



Comprehensive Plan

Gloucester County, Virginia

September 1991

Amended November 2001

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Part I

Framework for Growth Management

Gloucester County, located at the southeastern section of Virginia's Middle Peninsula on the York River, was formed in 1651 from York County and named for Henry, Duke of Gloucester, third son of Charles I. Throughout most of the County's past, growth has been gradual and slow and the County has remained predominately rural in character. Throughout the 17th and 18th centuries, this was a tobacco-producing area. Evidence of the many old plantation homes and colonial churches can be seen around the county. However, in recent decades development pressures within the County have been increasing in response to the rapid urbanization and expansion of the Hampton Roads region.

As the County grows and changes over the next twenty years, this Comprehensive Plan will serve as a guide for making public and private decisions regarding Gloucester County's growth and development. The Plan is a culmination of a cooperative effort, pulling together the knowledge and skills of diverse citizens and staff. This Plan represents a future *vision* of Gloucester County in 2010 along with recommendations for bringing that vision to fruition. The ideas of the Plan are a distillation of the community's many desires, tempered by what seems feasible and reasonable. This Plan is not intended to be a *static document*. It should be reviewed and updated periodically to reflect new development trends, shifts in the economy, or changes in the community's goals and objectives.

Gloucester County is a special place with a unique character, culture and history that distinguishes this community from thousands of counties across America. This Comprehensive Plan particularly addresses the preservation and enhancement of these special qualities and that distinctive personality felt by the citizens who live and work here. This sense of uniqueness and pride of place are the guiding forces and the strongest motivation for those who have contributed to the realization of this document.

DEFINITIONS AND PURPOSE

The Comprehensive Plan is an official public document adopted by the County Planning Commission and Board of Supervisors. The Plan is a general, long-range, policy and implementation guide for decisions concerning the overall growth and development of the County.

The Plan is *comprehensive* because the elements cover the entire range of development issues which can be influenced significantly by the County Board of Supervisors and other governing authorities and agencies. The Plan is *general* because the recommendations are broad, rather than narrowly defining decisions for land use at specific sites. The Plan is long-range because consideration is given to the problems and opportunities which may arise over the next twenty years. The Plan is *dynamic* because there can be amendments to adapt to new situations and meet new challenges.

Although adopted as an official public document, the Comprehensive Plan is not a development ordinance. This Plan serves as a catalyst and guide to the establishment of, or revisions to, other ordinances or planning tools. These include the zoning and subdivision ordinances, the capital improvements program, and area plans for various sections of the County. The Land Use Plan Map, included in this plan, serve to illustrate how and where the Plan's policies and recommendations will be carried out. This mapped information is general in nature and not appropriate for determining the suitability of specific sites for any specific use.

LEGAL BASIS FOR COMPREHENSIVE PLANNING

The preparation of a comprehensive plan is the legal responsibility of the County Planning Commission under Virginia Planning Enabling Legislation, Title 15.1, Article 4, of the Code of Virginia, 1950, as amended. Any ordinance pertaining to the use of land or the growth and development of the County should conform to the goals, objectives, and policies as they are presented in this Plan.

PAST COMPREHENSIVE PLANNING EFFORTS

Adoption of the first Comprehensive Plan occurred in 1974. The Plan was updated and adopted again in 1980. This Comprehensive Growth Management Plan is therefore the third major effort to establish a set of goals and objectives for County growth and development.

Gloucester County adopted its first zoning ordinance in 1984. Since initial adoption of this development ordinance amendments have been adopted incrementally over ensuing years.

Presently, planning and zoning is administered under the County Department of Community Development and Codes Compliance. The Department is overseen by a Director who also oversees the Building Department. The County Department of Community Development and Codes Compliance has a staff of seven persons including a full-time Codes Compliance Officer, a Senior Planner, a Planner II, an Administrative Assistant, and three part-time Secretaries. The Building Department, housed in the same office, has a staff of eight full-time persons including a Building Official, a Building Inspector, a Codes Compliance Inspector, a Mechanical and Plumbing Inspector, two Electrical Inspectors, and two Secretaries.

COMPONENTS OF A GROWTH MANAGEMENT PROGRAM

This Comprehensive Plan provides the basic framework and direction for all components of what may be considered the County's overall Comprehensive Planning Program. It is not a stand-alone document but is supported and, in turn, supports related Planning Program documents such as the ones listed below.

- Zoning Ordinance, December 1983 (effective July 1984)
- Subdivision Ordinance, September 1983
- Capital Improvements Budget, Fiscal Years 1990-1994
- Comprehensive Water Quality Management Plan for the Middle Peninsula: An Information Search and Review, MPPDC, January 1989
- Soil Survey, September 1980

These documents and others, when used concurrently, are the supporting basis for directing and managing growth in Gloucester County.

PROGRESS FOR PLAN DEVELOPMENT AND ADOPTION

Preparation of this Comprehensive Plan began in mid-1989 with the hiring of the planning consulting firm of Redman/Johnston Associates, Ltd. In September of 1989 the Board of Supervisors appointed a seventeen (17) person Citizen Advisory Committee (PAC) to work with the consultants and County staff to formulate a new Plan. The PAC consisted of County residents representing different geographical areas and interests throughout Gloucester County.

Beginning in September, the PAC worked with the consultants and County staff to identify and discuss important planning issues and background information relevant to the Comprehensive Plan. The resulting "Implementation Options for Managing Growth" paper and other planning background data helped to formulate this Plan.

In addition, the PAC conducted a workshop to review and revise a set of draft goals and objectives for the Plan which were initiated by the Planning Commission. Following these meetings, the consultants and County staff prepared this draft Comprehensive Plan.

ORGANIZATION OF THE DOCUMENT

The Comprehensive Plan is organized into five chapters. These chapters deal with all aspects of land use in Gloucester County.

Following this introduction, Part II highlights past trends and future projections of population and housing. Part III lists the goals and objectives for this Plan. Part IV, the Plan Elements includes background, issues, and implementation recommendations pertaining to the subject of each section. In particular, Section I of Part IV presents the central theme of the report, the Land Use Plan, which designates how, when, and where growth should occur. The other sections include discussions on Economic Development, Transportation, Community Facilities and Services, Housing, Parks and Recreation, Natural Resources Protection, and Historic and Cultural Resources. The final chapter of the Plan, Part V, addresses implementing the goals and objectives of the Plan.



Part II

Growth Management Planning Considerations

Throughout its long history, Gloucester County has been characterized by a number of compact, and rural settlements spread over a landscape of farmlands, waterways, shoreline, and extensive undisturbed natural areas. For years, the County has been noted for its rural character and image, its York, Severn, Ware and North River and Piankatank shoreline, its rich historical and cultural heritage, and its slow-paced way of life. Unique among Virginia counties, some 60% of the County is established in forest cover as testimony to its rural and environmental character.

The rapid growth of the past decade has brought great changes to the County; changes welcomed by many, lamented by others, but of concern to all. Inevitably, in the process of growth and change, Gloucester County's renowned assets have been threatened by growing liabilities as sprawl development along County roads increased traffic volumes, brought congestion along the Route 17 corridor, particularly on the Coleman Bridge, endangered the natural environment, and promoted the sale of farm land for non-farm uses. These threats to the quality of life have heightened the interest given to growth and development issues by both citizens and elected officials.

The public's growing concern about growth and development, and changes in the quality of life in Gloucester County have for several years prompted questions about the capacity of the 1980 County Comprehensive Plan to deal effectively with changing conditions. A shift in public attitudes gave added impetus to the desire for a complete review and reevaluation of the assumptions, goals, and policies on which the County's 1980 Plan was based.

In the face of increasing development pressures, the County has determined the central theme or concern to be addressed in this Plan is management of future growth. For that reason a growth management philosophy influences virtually all Comprehensive Plan elements contained within this document. **This philosophy is motivated by a desire to balance population growth in Gloucester County with the ability or capacity of the County to provide the public facilities and services prompted by growth while maintaining the rural nature and quality of the County.**

The need for such a balance has been underscored by the increasing rate of growth evidenced in the

County in recent years and the perceived changes by County residents concerning the influence growth has had on the character of the County and their quality of life.

Because growth management is an overwhelming County concern and is pervasive in its effect on virtually every component of this Plan, the following section of the plan identifies the nature and influence that growth in Gloucester County has had on County lifestyles in recent years. Moreover this section establishes a County definition of growth management and outlines the various means by which the County "Growth Management" philosophy is to be effected through the many plan elements which are designed to manage the future form, pattern, qualities, and distribution of growth in Gloucester County.

REGIONAL SETTING AND DEVELOPMENT TRENDS

To some extent the character of Gloucester County has changed substantially over the past two decades. The rural nature of much of the County has been gradually eroded, and a suburban character has taken its place. The County's proximity to urban centers in the south and the outward march of suburban development from the greater Hampton Roads/Newport News area has transformed portions of Gloucester County (See Map II-1) to a suburban development pattern which is most pronounced in southern County areas. This transformation to what is now considered a County that is part of the Metropolitan area has clearly affected the County's capacity to deliver timely, cost-effective services to support the needs of its growing resident population.

Metropolitan area residents to the south are lured by the promise of lower taxes, lower housing costs, rural character, and relative freedom from the congestion evident in counties nearer to the Newport News and Greater Hampton Roads Metropolitan area. Their exodus to the promise of Gloucester County has unfortunately created increased traffic volumes on highways not designed to serve the increased use.

Likewise, increasing school enrollment will likely outstrip the County's capacity to provide classroom



space. Route 17 has established its notoriety for gridlock as rush hour traffic has increased in recent years as a result of bedroom community development. Moreover, the level of traffic volume of 32,000 vehicles per day is expected to rise to 44,000 vehicles daily by the year 2010 absent a second bridge crossing of the York River.

The extension of Hampton Roads Sanitary District Sewer facilities to Gloucester from the south and

construction of planned impoundment reservoirs to meet water supply needs can be expected to stimulate growth effectively in the next 10 years. These facilities, necessary to provide adequate facilities to support growth and address the problem of failing septic systems in many County areas, will represent a significant opportunity to guide the location and form of expected future County development.

RECENT HOUSING AND POPULATION GROWTH TRENDS

Recognition of the amount, distribution and timing of population growth and development are fundamental to County achievement of growth management objectives. These factors, in turn, determine the cost of providing the facilities needed to support the new population and also determine non-residential growth facility needs of the County.

