculture, Forestry, Fishing and Mining	34	4.0
Construction	39	4.6
Manufacturing	244	28.9
Transportation	10	1.2
Communications and other Public Utilities	6	0.7
Wholesale Trade	47	5.6
Retail Trade	127	15.0
Finance, Insurance and Real Estate	28	3.3
Business and Repair Services	17	2.0
Personal, Entertainment and Recreation Services	44	5.2
Health Services	56	6.6
Education Services	108	12.8
Other Professional and Related Services	33	3.9
Public Administration	50	5.9
TOTAL	843	
UNEMPLOYMENT	61	7.2

SOURCE: North Carolina Statistical Abstract, 1985

than four percent of the labor force. There continues to be an overall decrease in agricultural employment triggered by the widespread use of heavy machinery and the introduction of farming methodologies which require less labor. Agricultural land use constitutes approximately 30 percent of the total land area within the Town's one mile jurisdictional area. Similarly, Bertie County is heavily agricultural with approximately 22 percent of the total land area in agricultural uses. The crops most widely grown are peanuts, corn, soybeans, tobacco and cotton. Agricultural employment typically experiences peaks during the harvest season in late summer/early fall.

Manufacturing dominates the regional economy. It employs nearly one-third of the local work force. Thirteen manufacturing firms are located in the Windsor planning area (Figure 4). Almost three-fifths of these firms rely on the timber industry for their existence. Forestry-related industries employ almost 70 percent of the manufacturing work force, representing a large proportion of the regional payroll. In the future, the Town should strive for diversifying the local industrial economy away from a dependence on forestry. As it is, Windsor is susceptible to the unpredictable nature of the timber business. Forested areas constitute approximately 60 percent of the undeveloped land in Windsor's extraterritorial area, compared to approximately 70 percent of the total land area for Bertie County. In the Windsor planning area, about 70 percent of the timber is owned by commercial interests.

Figure 4

MANUFACTURING FIRMS IN WINDSOR AREA

Name	Address	Product	# of Emps.
Bema Manuf. Co., Inc.	Windsor Ind. Park P. O. Box 698	Ladies and children's bathing suits	20-49
Blue Bell, Inc.	P. O. Box 39	Female jeans	100-249
Byrum, Robert Sherlock	Route 3	Logging	5-9
Coulbourn Lumber Co.	US 17 Bypass	Pine products	100-249
Gillam Bros. Peanut Shelter, Inc.	Spring St. Ext.	Peanuts	50-99
Lea Lumber & Plywood Co.	Route 3, Box 57 (off Hwy 13)	Hardwood veneer and plywood	250-499
Lea Lumber & Plywood Co.	P. O. Box 489	Cut to size plywood	100-249
Pierce Market	Route 3 Aulander Hwy	Meat processing	n/a
Windsor Wood Products, Inc.	P. O. Box 302	Furniture Components	10-19
Thompson & Co.	Hwy 13 North	Lumber Cypress Pine	20-49
Williford Lumber Co.	Route 2	Furniture Squares	20-49
Worker's Owned Sewing Co.	Granville St.	Contract Sewing	50-99
Stephenson Crab Co.	Windsor Ind. Park	Seafood Processing	20-49

SOURCE: Town Administrator and 1984 Bertie County Land Use Plan Update.

Bertie County is consistently among the top 13 counties for commercial catches, poundage and monetary value. Even so, the fishing and seafood business is not a major industrial employer in the Windsor area. A small number of persons are employed by the crab processing plant and several independent commercial fishermen operate from Windsor. Finfish, including herring, are the common catch among local commercial boatmen. Recreational fishing and boating are very popular along the Cashie. Supplies such as fuel, food, beverages, bait and marine supplies are commonly purchased in Windsor by these seasonal recreators. These activities are suspected to provide a significant seasonal boost to the regional economy.

Other industries in the area are textile and food processing plants. The Bertie County Economic and Industrial Development Commission is actively recruiting new and diversified industry to the area. Several sites are presently available for potential industrial developers. The Bertie County Industrial Park, located south of Town on Highway 17, houses several of the manufacturing firms discussed above and has the space to accommodate several others. Other existing industrial sites and areas zoned for industry are located throughout the planning area.

Seasonal variations in employment are generally not a significant problem in the Windsor area. Small amounts of unemployment among agricultural workers during the winter months is the major concern for the area.

Summary

The analysis of the demographic and economic conditions reveals that Windsor supports a stable economy, but also has a slowly declining population. It is expected that this population trend will continue over the next ten years. The majority of the industries in Town are dependent upon the forestry business, which is currently experiencing prosperous times. However, manufacturing linked to forestry is extremely vulnerable due to these fluctuations in the timber industry. It is recommended that the Town diversify its economy by promoting other kinds of industry to the area. Additional growth in the economy or population is not likely to have a significant impact on the natural resources of the area. Industrial sites area available throughout Town, and specifically in the industrial park.

EXISTING LAND USE

Introduction

Before intelligent decisions can be made directing future land use in a community, there must be an inventory of the present land uses. This inventory should take note of the types of land uses, their amount, and their distribution. The following section details the existing land uses within the Windsor planning area.

Land Use Summary

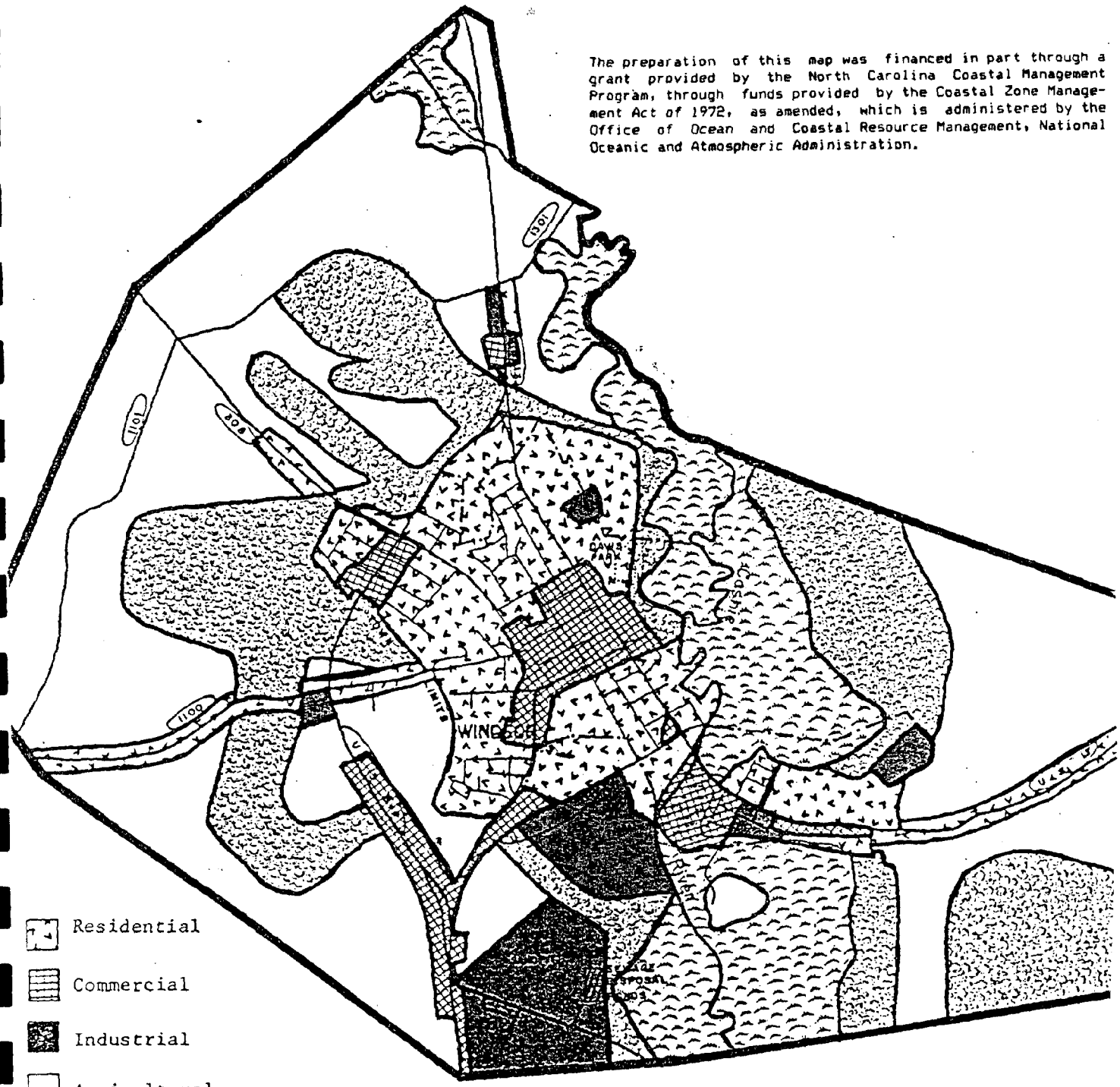
The Windsor planning area includes the land within the Town limits and the land outside Town to a distance of approximately one mile (Figure 1). The total area encompasses slightly more than 11 square miles. About 30 percent (3.3 square miles) of the planning area is within the corporate limits and the remaining 7.7 square miles is in the extraterritorial area. Land developed for urban purposes accounts for about 15 percent of the total land area. The majority of the undeveloped land is in forests, agriculture, or swamp forests and is located outside of the Town limits.

Land uses have remained relatively unchanged since the 1981 plan (Figures 5 and 6). The majority of land in Town is in residential uses. Residential development is concentrated in the Thompson Development in the north, Spruill Park and Hillcrest in the west and south, and the Peterson Road area in the eastern section of Town. Since 1981, 17 residential building permits have been granted, most of which were for construction in existing residential developments. Other sites for housing

Figure 5

EXISTING LAND USE 1986 - A

The preparation of this map 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, National Oceanic and Atmospheric Administration.



Residential

Commercial

Industrial

Agricultural

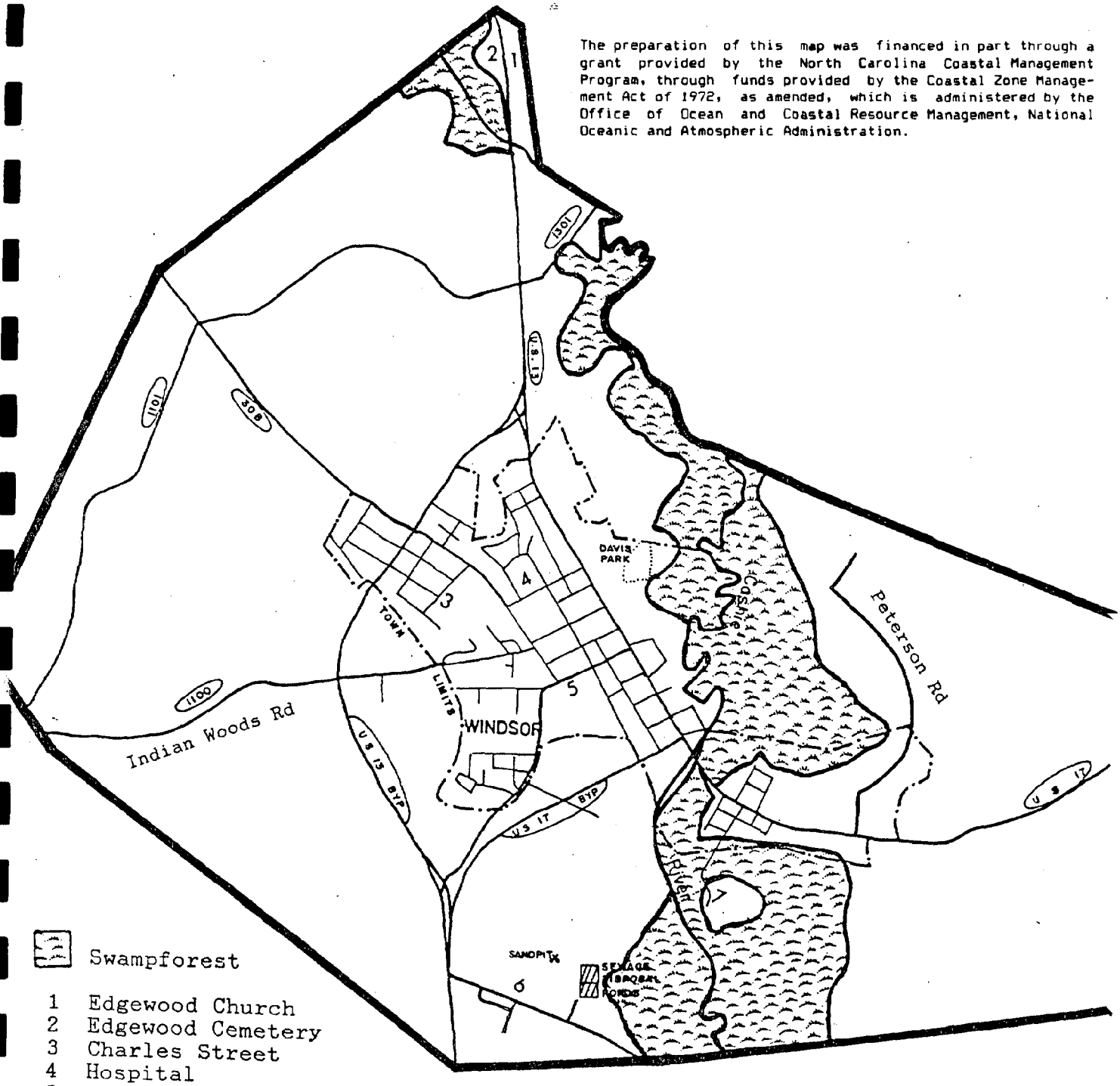
Forested

Swampforest

Figure 6

EXISTING LAND USE 1986-B

The preparation of this map 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, National Oceanic and Atmospheric Administration.



Swampforest

1 Edgewood Church
2 Edgewood Cemetery
3 Charles Street
4 Hospital
5 Granville Street
6 Industrial Park
7 Elm Street

permits have been for sites located off Highway 17 North and near Edgewood Church. Existing residential uses occur along traffic arteries in the southeastern quadrant of the planning area along US 17 South in the vicinity of the Industrial Park, off of NC 1100, and off of Highway 13 Business. Other homes are located sporadically throughout the planning area.

Commercial land uses are those which support retail or personal services. Within the planning area, several concentrations of commercial uses exist. These are the downTown business district, the U.S. 17/13 Business arteries and the strip development stretch extending along the highways leading into Town. During the last five years, Granville Street has been the growth area for commercial establishments. Since 1981, seven of the nine commercial building permits granted have been for addresses along Granville Road near downTown. This has helped to alleviate depressed economic conditions in the downtown area.

Office and institutional uses are springing up in the blocks near the hospital and Charles Street. Zoned for this use, a medical clinic recently located across from the hospital. It is expected that future commercial, institutional and office space needs will be met in these existing zoned areas. Expansion of the strip development in all directions along major traffic arteries is also expected. Special attention should be given monitoring this haphazard growth to avoid potential hazards and conflict in land uses.

As previously stated, the industrial areas of Windsor are situated in the industrial park located on Highway 17 South, the Highway 17 Bypass, U.S. 13 north to Ahoskie, off of Indian Woods Road, and in two sites near Peterson Road. Most industries are lumber processors and textile manufacturers. Any future industrial uses should be confined to the industrial park, existing areas zoned industrial, or the extraterritorial area because of the undesirable effects of industry on other land uses.

Nearly 60 percent of the planning area is forested, and about 10 percent is located within the Town limits. About 70 percent of the woodlands are owned by industry for use in nearby pulp mills. The wooded areas are concentrated in three locations in the planning area. A westward band of forested area originates in the center of Town, and another cluster of trees exists in the eastern most extreme of the planning area. The hardwood swamp forests located in the floodplain of the river are another forested area. Presently, there are no serious land use compatibility problems with these timber lands. However, should these areas be logged or cleared for agricultural use, short-term aesthetic problems might result unless wise harvesting/reforestation practices are used.

Most of the land within the extraterritorial area is cleared for agricultural uses. Most agricultural land lies along the boundary of the extraterritorial limits and is either currently devoted to crop production or serves as pasture. Tracts in the northwest and southwest sections of the planning area are also in production. Within the Town's planning juris-

diction, there are currently no apparent conflicts between agriculture and other land uses. As the demand for industrial, residential and commercial land increases, agricultural land along Highway 17 Bypass may be exposed to development pressure. The zoning ordinance allows for this by allowing residential and other uses in areas that are primarily agricultural. No other compatibility problems are expected to arise.

In summary, there are no significant land use compatibility problems in the planning area. Any negative aspects of industry (noise, smoke, traffic congestion, etc.) should not have a serious effect on land use patterns in Windsor. The zoning ordinance regulates the amount and location of all land uses. If additional commercial strip development occurs along the major traffic arteries, a compatibility problem may arise between the commercial and residential uses located there. Planning and finances for additional traffic lights, curb cuts and turning lanes may be necessary if strip development becomes a great problem. There are no major problems anticipated or a result of unplanned development or will have a bearing on future land use. Future residential growth areas include the development near Edgewood Cemetery as well as in existing subdivisions. Outside the Town limits, additional construction along transportation routes is possible. Selected sites along N.C. 1100 are currently residential growth centers and will likely continue growing as the need for dwellings increases. Commercial uses are likely to expand in the highway corridors as well as in the downtown area. Changes in land use along the highways should not cause any

significant infringement problems on agricultural land, as most of this area is already considerably developed.

CURRENT PLANS, POLICIES AND REGULATIONS

Plans

Windsor presently has two planning documents that have a direct impact on land development in the Windsor planning area. In addition, numerous county and regional documents address Windsor development issues. The following is a list and description of the plans related to Windsor's growth that have been put into action since 1981.

Community Development Block Grant Program - The 1981 Land Use Plan update outlines a community development and housing element plan completed in 1977. Since the completion of this plan, the Town has applied for additional community development block grants.

Land Use Plans - Since the passing of the Coastal Area Management Act, two land use plans have been completed. The land classification map which accompanies each plan is useful in determining land use changes in the planning area.

Policies

Policies are defined as statements of intent and courses of action which are followed to reach a desired goal. The following lists the policies related to development that Windsor currently has in place.

Utilities Extension Policies - Only approximately one percent of the residents in Town are not connected to

the wastewater treatment facility. The sewer hook-up policy is applicable to all potential customers who discharge at an equivalent amount and quality as domestic customers. Mandatory hook-up is enforced for every customer located within 200 feet of the sewer and water lines. Requests for extensions of pipes are examined on a case-by-case basis. All in-Town residents are tied into the municipal water system. Water fees are set higher for customers outside the Town limits. The Town is currently working at installing more piping through Town. The capacity of community facilities is discussed in the section on Constraints: Capacity of Community Facilities.

Open Space and Recreation Policy - There is no comprehensive recreation plan for Windsor. The Town provides a recreation area on South York Street which includes a small playground area and a petting zoo. Located next to the park is a privately-owned baseball field. The Town recently purchased and relocated a nationally recognized historic structure, the Freeman Hotel, to a lot across from the park facilities. The hotel will be used as a guest house for visiting dignitaries or will house the Chamber of Commerce. In addition, the Town plans some minor capital improvements to the area to make it a focal point for tourism and recreational activities. A public access site to the Cashie River is also being constructed in this area.

Recently, the Wildlife Resource Commission announced that funds have been approved for the construction of a public boat ramp at the end of Elm Street. Construction began in early 1987 and is expected to be completed by summer 1988.

Regulations

The Town of Windsor enforces several regulations which have an impact on development. The building inspector and County Health Department are responsible for their enforcement. Regulations currently in place are:

Zoning Ordinance

Building and Housing Regulations

Mobile Home and Trailer Park Ordinance

Subdivision Ordinance

Floodway Regulations

Flood Zone Insurance Requirements

Septic Tank Regulations

Historic District Regulations

Nuisance Ordinance

As stated above, the County Health Department regulates the safe placement of septic tanks. A minimum lot size of 20,000 feet is required for septic tanks. Most households with septic tanks are located within the extraterritorial area. Within the Town limits, practically all structures are hooked up to the municipal water and wastewater systems.

The historic district was established in 1981 and its regulations are outlined in the historic district ordinance. In brief, the historic district ordinance requires that land uses in the identified district must remain consistent with the historic theme. The designation of the historic district allows the Town to apply for special funds to upgrade the area. According to Chapter 113A of the General Statutes, the North Carolina Environmental Policy Act, the Town can request developers to submit detailed statements outlining the potential impacts of major developments. Windsor has no additional requirements. Sedimentation Control regulations are in accordance with the NC Sediment Pollution Control Act. All land disturbing activities affecting one acre or more must file an erosion and sedimentation control plan to be prepared and sent to the Division of Land Resources. The lack of sand dunes in the planning area precludes the need for a Dune Protection Ordinance. Additional federal and state regulations enforced in the planning area are outlined in Appendix A.

CONSTRAINTS: LAND SUITABILITY

Introduction

The fundamental premise of land use planning is that distinctions exist between land masses which make them suitable for various uses. Planning is also required because not all lands are suitable for the same types of development. For example, the physical characteristics of the soil may permit compression, making development unsuitable. The following section identifies and discusses areas with development constraints to guide future land use decisions.

Physical Limitations for Development

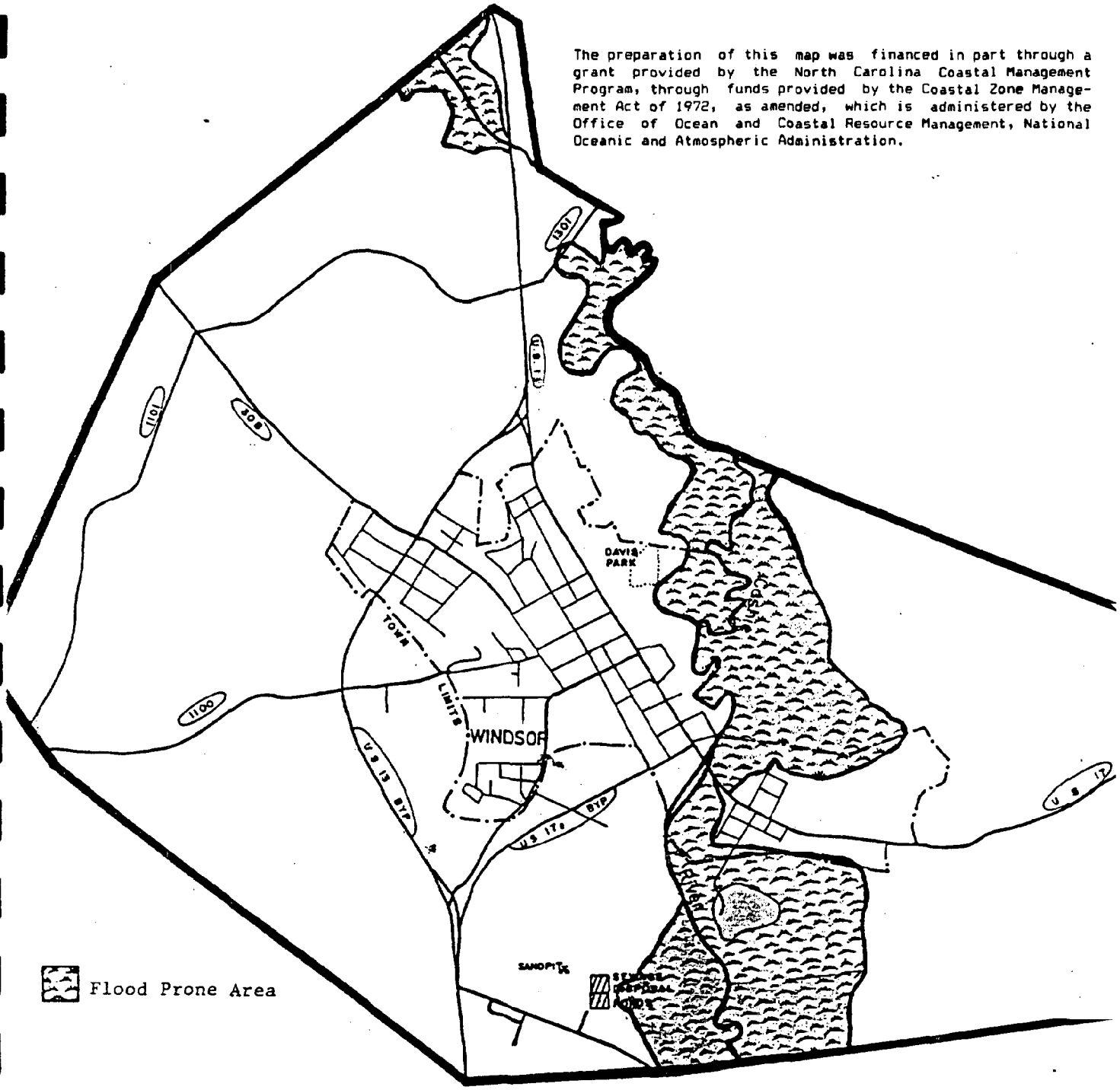
Hazards

Two types of hazards may impede growth: man-made and natural hazards. There are three man-made hazard zones in the planning area which should be excluded from development. These include the sand pits, the Industrial Park and the fuel oil storage sites.

The mined sand pits located south of the Town limits near the wastewater treatment plant present a hazard to development. Also, the industrial park could present a hazardous development situation for other types of land uses. Flammable liquids, such as fuel oil, are stored in three locations in Town. Windsor Oil Company storage tanks, on S. King Street, are located within a residential development. Davenport Oil Company and Spruill Oil Company are situated on major thoroughfares. Land uses which are likely to develop around these sites would probably be commer-

Figure 7

FLOOD PRONE AREA

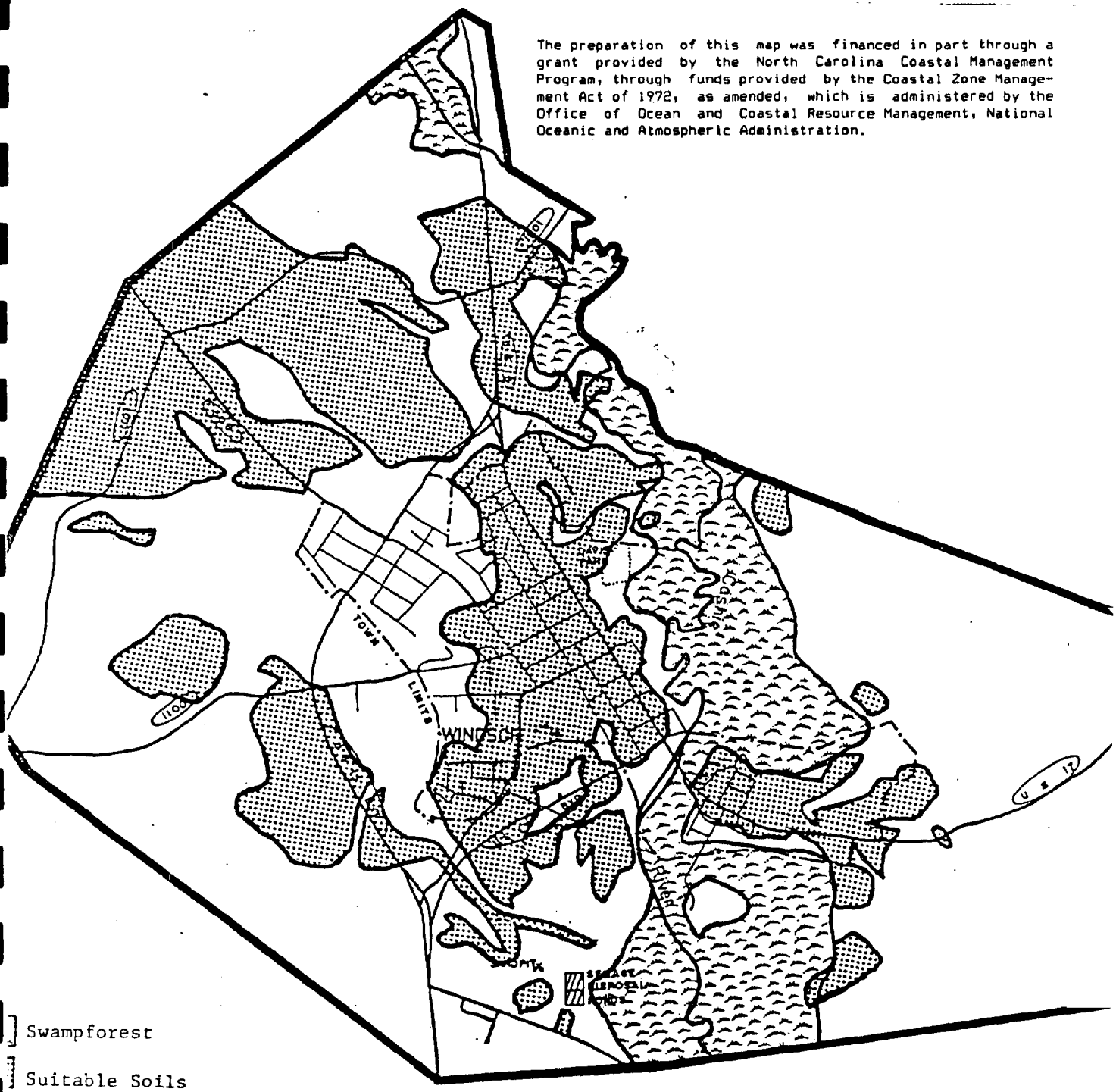


Source: U.S.G.S. Flood Prone Area Map, 1982.

Figure 8

SOILS SUITABLE FOR SEPTIC TANKS AND URBAN PURPOSES

The preparation of this map 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, National Oceanic and Atmospheric Administration.



Swampforest

Suitable Soils

Source: 1984 Bertie County Soil Survey.

cially-oriented. All development should be limited to low density commercial establishments that would not be endanger lives in the event of a possible leak or explosion. Nuclear power and peat-fired energy-generating facilities would have an impact on future planning decisions if located in the Windsor area.

The flood prone area in Town is a natural hazard zone where development is strictly regulated. The United States Geological Survey flood prone area maps show that approximately 15 percent of the Town is located in the 100 year flood plain (Figure 7). This means that areas within the 100 year floodplain have at least a one in 100 chance of being inundated in any given year. Davis Park and a most of the Bertie residential area are in the floodplain. In accordance with the Flood Insurance Rate program, development is prohibited in the floodway and limited within the floodplain.

Soils

Soils in the planning area were mapped by the Soil Conservation Service. The soil surveys were used to determine which soils present development limitations due to wetness or high shrink-swell potential. Approximately 21 different soil associations can be found in the planning area. Most are sandy loams and loamy sands. While many soils in the area can support development, including septic tanks, nearly 50 percent of the planning area is covered by soils that are poorly drained and have severe limitations for the placement of septic tanks (Figure 8). Most problems associated with these soils are their slow

permeability, poor filtering ability and wetness. Many local soil types would also present a problem for building foundations, as subsidence is likely. The soils located in the river flood-plain deserve special merit. They are too wet for septic tanks and also unable to serve as a filter for the foreign matter washed from the streets.

Soil shallowness is not a constraint for most types of development in the planning area. The shallowest surface layer found is seven inches deep. This may be too shallow for certain types of construction such as large-scale industry.

In summary, about 50 percent of the soils found in the planning area have limitations for the efficient placement of septic tanks and possible stability of building foundations. As Windsor provides water and sewer service within the Town limits, soil constraints are only a "real" problem within the extraterritorial area. The implications for development translate into higher overall costs per unit for placement of fill material to overcome these constraints. Large scale development should be directed to areas where the soil has limited physical constraints.

Water Supplies

The extensive groundwater reservoirs of the Coastal Plain were considered a relatively unlimited source of water supply until recent years. Development in this region and adjacent states has had an effect on the reservoir capacities and recharge rates. The NRCD Division of Environmental Management Ground-

water Section has been collecting data and monitoring water levels in the region to determine groundwater conditions and to evaluate the effects of large withdrawals. The following is a brief synopsis of DEM's research findings titled Interim Report of Groundwater Conditions in Northeastern North Carolina (1977).

The Windsor area gets nearly all of its groundwater from two hydrogeologic units: the Cretaceous aquifer system, and the surficial system. The Cretaceous is the principal aquifer from which Windsor withdraws its drinking water. Underlain by granite bedrock, it is found roughly 250 feet to 600 feet from the surface. The surficial wells topping the Cretaceous are generally less than 500 feet deep.

Recharge of this aquifer is principally from precipitation in the region. About 20 percent of the area's annual precipitation enters the surficial aquifer. The water table aquifer serves as the reservoir for recharge to the underlying Cretaceous system. The site for recharge is generally to the west of Windsor at the highest point to the land surface found near the Piedmont.

The natural chemical and physical quality of groundwater in the Cretaceous aquifer system varies areally and vertically. The water is generally low in mineral content and suitable for any purpose.

Relatively large withdrawals mainly in Virginia, have caused a substantial decline in the potentiometric surface in most of northeastern North Carolina. A groundwater management

program has been instituted which will protect the greater supply of water. Although being lowered gradually, there is no immediate danger of limited supply of groundwater for the region within the next ten years. This may be a concern for future planning endeavors, however.

Excessive Ground Slope Areas

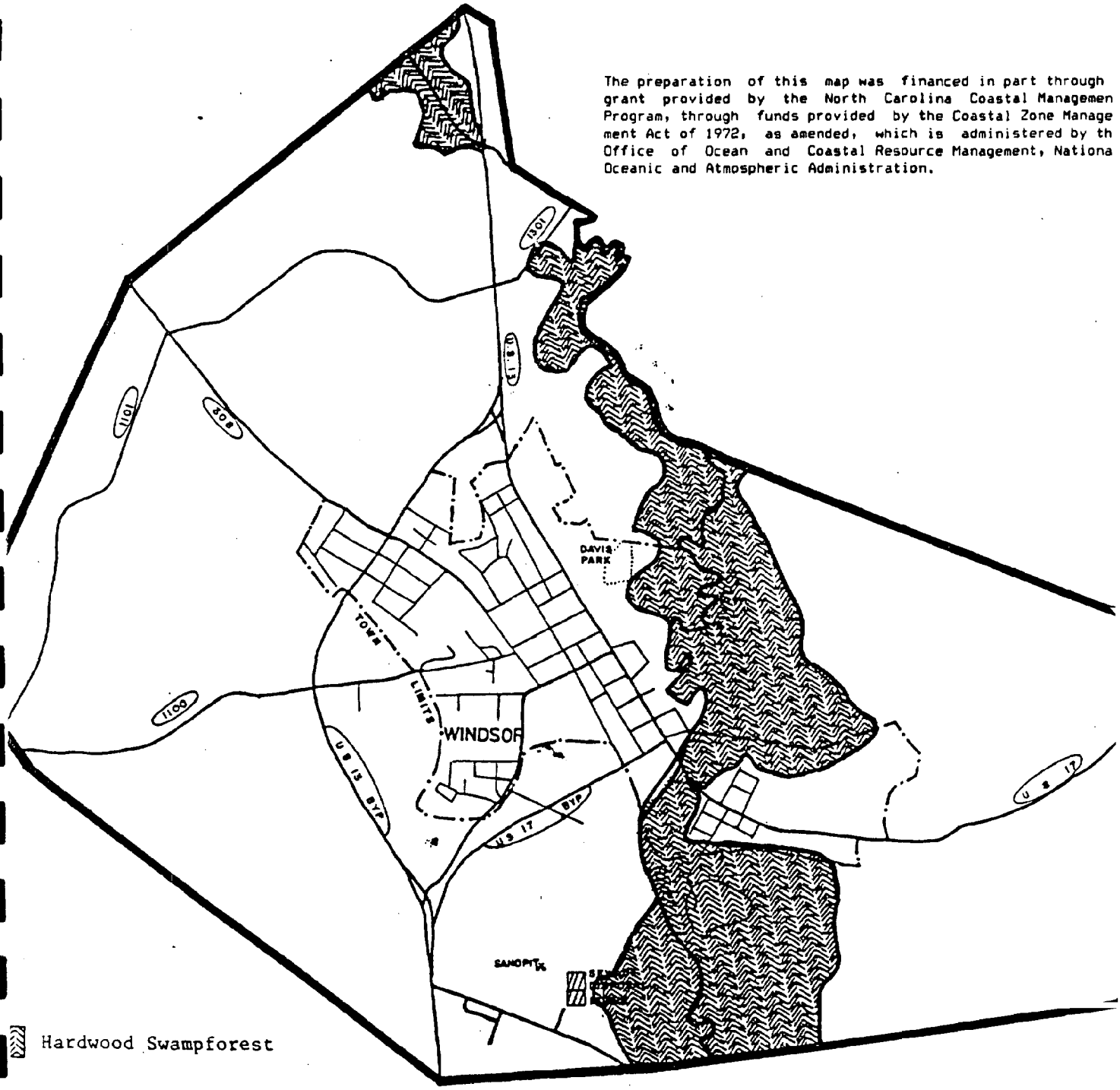
Excessive slopes are defined as areas where the predominant slope exceeds 12 percent, i.e. where the change in elevation is 12 feet or more per one hundred feet of horizontal run. Most of the land in Windsor is near the 20 foot contour line. Although the area has some relief, there are no locations in the planning area which have a slope of 12 percent or more (Bertie County Soil Survey).

Fragile Areas

Fragile areas are the water and land environments whose physical and biological nature make them especially vulnerable to damage or destruction by inappropriate or poorly planned development. The fragile areas in Windsor are defined by the North Carolina Administrative Code (NCAC) and are called Areas of Environmental Concern (AECs). Other fragile areas, such as swamp forests, are excluded from the NCAC list can be found in the Windsor area (Figure 9). These swamp forests are regulated by the U. S. Army Corps of Engineers "404" regulatory process. Windsor has only one officially designated AEC, plus other

Figure 9

WINDSOR AREA AEC: THE CASHIE RIVER



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

areas considered fragile. The following discusses the location and nature of the local AEC and suggestions for its management.