Gloucester County is one of the fastest growing counties in the State. The County has demonstrated an average annual growth rate of 6.4 percent from 1980 to June 1989. Figure 1 indicates the growth in dwelling units by year. From this graph, it is easy to see that the highest growth occurred from 1983 to 1987. Recent years have shown some decline in the rate of growth; however, the growth is still substantial.

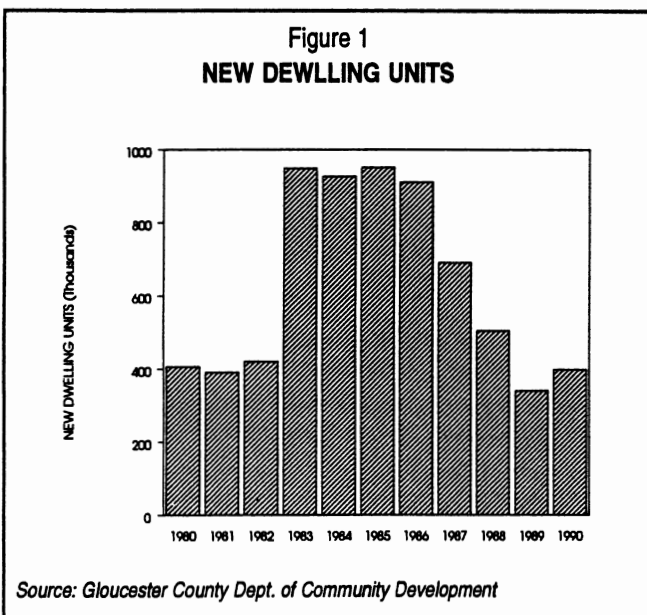
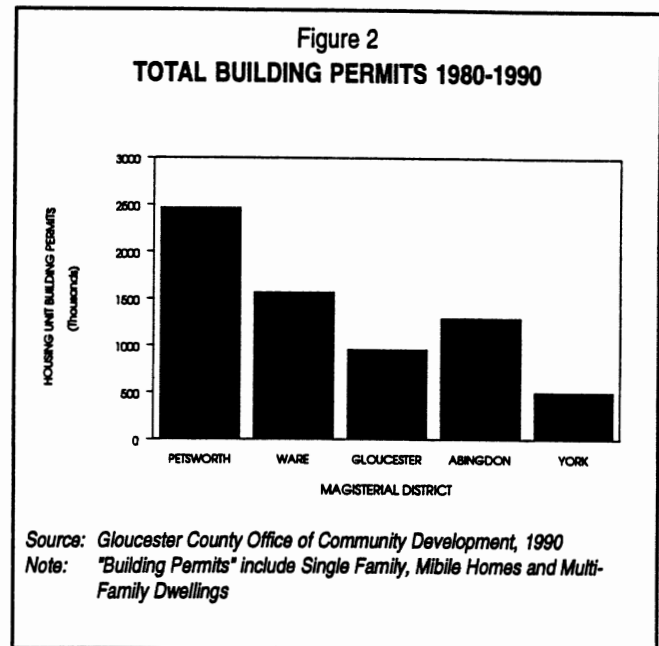


Figure 2 show the residential building permit activity for the decade by magisterial districts. From this figure it is easy to detect where the highest growth is occurring. In absolute numbers the Petsworth and Ware Districts have seen almost 60 percent of the building permits for housing units since the last census. Though the growth has been greatest in these districts, development has occurred throughout the County.



PROJECTED POPULATION GROWTH TRENDS

Past trends alone clearly fail to project the future distribution of population in Gloucester County. Therefore several approaches to project future rates of growth were considered, each of which was tempered by knowledge of current policies and market trends. The most notable market trend is that Gloucester and surrounding counties are clearly linked to the Metropolitan Newport News/Hampton Roads area economy and the County will continue to experience growth pressures resulting from proximity to Metropolitan area forces.

While this regional trend may establish a baseline for what may be expected in Gloucester County's future, a number of other variables can and will clearly influence the County's future rate of growth. These include:

- The capacity of the County's infrastructure (Public sewer, Public water, roads, school facilities and Solid Waste Management) to support reasonable levels of public service;
- The commitment of the County to proactively manage its growth through land use controls including zoning regulations, and subdivision and development standards;

- The level of investment made to enhance the capacity of the County infrastructure necessary to sustain an increasing population; and
- The intensity of citizen commitment to maintain the rural character of Gloucester County.

The public investment required to sustain the recent growth rate is likely to exceed the financial capability of the County given the fact that the base case or current levels of service and capacities are presently exceeded by the present population.

The County is playing catch-up today in the areas of needed road improvements, increased sewer capacity, and establishing better standards for development that control the distribution and form of future growth so that the service delivery costs to support future development can represent more cost-effective public investments than may have been necessary in past years.

In reality, no single projection is safe when peering 21 years into the future. As a result, we should consider alternative growth scenarios which might evolve in Gloucester County.

Table 1

POPULATION PROJECTIONS -GLOUCESTER COUNTY

YEAR	DWELLING UNITS	POPULATION	PERCENT CHANGE POPULATION
1980	8312	20107	
1985	10745	27378	36.2
1990	12451	30131	10.1
1995	14520	35284	17.1
2000	16590	40314	14.3
2005	18660	43665	8.3
2010	20730	48509	11.1

Sources:

U.S. Census Data, 1980 & 1990; Office of Community Development, Gloucester, Virginia; Redman/Johnston Associates, Ltd.

ASSUMPTIONS:

1. Household sizes of 2.8 for 1980-90; 2.7 for 1990-2000; and 2.6 for 2000-10.
2. A 10 percent vacancy rate throughout the planning period. (The county had almost 9% vacancy in 1980.)
3. An average annual increase in dwelling units of 414, which is consistent with the average annual rate from 1980-1990.

NOTE:

An average annual increase in dwellings of 414 does not take into consideration increased exurban growth pressures recently experienced by Gloucester County.

A CONTINUED DEVELOPMENT TRENDS

SCENARIO is one in which Gloucester County's occupied housing inventory grows at about the same level as it has during the 1980s, approximately 414 dwelling per year. Table 1 indicates that, by 2010, there would be 20,730 dwellings and about 48,500 people. Such a growth pattern would respond to the continuing attractiveness of Gloucester County as a place to live and work. The result of such a scenario would be a County with a 61% increase in new residents. The following kinds of factors would contribute to realization of such a continued growth scenario:

- Continued strong economic growth of both the Newport News and Norfolk Metropolitan areas, with substantial continuing pressure for more affordable, low cost housing.
- Moderate development of employment opportunities in Gloucester County, with only moderate gains in residential attractiveness.
- Construction of Alternative 5 across the York River and widening of Coleman Bridge.
- Improvement of Route 17 from Gloucester to the York River.
- A planned expansion of sewer facilities in the HRSD service area and rate controlling mechanisms enacted through zoning outside that sewer service area.

A SLOWED DEVELOPMENT SCENARIO

is one in which Gloucester County's occupied housing inventory grows no more rapidly than it has in recent years, and, perhaps, somewhat more slowly. This scenario describes the population projections made by the Department of Planning and Budget, October 1986. These projections indicate that by 2000 there would be about 37,500 people. Assuming a conservative 2.7 people per household that would mean approximately 13,800 dwellings or about 1,350 more than documented presently by the 1990 census. That level of growth would mean annual construction of about 135 dwellings a year. Such a growth pattern might respond to a general regional economic slowdown. It might also reflect a lessening of the County's comparative attractiveness relative to other

suburban counties. The following kinds of factors would contribute to realization of such a slowed growth scenario:

- Slowing economic growth of both the Newport News and Norfolk Metropolitan areas.
- Little development of employment opportunities in Gloucester County and little or no gain in residential attractiveness.
- Construction of neither bridge alternatives, an outcome leaving Gloucester County with diminished accessibility.
- A limited expansion of the sewer collection system in the HRSD Service Area, and rate-controlling mechanisms enacted through zoning outside the development area.
- Little improvement to the Route 17 corridor serving the County.

Clearly County actions and policies can and will influence the projected population increase which serves as a basis for this Comprehensive Plan and the means by which it is implemented.

GROWTH MANAGEMENT PLANNING CONSIDERATIONS

The dimension of growth which will be faced by Gloucester County over the next 20 years underscores the County's interest in and need for attention to growth management. Some 17,000 new residents in approximately 8,000 new households will likely locate in the County during the 20-year period. The form, pattern and distribution of new development needed to satisfy this growth in population, together with the qualities of commercial and industrial development to meet these residents' shopping and employment needs, will influence a number of factors which taken together represent the future quality of life in the County.

COST OF PUBLIC SERVICES

Among the factors which influence quality of life are the costs to provide requisite public services to County residents, including constructing community facilities necessary to house many of these services. They include schools, roads, police protection, fire protection and provision of adequate water supplies and wastewater treatment and solid waste management facilities.

The County's resident labor force is increasing rapidly as employment in the Newport News/Hampton Roads Suburbs accelerates and as participation by County residents increases. A large portion of the resident County work force commutes south to various metropolitan area job destinations resulting in heavy peak hour traffic volumes and inevitable delays on the Coleman Bridge.

In terms of increased employment and rising family income, economic development is generally recognized as a benefit to the County. However; growth, particularly a bedroom community form of growth, can result in greater demands for public services than the County can supply. It can also produce unacceptable demands on the natural and man-made built environmental features of the County. Both demands for services and the costs of services and facilities have increased rapidly in the past decade.

SENSE OF COMMUNITY AND RURAL CHARACTER

While the future costs of County services are of obvious and tangible import, a number of other more subtle County qualities can also be influenced by the amount, form, distribution and qualities growth takes in the County. The rural nature of many County areas has gradually disappeared with a suburban character taking its place in these areas; yet, a number of County areas today retain their rural character resulting in a sense of belonging and cohesiveness. This "sense of community" and rural character, pronounced in the Bena, Dutton and neck areas of the County will clearly be influenced by the form and distribution of County growth.

QUALITY OF THE NATURAL ENVIRONMENT

Gloucester County's natural environment assets include an extensive shoreline, broad estuarine rivers, forested areas, vistas of the York, Ware, Severn, North & Piankatank Rivers and rural landscapes. These features create a setting of notable beauty. Ironically, the development that accompanies population growth is threatening the natural features that attract people to the County.

The consumption of land by man-made development has resulted in the loss of some of these important environmental features, and can diminish the environmental quality of the County and its aesthetic appeal. As development proceeds, floodplains, wetlands, upland natural areas, steep slopes, and shoreline areas are altered, and wildlife habitats are lost. As woodlands are cleared for development, watersheds are denuded, soil is washed into streams and rivers, and upland wildlife habitats reduced. Development in floodplains often results in both property and natural environmental damage from increased flooding. The loss of wetlands may result in increased runoff, erosion, siltation, water pollution, and the loss of shellfish, fish and other wildlife habitats.

QUALITY OF THE MAN-BUILT ENVIRONMENT

Much of the County's existing settlement pattern was established before land use or growth management standards were established in Gloucester County. Because of the continuing inability of existing ordinances to deal with land-use problems, the man-made environment fails in many ways to measure up to the quality expectations of the residents of the County today.

Deficiencies include strip commercial development along the highways, a condition which is unattractive and reduces the safety and traffic-carrying capacity of roadways. Certain County areas evidence insufficient protection of neighborhoods from heavy traffic and incompatible land uses. Housing conditions in some rural areas of the County are substandard.

Gloucester County contains a number of older communities with irreplaceable social, physical and cultural assets. Many of these communities are declining and deteriorating. They are by-passed in favor of newer suburbs where a greater array of

services and amenities exist. These areas cannot be neglected. They house a substantial portion of the County's population. Many of these settlements serve not only as rural service centers; but, provide physical and cultural opportunities in the form of spacious, well-built homes and architectural styles which demonstrate instructive aspects of County history.

DEFICIENCIES IN SERVICE

Rapid population growth in recent years frequently caught the County unprepared and created service demands which overload facilities and services in many communities. Sewer treatment and water supply and school construction demands have resulted. Low density development makes it difficult to provide important services to scattered population without increasing service costs. Sometimes, as in the case of public transportation, service becomes economically infeasible in very low density areas.

TRANSPORTATION TRENDS

There is little question that private automobiles will continue to be the dominant mode of transportation in Gloucester County. While many of the County's citizens seek improvement in public transportation, it will be economically feasible only with subsidies and only in those areas of high population density.

In short, both fiscal as well as quality of life features of Gloucester County will be influenced by future growth and the pattern it takes.

DIMENSIONS OF GROWTH MANAGEMENT

Consideration of efforts to manage growth has led Gloucester County to recognize that there are several basic types of growth management, each having a different aspect or function. One aspect of growth management is seeking to influence the type and amount of growth. A second aspect is one in which it is the location or distribution of the growth that is to be controlled. A third is related to the cost of the development and who pays for development related costs. Finally, quality control can be employed to some degree with all implementation strategies accommodating growth by applying specific performance standards to control qualities of site design and provide environmental protection.

For the most part, the need to manage growth is due to the inability of the County to provide facilities such as sewers, schools and highways which are necessary to meet projected demand. In Gloucester County, there is certainly a concern over financing needed improvements. That concern is primarily related to the fear that current residents will have to pay for growth. Based on the issues identified by the County Plan Advisory Committee, there are indications that the rate of growth in Gloucester County is now outstripping the County's and State's ability to provide certain services. These include, most notably, transportation systems, school construction, and sewer and water facilities.

Clearly, there is a real need to coordinate land use decisions in order to extend sewer service efficiently. Thus, coordinating land use planning with sewer service extension is one of several overriding objectives of this Plan. Other objectives of this plan include providing adequate transportation system improvements, school facilities, and local job development. Water quality and habitat protection also rank high among the concerns of County residents. The desire to preserve the County's agricultural land resources and rural character is a closely related objective. Finally, all of these objectives require a means of controlling the location of growth within Gloucester County.

The cost of providing service is important, but is only part of the problem. Equally important is the need to upgrade the level of service. For example, Gloucester County, like most rural and urbanizing counties, has relied on volunteer fire and ambulance service and State and Federal funding for water, sewer and school facilities. As a rural county grows, it eventually reaches the point where a different level of service is required as well as a more responsive funding mechanism. All of these development related costs must be paid for and the questions of who pays is an issue upon which most citizens and elected officials have had to focus their attention in recent years. The amount, distribution and timing of population growth and development are all conditions that County growth management objectives are intended to address. These factors, in turn, determine the costs of providing the facilities needed to support the new population and also influence the qualities of non-residential (commercial, industrial, and institutional) growth in the County.

CONCLUSION

Given the problems and opportunities which Gloucester County is facing, a philosophy of growth management was forged that can be basically described as a "contained growth" strategy.

This philosophy provides for management of the location of future County growth by providing specific areas in the southern and central portions of the County for containment of the majority of expected development. This strategy permits more efficient use of current and planned transportation improvements as well as sewer service facility extensions planned within the Route 17 corridor sewer service area. Containment of the majority of County growth in southern and central portions of the County requires less land to be consumed Countywide by future land uses and, therefore, permits retention of rural character and continued agricultural use and activity in other currently rural areas of the County. Maintenance of rural densities in these areas will minimize demand for public investment and capital investment and capital improvements, thus permitting the County to focus future capital improvements to "contained growth" areas. These improvements can then be considered more cost-effective as public investments will be focused in areas where the greatest concentration of users or beneficiaries exist to utilize them.

Development in southern and central county areas will take advantage of better transportation access to metropolitan areas and reduce the potential for negative environmental impacts to sensitive resources in the County including the Piankatank and North River, as well as substantial reaches of the Mobjack Bay/Piankatank and North river system shorefronts.

The "contained growth" philosophy is supported by a number of studies conducted nationwide in recent years which have evaluated the differences in impact on social, environmental and economic resources resulting from alternative development patterns. Noteworthy among such studies is one undertaken jointly at the Federal level by the Council on Environmental Quality, the Department of Housing and Urban Development and Environmental Protection Agency. The conclusions of their research are documented in "The Costs of Sprawl" published in 1974. Stated in general form, the major conclusion

of their research is that, "for a fixed number of households, 'sprawl' is the most expensive form of residential development in terms of economic costs, environmental costs, natural resource consumption and many types of personal costs".

The growth management locational framework for Gloucester County further recognizes that not all growth can or will be contained within the South Central area of the County. Therefore, some portion of expected development is to be supported in designated Town Centers and Village Centers in more rural County areas. These areas are intended to continue to serve as rural service centers to both existing and future rural residents with residential densities established through land use controls to assure the retention of their rural character. In short, development will be encouraged in areas where adequate public facilities exist or can be efficiently provided. Management of the location of growth is but one of many growth management measures designed to achieve County objectives. Management of the costs of development, particularly in those areas where future development is to be contained, are important components of Gloucester County's growth management strategy.

Finally, the qualities of development need to be afforded attention through adoption of land use controls which include quality-of-site design and environmental protection performance standards, particularly where higher development densities are to be contained. A development guidance system component of the Comprehensive Plan assures that new large scale developments in what is to be termed the "development district" (see Land Use Plan Element) are designed to minimize environmental impacts and public costs, and foster quality-in-site design as threshold requirements for development approval through conditional rezoning.

In summary, the primary purpose of the Comprehensive Plan is to manage future Gloucester County growth, recognizing that a serious commitment to this objective requires management of growth rate, location, quality and costs. Only through treatment of all these aspects of growth can real results be anticipated.

Following elements of the Plan, particularly the Land Use Plan Element, establish detailed policies which serve to implement these growth management concepts.

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Part III

Goals and Objectives

GENERAL GOALS

- A. To seek the highest quality of development and design for the future growth of Gloucester County.
- B. To foster and encourage public participation in the planning and decision-making process to ensure that the wishes of the community are translated into appropriate courses of action.
- C. To protect the unique character and identity of Gloucester County through careful management of the natural resources.
- D. To plan for future developments that will allow quality growth in the economic base and to supply job opportunities for its residents.
- E. To encourage economic development that will be compatible with the physical and social development of Gloucester County.
- F. To protect and enhance the environmental quality of Gloucester County and the Chesapeake Bay for present and future residents.
- G. To provide a plan for the growth of the County in order to enhance the quality of life for all its residents.

LAND USE

Goals

- A. To provide for the safe continuation of the uses that were established prior to zoning and land use controls.
- B. To assure balanced, desirable, and convenient physical relationships between residential, commercial, industrial and public use areas, both at the neighborhood and County levels, as well as protecting the environmentally sensitive and ecological integrity of the land in order to meet the needs of the County residents.

Objectives

- 1. To identify adequate and suitable development patterns for safe, orderly, and efficient growth.
- C. To encourage the provision of efficient and attractive residential areas with safe and sanitary housing for all citizens of the County.

Objectives

- 1. To establish minimum housing standards, including lot size, off-street parking, drainage, and landscaping in order to avoid over-crowding and to protect the values of surrounding areas.
- 2. To encourage placement of mobile homes in well designed mobile home subdivisions or on standard lot size according to the County subdivision ordinance.
- 3. To encourage residential development to locate in or around designated population centers in the County.
- 4. To ensure that development shall occur on lots capable of supporting the individual water supply and

sewage disposal systems or in areas that have access to central water supply and sewage treatment systems.

5. To ensure that the character of residential areas will be preserved by preventing the intrusion of incompatible, non-residential uses.
 6. To upgrade and maintain public facilities and utilities in existing service areas.
 7. To enforce regulations and codes in order to preserve, enhance, and stabilize existing and future residential areas and to maintain the quality of housing. To update regulations and codes as growth and development patterns warrant.
 8. To provide for safe automobile and pedestrian traffic in neighborhoods, to provide multiple access facilities to allow for future accessibility to the road network, and to provide access for emergency vehicles and prevent landlocking of parcels.
 9. To encourage varying residential densities dependant upon the type of development, location, topography, soils, and degree of improvements.
- D. To promote high quality standards of residential development and sound housing for all residents.

Objectives

1. To ensure that developers of subdivisions provide, where appropriate, streets, drainage facilities, curbs, sidewalks, recreational areas, open spaces, and other private improvements for the health, safety, welfare, and convenience of its citizens.
 2. To provide for the design of residential and neighborhood developments that are safe and free from incompatible land uses.
- E. To encourage efficient and attractive commercial development to provide convenient access to goods and services, increase the number of local jobs for County residents, and broaden the economic base of the County.