Public trust areas are those waters to which the public has a right of access. They include all natural bodies of water and lands thereunder to the mean high water mark (if applicable) and all areas to which the public has rights of navigation, access and recreation. All surface waters in the area, including the Cashie River, are in the public trust.

These areas are significant in that the public has rights including navigation and recreation. In addition, they support valuable commercial and sports fisheries, have aesthetic value and are important resources for economic development. These areas should be managed so as to protect the public's rights for navigation and recreation.

Acceptable uses should be consistent with the aforementioned management objectives. The NCAC prohibits any uses that would negatively impact the public trust area. These include projects that 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.

Although not a natural system, the historical integrity of the Town also deserves special attention. Several structures in Town, plus the entire historic district, should be protected for their historical value. Windsor strongly supports the preservation of historic structures, as evidenced by the designa-

Figure 10

REGISTERED HISTORIC PLACES IN WINDSOR AREA

NATIONAL REGISTER

Elmwood, Windsor vic.
Freeman Hotel, Windsor
Historic Hope, Windsor
Jordan House, Windsor
King House, Windsor vic.
Rosefield, Windsor
Bertie County Courthouse (thematic nomination)

STATE REGISTER

Earley House, 402 S. Queen St.
Freeman Hotel, E Side York St.
Gatling House, 106 Queen St.
J. B. Gillam House, 401 King St.
Gillam House, 103 Pitt St.
Gray-Gillam House, King St.
Mardre House, 208 King St.
Mizelle House, SW Corner King and Pitt Sts.
Mizelle House, 101 W Granville St.
Pierce House, 304 N King St.
Rosefield, 212 W Gray St.
St. Thomas Episcopal Church, 207 W Gray St.
Spellings-Bond-Sutton House, 402 King St.
Sutton-Hoggard House, 302 King St.
Windsor Castle, W End of Winston Lane
House, 206 King St.
Webb-Askew House, King St.
Matthews House, 204 King St.
Jeremiah Bunch House, S Side SR 1225 .75 mi N Jct. SR 1257, .6 mi Dirt Ln.
Dr. Henry Vaughan Dunstan's Office, King St.
Bertie County Courthouse, King St & Dundee Sts.
Bertie County Courthouse Annex, Dundee St.
Gillam House, N Side NC 308, .7 mi W Jct. SR 1225
Gillam -Mardre House, S Side NC 308, 1 mi W JCT SR 1225
Bond-Haste House, N Side NC 308, .4 mi N Bypass 13
Tessie Mizelle House, N Side SR 1100 at Jct. SR 1102
Gray House, E Side NC Bypass 13 .2 mi N Jct. Bypass 17
Heckstall House, W Side Jct. SR 1100 & SR 1101
Watson-Madre House (Elmwood). W Side SR 1101 . 5 mi S of Jct w/nc 308
Wolfenden-Hoggard House, SE Corner JCT SR 1300 & SR 1301
Carter-Mitchell-Cobb House, N King St.
Cherry House, York St.
Dail House, 313 King St.
Bowen House, 102 Queen St.
King House, SR 1116 .9 mi off NC 308
Jordan House, SR Side SR 1522 S of Jct. w/SR 1521
Hope Plantation, 4 mi. NW Windsor off ST HWY 308
Windsor Historic District

Source: DNRCD Division of Cultural Resources, 1985.

tion of an historic district. The area is prime for historic preservation because of the amount of properties listed on the National and State Registers of Historic Places (Figure 10). The Freeman Hotel, recently relocated from Queen Street to the Davis Park area, is currently under restoration by the Town. Historic redevelopment is encouraged in Town to preserve these sites for future enjoyment.

The area is also rich in archaeological heritage. The NRCD Division of Cultural Resources (DCR) lists the area as an ancient Indian habitat. Some of these sites are located within the Town Limits. The DCR has mapped significant sites, but for obvious reasons, is not able to publish this information. DCR will ensure that new development in Town will not disturb these sites. The Town acknowledges that these are an irreplaceable resource that should be protected and preserved.

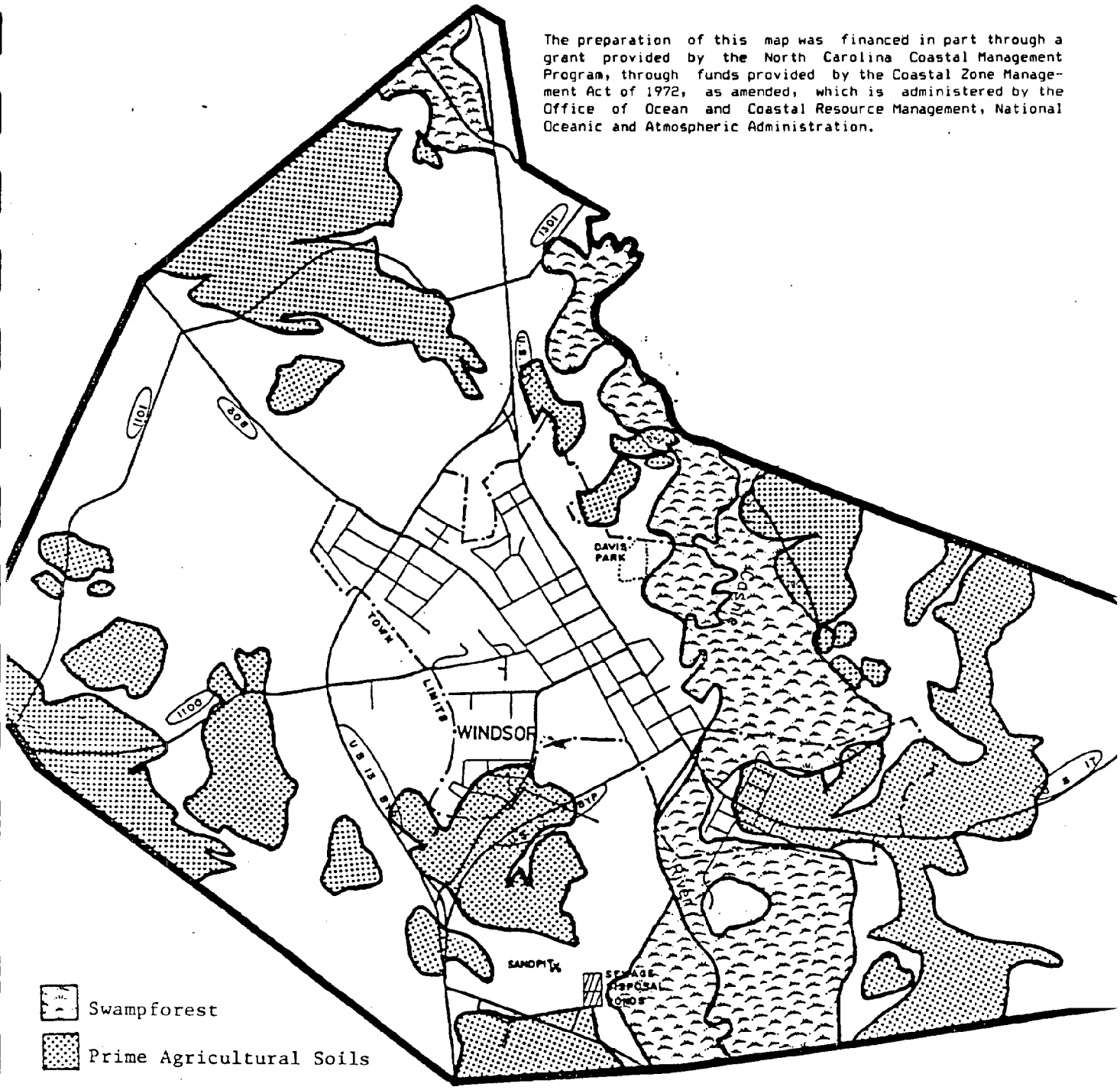
Areas which sustain remnant species are those places which support endangered species of plants and animals. As of this writing, none of these areas are located within Windsor's jurisdiction. If any are designated, all precautions should be taken to ensure the safe reproduction of these species.

AREAS WITH RESOURCE POTENTIAL

Although much of the land within the planning district is developed, there may be particular areas which should be excluded from or encouraged for development because of a particular man-made or physical impediment. In Windsor, probably the

Figure 11

PRIME AGRICULTURAL SOILS IN THE WINDSOR PLANNING AREA



Source: 1984 Bertie County Soil Survey.

most valuable resource areas are those sites whose overlying soils are highly productive for agricultural uses.

Several sites covered by prime agricultural soils are found within the jurisdictional limits (Figure 11). The NRCD Division of Soil and Water Conservation and the U.S. Soil Conservation Service assisted in gathering information necessary to map these soils. Compared to the existing land use map, most of the prime soils are currently under agricultural production or are still covered in forests. Also, these soils are some of the best in the region for urban development because of their ability to support septic tanks, buildings and roads, etc. As of yet, none of these soils has been disturbed by development. The Governor's Executive Order Number 96, which promotes interagency coordination toward prime farmland preservation, should be a useful tool in protecting these soils from encroaching development.

Peat or phosphate mining in the Windsor area should not be an issue. According to Dr. Lee Otte, an East Carolina University professor who is recognized as being the foremost expert on the location and mining resource potential of peat and phosphate deposits in the state, the deposits in the Windsor area are not rich enough to be mined. This does not preclude, however, the possibility of developing a energy-generating facility for the peat resources. Policies on mining and siting energy-generating facilities are included in the "Resource Production and Management" and "Economic and Community Development" sections of this plan.

CONSTRAINTS: CAPACITY OF COMMUNITY FACILITIES

Introduction

Development is often encouraged because of the increased tax base it brings. Eventually, however, the local government must spend some of its tax dollars to upgrade and expand the existing facilities to accommodate such growth. The land use planning process allows city officials to assess development trends and analyze the requirements placed on the community facilities. The following section discusses the existing conditions of the water and wastewater treatment facilities, the schools and the roads.

Water and Sewer Systems

The Town of Windsor operates municipal water and wastewater systems for customers within the city limits. Nearly all Windsor residents are tied into the system. The South Windsor Water Association, located two miles from Town, purchases all of its water from Windsor.

The water system is designed for a usage capacity of 700,000 gallons per day. It consists of three wells. This system is currently used at less than 30 percent of its capacity. Any peak load brought on by a population surge could easily be accommodated with the existing facilities. Additional residential, commercial and industrial growth could occur without causing any unacceptable demand on the system.

The Town sewer system is operating at less than 20 percent of its intended capacity. It is designed for a treatment

capacity of 1.15 million gallons per day (mgd). The average use is .2169 mgd, which represents an 18 percent usage rate. During peak times, the flow rate rarely approaches 50 percent of the design capacity. Development of any type could be accommodated by the existing system, including water-intensive industry.

Solid Waste Collection and Police and Fire Protection

The Town Sanitation Department provides garbage collection and trash disposal within the Town limits. It employs three persons. Collection takes place once a week and is deposited at the County landfill ten miles northwest of Town.

Police service is provided for all persons located within the planning area. The police force consists of six persons and two squad cars. Regular patrolling is limited to in-Town locations only.

The Windsor Fire Department is manned by nearly 40 persons, three of which are Town employees. Its service area extends almost ten miles outside the corporate limits. Agreements with nearby Towns are designed to increase the fire fighting manpower in the event of a major disaster. The Town operates two pumpers, one tanker truck, and a patrol car.

Schools

The school facilities are very important in any community. Southwestern Elementary and Bertie High School serve the area. The elementary school, constructed in 1962, is operating at approximately 95 percent of its capacity (Figure 12). The

Figure 12

PUBLIC SCHOOL FACILITIES

IN WINDSOR

School	Capacity	Enrollment	Allotment	Pupil/ Teacher Ratio	Grade Taught	Year Built
Bertie High School	1350	1180	83	1/14	9-12	1962
Southwestern School	1005	958	53	1/18	K-8	1962

SOURCE: Bertie County School Superintendent, 1985

school's pupil/teacher ratio is somewhat high, reflecting the crowded conditions. If the population of school age persons (6-17) should increase, contradictory to demographic predictions, the Town would be forced to consider the need for another facility. The county school system would be responsible for funding such a project.

The Bertie High School is currently operating at 87 percent capacity. Since its construction in 1962, there have been several improvements made to the school, including a new eating area and athletic field. The pupil/teacher ratio is considered high, indicating no problems with adequate attention being given to each student. In making projections for future demand, the county school system's model examines only birth rates and does not account for in-migration of students. Using this model, the county does not anticipate any additions to the existing facilities. Should an influx of students occur, the county would need to consider constructing new facilities.

Roads

The planning area is served by seven primary roads (1981 Windsor Land Use Plan). This system is currently sufficient for any traffic peaks which may occur. The NC Department of Transportation estimates that Highway 13, the most widely used road in the system, is extremely underutilized. It is currently used at less than 30 percent of its capacity. Any additional growth could easily be accommodated by the present road system. The Town of Windsor incrementally makes minor improvements to the

roads in Town. Major improvements will be minimal. According to the NC Department of Transportation, Transportation Improvements Program 1986-1995, one project is planned for the Windsor area. The intersection of U.S. 13/17 will be redesigned and widened from that point into Windsor. Some secondary roads will be resurfaced, but there will be no additional improvements made to the local roads.

ESTIMATED DEMAND

Population and Economy

Recent population trends in Bertie County have shown the population to be modestly increasing since 1970. Despite recent annexations, the population of Windsor has continued to slowly decline. It is anticipated that this trend will continue in the next ten years (Figure 13). The population is expected to be 2,078 by the year 1990. By 1995, it is projected that the Town will lose 28 persons bringing the total to 2,050 persons. If the latter trend should reverse itself, most existing facilities could adequately accommodate growth. An immigrant population increase in school age children would require the Town to ask the County to add on to the schools. The water and wastewater systems could adequately accommodate growth as neither system is currently used to 50 percent of its intended capacity. The existing road system would be able to service any foreseeable potential population growth.

Strains on the land would be minimal. There is currently an adequate amount of open space within the Town limits that could be converted to residential uses. Residences could be placed in areas zoned residential that are not completely developed.

Summary

The Windsor population is expected to slowly decline through the year 1995 unless annexations reverse the trend. If this trend should reverse itself, the water, wastewater and road

Figure 13

POPULATION PROJECTIONS

WINDSOR AND BERTIE COUNTY*
1985 - 1995

	1985X	1990@	1995@
Windsor	2,091	2,384	2,356
Bertie	21,341	22,000	22,224

* 1984 Municipal and County estimates plus county projections provided by the N. C. Department of Administration.
@ Accounts for an additional 306 citizens resulting from annexation effective as of June 7, 1987.

systems could adequately accommodate growth. Both the elementary and high schools would probably require expansion. Land needed for development would be available because zoning would ensure that the land remain in its intended uses. Open spaces within each zoning district could be developed to accommodate the residential and accompanying service-oriented, non-residential uses required.

REVIEW OF 1981 POLICY STATEMENTS AND ACTIONS

During their October 1985 meeting, the Coastal Resources Commission reviewed a land use plan update which included a systematic analysis of all its 1980 policies as an introduction to their 1985 land use plan update. This analysis included an assessment of the effectiveness of the 1980 goals and a discussion of actions and activities used to implement these policies and goals. This "scorecard" approach gave the local government an opportunity to reflect on how it achieved its previous goals as a beginning step to formulating new policies. It also provided the opportunity to evaluate the strengths and weaknesses of the previous policies. It was recommended that all 1986 plan updates adopt this "scorecard" approach to policy evaluation.

The following section includes an evaluation of the policies addressed in the 1981 Windsor Land Use Plan Update. The planning board critiqued the 1981 policies at one of its earliest meetings. Each policy was analyzed for its content, means of enforcement, and implementation strategy effectiveness. In a "checklist" format, each implementation procedure was reviewed to see how well each goal had been carried out since its formation.

In addition to providing an outlet for evaluating accomplishments since 1981, this proved to be an effective method for reflecting on the substance of each policy. The planning board members were asked to provide a grade on the substance and effectiveness of the 1981 policies. The board gave Windsor a "B plus". Most planning board members felt that the policy statements were well thought out, but a few of the implementation

methods had not been fully carried out. However, only two of the town's goals had not been attained. The following section outlines the policies for each major issue in the plan and describes the deficiencies found by the planning board.

RESOURCE PROTECTION

Listed below are condensed versions of the policies and implementation strategies regarding Resource Protection in the 1981 plan. The symbol ** indicates that the implementation strategies were not completely carried out.

Policies and Implementation Strategies

1. Town will discourage development that is not compatible to the soils.

** a. Incorporate the Bertie County Soil Survey into the development process.

2. Allow a limited amount of development in the AECs consistent with the allowable uses outlined in NCAC Subchapter 7H.

a. Continue with the enforcement of CAMA regulations.

3. Town will not support development that has a negative impact on an AEC or fragile area.

a. Continue with the enforcement of CAMA regulations.

b. Town will not provide services to projects that have a negative impact on fragile areas.

4. Continue to support the County's efforts in hurricane and flood evacuation efforts.

a. Will participate in the County's hurricane and flood evacuation plan for threatened areas.

Nearly all the above policies had been successfully followed through by means of the implementation procedures decided upon. One implementation strategy had not been carried out because another agency was responsible for its implementation. The Bertie County Soil Survey, completed by the Soil Conservation Service in late 1984, was not available for public use in the planning process. The survey has been recognized as an excellent source of information for development decisions.

The Board felt that the resource protection policies were strong and good, but all the issues listed in the CAMA guidelines were not adequately discussed. Issues such as the availability of safe drinking water and physical constraints to development were not addressed. It was decided that the policies formulated in the 1986 plan would address all issues and would be enforced only with existing regulations and policies. Additional efforts are often too much to expect without the assistance of a full-time professional planning staff for the Town of Windsor.

RESOURCE PRODUCTION AND MANAGEMENT

Policies and Implementation Strategies

1. Support the preservation of prime agricultural lands.

a. Use the completed Bertie County Soil Survey in making land use decisions by 1982.

b. Utilize zoning ordinance, subdivision regulations and CAMA permitting system to help manage resources.

2. Support all federal and state programs that address the management of commercial forests and agricultural lands.

a. The Town Administrator and Town Clerk will provide information for proper forest and agricultural management by 1982.

b. Utilize zoning ordinance, subdivision regulations and CAMA permitting system to help manage resources.

c. Use the completed Bertie County Soil Survey in making land use decisions by 1982.

3. Support (when feasible) all federal and state programs that deal with the management of commercial and recreational fishing.

a. Utilize zoning ordinance, subdivision regulations and CAMA permitting system to help manage resources.

4. Mineral areas will be developed in a manner such that it will be consistent with the aforementioned policies.

a. Use the completed Bertie County Soil Survey in making land use decisions by 1982.

b. Utilize zoning ordinance, subdivision regulations and CAMA permitting system to help manage resources.

The planning board felt that the above policies were very thorough and their means for implementation were quite

good. Tools currently in place were used to carry out each policy. All issues were adequately addressed.

ECONOMIC AND COMMUNITY DEVELOPMENT

Policies and Implementation Strategies

1. The Town feels a commitment to state and federal programs that address economic and community development. Windsor would like to become further educated about the programs available.

a. Will continue to participate in state and federal programs by applying for Community Development Block Grant funds by 1982.

2. Encourage development and redevelopment in and around the town corporate limits.

a. Will continue to participate in state and federal programs by applying for Community Development Block Grant funds by 1982.

b. Continue to use zoning and subdivision regulations to direct development and redevelopment efforts.

3. Town will permit energy-generating facilities only in areas away from population centers.

a. Town will use the provision of services as a means of implementing a cluster development pattern by 1992.

b. Continue to use zoning and subdivision regulations to direct development and redevelopment efforts.

4. Support tourism in the Windsor area.

** a. Investigate methods of educating the general public about the historic district.

5. Support limited access to Cashie River for recreational purposes.

a. Construct a public boat ramp in Windsor area by late 1987.

6. Support downtown revitalization efforts for the downtown business district.

a. Town will work with local merchants in developing proposals for downtown redevelopments.

Of the policies listed above, the only implementation strategy not carried out was related to tourism. While the Town of Windsor has actively recruited actions to promote the tourism industry in Bertie County, there is no concrete evidence of a document or similar effort to promote public awareness of the historic district. The Town has also demonstrated active support of the restoration of the historic integrity of the Town by having purchased the Freeman Hotel for preservation.

The Board felt that the 1981 update was an excellent effort. Due largely to the extra five years of experience, they agreed that the 1986 plan would show continued improvement.

ISSUES AND POLICY STATEMENTS

The formulation of specific policy statements regarding growth and growth management objectives is probably the most important contribution of this land use plan update. The updated evaluation of the present population, the land and water resources in the Windsor planning area, and the existing methods of policy enforcement sometimes suggest the need to modify policy to accommodate changes in the living conditions.

The Coastal Resources Commission requires that policies are addressed in five categories:

Resource Protection

Resource Production and Management

Economic and Community Development

Citizen Participation

Storm Hazard Mitigation

Each policy category is intended to cover all issues associated with growth for the Town in the coming years. The guidelines were prepared for a wide range of communities in coastal North Carolina. The diversity within this area causes some of the issues not to be applicable to an inland Town like Windsor.

The policy statements in this section represent the result of recommendations, input from citizens, and experience from the Planning Board in judging what is best for the future of Windsor. These statements define the problem or issue, possible alternatives for action, the selected alternative (s), and the means of implementing and enforcing the chosen alternative. It must be noted that some issues are of such great importance that only one

policy alternative exists. In other cases, several courses of action are possible. The following section represents the Town's best effort on policies to guide development in the planning area.

RESOURCE PROTECTION

Windsor recognizes the need to protect its natural and cultural resources. It is understood that these are an irreplaceable asset which require protection. Often, these resources represent an economic return to the area's residents through exploitation. It is in the best interest of all citizens of eastern North Carolina that these resources be protected and managed to their highest potential.

The Town of Windsor is intimately familiar with the water quality problems associated with the Roanoke and Cashie Rivers. As an upstream user, Windsor realizes it contribution to the pollution problems of the Albemarle system. As a result of this, the Town will work to mitigate any problem which contributes to the degradation of water quality in the Roanoke watershed.

The natural and cultural resources of the Windsor area have been identified in the Constraints to Development: Land Suitability section of this plan. It was decided that development should not occur at the expense of the natural system. Conversely, the Town feels development should not be impaired by the characteristics of the natural system. For these reasons, future growth should be targetted to areas where it is not likely to jeopardize or be jeopardized by the natural system. The

following section details the issues concerned with development and its relationship with the ecosystem.

DEVELOPMENT IN AREAS WITH CONSTRAINTS

The development constraints in Windsor were discussed in the "Existing Conditions" section and relate to physical constraints brought on by the natural surroundings and the designed capacities of the community facilities. Physical constraints include man-made fuel storage areas, the sand pits, the industrial park, high hazard flood zones, areas with soil limitations for the safe placement of septic tanks, and natural fragile areas. The Town recognizes the importance of safe septic tank placement to prevent groundwater and well contamination and also realizes its inability to change or correct the characteristics of the soil.

Industrial land uses should be isolated from other types of development because of possible dangers associated with industry. A relict sandpit is located near the industrial park. Land uses adjacent to these pits should be industrial because of the inherent hazards associated with them. Fuel storage facilities are located along S. King Street and on thoroughfares outside of Town. Windsor acknowledges that any adjacent development would be subject to well contamination from tank seepage and risk from fire.

The floodway of the Cashie River is currently undeveloped. It extends to areas located below the five foot contour line and is covered by hardwood swampforest-type vegetation. Development

in this area is regulated by the Town's ordinances on the floodway and floodplain. The Floodway Regulation states that no development can occur within 100 feet of the waterline and the Floodplain Regulation ensures that all development within the floodplain must be elevated above the limit of the 100 year flood (Figure 6).

Policy Alternatives

Possible policy alternatives for growth management and development in areas with identified constraints include:

1. Amendment of subdivision regulations to include stricter design standards.

2. Develop and adopt additional regulations in flood damage prevention ordinance and zoning ordinance to regulate or prohibit all development in areas with physical constraints.

3. Permit development in those areas, utilizing current state, federal and local regulatory processes, i.e., CAMA, flood insurance, subdivision regulations and Corps of Engineers 404 permitting system.

Policy Choices

Windsor adopts the following policies regarding development in areas with constraints:

1. The Town recognizes the importance of regulating development in the high risk flood areas of the Cashie River. Therefore, the Town will continue to participate in Federal Flood Insurance Program and promote enforcement through the Floodway Ordinance and the Floodplain Regulation. The continued enforce-

ment of these regulations will also assist in the conservation of the valuable hardwood swampforest in the floodway.

Major developments, such as residential subdivisions, will be discouraged from locating in the floodplain. Disincentives, such as denial for water and sewer service, will be applied to regulate development in this hazard area.

2. The Town recognizes that it is unable to change the condition of the soils to accomodate development. As an optimal solution, the Town would like to develop a long-range plan to extend sewer lines to all development within the one mile extraterritorial limit located on soils unsuitable for septic tanks. This proposition is expensive, and does not address the current needs of areas unable to utilize septic tanks.

The Town has decided to continue to support and enforce the decisions of the County Health Department on septic tank placement. A lot size of 20,000 feet is currently required for all septic tank requests. Windsor will continue to support the Town Building Regulations which legislate where construction can occur based on soil characteristics.

3. Since industry can present hazards to other forms of development, only similar land uses will be encouraged around the industrial park and sandpits. Residential development will be limited near the fuel storage tanks. The zoning ordinance, which takes these factors into effect and consequently promotes compatible uses, will be the enforcement method.

AEC DEVELOPMENT

Windsor recognizes that the primary concern of the Coastal Resources Commission is to protect coastal resources, especially Areas of Environmental Concern. The Town also shares this concern for the protection and sound management of these environmentally sensitive land and waters. Windsor is not a coastal community, but it is an upstream contributor to the estuarine system of the Albemarle. The Cashie River, which flows into the Albemarle system, is considered a public trust waters AEC.

Windsor shares the state's policy and management objective for the AECs in the estuarine system. The state policy is "to give the highest priority to the protection and coordinated management of these areas so as to safeguard and perpetuate their 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, Windsor will permit those land uses which conform to the general use standards of the North Carolina Administrative Code (15 NCAC 7H) for development in public trust waters. The maintenance and protection of the Cashie River was a top priority for the Town.

Policy Alternatives

The Town's policy alternatives for development in AECs are:

1. Continue to utilize the NCAC guidelines for permittable uses in AECs.

2. Prohibit all development in AECs.

3. Enforce use of 75-foot conservation buffer zone from the waterline. No development shall be permitted in this zone.

4. Classify area 75 feet from waterline as "Conservation" on land classification map.

Policy Choices

1. The Town of Windsor has decided to continue to utilize the current system for allowable uses in AECs as well as Federal and State permit and review processes, i.e. CAMA and Dredge and Fill.

2. The Town will encourage the establishment of a 75 foot conservation buffer zone from the river shore in which no development shall be permitted.

Implementation Strategies

1. Current State and Federal permit and review processes will be employed to determine viable development types in AECs.

2. Classify the area 75 feet from waterline as "Conservation" to restrict development within this zone.

3. The Town's Floodway and Floodplain Ordinances will limit and regulate the amount and construction of structures within 100 feet of the waterline and in the floodplain.

OTHER FRAGILE AREAS AND AECS

In addition to the AECs, other fragile areas in Windsor warrant special consideration. The fragile cultural resources

include the archaeological sites recognized by the North Carolina Department of Cultural Resources, and the historic structures listed on the state and national Registers of Historic Places. The swampforests of the Cashie River floodplain, and other wetlands areas subject to the Army Corps of Engineers 404 permitting system, are significant natural areas. Additional resources that merit special consideration include the homogeneous wooded areas that serve as habitat for several wildlife species.

Several significant archaeological sites have been located in the planning area. Exact locations are available from the Town Administrator. The NC Department of Cultural Resources made several recommendations for management of these prehistoric sites: effective treatment of known or discovered archaeological sites may be accomplished through survey, mitigative recovery of significant data, avoidance or preservation in place. Efforts will also be made to provide recognition and protection through such means as the National Register of Historic Places, if appropriate, and through adherence to regulatory programs administered by the North Carolina Division of Archives and History. The Town recognizes the historical and scientific importance of archaeological site and is committed to preserving the valuable information they may contain.

The Windsor Historic District is recognized by the NC Department of Cultural Resources for its historic and architectural value. The Town recognizes that the historical integrity of Windsor is an important part of its heritage. All efforts

should be taken to preserve these structures which represent the Town's history.

Several natural fragile areas, including the swampforests and the floodplain of the Cashie River, plus other 404 wetlands, should be protected. They serve as valuable wildlife habitat and also serve to mitigate the impact of flooding. The conservation of these resources is of such importance that no real alternatives exist except to offer protection for them.

Policy Choices

As with the AECs, these fragile areas are of such importance that no reasonable alternatives exist but to offer protection for these sites. The amount of protection is reflected in these policy choices:

1. Prohibit development over archaeological sites listed by NC Department of Cultural Resources prior to an investigation and clearance by the DCR.

2. Support preservation of swamp forest through strict enforcement of development standards in the floodplain.

3. Continued support of the Windsor Historic Preservation Committee to develop a program of "donating" historic properties to the Town.

4. Discourage development in all fragile areas.

Implementation Strategies

1. Work with building permits officer to require thorough investigation of archaeological site before permit is granted.

2. Classify areas within 75 feet of water line as "Conservation" on land classification map.

3. Continued support of Floodway and Floodplain ordinances.

HURRICANE AND FLOOD EVACUATION NEEDS

The policy statements regarding Hurricane and Flood Evacuation Needs are addressed in the Storm Hazard Mitigation and Post-Disaster Reconstruction section of this plan.

PROTECTION OF POTABLE WATER

The availability of potable water is a critical concern because of the large drawdown resulting from operations upstream of Windsor and in adjacent states. Relatively large withdrawals of water have created a substantial decline in the potentiometric surface. This gradual decline in the water table will cause no immediate danger for the next ten years, but should be a strong concern for future planning endeavors. The Windsor planning area is included in a Division of Environmental Management groundwater management program which will protect the greater supply for the region.

There are no alternatives other than protection of the limited amount of groundwater. The Town recognizes the importance of the limited regional supply of groundwater and the need for its protection.

Policy Choices

1. Support state efforts to manage groundwater withdrawals in the region.

Implementation Strategies

1. Continue to support Division of Environmental Management Groundwater Division efforts to protect water in Capacity Use Area.

USE OF SEPTIC TANKS

Approximately one-half of the soils in the planning area are unsatisfactory for the safe placement of septic tanks. Unless care is exercised in the permitting of septic tanks, the health and safety of area residents could be at risk. Unsatisfactory performance of soils around septic tanks could contaminate groundwater wells. The Town recognizes that it has no power over the soils: they cannot be altered in any way to improve their efficiency. Because of these restrictions, little can be done for policy. The optimal solution would be to have all development situated on pockets of incompatible soils hooked into the municipal wastewater treatment plant.

Policy Alternatives

1. Require a lot size of 20,000 feet for septic tank placement.

2. Where use of septic tanks is unavoidable, the Town supports implementation of techniques to improve the efficiency of septic tanks, i.e. mound systems and waterless systems.

3. As a minimum, any septic tank installation applications must meet State and County regulations.

4. Encourage everyone in Town to hook up to Town's wastewater treatment facility.

5. Develop a long-term plan to tie in most development pockets within the one-mile area to the wastewater treatment system.

6. Encourage property owners to check with the Sanitation Officer prior to purchasing or considering building on a lot.

Implementation Strategies

1. Enforcement will remain the responsibilities of the County Health Department, which grants permits for septic tanks, and the Building Inspector.

STORM WATER RUNOFF

Non-point pollution is considered a high priority for the Town of Windsor. The amount of fertilizers, pesticides, oil contaminants and litter which eventually enter the river system is increased significantly by a heavy rain. The swampforests and other vegetation located along the river offer a water filtering system that works naturally to sift out or uptake any pollutants before they can enter the creek system. Storm water runoff contributes to many of the water quality problems often discussed by commercial fishermen and recreational boaters in the area. Agricultural runoff typically contributes a significant

portion to the nutrient load of the river, thereby adding to conditions most likely to cause an algae bloom.

The Town has no real policy options except to work to mitigate storm water runoff. Several effective techniques for slowing down runoff are prohibitively expensive. The Town is seeking inexpensive solutions to this problem because of the limited amount of funds available. Windsor has decided to work to solve this problem by utilizing the natural system for passive control of non-point pollution.

Policy Choices

1. Development adjacent to the AEC must be designed so that runoff will not violate water quality standards.

2. Encourage development and maintenance of vegetation around shoreline as well as other waterways in order to preserve as much of the hydrological regime as possible.

3. Limit the amount of impervious surfaces in all lots within 75 feet of the waterline and encourage their development so that no more than 20 percent of the total land surface is covered in materials with a high runoff potential.

4. Target any development near the river to soils where natural infiltration is not good.

Implementation Strategies

1. Continue to employ efforts of CAMA permitting system and Corps of Engineers 404 permitting in determining development types which do not violate water quality within their jurisdiction.

2. Reclassify land classification map to "Conservation" for areas 75 feet from waterline to regulate land uses near the river.

3. Development in Conservation zone will be enforced on a case-by-case basis by the Planning Board.

4. Regulate land uses within conservation buffer zone (for description of land uses, see definition of "Conservation" in Land Classification System section of this plan.

5. Continued enforcement of Floodway and Floodplain ordinances.

MARINA AND FLOATING HOME DEVELOPMENT

Marinas are an important convenience for boaters. They often generate revenue through slip rental, repairs and gasoline sales. But marinas are known to degrade the water in which they are located. The Cashie River is not large enough to accommodate a big marina facility. Windsor is currently constructing a small public boat ramp near York Street. The policies stated below relate to a scaled-down boat ramp for use with small boats.

Policy Alternatives

1. Encourage the development of marinas.

2. Discourage the development of marinas and location of floating homes in light of their contribution to water quality degradation.

Policy Choices

1. Allow marinas, but encourage their design and size to not violate water quality standards and the integrity of coastal wetlands.

Implementation Strategies

1. Continue working with CAMA permitting system in regulating siting of marinas.

2. The Planning Board will examine each marina development request on a case-by-case basis.

INDUSTRIAL IMPACTS AROUND FRAGILE AREAS

The policies above address development of all types in and around fragile areas. Industry, another form of development, should be exposed to no different standards than other types of development. In any location decision, industry must comply with the policy statements above.

It can be seen that the Town wants to mitigate the effects of all development on the natural and cultural resources. It wants to do what it can to protect these resources. Therefore, in an effort to maintain consistency in the policies, no real alternatives exist on this issue.

Policy Choices

1. Location of industries in and around fragile areas shall be discouraged, except water-dependent industries, such as commercial fishing.

2. All suitable industries should be targetted to the industrial park.

3. Industry should be targetted away from prime agricultural lands.

Implementation Strategies

1. Continued support of CAMA and 404 permitting systems, Building Inspector and County Building Requirements.

2. Areas within 75 feet of water's edge will be classified as "Conservation" on land classification map.

3. Continued work with the Bertie County Economic and Industrial Development Commission.

4. Continue to enforce the Town's Zoning Ordinance.

RESOURCE PRODUCTION AND MANAGEMENT

Appropriate management of productive resources is very important to any locality. In most cases, the productive resources are intricately tied to the economic fabric of the area. It is, therefore, wise to manage these resources to the best of their productivity and to ensure their existence for future generations. The major productive resources in Windsor are related to agriculture, forestry and commercial and recreational fisheries.

PRODUCTIVE AGRICULTURAL LAND

Agriculture, as discussed in the Existing Condition section of this plan, is an important component of the local economy. Farming brings in a large amount of income to the area through the actual sale of farm commodities, farm supplies and equipment. A large portion of the planning area is currently or has been under cultivation. The Soil Conservation Service has identified and mapped the soils in the planning area which are considered to be some of the best in the county for agricultural productivity (Figure 7). These soils occupy a large amount of land in the planning area.

In policy, the Town could opt to conserve these farm soils for future use by restricting any development from occurring on them. Windsor realizes the importance of agriculture to the economy, but feels that there is an excess of land under cultivation already. This glut in farmland, and subsequently, farm products, has caused farm prices to fall and foster economic

hardships for the family farmer. Programs, such as the Payment-In-Kind, encourage farmers to take their land out of production. The Town feels that it should not contribute to an already bad problem by requiring that certain agricultural soils be restricted from any other uses. Windsor is pro-development and will not restrict, under the consent of the owners of tracts in question, any land use from locating on agricultural soils. The Town would like to encourage the owners of the tracts with known prime soils to implement the wisest management practices available to keep that land productive.

Policy Alternatives

1. Town wishes to protect agricultural lands identified as "prime" by the SCS and Division of Soil and Water Conservation.

2. Prohibit any land use other than agriculture, forestry or conservation on prime agricultural soils.

3. Promote conservation of these lands by encouraging owners of these tracts to implement the Best Management Practices.

4. Classify agricultural lands as Conservation-A, implying that they should be precluded from development.

Policy Choices

1. Town will not encourage preservation of "prime" agricultural soils.

2. Encourage owners of these tracts and other areas under cultivation to implement the Best Management Practices.

3. Allow development providing it is in concert with the permitted land uses in the zoning ordinance.

Implementation Strategies

1. Continue to work with Agricultural Stabilization and Conservation Service and Soil Conservation Service workers in getting farmers to adopt Best Management Practices.