Objectives

1. To direct the form of commercial and industrial development of park or campus-like form as opposed to linear or corridor form along County roadways.
2. To require businesses to provide adequate lighting, drainage, off-street parking areas, and adequate safe access for customers.
3. To encourage businesses to remove architectural barriers to the handicapped and elderly.
4. To require commercial and office property abutting residential areas to provide measures designed to reduce detractive impacts and nuisances to the residential areas. Improvements should be sought in existing situations whenever permits are received for expansion or alterations.
5. To provide planned and concentrated areas of commercial uses that provide diverse goods and services in a convenient and efficient manner to County residents at appropriate intersections of primary and secondary roadways.
6. To consider the location and design of business areas in relation to both vehicular and pedestrian circulation systems.

7. To support development of commercial businesses based on the County's unique physical characteristics and historical significance.
 8. To ensure that adequate land access and utility provisions are made for commercial development and that such provisions are compatible with other land uses.
 9. To encourage existing non-conforming commercial structures to upgrade and improve their structural soundness, aesthetic appearance, circulation systems, and road accessibility.
 10. To encourage retail and recreational uses at appropriate locations along the waterfront and to promote a healthy tourist trade in the County.
- F.** To maintain present and encourage additional industrial development.

Objectives

1. To identify and preserve sites having the appropriate topography, geology, accessibility, public utilities, highway access, and relationships to existing or future land uses that are necessary for industrial development.
 2. To protect land with unique potential for economic and industrial development from encroachment by other land use activities.
 3. To develop an industrial promotion and marketing program in cooperation with existing public and private agencies and utilities to publicize to desirable industries the advantages of locating in Gloucester County.
 4. To cooperate with the local and state industrial development authorities in their efforts to promote the location of new industry and the preservation, expansion, and upgrading of existing industries.
 5. To encourage commercial recreation, tourism, fisheries, and water- and boating-related industries.
 6. To encourage and support retention of the agriculture, fishing, and forestry industries.
 7. To assist private enterprise in creating planned industrial parks.
- G.** To encourage the coordination of industrial development with the related development of public utilities and transportation facilities so that public and private programs are directed toward a common goal without duplication of effort.

Objectives

1. To furnish public utilities in advance, where appropriate, not only to stimulate development, but also to encourage location in suitable areas.
 2. To encourage the establishment of attractive, efficient industrial parks with adequate road access and capacity, utilities, service roads, and other supporting services.
 3. To direct industries into areas that have access to major transportation routes that will provide rapid and safe movement within the County and to sources of supply and distribution of raw materials to points outside the County. This should be achieved within the limits of the existing or planned transportation system.
- H.** To encourage the establishment of industries that cause minimal negative impacts on the environment; to

Gloucester County

encourage compatible industrial development that will make efficient use of the area's labor force, raw materials, and transportation facilities, thereby stimulating employment and investment opportunities in order to stabilize and diversify the economical base.

Objectives

1. To encourage quality by regulating the design of industrial areas in order to promote and retain high standards of community appearance. Such design should encourage the use of landscape materials, fences, and service drives so that industrial areas be pleasant to work in and are visual assets to the community.
2. To minimize the blighting influence of industrial areas on adjacent and neighboring land uses.

NATURAL RESOURCES

Goals

- A. To conserve and manage Gloucester County's natural resources and community assets.

Objectives

1. To protect Gloucester County's groundwater, surface water, rivers, bays, and ultimately the Chesapeake Bay from pollution, sedimentation, or depletion.
2. To protect our wetlands and natural resources from unnecessary destruction due to increased drainage, filling, or construction that would hamper vegetation, water storage, erosion control, or support of plant and wildlife habitats.
3. To conserve prime agricultural and forested lands and guide residential, commercial, and industrial development to areas suitable for urban growth.
4. To cooperate and actively work with local, regional, state, and federal environmental agencies to implement safe and effective programs and policies to protect Gloucester's natural resources.
5. To update and revise local ordinances as needed in order to protect and enhance the County's natural resources.

HOUSING

Goals

- A. To encourage housing of various types, bedroom mix, and price levels so as to accommodate current and future County residents.

Objectives

1. To encourage existing substandard housing be brought up to minimum standards or replaced where renovation is not feasible through available federal, state, or local programs.
2. To explore alternate means of meeting the housing needs of low-, moderate-, and fixed-income residents.

3. To consider revisions to the land development and construction codes to reflect new techniques and innovations in order to facilitate housing development, rehabilitation, and construction.

TRANSPORTATION

Goals

- A. To guide the development of the County road system into a network that facilitates safe and convenient local traffic as well as high-speed, long-distance traffic.

Objectives

1. To work with the Virginia Department of Transportation (VDOT) to keep it abreast of the changing needs of the County's primary highways and secondary road systems and to improve the flow of traffic on arterial and major collector streets by identifying needed improvements.
 2. To develop long-range transportation plans in coordination with all other development plans.
 3. To develop short-range plans, including, but not limited to, acquiring rights-of-way easements and setbacks for anticipated transportation facilities, including VDOT's alternate 5 for crossing of the York River, prior to land development so as to minimize land acquisition costs.
 4. To provide, where appropriate, adequate buffers to protect adjacent properties from adverse effects of the transportation system.
 5. To define alternative transportation corridors to facilitate intra-County travel, keeping in mind the problems of channelization on the U.S. Highway 17 corridor.
 6. To work to provide all residents safe and, where feasible, multiple access to and from all neighborhoods.
 7. To maintain effective County enforcement of land use ordinances for the efficient and safe use of roadways within the County.
 8. To encourage effective enforcement of laws affecting the efficient and safe use of roadways within the County.
- B. To work to ensure that industrial, commercial, and residential development result in minimal negative impact on road systems and traffic patterns within the County.

Objectives

1. To encourage and ultimately require that road systems serving the new development be constructed to state standards and taken into the state road system for maintenance.
2. To ensure that sound, long-range design standards are followed in all construction of private roadway facilities in the County.
3. To require developers to pay their share of road improvements within their sites and adjacent to them; to encourage developers to proffer their share of off-site improvements in order to serve traffic generated by their sites.

4. To require that state standards for all entrances to primary and secondary roads be met as a part of all new construction or major modifications of land use.
- C. To encourage the provision of adequate mobility for all segments of the community.

Objectives

1. To encourage adequate and accessible transportation for all residents who are physically handicapped and have difficulty finding or using public or private transportation: the handicapped, the elderly, and those of low income.
2. To assist commuters by encouraging the development of parking lots, public information services, and commuter service programs.
3. To encourage the development of innovative and effective means of improving ground, water, and air transportation systems.

RECREATION

Goals

- A. To develop and implement a comprehensive recreational program to ensure adequate open space, park and recreational areas, facilities, and activities to serve the leisure time needs of present and future citizens.

Objectives

1. To provide for a variety of activities in a County-wide recreational system, devoting areas to specific forms of recreation in proportion to the potential demand.
 2. To provide instructional courses to stimulate activity participation, use of facilities, and exposure to new recreational activities.
 3. To use the potential of public schools to help meet community recreational needs.
 4. To include a variety of programs and activities to meet the needs of special population groups such as teenagers, the elderly, the disabled, or those who are only able to participate during evening or weekend hours.
 5. To coordinate public and private sector efforts in meeting recreational needs; to encourage co-sponsorship of programs and events.
 6. To ensure that recognized standards for development of County open space and recreation facilities are used.
 7. To acquire park acreage, when possible, that includes structures or sites of historical significance to serve as nuclei of future County parks.
- B. To place high priority on selective acquisition, preservation, and recreational uses of areas with natural resources.

Objectives

1. To emphasize the County's water resources in recreational planning.
 2. To acquire and retain forested land for public use, which is an excellent setting for a variety of outdoor recreational activities.
- C. To provide the proper legal and financial framework for the provision of park and recreation facilities and programs.

Objectives

1. To secure local, regional, state, and federal assistance and grant monies, where feasible and appropriate, to assist in the development of recreational opportunities for the County.
 2. To incorporate into local ordinances provisions requiring the dedication of adequate and suitable park and recreational lands in new subdivisions and planned unit developments and the preservation of flood plains, marshlands, and other ecologically significant areas.
 3. To commit to the acquisition and development of public recreation sites through the use of the Capital Improvement Program.
 4. To use all possible types of incentives, including taxation, to add parkland facilities to the County.
 5. To study the economic impact that the Parks and Recreation Department's service has on the County's economy.
- D. To coordinate open space and park acquisition and development programs so that they are in balance with the pace and direction of development within the County.

Objectives

1. To acquire recreational sites in advance of development in order to reserve prime sites, achieve flexibility in site selection, and avoid higher land prices in the future.
 2. To develop a master site plan for each proposed park site, including school facilities delineating areas of activity, circulation patterns, building locations, parking areas, and other developmental components.
- E. To increase citizen and tourist awareness of recreational opportunities in the community through an expanded program of public relations and contact with other recreationally oriented organizations.

Objectives

1. To use all available and appropriate means to publicize departmental program services and facilities.
2. To use the State Department of Tourism to promote local events.

ECONOMIC DEVELOPMENT

Goals

- A. To provide a balanced economy for future growth.

Objectives

1. To encourage the expansion of the local employment base so that County residents have a better opportunity to work in their own County.
2. To encourage the continuation of those industries that are basic to the local economy, including agriculture, fisheries, lumber and wood products, food and kindred products, health care facilities, and service industries.
3. To encourage a diversified industrial base that reflects the effective use of the County's human and natural resources and minimizes the impact of single industry changes or declines in the economy.
4. To encourage cooperation with the County, Industrial Development Authority, Chamber of Commerce, and regional industrial associations.
5. To make available the community services and facilities necessary to attract and maintain business and industry.
6. To provide for the most economic and efficient expenditures of public funds for Capital Improvements.
7. To monitor the continuing development of Gloucester in terms of ecological impact, circulation system impact, sewer and water impact, development types and mixes, economic heterogeneity, employment level and diversification, and economic stability.
8. To encourage training and educational programs within the County, including Rappahannock Community College, the High School, and adult education services to stimulate learning and growth to provide additional options for all age groups to live in, work in, and benefit from the County; to encourage continued cooperation among these institutions for the most varied and beneficial educational opportunities for the County.

PUBLIC FACILITIES AND SERVICES

Goals

- A. To provide for the well-being of all citizens of the County through all necessary and desirable community facilities and services in a manner reflecting both present and future County needs.