2. Continued enforcement of the zoning ordinance.

EXISTING AND POTENTIAL MINERAL PRODUCTION AREAS

Up until now, the Windsor planning area has never had a problem with open-pit mining. Peat mining operations may soon be underway in adjacent counties, and the spill-over effects may negatively impact Windsor. The planning area has pockets of peat and phosphate, but the peat soils are low BTU and would be uneconomical to mine at this time. Sand has been mined in the planning area for assistance in local highway construction projects. Because of the possible negative impacts of all types of mining in the planning area, any mining activities proposed will be required to apply for a special use permit which will be granted on a case-by-case basis.

Policy Choices

1. Town discourages any type of open-pit mining within the one-mile jurisdictional limit of Town. Any mining activities proposed must apply for a special use permit which will be granted on a case-by-case basis.

Implementation Strategies

1. Review applications for mining special use permits to Planning Board.

2. Rewrite zoning ordinance to include requirement for special use permit for all mining operations, including sand mining.

COMMERCIAL AND RECREATIONAL FISHERIES

The commercial fishing industry is important to the local economy. Several independent full-time commercial fishermen live and work in the Windsor area and a crab processing plant is located in the planning area. Concern has been raised by commercial fishermen and Division of Marine Fisheries technicians about the effect of runoff on the fisheries industries. Runoff from drainage ditches and non-point pollution from urban development have been detrimental to fishing waters through salinity alteration and contamination to the estuarine system. Concern has also been raised over incidences of fecal coliform, largely from septic tank seepage, being identified in shellfish beds in several coastal areas. In order to support the commercial and recreational fishing industries, the Town needs to implement techniques to maintain water quality.

To remain consistent with the aforementioned Resource Protection policies, the Town has elected to take all measures possible to protect the fisheries. The Town has chosen to protect the commercial and recreational fishing areas within the Town's jurisdiction.

Policy Choices

1. Town will protect the commercial and recreational fisheries areas within the Town's jurisdiction.

2. Establishment of Conservation buffer zone of 75 feet between all development and waterline.

Implementation Strategies

1. The CAMA and 404 permitting system, as well as the Town's subdivision and floodway ordinances, will provide sufficient enforcement for this policy.

2. The County Health Department, largely responsible for the safe placement of septic tanks, will be responsible for minimizing the likelihood of contamination of fishing waters from the effluent of septic systems in unsuitable soils.

3. Classify areas within 75 feet of water as Conservation.

COMMERCIAL FORESTRY

As shown in the "Existing Conditions" section of this plan, many of the Town's industries rely on the timber business for their existence. As a result, Windsor feels the need to protect the forestry industry locally.

Policy Choices

1. Town supports the forestry industry and its related businesses.

2. Town encourages use of best deforestation/reforestation techniques available.

Policy Alternatives

1. Classification of "Rural" to all commercial forestry tracts within the planning area.

2. Work with the Forestry Service to ensure best management techniques are employed throughout the planning area.

OFF-ROAD VEHICLES

The mention of "off-road' vehicles in coastal North Carolina typically conjures ideas of four-wheel drive type vehicles driving up and down the sandy beaches of the ocean front. In Windsor, there is no problem with these types of vehicles operating on the beaches. Since this is not applicable to the development process in Windsor, no policy was formed on this issue.

IMPACTS OF DEVELOPMENT TYPES ON RESOURCES

Windsor, as discussed in the "Existing Conditions" section of this plan, is currently not undergoing large amounts of growth like some other eastern North Carolina cities. It is, therefore, not experiencing the same pressures for development as other Towns.

The Town views itself as being in a position to accomodate growth and development. Consistent with the aforementioned policies, the Town is pro-growth as long as the development is not environmentally degrading. The limitations imposed by the Town's policies on the protection of sensitive natural and cultural resources must not be violated to accomodate any type

of growth. Residential, commercial and industrial land uses must meet these goals of the Town.

Policy Choice

1. Town is pro-development as long as it is not environmentally degrading as determined by the NRCD Division of Environmental Management.

Implementation Strategies

1. The Town will work with the Bertie County Industrial and Economic Development Commission in recruiting low-pollution industries that meet the Town's goals.

2. All industrial requests will be reviewed on a case-by-case basis by the Planning Board and Town Council.

ECONOMIC AND COMMUNITY DEVELOPMENT

The analysis of the present conditions of the population and economy of the Windsor planning area showed no major changes in the general economic atmosphere of the area. The Town is considered to be fairly industrialized, but it would like to grow and prosper more. It is, therefore, very concerned about developing policies setting the stage for economic and community development.

The industries already located in Windsor are proof of its amenities to a manufacturing firm. Windsor is situated on a major north-south highway; has ample housing, recreation and church facilities; a plentiful labor supply; and incentives for industry. The industrial park is continually growing and the potential exists for an explosion of industrial growth in the Windsor area. Policies need to be in place to accommodate this growth, when it occurs.

The following section outlines growth policies which have an impact on land use decisions. These policies define the goals Windsor has set for itself over the ensuing ten years. Particular issues, related to growth and the Town's commitment to economic development, are discussed below.

LOCATION AND TYPES OF INDUSTRIES DESIRED

Windsor, as discussed in the preceding section, is blessed with several natural and cultural resources. It sits on the banks of the Cashie River in an area dense with hardwood and pulpwood forests. Most of the soils in the planning area are

productive well-drained, upland soils that are very well-suited for agricultural purposes. Windsor has many cultural amenities, including many homes listed on the national and state Registers of Historic Places.

The economic activities in the area take advantage of these resources. The majority of the area's industries are related to lumber production and when combined, the timber industries employ nearly 70 percent of Windsor's total manufacturing labor force in the planning area. Farming is also an economic activity in the region employing dozens of persons through farm labor, processing and farm equipment sales. In addition, several fishermen and seafood processing operations are located in the planning area. The tourism industry is also very strong in the area with the nearby Hope Plantation and the Windsor Historic District attracting many visitors daily.

Windsor encourages the continued development or expansion of resource-intensive industries, but would also like to recruit additional manufacturing types to help diversify the industrial economy. Traditional industries, like furniture manufacturers, agricultural processors, and timber companies will always be welcome in the planning area. New, high-skilled industries, such as electronics, automobile manufacturing, or plastics construction firms, would diversify and strengthen the local economy. The Town encourages the consideration of industries to the planning area.

All industries considering locating in the Windsor planning area must be low-pollution, light manufacturing industries in

order to remain consistent with the aforementioned resource policy statements. All industries must be consistent with the Town's policies to maintain water quality and the natural resources. The Town Board will review each industrial request to ensure consistency with the Town's objectives stated above.

Several industrial sites are available in the planning area. Specific sites are available in the industrial park and other areas zoned for industry. All of these sites have good access to several transportation modes and are currently served by the water and sewer system.

Policy Choices

1. Encourage high-skilled industries such as electronics, automobile, or plastics firms which take advantage of the abundant labor supply to try to diversify the industrial economy.

2. Encourage low-pollution, light manufacturing types which are compatible with resource protection, production and management goals and policies and discourage environmentally degrading industry.

3. Encourage resource-dependent industries such as plywood processors and furniture manufactures that utilize the natural resources in the planning area.

4. Encourage agricultural products processing plants which take advantage of the local farming economy.

5. Industrial sites will be confined to the industrial park and other areas zoned for manufacturing in the planning area.

Implementation Schedule

1. Town will inform the Bertie County Industrial and Economic Development Director of its intentions for industrial development and will work to recruit the industrial types listed above.

2. Zoning ordinance, CAMA and 404 permitting systems will regulate the development of industry in specific areas.

COMMITMENT TO PROVIDING SERVICES

As indicated in the discussion on the physical limitations for development, many of the Town's soils are not conducive to septic tank usage. Optimally, all developed areas with soil limitations should be tied into the wastewater treatment plant. Currently, nearly all of the Town's residents are tied into the wastewater treatment plant, and sewage lines are available in all parts of Town. By August of 1987, the Town intends to lay more sewer pipes to the area north of Town. This area may be annexed within the next five years.

As an incentive for industries considering locating in the Windsor planning area, the Town has had a policy of providing services to all new industries which choose to locate in the area. Special discount rates for electricity are available to new industries, as well. The amount of the discount is dependent on the number of persons guaranteed employment when the plant opens for business.

Windsor is committed to providing basic services to serve increased development in the area. Each request for extension

of piping for water or wastewater service is examined by the Town Board at the time of the request.

Policy Choices

1. First priority in delivery of services is to areas classified as "Developed" on land classification map. Second priority is to "Transition" areas.

2. Residential customers will be served first.

3. Industrial uses will be examined on a case-by-case basis.

DESIRED URBAN GROWTH PATTERNS

The trends in the population of Windsor has been slight growth over the past 15 years. The extensive growth in Windsor is not a priority issue, but the Town's municipal services are able to accommodate significant growth if the trends reverse themselves. Given the current theoretical usage rates for the wastewater treatment system, an additional 9,000 persons can be added if necessary. The water system can accommodate an additional 7,000 persons. The population projections predict a slight growth trend which can easily be accommodated by these facilities.

In order to avoid possible overloading of its municipal facilities, the Town would like to place a ceiling on its growth. The growth limits are defined by the design capacities of the water and wastewater facilities. This is to avoid excessive spending on upgrading the systems to serve more customers. Windsor would like to encourage population growth up

to 9,000 persons. When that population goal is reached, the Town would like to reserve the right to reevaluate this policy.

Policy Choices

1. Limit growth to 9,000 persons. Urban patterns will be limited by zoning ordinance.

Implementation Schedule

1. Urban growth patterns and densities will be limited by the subdivision ordinance, the County Health Department and the zoning ordinance.

REDEVELOPMENT OF DEVELOPED AREAS

The Town of Windsor's policy on redevelopment of developed land has been demonstrated over the past five years. The Town has been awarded a Community Development Block Grant to improve substandard housing within its jurisdiction. Windsor has also demonstrated its commitment toward historic preservation by having purchased and relocated the historic Freeman Hotel.

Downtown revitalization has been encouraged for the past several years, and a fair amount of progress has been made toward this goal. The Town feels very committed to this effort and will assist in any way to improve this asset.

The SLOSH model shows that in the event of a major hurricane, the Cashie River would flood most of the Bertie residential area in Town. Non-conforming uses destroyed by flood or fire would be reconstructed according to the zoning ordinance and Floodway and Flood Plain ordinances. Standards for construction and elevation levels are regulated by these ordinanes.

Policy Choices

1. Continued support of historic redevelopment in Town. The Town will work to secure funds for rehabilitation projects.

2. In the event of destruction by a fire or storm, redevelopment will occur in accordance with the zoning ordinance. Non-conforming uses will be reconstructed according to the standards of the Floodway and Flood Plain ordinances.

3. The Town supports the redevelopment of substandard housing within the Town limits.

Implementation Schedule

1. The Town will coordinate with private individuals and organizations to secure financial support for downTown beautification efforts.

2. Town will consider the feasibility of applying for additional Small Cities Community Development Block Grant funds to rehabilitate substandard housing located in Town limits.

COMMITMENT TO STATE AND FEDERAL PROGRAMS

The Town of Windsor is receptive to State and Federal Programs which provide improvements to the Town. Windsor will continue to fully support such programs that provide necessary resources to meet identified community needs that compliment the economic and community development goals of the Town. Of particular significance is the N.C. Department of Transportation Road and Bridge Improvements program. Highways 17 and 13 are vital to the economic health of Windsor. Several improvement

projects, including four-laning Highway 17 between Windsor and Edenton and four-laning Highway 13 between Windsor and Ahoskie, would greatly benefit the Town. Windsor will financially support transportation improvement programs when able and when the proposed project is demonstrated to be consistent with the Town's goals for economic development.

The Erosion Control program, carried out by the Agricultural Stabilization and Conservation Service and the Soil Conservation Service, are especially important to the farming community in the planning area. The Town supports the efforts of these agencies, including the implementation of Best Management Practices to mitigate soil loss through erosion. To assist in reaching this goal, the Town has established a policy to encourage the use of pervious surface materials and a natural vegetative buffer zone to reduce the sediment load from entering the Cashie system (See Resource Protection policy statements). The Floodway and Flood Plain Ordinances will be the tools to implement this policy.

The National Guard has a training center located near the industrial park. Windsor is pleased to host this facility in their planning area. The expansion of the existing National Guard facilities will be supported by the Town, but the construction of additional military facilities, like an Army or Air Force base, will be discouraged in Developed or Transition areas. Windsor does not want to house any large military facilities because of the restrictions it would impose on the community.

All proposals for expansions of existing military facilities will be examined by the Town Board at the time of the request.

ASSISTANCE TO CHANNEL MAINTENANCE

Proper channel maintenance is not a pressing issue in Windsor. There is so little commercial boating traffic on the Cashie River, the Town cannot justify spending a lot of money to keep the waterways clear. Smaller, shallow water recreational vessels most frequently use the river. Since there is little need for channel maintenance, the Town does not feel a commitment to provide assistance for such projects.

Windsor will not support financially channel maintenance projects. Windsor feels that this should be the responsibility of the State. The Town will assist, however, in locating borrow and spoil sites within the planning area.

ENERGY FACILITY SITING AND DEVELOPMENT

In 1984, there was considerable debate over locating a VEPCO owned, coal-fired energy-generating facility in rural Bertie County. This proposed project attracted the concerns of several hundred Bertie County residents at an informational public hearing held in October of 1984. Residents of Bertie County were divided on the issue of locating this plant in the area. Several dozen jobs were planned for the site, but the environmental integrity and quality of life in the County were at risk. The controversy came to rest in January 1985 when several endangered red cockaded woodpeckers were located on the

proposed plant site. It is illegal to disrupt any endangered species from their habitat.

In addition to plans by VEPCO, the proposed development of peat mining operations in Hyde, Tyrrell and Washington Counties has brought on the possibility of locating peat-burning facilities near the raw material source. Because of Windsor's location to major highways, this may be a possibility in the near future. The Town believes that the development of energy-generating facilities should be discouraged within the one mile jurisdictional area. These types of facilities will be subject to a special use permit granted by the Planning Board. If approved, all facilities will be restricted to "Rural" areas as per the land classification map. The provision of public services to the proposed operation will be determined by the Town Board at the time of the request.

TOURISM AND BEACH/WATER ACCESS

Windsor has demonstrated its commitment to public access on the Cashie River within recent years. The Wildlife Resource Commission allocated funds for a boat ramp on the river and construction was underway as of spring 1987. Windsor is actively involved in a public access site donation program. Recently, the Thompson Company donated a tract of land to the Town under the provision that a public boat ramp be constructed on site. The Town, in turn, gave the land to the Wildlife Resources Commission for ramp construction. There are other plans for the Town to

purchase additional waterfront property to develop more public access ramps.

The Town is also committed to increasing tourism in the area. Windsor's efforts to expound on the historic theme of the area show the Town's sense of commitment for increasing tourism. Windsor will continue to support the Historic Albemarle Tour Highway program, as well as historic sites like the Hope Plantation. The Town will continue to support the efforts of the state tourism agencies increase the tourism industry.

Policy Alternatives

1. The Town could establish no additional policies or courses of action for development of these industries assuming that the existing facilities are sufficient.

2. The Town could encourage acquisition of undevelopable waterfront properties for public access sites.

3. Development of a program for "donations" of waterfront property for public use.

4. Continued support for historic preservation, downTown revitalization, and other methods to increase tourism.

Policy Choices

1. The Town will continue to encourage acquisition of undevelopable waterfront properties for public access sites.

2. The Town will continue to support its public access site donation program.

3. Continued support for historic preservation, downTown revitalization efforts and other methods and agencies to promote tourism.

TYPES, DENSITIES AND LOCATION OF ANTICIPATED DEVELOPMENT

Overly dense development is not a problem in Windsor, nor is it anticipated to become a problem during the next ten years. Within the past five years, the land use trends have shown residential growth to occur in areas on the northern fringes of Town and in established neighborhoods within the city limits. Commercial growth has expanded along Granville Street and the industrial park has been able to house several new industries within recent years. Windsor would like to see continued development on sites which are best able to accommodate growth and where support services, like sewer and water, are feasible and practical to provide. Much of the growth in recent years has been outside the flood and hurricane hazard areas identified in Figure 11. Industrial growth will be targetted to the industrial park and other areas zoned for industry within the planning area.

Policy Choices

1. To control densities, the Town will continue to enforce the subdivision ordinance with minimum specified lot sizes for lots without public water and sewer.

2. Windsor will continue with efforts to extend sewer lines to accommodate additional customers.

3. The Town will ensure that future growth is consistent with the above policies in Resource Protection, Resource Production and Management. Also, the growth must be consistent with the zoning ordinance and additional goals of the community.

HURRICANE AND STORM HAZARD MITIGATION

INTRODUCTION

Hurricanes and severe coastal storms represent serious threats to people and property on the North Carolina coast. North Carolina has the second highest incidence of hurricanes (Neumann et al., 1978). To date, North Carolina has experienced 23 major hurricanes since 1890. This averages to one major hurricane every four years. In addition to hurricanes, tropical storms and "northeasters" present serious threats to eastern North Carolina. Recently a major hurricane originally classified as a Category 5 storm, skated past inland North Carolina and brushed a small stretch of Hatteras Island as it moved northward. If the storm had made landfall near the mouth of the Pamlico River, as had been predicted by the National Weather Service at one period during the storm threat, much of eastern North Carolina could have been destroyed in its aftermath.

In order to effectively prepare for the hazards of storms, experts recommend adoption of a plan which encompasses all aspects of the storm period. This plan should delineate areas most likely to sustain damage, methods to keep areas affected to a minimum, and guidelines for reconstruction after the storm. Bertie County was in the process of adopting a storm hazard mitigation plan as this Plan is being written. Prior to this, a Disaster Relief and Assistance Plan had been adopted. One annex of this plan briefly addressed several components of the storm

hazard mitigation effort, the evacuation and post-hurricane strategies, but no comprehensive hurricane mitigation plan existed.

During the preparation of the 1986 Bertie County Land Use Plan Update, the consulting planner and County Emergency Management Officer spent several hours discussing possible post-disaster reconstruction policies for the county. Excerpts from their discussion and policies from the Disaster Relief and Assistance Plan are used as a reference in this plan.

The CAMA Land Use Plan guidelines require that procedures for pre-storm mitigation, recovery, and immediate and long term reconstruction are addressed in each plan. The purpose is to assist Town and county officials in managing development in potentially hazardous areas and to be able to expeditiously "snap back" after a disaster. The first step taken to assess the hurricane vulnerability of a site is to analyze the types and locations of physical hazards within the planning area. An estimate of the amount of people and property that would be exposed to the hazard is also required. The following section is a discussion of the storm hazard mitigation, post-disaster reconstruction policies and evacuation plans for the Windsor area. All policies, unless otherwise referenced, are incorporated from the Disaster Relief and Assistance Plan and the workshop between the County Emergency Management Coordinator and the 1985 Bertie County Land Use Plan update consulting planner.

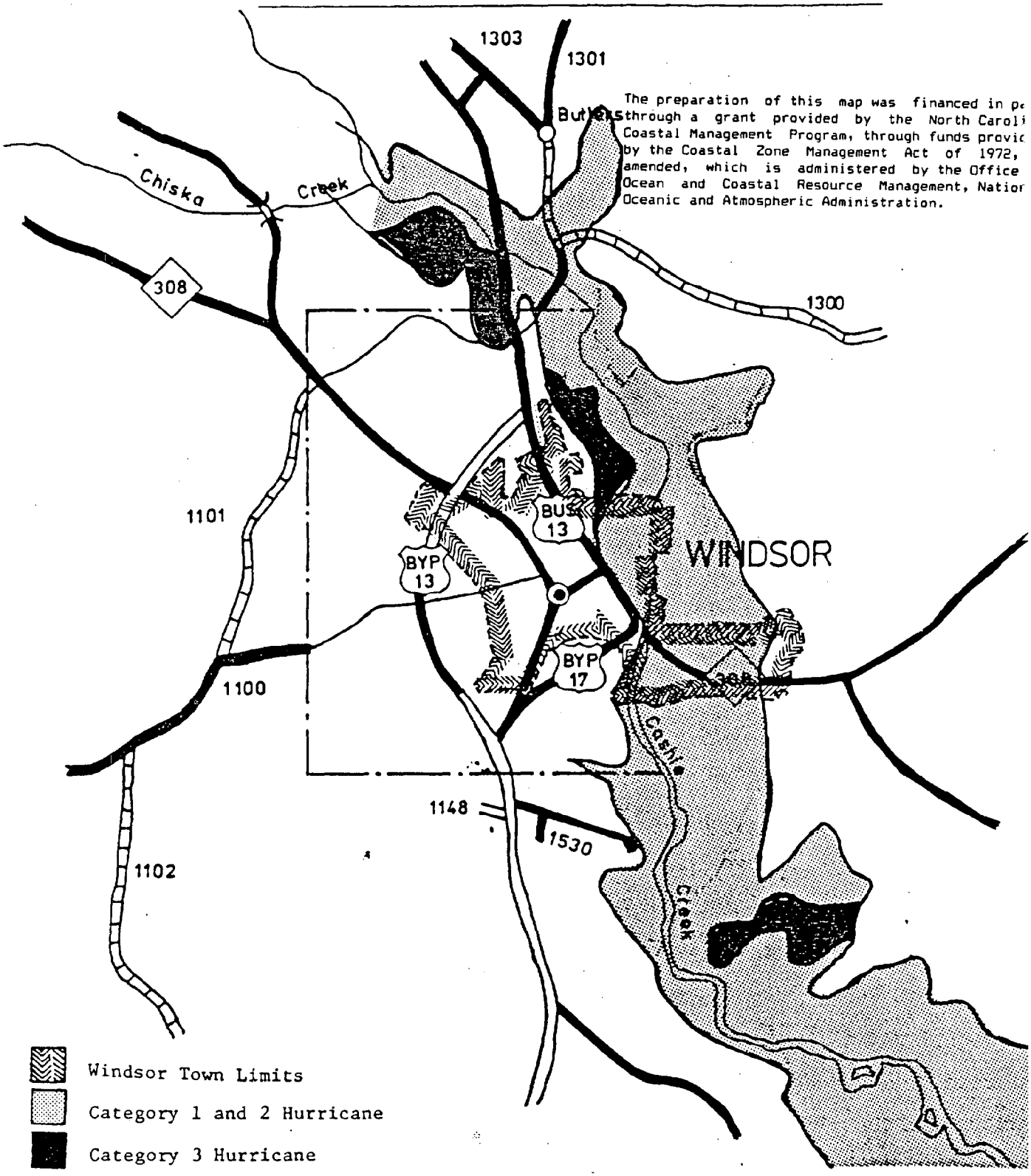
HAZARDS MAP

The areas most vulnerable to the devastating effects of a hurricane or other major coastal storm are identified in Figure 13. This map is the product of a computer model called SLOSH (Sea, Lake and Overland Surge from Hurricanes). The SLOSH model was developed by the U.S. Army Corps of Engineers to simulate the height of the storm surge from hurricanes of a predicted severity within a particular area. The National Weather Service ranks hurricanes into Categories 1 through 5 based on their wind speeds. The SLOSH model analyzes each hurricane category scenario and provides areal boundaries where flooding is expected to occur. For example, the Category 1 and 2 hurricanes, with wind speeds up to 110 miles per hour, would produce a storm surge that would flood a small stretch of land along the river (Figure 14). The Category 3 storm, defined by winds up to 130 mph, would inundate points further landward than the Category 1 and 2 storms. The Category 4 and 5 storms, the highest intensity storms possible, would push the water to areas still farther landward. In this scenario, water levels would be highest during the threat of the Category 4 and 5 hurricanes. These storms are the strongest, but are least frequent in the region.

Windsor is an inland community located approximately 45 miles directly from the ocean shoreline. Although Windsor is considered to be an inland community, hurricanes pose a serious threat to the Windsor residents. Winds from a storm are a concern for the area residents, but flooding from the Cashie River would significantly impact the planning area. Floodwaters

Figure 14

INUNDATION LEVELS FOR HURRICANES OF SPECIFIED INTENSITY



The preparation of this map was financed in pa through a grant provided by the North Caroli Coastal Management Program, through funds provic by the Coastal Zone Management Act of 1972, amended, which is administered by the Office Ocean and Coastal Resource Management, Natior Oceanic and Atmospheric Administration.

Source: U.S. Army Corps of Engineers
S.L.O.S.H. model, 1985.

from the Category 1, 2, and 3 storms would inundate parts of the Windsor planning area. The following section details the effects of these storm components on the planning area.

In Windsor, approximately 15 percent of the available land within the planning area is located in the Category 1, 2 and 3 storm zones (Figure 14). The boundary of the flood prone area coincides approximately with the limits of the 100 year flood-plain. Most of the Bertie neighborhood is located in this hazard zone, as well as Davis Park, several residential areas, and all Town public utilities.

Development in the flood hazard zone includes about 130 residential units, five commercial establishments and five public utilities, such as the wastewater treatment plant (Figure 15). There is also one institution, the Town Hall, and an industry located in this risk area. This includes a total of about 144 structures or $ 5,665,000 of the Town's tax value. In the event of complete destruction of these structures by flood, the Town would lose a significant portion of its tax value through the destruction of these buildings.

The loss of homes and commercial establishments would have a significant financial impact on the Town. More importantly, however, all of the Town's major utilities structures are located within this hazard zone. Of these public facilities, the municipal wastewater treatment facility requires the greatest amount of caution. In the event of a major hurricane, contamination from overflow from flood rains or undercutting could have a disastrous impact on the Town's drinking water supply.

Figure 15

INVENTORY OF STRUCTURES IN THE HAZARD AREA

	Conventional Homes	Institution	Commercial	Industry	Utility	TOTAL
WINDSOR TOTAL	850	20	210	8	5	1093
Median Value	$ 40,000	$ 45,000	$ 20,000	$ 40,000	$ 40,000	
Total Estimated Value	$ 34,000,000	$ 400,000	$ 4,200,000	$ 320,000	$ 200,000	$ 39,120,000
FLOOD PRONE AREA ONLY	132	1	5	1	5	144
Total Estimated Value	$ 5,280,000	$ 45,000	$ 100,000	$ 40,000	$ 200,000	$ 5,665,000

Note: The total tax evaluation for the Town of Windsor was $ 40,000,000 in January of 1986.

Source: Town Administrator, 1986.

Very few relocation sites with higher elevations are available should the Town decide to rebuild the wastewater treatment facility at a different location than its present site in the industrial park.

Although many structures would be at risk from a storm, the areas which would be most seriously affected would be the AEC and the hardwood swamp forests in the planning area. Flooding would result from the large amount of rain associated with a hurricane, and the high water levels associated with a storm surge. The heightened levels of water brought on by a storm surge would tend to "push" water from the lower portions of the Cashie River and Albemarle Sound upstream to the Windsor planning area. The floodwaters would inundate all of the Cashie River floodplain. Development adjacent to the shoreline would obviously be at a great risk.

EFFECTS OF STORM COMPONENTS ON HAZARD ZONES

Hurricanes are extremely powerful, destructive meteorological events which are often unpredictable. Destruction is typically the result of the combined energy of high winds, flooding, erosion and wave action. Of these, the two most damaging components of the hurricane are the high winds which define its strength and flooding from rains and the subsequent storm surge. In addition to these two forces, wave action and erosion are two by-products of the wind and rain along the land/water interface. The following section discusses the effect

of each of the storm components on the planning area and delineates the sites which are most vulnerable to their forces.

HIGH WINDS

High winds are the greatest risk factor associated with hurricanes. Hurricanes are, in fact, defined in severity by their wind speeds. All parts of the planning area would be subject to the winds brought on by a hurricane making landfall nearby, but the intensity of the winds will be mitigated by Windsor's inland location. Communities located closer to the coast would be more greatly impacted by hurricane winds than Windsor. Hurricane winds will probably be somewhat diminished by the time they reach Windsor.

Because of the diminished impact of winds in the planning area, there is a limited need to impose building restrictions concerning wind stress. Open field ditches or other sites that experience significant backwash would be impacted by the flooding resulting from high winds, but other areas would not be significantly affected.

FLOODING

Unlike high winds, flood waters may not impact all areas hit by a storm. In Windsor, approximately 15 percent of the planning area would be impacted by floodwaters. This includes a total of 144 comercial, residential, institutional and public utilities structures, resulting in a net loss of $ 5,665,000 dollars in the event of complete destruction.

WAVE ACTION

Damage from wave action is very strongly correlated to wind speed and direction. In the coastal area, most damage caused by waves will be in the immediate zone of the water along the shoreline. Because of Windsor's inland status, wave action would not be a significant problem in the event of a hurricane. Waves on the Cashie River would probably not grow large enough to create a significant hazard to development, but may impact the swamp forest shoreline areas.

EROSION

The product of severe winds, high water and wave action is erosion. Because of the limited importance of severe winds and wave action in the planning area, erosion will probably not be of significance in a storm scenario. If any areas would be impacted, the areas most likely to be experience erosion are the shoreline areas within the planning jurisdiction. The damage associated with shoreline erosion would be minimal because of the limited amount of development located in the floodplain of the river.

SUMMARY

In summary, a hurricane would not greatly impact the Windsor planning area. Winds, erosion and wave action would be minimal. Flooding associated with a Category 1, 2 or 3 hurricane would affect about 15 percent of the land area, totalling $5,665,000 of the Town's tax base. All of the public utilities are located in this risk zone. Relocation of these facilities should be a consideration for Town officials.

POST-DISASTER RECONSTRUCTION

INTRODUCTION

A post-disaster reconstruction plan allows Towns to deal with the aftermath of a storm in an organized and efficient manner. It provides for the mechanisms, procedures, and policies that will enable the Town to learn from its storm experience and to rebuild in a practical way.

A reconstruction plan typically has five purposes, according to Before the Storm: Avoiding Harm's Way (McElyea, Brower and Godschalk, 1982). It usually outlines procedures and requirements before damages occur, establishes procedures for putting storm mitigation measures into effect after the disaster, analyzes information about the location and nature of hurricane damages, assesses the community's vulnerability and guides reconstruction to minimize the vulnerability.

In 1982, Bertie County adopted The Bertie County Disaster Relief and Assistance Plan, a post-disaster recovery and reconstruction plan. As a municipality in Bertie County, Windsor is covered by this plan. The disaster relief plan, in concert with the policies in the 1986 Bertie County Land Use Plan Update, provide the County with the tools necessary to serve all its communities during the recovery phase of a hurricane. Copies of these plans are available at the Bertie County Emergency Management office in Windsor.

It is important that local officials clearly understand the joint federal/state/local procedures for providing assistance to rebuild after a storm so that local damage assessment and

reconstruction efforts are carried out in an efficient manner that qualifies the community for the different types of assistance that are available. The requirements are generally delineated in the Disaster Relief Act of 1974 (P.L. 93-288) which authorizes a wide range of financial and direct assistance to local communities and individuals.

During reconstruction after a disaster, two phases of action are usually undertaken: immediate post-disaster clean-up and clean-up and repair over a longer period. Although these guidelines are directed for the county level, the Town of Windsor may take additional steps to complement this work. The following section discusses guidelines set forth for reconstruction in the county plan.

IMMEDIATE CLEAN-UP

The Disaster Relief and Assistance Plan includes a program for immediate clean-up and debris removal from roads, beaches and other areas where public health and safety may be jeopardized. The responsibility for completing these duties will be a combined effort by several agencies from the public and private sectors. The Department of Transportation will be responsible for clearing debris from roads and the Forest Service will remove fallen trees from the area, if necessary. In addition, the county Emergency Management office will provide names of volunteers to call upon for assistance in the immediate clean-up efforts.

While clean-up efforts are taking place, a damage assessment team will be sent out to evaluate the extent of damage in the

area. Damage assessment is defined as a rapid means of determining a realistic estimate of the amount of damage caused by a natural or man-made disaster. For a storm disaster, it is expressed in terms of: 1) the number of structures damaged, 2) magnitude of damage by type of structure, 3) estimated total dollar loss, and 4) estimated total dollar loss covered by insurance.

After a major storm event, members of the Damage Assessment Team should conduct two types of surveys: one which roughly estimates the extent and type of damage, and a more detailed second phase assessment after the initial damage reports are filed. The initial damage assessment should include an estimate of the extent of damage incurred by each structure and identify the cause of damage such as wind, flooding or wave action. Conducted by windshield survey, the initial damage assessment should classify damaged structures according to whether repair expenses would be cost-effective. The Damage Assessment Team should be equipped with tax maps, aerial photographs and photographic equipment in order to record and document field observations.

The second phase of damage assessment operations should be to estimate the value of the damages sustained. A team consisting of tax assessment experts and other qualified personnel should be organized by the Emergency Management Coordinator. This team should have the following information readily available to properly estimate the value of loss after the disaster:

a) a set of property tax maps (including aerial photographs) identical to those used by the Damage Assessment Team.

b) county maps delineating areas assigned to each team.

c) copies of all county property tax records.

A methodology should be followed to attain values for the damage after the disaster. Initially, the number of commercial and residential structures damaged should be summarized by damaged classification category. The value of each damaged structure should be obtained from the marked set of tax maps and multiplied by the following percentages for appropriate damage classification:

a) Destroyed	100%
b) Major Damage	70%
c) Minor Damage (uninhabitable)	30%
d) Habitable	10%

After this is completed, the total value of damages for the unincorporated areas of the county should be summarized. Damage to public roads and utility systems should be estimated from current linear foot costs for reconstruction. The estimated value of the loss covered by hazard insurance should then be determined. Data from damage assessment reports from each municpality must be consolidated into a County-wide Damage Assessment report which is forwarded to the appropriate state authorities.

Rapid and general initial damage assessment reports are to be submitted by radio within one hour. Within six hours,

private property summaries and more detailed reports should be nearly complete. The format for damage assessments will be conducted in accordance with Annex F of the Disaster Relief and Assistance Program.

Under certain circumstances, interim development moratoria can be used to give a local government the time to assess damages, make sound decisions, and to learn from storm experiences. The County's policy for establishing temporary development moratoria leaves the decision to the Bertie County Emergency Management Office. The Emergency Management Office is given one week after all damage assessments are complete to determine the need for a moratorium. Included in the report to institute a moratorim, a justification, delineation of the specific uses affected, and a schedule of activities and actions taken during the moratorium period must be described. The specific length of the moratorium must also be included.

RECOVERY TASK FORCE

Damage assessment operations are oriented to take place during the emergency period. After the emergency operations to restore public health and safety and the initial damage assessments are completed, the guidelines suggest that a recovery task force is formed. This Task Force will guide restoration and reconstruction activities during a post-emergency phase. The county has formed a group with members from all areas of the county to serve as a task force for recovery.

The responsibilities of this task force are to review the nature of damages in the community, establish an overall restoration schedule, identify and evaluate alternative approaches for repair and reconstruction, and make recommendations for community recovery. The Task Force will also work to keep the public informed on the procedures to file for financial assistance. In addition, they will work with State and Federal representatives on the Interagency Regional Hazard Mitigation Team and also the Section 406 Hazard Mitigation Survey and Planning Teams. Members of the Recovery Task Force will include:

Chairman of Bertie County Commissioners

County Code Inspections Director

County Manager

Emergency Mangement Coordinator

County Finance Director

County Tax Appraiser

The Mayor of Windsor will be called upon to serve on this Task Force. The Town Administrator will also serve. Although this task force will review damages, the authority to approve or deny permits will remain the responsibility of the appropriate authorities.

SCHEDULE FOR REPAIR AND RECONSTRUCTION OVER LONGER PERIOD

The procedures listed above deal directly with policies or clean-up immediately after a storm or disaster. In conjunction with the policies stated above on storm hazard mitigation,

consideration should be given to long-term reconstruction. All reconstruction efforts must be in compliance with the Town's Flood Plain Plan and Floodway Ordinance and other construction standards currently in place.

In the aftermath of a disaster, reconstruction efforts will be rampant. A plan for the long-term reconstruction is essential. In order to handle the rush, a priority system has been designed to stage and permit repairs. Staging and permitting repairs and construction for the county are as follows:

1) Repair or replacement of roads, streets and bridges;

2) Repair or replacement of water control facilities (dikes, levees, irrigation works and drainage facilities);

3) Repair or replacement of public buildings and related equipment;

4) Repair or replacement of public utilities;

5) Repair or restoration to predisaster condition of public facilities damaged while under construction.

First Priority:	Replacement of essential services such as power, water, telephone and streets and bridges.
Second Priority:	Minor repairs
Third Priority:	Major repairs
Fourth Priority:	New Development

In efforts to streamline the permitting process for the large number of applications for building permits, a policy has been

established by the county to repair and rebuild essential service facilities first. Second priority is to repair other public facilities as necessary for shelter. A triage (worst damage) approach will be instituted for staging the reconstruction effort. Properties with little damage would be permitted immediately if they were in compliance with permit regulations before the storm. The schedule for permitting other properties is as follows:

1. Moderate damage, meeting permit regulations
2. Moderate damage, requiring permit decisions
3. Extensive damage, requiring permits

This system was established to avoid interference with the reconstruction of public utilities and facilities. The top priority in post-disaster reconstruction is the replacement of services.