Objectives

1. To promote efficiency in County government by providing adequate facilities for general County services and administration.
 2. To encourage development to take place inside service areas of existing and projected public facilities and utilities in order to minimize the tax burden on local residents and businesses.
- B. To establish a clear set of priorities for services between the County and developer/builder in the planning and programming of every development.

Objectives

1. To ensure the acquisition of land for public needs such as parks, schools, roads, open space, and fire and police facilities.

- C. To improve public services and provide beneficial growth patterns so that all citizens are treated equitably.

Objectives

1. To plan and develop major public facilities, such as roads, utilities, schools, and passive and active recreational facilities together, rather than on a piecemeal basis.
2. To direct growth in a manner whereby public services can be effectively provided without adversely affecting the general welfare of the community.

- D. To determine water and sewer needs based on existing and future requirements and to develop plans on projected needs and priorities established; to program the development of new and replacement facilities so that funds available may be most economically employed by establishing priorities and developing a Capital Improvement Program and an annual Capital Budget; and to satisfy the projected needs by acquiring sites of proper size and location for facilities in advance of urban development.

Objectives

1. To design and engineer water and sewer supply facilities and lines professionally in order to provide economical and efficient service. Such design should seek to maximize opportunities for increased return on investments through multiple use of facility locations and rights-of-way.
2. To coordinate the plans of existing private utility companies and proposed public facilities so as to minimize waste and duplication of efforts and to create a more efficient distribution of utilities.
3. To plan utilities expansion along lines of desirable growth.
4. To maintain a master plan for the supply and distribution of water and for the collection and treatment of sewage.
5. To secure local, state, and federal assistance, whenever feasible and appropriate, to plan, design, and construct new and replacement water and sewer system improvements.
6. To design both trunk and distribution sanitary sewer systems in areas with a known high growth potential in terms of capacity to accommodate future expansions.
7. To plan the size and location of sanitary and storm sewers according to the drainage areas and land uses to be served as shown in this plan.
8. To program sanitary and storm sewer extensions to developing areas of the County in order to promote balanced and cost-effective growth in the County.
9. To utilize public sewer water facilities for new development instead of individual systems whenever possible.
10. To program water main extensions to those developing areas of the County to promote balanced and cost-effective growth.
11. To design and construct new and replacement water facilities in order to provide adequate fire protection.
12. To continue to study new sources, as well as look into regional solutions, for the County's future water and sewer supplies.

E. To promote the general health, safety, and welfare of the lives and property of all County residents.

Objectives

1. To maintain and enhance existing facilities and equipment.
 2. To expand both fire protection and emergency medical service facilities to include substations in areas of greatest population growth as the need arises.
 3. To provide effective and adequate police protection for the County.
 4. To promote a hygienic environment and high standards of health for all County residents by providing adequate facilities for health care and sound water and sewer systems.
- F. To provide quality educational facilities to serve citizens of all ages in the most effective, efficient, and economical means possible.
- G. To maintain high standards for the library system and to plan for its expansion, accessibility, and improvement as necessary.
- H. To provide for a long-range view of refuse disposal through ecologically-, environmentally-, and economically-sound disposal methods.

Objectives

1. To encourage recycling and reuse of refuse.
2. To explore a regional approach to refuse disposal to meet the community's needs as well as relieve potential tax burdens on residents.
3. To meet all local, state, and federal health, safety, and environmental protection requirements for refuse disposal.
4. To determine the location of potential solid waste landfill sites to accommodate future growth.
5. To maintain and improve the existing solid waste disposal system; to encourage alternative methods to landfilling.

SOCIAL SERVICES

Goals

A. To provide an effective social service and public assistance system that is designed to meet the basic needs of families who need help. The system shall provide services within the needy family's home community and within an environment that promotes family stability whenever possible.

Objectives

1. **Service Programs** -- To provide services that provide assessment and delivery of broad services that include intake services, adult services, prevention and support services for families, adult protective services, child protective services, foster care and adoption services, and employment services to meet family needs.

2. **Benefit Programs** -- To provide income support benefits to assist families that are unable to provide the necessities of life and maintain minimum standards of health and well-being through their own efforts.
3. **Administration** -- To define the mission of the agency; to hire staff and provide resources to accomplish the mission; and to re-evaluate the progress made towards accomplishing the objectives.

HUMAN RESOURCES

Goal

- A. To promote equal opportunities in housing, education, employment, and justice.

Objectives

1. To increase efforts to upgrade and revitalize the housing, business, educational, and recreational sectors of low-income areas.
2. To ensure safe, sanitary, and structurally sound housing for all sectors of the community.
3. To provide for the literacy of all the citizens of the County.
4. To initiate programs that will encourage the employment of local residents, especially the unemployed.
5. To expand efforts to assist the disadvantaged, elderly, and handicapped to allow for their greater participation in all phases of the economy, including, but not limited to, housing, employment, medical services, transportation, and financial aid.
6. To plan, coordinate, and promote viable Human Resource programs with other community agencies.

HISTORIC, ARCHITECTURAL, AND ARCHEOLOGICAL PRESERVATION

Goals

- A. To respect historic values, including preservation of historic sites and buildings representing various periods of architecture.

Objectives

1. To preserve and maintain structures of significant historical or architectural value and their immediate environment.
 2. To encourage the adaptive reuse of historically significant and sound buildings and structures.
- B. To survey and recognize buildings and sites of historic and architectural value.

Objectives

1. To investigate opportunities for funding a complete survey of historical and archeological structures and sites. The landmarks would be ranked by priority for preservation or conservation efforts.

Gloucester County _____

2. To establish a program for encouraging or assisting owners of historical landmarks to submit applications to the National Register of Historic Places and the Virginia Landmarks Register.
 3. To allow development of historic and archeological sites only after screening of the sites by rigorous archeological methodology.
- C. To encourage compatible development in and surrounding historic areas and buildings.

Objectives

1. To involve the Historical Committee in the review of rezoning requests, acquisition, and demolition of properties or major changes of sites in historic areas.
 2. To provide the Historical Committee with the opportunity to review development plans for projects that are located near historic properties.
- D. To make every reasonable effort to protect and preserve archeological resources affected by or adjacent to any acquisition, stabilization, preservation, rehabilitation, restoration, construction, or reconstruction project.
- E. To improve accessibility and levels of use of historic places.

Objectives

1. To use the possibility of acquiring major historical or archeological sites for public use as museums, tourist attractions, and parkland.
2. To promote tourism of Gloucester's historic landmarks.



Part IV

Plan Elements



Section 1

Land Use

The County future land use concept plan is presented on the Land Use Concept Map and is shown in terms of general areas or categories. These land use concepts have been derived from the objectives and are in consonance with the general theme and philosophy of "managed growth". They have directly shaped the development of the recommended Land Use Concept Plan Map. Each of these concepts is represented as Planning Districts listed below:

- Development District
- Village Centers
- P.U.D. Districts
- Rural Service Centers
- Residential Districts
 - Suburban Residential
 - Suburban Countryside District
- Business/Commercial Parks Districts
- Employment/Industrial Park Districts
- Highway Corridor District and Greenways
- Historic Preservation District
- Rural Countryside District
- Bayside District
- Resource Conservation District
- Tourism/Recreational Amenity

These districts are described in terms of their respective roles in directing County growth in the remaining sections of this Plan element. Illustrated on the Land Use Plan Map are districts derived from a combination of a number of determinants including: existing land use patterns; projected growth and development trends; the natural capacity and suitability of the land to support development; the availability or proposed future availability and adequacy of development infrastructure (roads, sewer and water); and the Goals and Objectives established in this document. Each district description outlines the general type, intensity and character of development that should be encouraged within the district. The Land Use Plan Map shows the general location of different districts throughout the County. The Land Use Plan also establishes the framework and basis for a further refined classification of land into districts for zoning purposes pursuant to adoption of the Comprehensive Plan. In addition to serving as a general guide for implementing land use policy, the Land Use Plan also should serve as a guide to County decision makers regarding community facilities

(primarily water and sewer) and transportation (roads) planning.

DEVELOPMENT DISTRICT

The concept plan map indicates designation of a primary development district which generally coincides with areas that might reasonably be served with public water and sewer facilities within the next 20 years. This major development district is currently, and is planned to be, the principal center of population, services and employment for the County.

Its location along the Route 17 corridor and established patterns of development from the Coleman Bridge North to the Gloucester Village area together with availability of planned future infrastructure serve as a basis for its delineation. The Development District, and immediate surrounding land comprise the most suitable areas for new population growth. Growth in and around these areas will prevent the outward sprawl of residential development into rural County areas, and keep the new population close to the existing centers where residents can be economically provided with utilities, services, and employment. In addition, the impact upon the County road system will be minimized since families will have the opportunity to be located physically close to the jobs and services which they require. These considerations, plus the need to preserve the open character of the County's outlying areas (as called for in the Agricultural Conservation and Natural Resources elements of the Plan), indicate that:

The areas in and adjacent to the Route 17 Sewer Service Corridor and The Gloucester Village can accommodate most of the County's population growth through the year 2010.

Likewise, economic objectives and recommendations contained in later sections of the Plan emphasize the importance of both areas in the County's economy.

These areas should continue to function as the centers for commercial activity of a regional or sub-regional nature and for employment opportunity in the County.

And, moreover:

The Gloucester Village should remain the center of major Countywide governmental administrative functions and services and other institutional uses serving a Countywide population.

The land area shown within the development district shares several common attributes. Affected lands have in place or provide opportunity to put in place the kind of services required by development. These services include an existing or planned transportation system that can accommodate the movement of people and goods, and sewer and water facilities that can service development at greater residential densities or can service industrial and commercial uses. Each of these areas is in some part or in some way already characterized by development activity which suggests that efforts to preserve farm land or to establish significant resource protection programs would be less effective in these areas than if established in other County areas. **The major advantage of the development district concept is to map in advance those areas where the County will plan for provision of infrastructure and will accept the responsibility for working with the development interests of the County to be sure it is put in place.** However, this in no way implies that the costs of development will be solely borne by the County taxpayer. In providing opportunities for development in these areas, the County can thereby better achieve its resource protection and its agricultural preservation objectives by reducing pressure for development in other County areas dominated by farming activity or more sensitive natural resources.

Growth in the Development Districts can be more cost effectively managed in that these areas are currently planned for sewer and water facilities. The challenge is to ensure that public services and facilities and highway systems keep pace with the conversion of land in these areas from rural to suburban development and not exceed the capacity of public services and facilities. Likewise, the plan must provide protection for natural resources such as tributaries to the Ware and Severn Rivers, which penetrate into the greater development district, and preserve elements of rural character that are considered desirable in these areas, while recognizing that the overall character of these areas will be that of a

development service district, in contrast to other areas of the County where rural character is and should remain dominant.

Ensuring the high quality of new development in the development district is a major policy objective of the Plan, since growth is expected to occur in these areas. To improve the visual and functional qualities of development within the development district, the County will need to evaluate and revise its land use management ordinances to establish performance standards for landscaping, control of access, lot coverage, and buffering from adjacent transportation corridors. Future commercial and industrial forms of development within the development district on sites not presently zoned for such uses should be carefully evaluated to assure site characteristics that would permit these objectives to be achieved. The past linear form of commercial development, particularly along Route 17, has not always enhanced the visual quality of development and has reduced the ability of major roads to serve through-traffic. Future areas designated for commercial development should be large in size (e.g. 5 to 10 acres) and should be located at intersections providing site frontage on at least two streets, with adequate depth to provide space for service roads. Such sites can utilize access provided by these streets and are adequate in size to house several uses with shared access, thereby minimizing multiple outlets to the major road system. Their larger size permits sufficient land to accommodate landscaping between use and highway to enhance development visual qualities. Clustering of residential development should be encouraged within the development district to maintain open space. Such development, even when exclusively residential in nature, should be buffered and separated by landscaping from major routes or adjacent incompatible land uses.

The development district represents the area of the County which is anticipated to have the closest link to the Newport News/Hampton Roads Metropolitan area. The area has the best opportunities for the use of alternative modes of transportation and has ready access to the Route 17 corridor. This area will foster a form of development which may permit transit to become a viable alternative to automobile travel. The County would be required to adopt a growth management structure which permits the development of denser residential forms along the corridor in this area to provide future

cost-effective transit options. Suburban scale residential densities are generally considered necessary to justify fixed bus routes operating on one-half hour intervals. Reasonably dense clusters of suburban employees are required if public transit, private commuter buses, and carpools are to function without excessive route deviations and time delay.

Finally, it is important to note that these general residential density guidelines for the development district will also be influenced by the existing development pattern already established within the delineated development district. Construction of zoning districts and standards for development will require focus at a site by site level to frame districts and standards which respect the historic settlement pattern and achieve the objectives outlined herein for undeveloped portions of the development district.

VILLAGE CENTERS

With a defined Development District designated to manage the location of the majority of projected future County growth, the County has determined a need to refine further the degree to which the location and form of development are managed within these areas. The historic settlement patterns in certain locations within these districts or their location within the district at the intersection of major county roads suggest several areas which may serve as regional development centers within the Development District. The most notable of these areas is Gloucester Courthouse. This area serves not only as a focus for the seat of County government but also constitutes the County's central business district.

While the location and existing pattern of development has served as the rationale for Gloucester's designation as a Village Center, opportunities exist to create additional new Village Centers in two locations within the Route 17 corridor development district shown on the Plan Map.

Future Village Centers represent opportunities to cluster develop into new regional centers which serve the commercial services and retail shopping needs of current and future County residents. Each Village Center should provide opportunities to establish a recognizable center of development with its own unique "sense of place" within the County. Future development within each Village Center

should vary somewhat based on the existing pattern of development and the future development mix which occurs.

Each Village Center, however, should evolve as a planned mixed-use regional center for residential, office, retail, and service development. Light industrial development may also be appropriate in some of these activity centers in the form of well-planned business and industrial parks. It is important that these Future Village Centers be pre-planned by the County prior to their establishment.

Gloucester Courthouse area, with its current mix of Land Uses and Historic structures as its focal point, provides opportunities for further enhancing its traditional "village" development form. Located at the County's Center, the basis is formed for evolution of a center with a traditional grid street system. Its public square or "green" permits a focus for many community activities. Its future development should build on this theme with vacant land around it to be set aside for shops, offices, public building and homes. Such form of development would reflect the characteristics and qualities of traditional settlement in the County as reflected in historic structures today. Gloucester Courthouse or "Gloucester Village" has been the subject of a sub area planning effort by the County. A future appendix will provide the detailed land use policies for this area.

Located at the foot of the Coleman Bridge and near the Route 1202 & 17 intersection, Gloucester Point also exhibits the characteristics of an existing village center and offers opportunities for future development and redevelopment. As the south county Village Center, the County has placed a focus on this area through the initiation of a sub-area plan.

Prospective Village Centers within the development district do not currently manifest a development theme or "village" image. However, over time they can evolve through future development and/or redevelopment to take on Village form and characteristics that will provide a linear series of centers linked by present and future road systems within the development district.

Attention to future development form and preplanning at the Route 614 intersection of Route 17 can result in creation of Village Center form. This area represents a major intersection of the County road network within the development district wherein commercial uses and activities are economically viable

and where a mix of residential, office and industrial uses could be developed over time. At present, few of these areas can be characterized by any development theme.

Existing structures at these intersections may form the basis for development of New Village Centers through management of the form of development in areas that surround the intersections on vacant land near existing uses. The mix of uses and identities of these future Village Centers can respond to resident needs over time, with the character they evolve being a result of the functions each may come to serve in County life. Development standards should be framed to foster a clear sense of identity and distinct character within future Village Centers. **Preparation of more specific plans for each County Village Center should be undertaken by the County to better permit focus on how the qualities and form of their development may best be managed.**

The function of these areas is to serve as centers within the Development Service District to concentrate higher density residential development and the associated commercial and public service functions necessary to provide a community character with a physical center and focus for growth.

Development standards for Village Centers should be framed to establish a clear sense of distinct character while providing a physical center for focusing the distribution of future County growth. A mechanism for the establishment of new Village Centers as the need arises in the Development District is envisioned to assure a means of managing development form over time.

Standards for commercial development within these activity centers should enhance the character of the community and create or reinforce a community theme. In many areas, this will require re-development of vacant or underutilized buildings. Such a theme at Gloucester Village is one clearly related to County history.

PLANNED UNIT DEVELOPMENT DISTRICTS

Planned Unit Development Districts, although not shown on the Growth Management Plan Map, are established to provide for areas within the Development Service District where more intense

residential and mixed-use development can be accommodated outside designated Village Centers.

Rather than mapping each of their future locations in advance, Planned Unit Development Districts will be designated in accordance with performance standards to be structured in the County Zoning Ordinance. These designations will be limited to locations within the Development Service District where public benefits, in the form of highway improvements, provisions of affordable housing, provision of parks, provision for sites appropriate for construction of schools or other needed community facilities, are provided as a part of the development approval process in exchange for higher densities. Threshold size and location requirements for their designation would also be framed in County ordinances to guide decisions concerning their location. Designation for sites as Planned Unit Development Districts should be determined on the basis of conditional zoning action whenever projects are evaluated and approval awarded to those development proposals which offer specific County or neighborhood benefits and/or a demonstrated capability to implement County Comprehensive Growth Management Plan objectives. Examples of objectives for which approval might be granted include:

Type of Objective	Potential Methods of Achieving Objective
Community Facilities	Approval considerations can be based on proximity to existing or developer-provided facilities (i.e., sewer lines, schools, fire departments and recreation facilities).
Transportation	The receiving road network must meet minimum standards for level of service or the facility must be upgraded to accept development. Approval can be considered for making improvements that are consistent with the overall Transportation Plan.
Housing	Approval considerations could be based on the inclusion of affordable housing as a component of the Planned Unit Development.
Economic Development	Approval consideration could be granted for development proposals that provide jobs which strengthen the economic base of the County.

	Evaluation would be based on the number and type of permanent jobs created.
Historic Preservation	Approval consideration could include the preservation of identified historic sites through easement or restoration by the developer.
Open Space and Parks	Approval consideration might include an increased amount of development with clustering, open space, and parks and recreations facilities provided.

While encouraging higher density residential development in portions of the Development Service District in exchange for developer proffers that provide public benefits, this concept does not encourage densities that are substantially higher or incompatible with surrounding neighborhoods. Moreover, development approval should not proceed unless proffers would guarantee substantial public benefits and demonstrated consistency with Plan objectives.

Furthermore, PUD District densities for new sites adjacent or near to established neighborhoods should be required to buffer the edges to minimize impacts to established neighborhoods. This approach acknowledges existing development patterns and recognized historic development conditions.

In short, higher residential densities or mixed use development will be permitted only in such areas of the Development Service District where infrastructure in the form of sewer, water and transportation systems would not be adversely affected or could be accommodated within a defined geographic cell. It is recognized that to permit higher densities in many portions of the Development Service District would disrupt the character of the community and the expectations of existing residents.

RURAL SERVICE CENTERS

Several Rural Service Centers located outside the Development District perform a number of functions in the growth management program. These include centers for rural residential development and providers of commercial services for rural areas. The ability of these activity centers to accommodate some portion of the future growth of the County is a function of their location and the existing scale of development and range of services provided to surrounding rural areas. Characteristics common to most of these Rural Service Centers are the existence of post offices and country stores and, in some cases, fire departments.

The concept of the "Rural Service Center" is included in the land use plan in order to recognize and provide for the special needs of these County unincorporated population centers. These centers include such places as Glenns, Dutton, Belroi, Maryus, and Adner. These centers are often very different in character and serve distinct functions. For example, Glenns, due to its location at a key intersection, may appropriately accommodate some light industrial or transportation oriented businesses.

These Rural Service Centers serve a multitude of functions in Gloucester County. They range in scale from a fork in the road where a general store and beauty parlor are located, to a rapidly expanding community that is beginning to emerge as a service center of regional scope. Their distribution throughout the County is shown on the Plan Concept Map. Many have historic qualities which suggests future development near them should be limited in scale in order to preserve their more rural character.