The development standards for reconstruction will be in accordance with the Storm Hazard Mitigation policies being set forth by the 1986 Bertie County Land Use Plan Update. All damaged water and sewer systems (both public and private) shall be repaired so as to be elevated above the 100 year floodplain or shall be floodproofed, with the methods and construction approved by a registered professional engineer. All damaged roads used as major evacuation routes in flood hazard areas shall be repaired so as to be elveated at least one foot above the 100-year flood plain elevation. Other loal roads that require reconstruction should be elevated above the 100 year floodplain, as well. As a minimum, all construction must meet the require-

ments set forth by the Town's ordinances on construction, as well as the State Building Code. The County Commissioners will be the legislative body to enforce these policies.

EVACUATION ROUTES AND TIMES

Evacuation is often necessary in pre-hurricane conditions when high winds and water are anticipated to endanger the health and safety of local residents. There are no provisions for evacuation in the Bertie County Disaster Relief and Assistance Plan, because of the limited threat of hurricane danger for an inland Town. The following section describes the proposed evacuation routes and times for the Windsor area. The data for shelters and evacuation routes were taken from various sources, including the Disaster Relief and Assistance Plan and the Bertie County Emergency Management Coordinator.

An estimated 3000 persons would be required to evacuate the Windsor planning area. There are two principal evacuation routes. Southeastern Elementary and West Bertie Elementary Schools are the designated evacuation shelters. A full description of the capacity and adequacy of these shelters is in the Bertie County Disaster Relief and Assistance Plan.

Highways 13/17 and 308 are the principal evacuation routes for the Windsor planning area. The Roanoke River bridge at Williamston is a probable inundation point where traffic may be brought to a standstill.

Techniques for determining evacuation times are outlined in Before the Storm: Avoiding Harm's Way. The total evacuation

time is the sum of the following components: cut-off time, mobilization time, travel time, and queing delay time. At a maximum travel speed of 35 miles per hour, the ideal capacity for Highway 13/17 is 455 vehicles per hour. Highway 308 can accomodate 298 vehicles per hour. Following the model given, the total evacuation time to Williamston (Highway 13/17) or Lewiston-Woodville (Highway 308) is:

TOTAL EVACUATION TIME

Highway 17/13	Cut-off time	3.0 hrs.
	Mobilization time	3.5 hrs.
	Travel time	0.5 hrs.
	Queing delay time	2.69 hrs.
	TOTAL	9.69 hrs.
Highway 308	Cut-off time	3.0 hrs.
	Mobilization time	3.5 hrs.
	Travel time	0.5 hrs.
	Queing delay time	2.95 hrs.
	TOTAL	9.95 hrs.

The actual evacuation times may actually be shorter than those provided above. These evacuation times are calculated for a population of 3,000 in the event of a worst-case scenario. The projected evacuation times for these routes are well within the 12 hour limit in which the National Weather Service can predict to effectively mobilize an evacuation effort. A sensitivity analysis is recommended to test the validity of the evacuation times. This can be done by adjusting the number of persons involved in the evacuation, the mobilization time, or by recalculating the queing delay time. By doing this, assumptions which

are closer to reality may be introduced in estimating evacuation time for area residents.

This analysis provides the Town with the opportunity to consider adopting policies which would improve the capacity of the evacuation routes. This is, however, beyond the scope of this land use plan. It is recognized, though, that many factors which affect local evacuation are beyond the control of the local unit of government, but awareness of this problem is a first step in improving the evacuation times for Windsor area residents.

SUMMARY

A small proportion of the Windsor planning area is threatened by the hazards associated with hurricanes. In the event of a major disaster, fifteen percent of the planning area would be subject to flooding. Wind, wave action and erosion would not have a significant impact. In-Town reconstruction standards will be enforced according to the Floodway and Floodplain Ordinances, which attempt to mitigate disaster in the future. The calculated evacuation times for Windsor are within the time constraints for a safe evacuation. It is suggested that efforts be taken to improve the capacity of the evacuation routes for the area.

INTERGOVERNMENTAL COORDINATION

The Town of Windsor is responsible for reporting all of its activities concerning storm hazard mitigation and hurricane preparedness with the following agencies:

N.C. Division of Coastal Management

State Office: Division of Coastal Management
Department of Natural Resources and Community Development
P.O. Box 27687
Raleigh, NC 27611-7687
(919) 733-2293

Field Office: Division of Coastal Management
Department of Natural Resources and Community Development
P.O. Box 1507
Washington, NC 27889
(919) 946-6481

N.C. Division of Emergency Management

State Office: Division of Emergency Management
Department of Crime Control and Public Safety
116 West Jones Street
Raleigh, NC 27611
(919) 733-3867

Regional Office: Area Emergency Management Coordinator
N.C. Division of Emergency Coordinator
607 Bank Street
Washington, NC 27889
(919) 946-2773

National Flood Insurance Program Information
Flood Insurance Coordinator
Division of Community Assistance
Department of Community Assistance
P.O. Box 27687
Raleigh, NC 27611-7687
(919) 733-2850

Federal Emergency Management Agency

National Office: Federal Emergency Management Agency
500 C Street, S. W.
Washington, D.C. 20472
Public Information (202) 287-0300
Publications (202) 287-0689

Federal Emergency Management Agency

Regional Office: Federal Emergency Management Agency
Region IV
1375 Peachtree Street, N.E.
Atlanta, GA 30309

Public Information	(404) 881-2000
Disaster Assistance Program	(404) 881-3641
Flood Insurance Program	(404) 881-2391

STORM HAZARD MITIGATION AND POST-DISASTER RECONSTRUCTION POLICIES

Policy Choices

1. Support county Storm Hazard Mitigation and Post Disaster Reconstruction Policies.

2. Town will discourage redevelopment of destroyed structures in same manner as prior to storm.

3. Develop a Recovery Task force for the Town.

4. Increase public awareness and preparedness.

5. Because of lack of land and the limited risk associated with hurricane flooding, the Town will support reconstruction of public facilities at same location. All structures will be rebuilt according to the guidelines of the Floodway and Floodplain ordinances in order to mitigate future risk from hurricanes.

Implementation Schedule

1. Stay abreast of changes in Bertie County Disaster Relief and Assistance Plan.

2. Discourage property owners from rebuilding destroyed structures without taking mitigative precautions during the construction phase. Town will also work with the Federal Flood Insurance Rate Program in working to include all areas flooded by storm into the FFIRP maps. If areas are included in FFIRP maps, the regulations set forth in the Floodway and floodplain ordinances will establish reconstruction standards.

3. Recovery Task Force members will include:

Mayor of Windsor

Planning Board Members

Rescue and Fire Squad Volunteers

Medical Board

Town Administrator

4. Educate Town employees and public about evacuation procedures about their responsibilities in storm situation.

5. Use mitigative construction standards in reconstructing public facilities destroyed in a storm.

PUBLIC PARTICIPATION

Windsor realizes the importance of incorporating public input into the planning process. During the development period of the land use plan update, several techniques were employed to encourage the involvement of Windsor area residents in the land use plan's policies.

At the beginning of the planning period, a citizen participation plan was developed. At the first meeting, the planning board decided to schedule regular monthly meetings every third Tuesday from November, 1985, until the completion of the plan. It was decided that all planning board meetings concerning the CAMA Land Use Plan update should be made public. Citizen input was to be strongly encouraged.

The board decided that initially, emphasis would be placed on public education about the land use planning process. It was felt that once the public understood the importance of the plan, the public would feel a desire to be involved in it. An effort was made to inform the public about the existence of the plan and the importance of citizen's contribution on policy recommendations.

This was done in a variety of ways. First, news articles appeared in the local newspapers which discussed the plan and its purpose. Press releases were sent to three newspapers: the Bertie Ledger-Advance, based in Windsor; the Williamston Enterprise, and the Martin Monitor, based in Williamston. The purpose of the articles was to explain the role of the CAMA plan and the the issues addressed in it. Other methods of public education

involved direct communication with Windsor residents by planning board members.

In addition to the public education efforts, press releases were sent to the local newspapers prior to each meeting. Included in the press release was a description of the land use plan and its purpose as well as the agenda items. Upon completion of meeting, another news article was sent out which described the meeting's events. The combination of these newspaper articles intended to promote the understanding of the land use planning process as well as to encourage the public to provide their opinion on various issues. An example of a newspaper article is included as Appendix B.

Another measure was taken to attract citizen input. Letters were mailed to various civic and industry leaders in the community (Appendix C). Special attention was given to soliciting names from a wide cross-section of individuals. Economic, social, ethnic and cultural view points were considered in developing the list. The intent of the letter was to educate the individuals about the plan and to provide an invitation to attend the public meetings. This proved to be effective, as citizen attendance increased markedly at subsequent meetings.

Draft sections of the plan were also made available for public review. A current draft of the plan was kept in the Town Hall and the public was encouraged to make written comments on it. The purpose was to have as much citizen input as possible.

It is the belief of the Windsor Planning Board and Town Commissioners that all citizens should be provided adequate

opportunity to participate in the governmental and planning decisions which affect them. In the future, citizen input will continue to be solicited, primarily through the planning board. All upcoming meetings will be advertised and adequately publicized to help keep citizens informed about the land use changes occurring in their community.

LAND CLASSIFICATION SYSTEM

The land classification system is a tool to identify the anticipated land uses within a planning area. The land classification map, the culmination of the land use planning effort, designates specific areas for certain types of development activities. It provides a uniform method of analyzing how the planned use of land interacts with environmentally sensitive areas during the development process of the Town. The land classification system promotes an understanding of the relationships between various land use categories and the need to develop policies to accommodate these relationships. The focus is to evaluate the intensity of land utilization and the level of services required to support that intensity. According to the CAMA guidelines:

> "The land classification system provides a framework to be used by local governments to identify the future use of all lands. 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) (b)

The CAMA guidelines include five general land use classifications for the land classification map: Developed, Transition, Community, Rural and Conservation. Their definitions are ranked according to the intended intensity of land uses within them. Areas classified as "Developed" require the traditional level of services associated with urban areas. "Transition" zones should

include areas developing or anticipating development which will eventually require urban services. Lower density areas which will not require services should be classified as "Community". Areas classified as "Rural" should be reserved for low intensity uses such as agriculture, forestry, mineral extraction and highly dispersed housing. Public water and sewer will not be provided in rural areas. The purpose of the Conservation class is "to provide for the effective long-term management and protection of significant, limited or irreplaceable areas" (NCAC 7B). Public or private services should not be provided in this land classification.

The five land classifications and land classification map are intended to serve as a visual definition of the policies stated in this plan (Figure 16). The five land use classifications, as they are applied in the Windsor planning area, are discussed below.

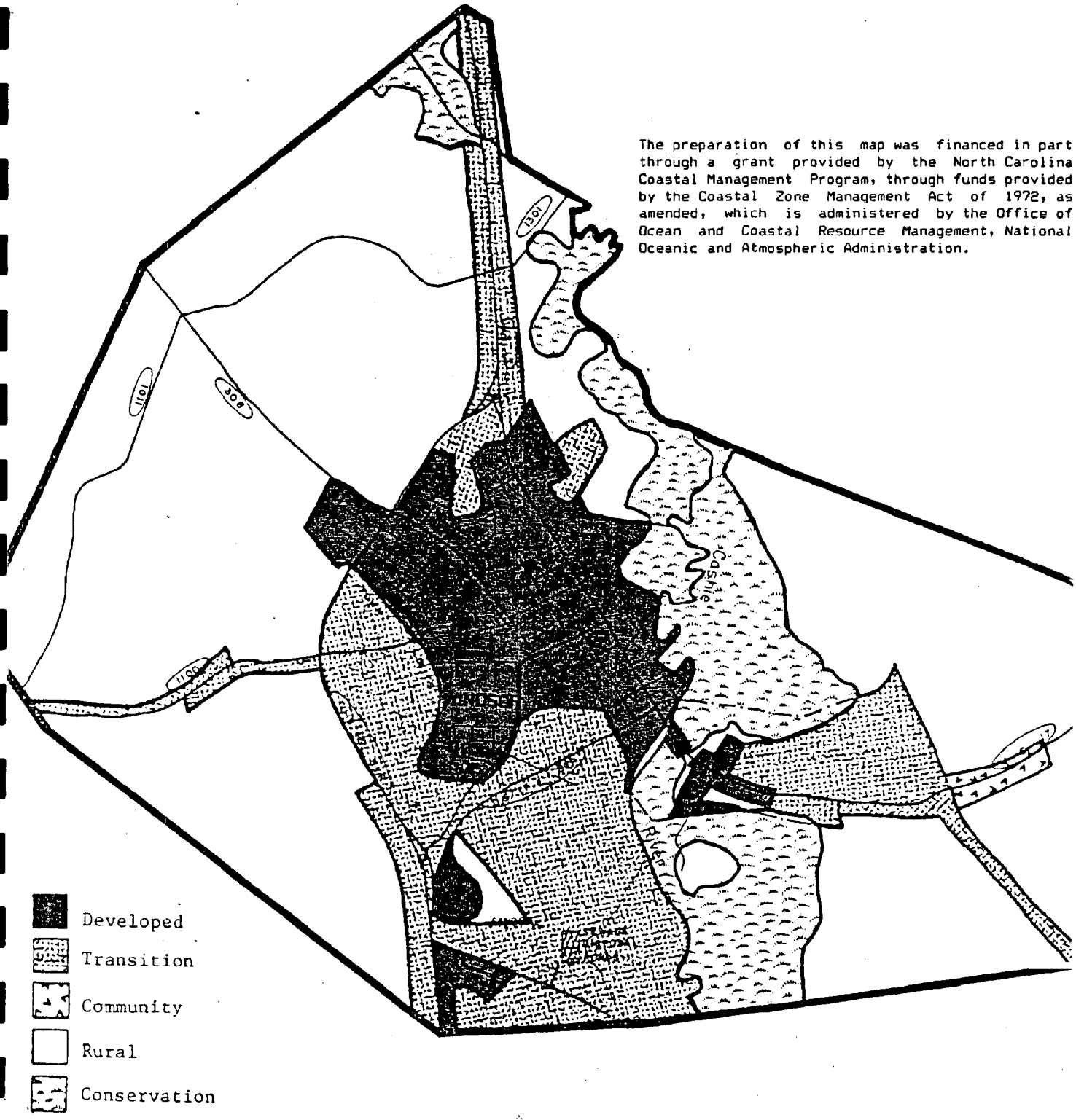
DEVELOPED

The Developed land classification is intended for continued intensive development and redevelopment of urban areas. It includes areas already developed as urban or those areas with a density of approximately 500 dwellings per square mile. In most cases, the Developed class includes all urban areas.

In the planning area, most of the land within the Windsor Town limits is classified as Developed. Exceptions include the forested wetland area east of the downTown area. Nearly all of the residents in the Developed area are served by sewer and water service.

Figure 16

LAND CLASSIFICATION MAP



The preparation of this map 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, National Oceanic and Atmospheric Administration.

TRANSITION

Transition land is categorized as the lands providing for intensive urban development within the ensuing ten years. These areas will be scheduled for provision of water and sewer in the future. They will also serve as the overflow sites for development when additional lands are needed to accommodate growth. They will eventually become a part of the urban area.

The Transition classification includes the areas located adjacent to the transportation routes that run through Windsor. An additional concentration of the transition class exists between the Town limits and Highway 13 Business extending south on both sides of Highway 17 south of Town. Other areas classified as transition are the currently undeveloped areas in the vicinity of the industrial park. The existing land use analysis showed that these areas are undergoing a transition from undeveloped agricultural and forested land to residential and industrial land uses. Most of the transition areas do not have physical constraints to limit these changes in land use; many of the soils are generally suitable for septic tanks and all of this area is outside the hurricane hazard zone.

The relationship between the Developed and Transition classes is important in a predominantly rural area like Bertie County. The area within these classes is where detailed local land use and public investment planning will occur. Large amounts of vacant land suitable for urban development within the Developed class should be taken into account when calculating the amount of additional lands needed to accommodate projected

growth. The local zoning ordinance recognizes this by specifying allowable land uses and intensity of use in zones within the Developed and Transition land classes. The Developed areas are served by sewer and water and are zoned for commercial, industrial and residential uses. The Transition areas are zoned as having potential for future growth. The zoning ordinance specifies some of these areas for rural uses, but areas along traffic arteries are incrementally zoned for less intensive commercial and residential uses. The zoning ordinance recognizes that future development will likely occur in these areas.

COMMUNITY

The "Community" classification is usually characterized by a small cluster of mixed land uses in a rural area which do not require municipal services. It usually serves to meet the housing, light shopping, employment and public services needs of a rural area. The Community classification typifies crossroads areas along primary and secondary roads.

In the Windsor planning area, the only area classified as Community is in the vicinity of the Sandy Point Church. This community includes a small cluster of homes and several churches. It is anticipated that Windsor's municipal services will be extended to this community. Wells and septic tanks currently serve the basic needs of this community, and there is a limited need to provide additional services to this area.

RURAL

The "Rural" classification is designed for agriculture, forestry, mineral extraction and other low intensity uses.

Urban services are not required because of the great dispersion of development in these areas. These are lands identified as appropriate locations for resource management and related uses; agricultural, mineral, or forest lands; or areas with enough limitations to make development hazardous or economically unfeasible.

Much of the land within the planning area is categorized as Rural. Most of this land is under currently under agricultural and/or forestry production, but other uses can be accommodated. The Resource Production and Management policy statements emphasize that development should not be precluded from the agricultural lands located in this classification; this designation merely implies that urban services will not be extended to accommodate future development within the next five years. if development seems probable, the Town Board can amend the land classification map.

CONSERVATION

The "Conservation" class provides for the effective long term management of significant, limited or irreplaceable resources. This includes, as a minimum, all of the statutorily defined AECs. In Windsor, the AEC includes the public trust waters of the Cashie River. The hardwood swampforests located in the Cashie floodplain are also included in the Conservation class. They extend for a distance of 100 feet back from the mean high water mark on both banks of the Cashie River. Swampforests, although recognized for their uniqueness, are not

considered AECs, and are therefore not protected by the State regulations.

The Conservation class does not imply "non-use". It is intended to provide for careful and cautious management of the uses allowed in it. Preservation, on the other hand, implies total restriction of all uses in an effort to keep the natural environment in tact. Through conscientious management, the Conservation class requires all uses to be as unoffensive as possible. The intention of the Conservation class is to strike a balance between careful long-term management of sensitive natural and cultural resources and the freedom of landowners to utilize their property to its best use.

Within the public trust water AEC, development is regulated by the State. All development permit applications must be made to the Division of Coastal Management. The swampforests, although not recognized as AECs, are considered wetlands by the federal government. All non-coastal wetlands are under the jurisdiction of the Army Corps of Engineers Section 404 Dredge and Fill program. Any development projects that propose to fill the wetlands with the intention of altering their character, must be permitted by the Corps. Additional wetland protection measures have been set up by the Town. The Floodway Ordinance prohibits any type of construction within 100 feet of the natural floodway and the Floodplain Ordinance sets construction standards for all development located in the floodplain. The Town has opted to protect all areas classified as Conservation (See Resource Protection policy statements).