These Rural Service Centers, however, share much in common, and collectively they play an important part in Gloucester County life. In general, these centers tend to be basically residential in character, but also often offer some employment through limited commercial services as well as public or institutional uses. Therefore, **the County should preserve and enhance the present character of the Rural Service Centers in order that they may continue to act as local activity centers and serve their traditional roles in County life.**

These goals can best be achieved through 1 acre minimum lot sizes at Rural Service Centers. In addition, the County should explore the option of providing property owners with the incentive of higher possible densities if certain standards of rural residential development are met. These density bonus incentive standards include such conditions as development clustering, visual enhancement to reinforce rural character, rural highway access controls, and restricting sensitive lands or agricultural lands with conservation easements. Where these standards are met in cluster subdivisions, minimum lot size should be reduced to 30,000 square feet, or as low as 20,000 square feet where public water and/or sewer is utilized. This district should support densities of up to 1 unit per acre in cluster subdivisions. Because of their wide variety of existing conditions, not all of the Rural Service Centers can accommodate this level and intensity of development; rezoning and development proposals will need to be reviewed on a case by case basis to ensure that the goals of this section are met. Finally, these residential density guidelines are meant to apply to areas immediately adjacent to locations currently designated as Rural Service Centers on the Land Use Plan Map and in this text. They are not meant to encourage

residential development at other areas outside the Development District.

In the future it is possible that additional Rural Service Center sites might be identified. However, their future designation should be a function of their need to serve as service centers in the context of their existing distribution in the County. The Rural Service Centers would be limited to providing the most basic services for the convenience of the rural population.

Generally, the areas shown as rural service centers should:

- remain small in population size.
- remain small in physical area.
- be allowed to continue to provide limited, highly localized commercial services (such as a gas station or general store, etc.).
- be allowed to continue to provide limited employment opportunity.
- have a population density which is greater than the surrounding non--village and more rural areas.

The need for central water and sewer is not anticipated in the County Rural Service Centers. However, in centers where land application of waste water is a feasible treatment technology (i. e. soils are potentially suitable), these systems can allow greater clustering of residences and opportunities for commercial use.

Since there is a great variety in the size and range of services and facilities established in existing Rural Service Centers, it will be necessary to differentiate and guide the future range and type of development which may occur within or near them to maintain their character through the zoning ordinance. For example, Glens, Woods Crossroads and Adner can accommodate a wider variety of commercial uses by virtue of the existing pattern of development and location on the Route 17 corridor north of Gloucester, wherein commercial uses are either established or should be provided for. Conversely, areas such as Dutton, James Store and Belroi can be considered a more suitable designation where the degree in variety of commercial uses is less intensive and where the scale of development should be limited. Finally, areas directly adjacent to existing uses in each Rural Service Center could provide for their continued development consistent with the degree and scale of the individual Rural Service Centers. To this end, architectural themes should be framed for each Rural Service Center with development within their confines subject to architectural review for compatibility with the particular image of the area.

The following settlements have been designated Rural Service Centers in the Land Use Plan:

- Glens
- Pampa
- Zanoni
- Naxera
- Woods Crossroads
- Dutton
- Belroi
- Sassafras
- Achilles
- Maryus
- Adner
- James Store
- Gum Fork
- Pinero
- Harcum
- Ware Neck
- Glass
- Ark
- Bena

RESIDENTIAL DISTRICTS

Residential districts have been established to reflect the variety in character of areas which have been subjected to development pressures in the past and will likely be subject to such pressures in the future. These districts are located both in the development district and along the shores of the York and Piankatank Rivers. Each district serves a specific purpose in the context of the Land Use Plan.

Suburban Residential District

This district is intended to provide for the majority of residential development for future population growth in the sewered areas of Gloucester County. This district permits moderate density development of 1-2 dwelling units per acre in a manner that is consistent with the provision of a high quality suburban character. Significant areas of open space shall be provided in this district in order to maintain this character.

Suburban Countryside District

This district is intended to provide for a form of suburban living in a superior living environment. These areas may be sewered by community systems designed as a part of the development. Open space is extensive and this open space is designed to create a more rural image than is normally the case in suburban development.

In many cases, this district will protect and preserve existing subdivisions and neighborhoods where the lots are general in excess of two (2) acres and where additional development is feasible due to favorable soils and in some cases the presence of public services. It is intended that the regulations applying to this district

preserve and enhance the estate character of these neighborhoods. This district shall also be used to designate areas where new development of estate-type character can be built on lots of 2 acres or more. The County should explore the option of providing provide property owners with the incentive of higher possible densities if certain standards of residential development are met. These density bonus incentive standards include such conditions as development clustering, visual enhancement to reinforce neighborhood character, highway access controls, and restricting sensitive lands or agricultural lands with conservation easements. Where these conditions are met in cluster subdivisions, minimum lot size should be reduced to 30,000 square feet. In addition, this district should support densities of up to 1 unit per 1.5 acres in cluster subdivisions.

This district is intended to serve both as a transitional district between farmlands and more urban areas and as a strictly limited development district in coastal and other areas containing resources that require protection. Performance standards should be established that permit density to be allocated in accordance with the district's unique preservation role. When fully developed, such areas shall retain their rural character.

The combined effect of the Development District, the Village Centers, the Rural Service Centers, the Residential and Mixed Use Planned Unit Developments, and Residential Districts which would permit infill development are intended to represent five specific types of areas or districts wherein most of the future residential development of the County should be contained. It is a clear and direct approach to reasonable, yet effective, growth management. In providing for growth in these five types of areas, a range of options will exist that should meet the needs of future residents as well as existing County residents who may work their way through different housing markets over time. These areas together represent some 40 percent of the County, with 60 percent of the County land area to be limited to either Resource Protection, Rural Countryside and Bayside district designations.

BUSINESS AND COMMERCIAL PARK DISTRICTS

Historically, commercial developments were located adjacent to arterial or collector highways within the County. Constructed over a period of time, these commercial uses were built without adherence to a predetermined plan. The resulting strip development pattern along the Route 17 corridor south of Gloucester

creates visual clutter and causes greater than necessary traffic conflicts for residents of the County as the number of vehicles utilizing Route 17 increases over time. To depart from highway strip development practices, and to accommodate commercial and service activities attracted to the County because of its strong residential growth, commercial growth clusters or business and commercial parks offer and opportunity to provide for the needs of area residents while preserving highway capacity, much of the natural landscape, and discouraging visual clutter.

The Land Use Plan Concept requires basic policies for directing future commercial activities into planned commercial clusters. Utilization of this approach will decrease traditional strip development practices which have occurred adjacent to the Route 17 corridor in the past. This approach will encourage new commercial activities to locate in clusters where the drawing power of one store will create an interchange of customers among all stores. To the extent possible, future commercial activities should be restricted to areas of similar commercial types to minimize conflicts between incompatible uses.

Business and commercial parks are intended for land consumptive commercial activities such as executive parks, office/warehouse uses, building supply, and the like not accommodated in the Village Centers. These parks are to be developed in a phased manner in accordance with a Comprehensive Site Plan. Activities are contained in a single structure or groups of structures in accordance with a specific site plan. Architectural review treatments are recommended to assure pleasing and attractive commercial and industrial work or shopping environments. Open spaces should be landscaped to add to the attractiveness of facilities as well as to serve as a natural buffer between adjoining uses. All supporting facilities should be planned as an integral part of the site. To accomplish this commercial park concept, minimum tract sizes need to be determined which will allow adequate landscaping, parking, external buffering and adequate internal circulation and access. The minimum tract sizes zoned for Commercial Parks will vary depending on the scale and nature of the commercial development with smaller lots permitted within the larger zoned tract. In no case should commercial park districts be permitted on less than two acres. The configuration of these districts should be planned to limit frontage on major routes yet provide for a grater depth-to-frontage ratio.

Site Plan approval procedures for businesses and commercial parks should be required and offer several advantages in coordinating new activities with existing coordination of ingress and egress points with the local street system. Traffic controls can be provided in accordance with anticipated volumes. On-site parking facilities and internal traffic patterns

are also controlled via the site plan review process. The form of this Commercial Park Concept to be fostered in future development is illustrated in Figure IV-1-1. Located at the intersection of two (2) major routes, the illustration provides controlled circulation and substantial landscaping in association with building groups, housing, shopping, and office functions.

The Land Use Plan Concept Map indicates a core area where future commercial development should occur. This area is centrally located in the most concentrated population area of the County and is accessible to the region via proximity to Route 17. Future commercial development in these areas would serve to complement the existing centers in the area. These areas, combined with the designated Rural Service Centers along the corridor, will channel commercial development into nodes.

In addition to the areas located on the Plan Concept Map as the Business and Commercial Park Districts, Planned Commercial Parks will be permitted as a floating zone in the Development District. A Planned Commercial Park District which is approved as a floating zone must be developed in accordance with a comprehensive site plan. A park-line atmosphere is to be created which provides an attractive buffer between commercial uses and other neighboring land uses. Among the locational criteria that should be considered when approving a planned commercial development floating zone is the direct traffic access to arterial or collector routes.

Planned Commercial Park designation priority should be established for existing commercial strips with adequate access to arterial or collector routes and where added district depth could improve development form.

Within the Business and Commercial Park Districts are areas with distinct functions and intensities of existing commercial development such as the immediate Route 17 corridor. The effects of highway oriented uses need to be managed in a different way than less intense commercial uses. Hence, a distinct classification structure is needed to group compatible commercial uses. It is envisioned that auto service oriented uses should be grouped in appropriate areas along the Route 17 corridor when they may already exist, while more upscale office parks and retail areas are most appropriately concentrated in other segments of the corridor.

Existing commercial uses on existing lots have an established form and pattern of development that will not always permit Commercial Park-like configuration. These areas of existing commercial use are generally located in one of two commercial zoning districts in the County at the present time. Further breakdown of these two zoning districts is recommended to provide more distinct treatment of these existing developed commercial areas. Districts created should provide treatment for the range of use from neighborhood business to highway oriented commercial uses and establish access control and landscape or buffer performance standards appropriate to their redevelopment or infill development over time. Where possible, service roads or access management policies should be established in existing commercial areas adjacent to major routes (e.g., Route 17) to minimize the effects of marginal friction on the thru-traffic capacity and primary functions of these routes.