In order to protect its natural integrity, various types of land uses should be prohibited from the Conservation classification. The Town has decided that the NCAC permitted uses for statutorially-defined AECs are consistent with the Town's long term goal of resource protection. The Town does not feel the requirement to add specific uses to this already satisfactorily list of restrictive uses. All uses permitted in AECs by the state will be considered consistent with the Town's objectives.

In order to maintain consistency with the Resource Protection policy statements to protect water quality by encouraging the maintenance of natural vegetation as a filtering device for pollutants, severe deforestation activities will be discouraged in the swampforests located in the Conservation areas. Each logging request must be brought before the Town Board and reviewed on a case-by-case basis. The Town realizes that this is more restrictive than the state and federal government guidelines for allowable uses. The removal of any vegetation along the shoreline increases the potential for pollutants to enter the Cashie. It is also intended to protect the valuable hardwood swampforest's role as a wildlife habitat.

For illustrative purposes, the Town will also allow the following types of uses * in the Conservation class:

1. Water-oriented uses such as docks, piers and marinas, if they are shown not to cause detriment to the public trust waters or Conservation lands.

2. Necessary utility service lines, such as water, sewer, electrical, natural gas, etc., when demonstrated that the

environmental integrity of the Conservation area will not be violated.

3. Roadways and improvements to existing roads when construction of roadways can be conducted without significantly altering the ecological system, and in compliance with existing federal, state and local regulations.

4. Marinas, provided that they are in compliance with size and water quality requirements set by state.

* Note: This list is for illustration only. Specific uses permitted in the wetlands and public trust waters will be determined by the appropriate state and federal authorities, and the Town Board. For more detail on the permitted uses in the Conservation classification, please refer to NCAC Subchapter 7H for permittable uses in AECs.

In conjunction with the Policy Statements section of this plan, each application for a "developed" use in the Conservation classification shall be reviewed individually by the Town Board.

RELATIONSHIP OF POLICIES AND LAND CLASSIFICATION

As required by the Coastal Resources Commission, this plan must discuss the manner in which the policies developed in the Policy Statements section will be applied to each of the land classes. In addition, an identification must be made of the types of land uses which are appropriate in each class.

DEVELOPED AND TRANSITION CLASSES

Recent trends have shown that most of the growth in the Windsor planning area is occurring on the fringes of the Town limits, as well as in previously developed areas in Town. This is the area where basic services such as water, sewer and community support services are available or might be feasible within the planning period. These classes are designed to accommodate all intensive land uses, including residential, commercial, industrial, transportation and community facilities. Hazardous or offensive uses, such as land application systems, electrical generating facilities, airports, and noxious industries will not be permitted in the classes.

COMMUNITY CLASS

Intensive development will not be encouraged in this class due to the lack of urban services and/or physical limitations. The general range of acceptable uses are limited to residences, isolated convenience stores and churches, and other public facilities.

RURAL CLASS

The rural class is the broadest of the land classes and is designated to provide for agriculture, forest management,

mineral extraction and other low intensity uses. Development will be allowed in these areas. Residence may be located within the rural class where urban services are not required and where natural resources will not be permanently impaired. Energy-generating facilities and airports will be limited to this class.

CONSERVATION CLASS

The conservation class is designed to provide for the effective, long-term management of significant limited or irreplaceable areas including Areas of Environmental Concern and the hardwood swamp forest located adjacent to the river. Development in the riverine system should be limited to uses described in the NCAC Subchapter 7H. In addition to development restrictions in wetlands established by Section 404, the Town has decided to limit other land use practices in order to maintain consistency with other policy statements to protect water quality. Logging and other deforestation activities will not be permitted in the hardwood swampforests within 75 feet of the mean high water mark in the Cashie River without the express permission of the Windsor Town Board. This policy is an attempt to mitigate the effects of storm water runoff on the river. The removal of any type of vegetation from this area will increase the potential for pollutants to enter the riverine system. The previous section entitled "Land Classification System" addresses Windsor's intentions for development in fragile areas.

INTERGOVERNMENTAL COORDINATION

The land use plan is a tool for coordinating numerous policies, standards, regulations and other governmental activities. The plan provides the framework for budgeting, planning, and the provision and expansion of community facilities such as water, sewer, school and road systems. It is the principal policy guide for governmental decisions and activities which affect land use in the Windsor area. The implementation of policies in the land use plan requires coordination between the local government and the state and federal governments. Enforcement of the policies and goals requires a consistency with the higher levels of government. The formation of a policy without means of enforcement defeats the intention of the land use plan update.

Windsor has worked to ensure compatibility between the Bertie County and Windsor Land Use Plans. There appeared to be no inconsistencies between the policies in each plan. A good working relationship exists between the Town of Windsor and Bertie County. During its development period, the plan was continuously evaluated for its consistencies between state and federal regulation.

The Town of Windsor intends to foster intergovernmental coordination by working with state and federal agencies to implement policies to improve water quality, as well carry out goals for the agriculture, forestry and commercial fishing industries. In addition, Windsor will work with the N.C. Department of Cultural Resources in protecting and enhancing its

heritage. Coordination between the Division of Coastal Management and U.S. Army Corps of Engineers will be maintained in the permitting process for development in areas classified as wetlands. All additional efforts will be made to promote cooperation between the state, federal, county and local governments.

APPENDIX A

FEDERAL DEVELOPMENT REGULATIONS

Agency	Licenses and Permits
Army Corps of Engineers (DEPARTMENT OF DEFENSE)	- Permits required under Sections 9 and 10 of the Rivers and Harbors Act of 1899; permits to construct in navigable waters.
	- Permits required under Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972.
	- Permits required under Section 404 of the Federal Water Pollution Control Act; permits to undertake dredging and/or filling activities.
Coast Guard (DEPARTMENT OF TRANSPORTATION)	- Permits for bridges, causeways and pipelines over navigable waters required under the General Bridge Act of 1946 and the Rivers and Harbors Act of 1899.
	- Deep water port permits.
Geological Survey Bureau of Land Management (DEPARTMENT OF INTERIOR)	- Permits required for offshore drilling.
	- Approval of OCS pipeline corridor rights-of-ways.
Nuclear Regulatory Commission (DEPARTMENT OF ENERGY)	- Licenses for siting, construction and operation of nuclear power plants required under the Atomic Energy Act of 1954 and Title II of the Energy Reorganization Act of 1974.

Federal Energy Regulation Commission (DEPPARTMENT OF ENERGY)	- Permits for construction, operation and maintenance of interstate pipelines facilities required under the Natural Gas Act of 1938. - Orders of interconnection of electric transmission facilities under Section 202 (b) of the Federal Power Act. - Permission required for abandonment of natural gas pipelines and associated facilities under Section 7C (b) of the Natural Gas Act of 1938.

Source: CAMA Land Use Plan Update, Hertford County, NC, 1980.

STATE DEVELOPMENT REGULATIONS

Agency	Licenses and Permits
DEPARTMENT OF NATURAL RESOURCES AND COMMUNITY DEVELOPMENT	- Permits to discharge to surface waters or operate wastewater treatment plants or oil discharge permits; NPDES Permits, (G.S. 143-215).
Division of Environmental Management	- Permits for septic tanks that serve industrial process water flow or are community owned. Such systems owned by the State or Federal government are under the jurisdiction of the Health Department, (G.S. 143-215.3).
	- Permits for air pollution abatement facilities and sources (G.S. 143-215.108).
	- Permits for construction of complex sources; e.g. parking lots, subdivision, stadiums, etc. (G.S. 143-215.109).
	- Permits for construction of a well over 100,000 gallons/day (G.S. 87-88).
Division of Coastal Management	- Permits to dredge and/or fill in estuarine waters, tidelands, etc. (G.S. 113-229).
	- Permits to undertake development in Areas of Environmental Concern (G.S. 113A-118).
	Note: Minor development permits are issued by the local government.

DEPARTMENT OF NATURAL RESOURCES AND COMMUNITY DEVELOPMENT Division of Land Resources	- Permits to alter or construct dams (G.S. 143-215.66).
	- Permits to mine (G.S. 74-51).
	- Permits to drill exploratory oil or gas wells (G.S. 113-381).
	- Permits to conduct geographical explorations (G.S. 113-391).
	- Sedimentation erosion control plans for any land disturbing activity of over one contiguous acre (G.S. 113A-54).
Secretary of NRCD	- Permits to construct oil refineries.
Department of Administration	- Easements to fill where lands are proposed to be raised above the normal high water mark or navigable waters (G.S. 146.6).
Department of Human Resources	- Approval to operate a solid waste disposal site or facility (G.S. 130-166.16).
	- Approval for construction of any public water supply facility that furnishes water to ten or more residences (G.S. 130-160.1).
	- Permits for septic tank systems of 3000 gallons/day or less capacity (G.S. 130-160).

Source: CAMA Land Use Plan Update, Hertford County, NC, 1980.

Bertie Ledger-Advance

Thursday, November 28, 1985

Windsor begins land use plan

WINDSOR — The town of Windsor took the first step Wednesday night of last week toward setting the town's land use goals and priorities for the next five years.

The Windsor Planning Board met to discuss the organization and development of the 1986 land use plan update. The meeting was designed to introduce the board to the planning process and the board's responsibilities in plan development.

The Planning Board will meet monthly to discuss the plan. All meetings are open, and public participation is encouraged. The next meeting is set for 7 p.m. December 17 in the Windsor Town Hall.

The land use plan update is a document used to assess and guide development. Each of 20 counties covered by North Carolina's Coastal Area Management Act must update their land use plan every five years. Plans are optional for municipalities such as Windsor.

Lynn Phillips of the Washington, N.C., based Mid-East Commission outlined components of the plan to be addressed by the Planning Board. Mid-East will be providing technical assistance to the Town. The components include policy issues such as resource protection, production, and management, plus economic development.

Robert Paciocco from Mid-East discussed techniques for increasing public involvement. Planning Board Chairman Laurence Carter presided at the meeting.

In addition to public meeting, the Planning Board will explore other methods of public education, including appearances on local radio and television.

Thursday, January 30, 1986

Planning board goals met

WINDSOR — Windsor got a "B-plus" on its report card which shows how well goals are accomplished.

The town's planning board met last week to discuss the Land Use Plan which is being updated. The meeting focused on the policies and goals set in the 1981 plan and how well the implementation procedures have been carried out since that time.

The Land Use Plan update is a document used to assess and guide development. Each of 20 counties covered by North Carolina's Coastal Area Management Act must update its Land Use Plan every five years. Municipalities, like Windsor, have the option of updating their plans as well.

In a checklist format, each policy and implementation strategy was analyzed to assess how the town has moved forward in reaching each goal. Out of the dozen implementation strategies listed, 11, or 91 percent, had been either partially or completely fulfilled. Each policy and implementation strategy dealt with the issue of resource protection, production and mangement, as well as economic and community development.

The Planning Board also checked over the completed part of its 1986 plan which analyzes the existing socioeconomic and land use trends. Planner Lynn Phillips of the Washington-based Mid-East Commission presented the plan to the board. The safe placement of septic tanks in the one-mile jurisdictional limit of town was also discussed.

The next meeting of the Planning Board is scheduled at 7 p.m. February 18 in the Windsor Town Hall. The agenda will cover the town's current policies on resource protection. All people of the community are invited to attend.

Windsor Planning Board stressing water quality

WINDSOR — The Windsor Planning Board has decided to stress water quality and not to emphasize the protection of prime agricultural land.

In proposing policy for the town's 1986 land use plan update last week, the planning board included policies to protect water quality and the recreational fishing industry in the Cashie River.

The Board also elected not to emphasize protection of prime agricultural land. Citing the abundance of farmland in the area and the number of farmers being paid not to grow crops, the planners decided that farmland protection efforts will, for the near future, take a back seat to other forms of economic development.

Windsor is updating its Coastal Area Management Act Land Use Plan. The planning board met Monday night of last week with consulting planner Lynn Phillips of the Mid-East Commission, who provided technical assistance on the plan. Resource ecologists Melissa McCullough and Rich Shaw from the Division of Coastal Management gave a

(See BOARD, Page 16)

Board

(From Page 1)

presentation on the merits of water quality protection.

McCullough told the board that "all our natural resources are interrelated. What happens with the soils in one area will certainly have an impact on the water of another area." She cited the paper mills upstream on the Roanoke as an example. "Every toilet flush will impact some other resource at a later time."

The board discussed the importance of the recreational fishing industry to Windsor. Water quality must be good to maintain the vitality of this industry, which provides a significant boost to the overall economy of the area.

Good water quality initiatives also save money in the long-run, McCullough noted. When a farmer loses chemicals from his fields after a big rain, he is washing away his investment and subsequently, money, Shaw added. "It makes good economic sense to work toward protecting the water quality."

In discussing farmland in the area, the board agreed that there is not a shortage of profitable soil types. The U. S. Soil Conservation Service has identified several aras in and around Windsor as "prime agricultural land". Preventing non-agricultural development on this land should not be a short-term priority.

The board felt that due to the recent glut in farmland, it should not discourage any type of development. Economic development is a high priority and the Town should not prevent any other type of land use to locate on well-drained agricultural soils.

They proposed policies on siting marinas and similar facilities, and establishing a conservation buffer zone along the shoreline. They also voted to require any proposed mining activities to apply for a special use permit from the planning board.

The land use plan is not yet finalized, and public input is encouraged. The board will meet again at 7 p.m. April 15 in the Town Hall to discuss the plan. Economic and community development issues will be on the agenda. All Windsor arae residents are invited to attend.

Thursday, April 24, 1986 Bertie Ledger-Advance 3

Desirable industries identified

WINDSOR — Industries related to furniture manufacturing, electronics, automobiles and plastics would be well-suited to the Windsor planning area, the Planning Board decided.

The board met Tuesday night of last week to discuss the policy recommendations for the Land Use Plan update. Intergovernmental coordination, citizen involvement and economic and community development were some of the issues discussed.

The land use plan is a document used to guide and assess develop .ient. Windsor is updating its 1981 plan. Lynn Phillips of the Mid-East Commission is providing technical assistance on the plan.

High-skilled, high-paying jobs are what the town needs and industry which falls into this category would be especially welcome to the planning area. However, any industry must meet the town's objectives for resource protection, as well as resource production and management. The board felt that all industry should be low pollution to remain consistent with other goals for protection of valuable natural resources.

The town is also committed to providing services to all potential industry. Town Administrator David Overton stated that special rates are available to industries that employ a certain number of workers. Additional jobs made available by that firm mean additional cost cuts on utilities fees, Overton said. The town is able to offer reduced electrical rates because of its ability to produce its own power by means of a generator. The reduced electricity costs often amount to a significant savings to a potential industry, thereby providing an added incentive to locating in the Windsor area.

Although excessive growth is currently not a problem for the town, a population ceiling of 7,000 persons should be set to avoid problems in the future. This figure represents the maximum capacity of the municipal water system. Any persons added on to the system more than the limit of 7,000 would unduly tax the system, thereby creating the need for an addition to the system. The town's population is currently around 2,200 persons.

The board also decided to discourage electrical-generating facilities, similar to the one proposed by Vepco last year. Any energy-generating facilities interested in the town must apply for a special use permit from the Planning Board. The plant would be limited to area classified as "rural" on the land classification map. This eliminates the requirement for the town to automatically provide the necessary urban services for a local industry.

The plan is not yet finished, and public opinion is still being encouraged. A rough draft of the completed sections of the plan is available for public inspection in the Town Administrator's office.

The next meeting of the Planning Board is scheduled for May 27 at 7 p.m. All interested persons are invited to attend.

Thursday, June 26, 1986 Bertie Ledger-Advance 15

Future growth areas talked

WINDSOR — The Windsor Planning Board met Tuesday night of last week to discuss areas of future growth in Windsor as identified on the Land Classification map.

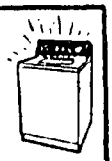
The Land Classification map is a visual summary of the town's intentions for growth over the next 10 years. It is a component of the 1986 Land Use Plan update, a document used to guide growth and existing development in the Windsor planning area. The Board has been working on the Plan since November.

The Land Classification map categorizes land into four categories based on the amount of development that currently exists or is planned to take place through annexation or other types of development. The Developed classification identifies areas that are currently served by water and sewer and other urban services. Most of the land within the town limits was placed into this classification. The Transition classification shows areas undergoing a slow change from undeveloped to anticipated growth. Land situated between the town limits and Highway 13 Business and areas adjacent to Highways 13 and 17 North were placed in this category.

Significant natural areas, such as the Cashie River and its hardwood swamp floodplain, were placed in the Conservation class. In order to protect the natural resource, all land uses occurring in these areas must be restricted in some manner. In addition to the protection imposed by this classification, the Town's Floodway and Floodplain ordinances restrict the amount and form of development in the floodplain. Only water-dependent uses which do not require the traditional water and sewer services provided by the Town are permitted in the Conservation area. The Board also elected to restrict the amount of logging in the swampforest by requiring a review of all logging proposals by the Town Council.

The Board also reviewed written drafts of the Resource Protection, Production and Management and Economic and Community Development policies that had been formed at earlier meetings. Planner Lynn Phillips of the Mid-East Commission answered questions on these sections of the Land Use Plan.

All parts of the plan have been written and are in draft form. The public is able to pick up copies at the Town Hall for review. The final draft of the plan should be ready by mid-July for submission to the Windsor Town Council.

MAYTAG
Sales & Service


Harrell's
Auto & Sports Store
Main Street
Ahoskie, N. C.

E.R. Ferro, D.D.S.
regretfully announces that

MID-EAST COMMISSION

February 3, 1986

Mr. James Gilliam
Ghent Street
Windsor, North Carolina 27983

Dear Mr. Gilliam:

The Town of Windsor and the Mid-East Commission are currently engaged in updating the 1981 Windsor Land Use Plan. The land use plan is a document used to assess and guide development. It will be used by the county CAMA Permit Officers, developers and other stated and federal agencies to make decisions about development and preservation activities in the town.

Thus far, our work has concentrated on establishing a data base on the existing conditions, all plans and policies, and physical constraints which might pose a development impediment in the future. The next task of the planning board is to formulate recommendations for policy on future development issues.

Your input in this decision-making process is essential. You have been listed as one of the more prominent residents in the Windsor community who has an interest in the future of the town. We invite you to be heard in the community forum. During the next meeting scheduled for February 18, we will begin making policy statements on resource protection in the area. Also, we will be discussing the most relevant issues facing Windsor today. The incorporation of your opinion on these issues is one of our goals.

The meeting is scheduled for February 18 at 7:00 pm in the Town Hall. Subsequent meetings will be held on the third Tuesday of each month at the time given above. We encourage you to attend to provide guidance and direction.

E. Peterson Building ■ 310 West Main St ■ P.O. Drawer 1787 ■ Washington, North Carolina 27889 ■ (919) 946-8043

If you have any questions about the plan and its purpose or the meeting, please feel free to call me. We look forward to working with you to guide the future of your town.

Sincerely,

Lynn Phillips

Lynn Phillips
Consulting Planner

LP/lrw

NOAA COASTAL SERVICES CENTER LIBRARY
3 6668 14101 8061