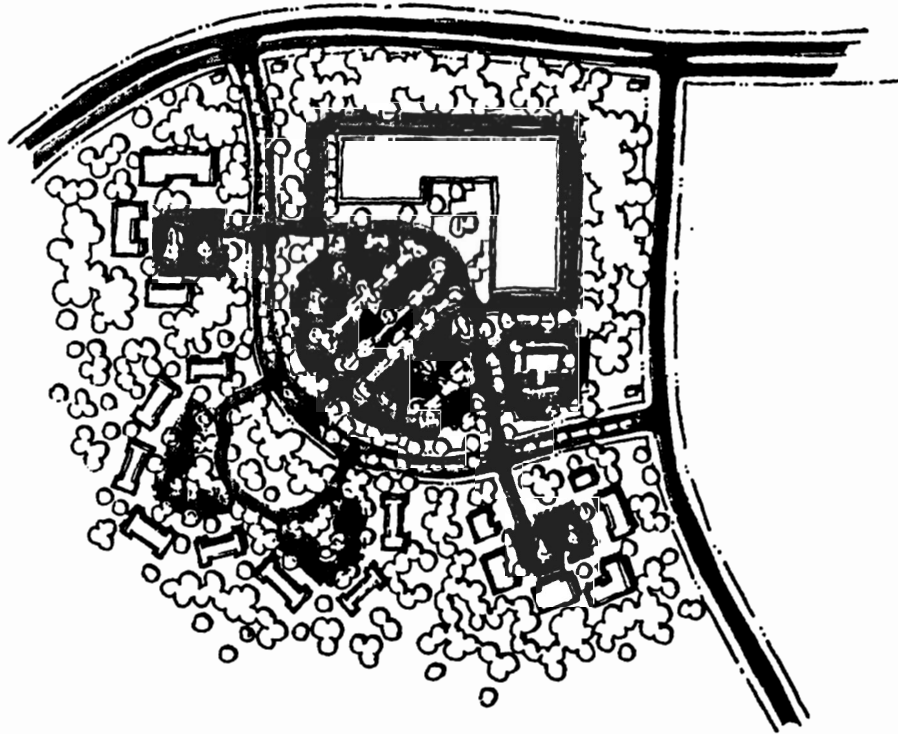
EMPLOYMENT AND INDUSTRIAL PARK DISTRICTS

In recognition of the need to provide additional, up-graded and diverse job opportunities for residents of the County, it is proposed that several areas be reserved for development into employment and industrial clusters or parks. The land use analysis revealed that industrial land use in the County is significantly less than comparable counties and cities on the peninsula. Proposed land areas are intended to meet future needs of the County. A variety of sites is necessary to permit the location of industrial uses which provide employment opportunities. Several industrial areas are necessary to provide for the location of industry according to their specialized needs while protecting the environment of the surrounding community.

Proposed industrial lands were selected based upon a series of principles. These are:

- A variety of industrial sites should be available in several concentrated locations near collector and arterial highways.
- The character and aesthetics of adjoining residential areas should be preserved by

Figure 3
Illustrated Commercial Park Concept



requiring industrial activities to meet strict performance standards or by assuring their location is removed from nearby residential areas.

- Varied industry job opportunities should be encouraged within the County which can be expected to have varying land use requirements.
- Industrial locations should provide large land areas suitable for horizontal expansion of sufficient size to provide on-site storage, parking and landscaped areas.
- At least one industrial area should be located in such a way that it can be associated with present or alternative future siting of airport facilities and use. It should be encouraged to serve as an airport industrial park capable of sustaining use by corporate aircraft. Such use would enhance the County's capability to attract industry.

- Industrial lands must be located to minimize any adverse influence on adjoining land uses, including the environmental features of the area.

- All industrial activities should be located so that they can be reasonably served by a complete array of community facilities.

The Land Use Plan Concept Map suggests the concentration of industrial activities in several key locations. Some area has been reserved around the Airport to make potential use of that facility, although airport business park opportunities may be limited by airport growth constraints in this area. Other areas are set aside adjacent to the commercial core on the Route 17 corridor to provide ready access to the regional transportation network.

All activities in these areas should be served with water and sewer and situated with direct access to either arterial highways or major collector routes. It

is intended that development performance standards and the approval process will control the quality of development. Industrial development in these areas is afforded access to primary routes and is generally removed from residential neighborhoods. To encourage the development of industrial activities to high standards, business park-type development should be encouraged. Where development occurs in an area on a fragmented basis, uniform standards should be established which will assure that virtually all industrial uses are located in a park-like setting.

In addition to the designated areas on the Concept Map, the Business/Industrial Park District can be located as a floating zone district within the Development District and areas adjacent to major routes if the criteria described above are met. A business park district which is approved as a floating zone must be developed in accordance with a comprehensive site plan. Implementation of the site plan assures compatibility of industrial operations with surrounding areas. A park-like atmosphere is created which provides an attractive buffer between industrial uses and other neighboring land uses. If properly developed, business parks will provide a pleasing working environment for employees of County firms. Because of its potential for attracting employee and truck traffic, access to the park is controlled by public policy. Internal street layouts should be consistent with County plans and policies as a method of reducing friction at major intersections.

HIGHWAY CORRIDOR DISTRICT

The Highway Corridor District is intended to address architectural and aesthetic controls as well as special access and buffering requirements along the County's major highways.

The Highway Corridor District is an area within which certain specific public policies relating to aesthetics and architectural plan review would be administered by the County through overlay zone regulations in the Zoning Ordinance. Views afforded to drivers and passengers, whether residents, workers or visitors, traversing the major transportation routes of Gloucester County provide a lasting impression of the County's character. Although the visual experience probably forms only a small part of a person's overall experience in the County, it

nevertheless is of special public concern and requires public attention if the County's image is to be a positive one now and in the future.

Not all development in Gloucester County requires the same level of public scrutiny. The most critical visual areas lie along the major transportation routes since they are shared by all citizens and tourists. Hence, corridors of 500 to 1000 feet from the centerline of the major transportation route rights-of-way are identified for specific regulatory implications.

The visual character today along these corridors is diverse, ranging from areas primarily rural, natural, and scenic to areas with disorganized and cluttered roadside development. The intent of the policies for the Highway Corridor is not to preclude the diversity that already exists; but, rather to encourage and better articulate the variety of visual experiences along the current highways as well as along the corridor of the proposed future routes for the County's major roads.

The purpose of the Highway Corridor District is to protect and improve the quality of visual appearances along these linear corridors and to provide guidelines to ensure that buffering, landscaping, lighting, signage, and proposed structures are internally consistent and of a quality which contributes to a favorable impression of the County's character.

Future development of lands within the Corridor shall be subject to the policies specific to the particular neighborhood in which they lie (and ultimately the particular zoning district in which they occur), as well as the following policies that are specific to the overlay corridor. These policies are not intended to restrict or prevent the construction of buildings within each Corridor, nor to require the removal of existing structures. The Corridor policies are not setback requirements, although certain minimum setbacks will be required to protect highway rights-of-way and maintain sight clearances for traffic safety.

The corridor along Route 17, for a distance of 500 to 1000 feet from the right-of-way is designated as the Highway Corridor Overlay District. Other routes may be established in the future as determined appropriate.

Policies specific to the Highway Corridor include:

- Increased buffering requirements including a mix of canopy, understory tree and shrub level

plantings to screen unattractive buildings from view.

- Special standards for signage height, design, size, materials, and lights to maintain and enhance visual qualities.
- Special consideration of new development within this district, including assessment of visual impact of development, assessing predevelopment visual conditions and how the proposed development will affect them.
- Proposals for new development within the Highway Corridor are to be reviewed by a Corridor Review Committee (CRC) or an architectural review committee which shall make recommendations to the Planning Commission.
- The review of projects in the Highway Corridor will acknowledge the designation of villages and rural service centers as integral to the unique visual character of the corridor.
- Sectional service roads, as well as reverse frontage, should be used as a tool to achieve access control within the Highway Corridor District.
- Landscaping should be used to soften the effect of lighting and signage and be located in groupings to identify entrances to sites.

GREENWAYS

Certain major highways and roadways throughout the County have been designated in the Plan as important corridors or "Greenways" where access and aesthetics should be controlled in order to either avoid unappealing forms of strip-development and resultant traffic congestion, or to preserve scenic rural views. Both of these objectives have great merit for the maintenance and improvement of rural character in Gloucester County. Along the scenic rural highway corridors, development should be limited and buffered from roadway view. Along the

major County highways (Routes 198, 610, 614, 616, and 3/14), limiting access is vital to preserving roadway capacity, decreasing congestion, and improving safety. The tendency has been for zoning to encourage new residential development to line both sides of major roadways, eventually obscuring fields, pastures, or woodlands behind frontage lots and driveways.

Along the County highways not already given special treatment as a Highway Corridor or Village Center, development should be limited and buffered from roadway view. The road buffers will include setback and planting requirements. Along the designated Greenway routes setbacks as wide as 120 feet from the centerline in the open areas and somewhat less in wooded or heavily planted areas are considered appropriate. Rural roadway buffers will apply to all designated greenway routes unless an alternative buffer or landscaping scheme is offered. It is recognized, however, that the buffers required along these roadways should be modified under certain conditions where the required screening would have a negative visual effect by blocking desirable views and vistas. For example, it may not be desirable to block the view of a golf course, scenic valleys, or open pasture land. Since the designated Greenways are major collector or arterial highways and are anticipated to accept a high degree of growth in traffic, the minimum setbacks will be necessary to preserve future right-of-way needs.

HISTORIC PRESERVATION DISTRICT

The Land Use Plan Concept also identifies districts that serve to achieve other County Land Use objectives and, in particular, historic and cultural conservation objectives for County areas which are dominated by cultural and/or historical resources within Gloucester. The Plan delineates historically significant areas at the Gloucester Courthouse area.

The vision of the Plan is that additional areas of unique and special historic or cultural value, where historic structures exist in concentration, may be identified over time for such designation. Many of the identified historic sites in the County (see Historic Preservation element) should also be included for designation as landmark sites subsequent to discussions with owners concerning their voluntary

participation in historic district landmarks site zoning designation. The Abingdon Church is one such example. The Historical Committee of Gloucester County should promote this concept with owners of sites of historic significance identified in the Plan. Development adjacent to such sites which could irreversibly influence or affect these scattered sites and their environmental settings should be subject to architectural review procedures in order to minimize adverse impact to these unique historic or architectural symbols of past County culture and heritage.

RURAL COUNTRYSIDE DISTRICT

The Rural Countryside District is intended to maintain and conserve rural character and farmlands in County areas consistent with Comprehensive Growth Management Plan objectives, as well as to protect existing and future surface water impoundment areas. This District is generally lacking public facilities necessary to support suburban residential densities. It includes the Beaverdam, Harpers and Carvers Creek Watersheds. Rural Countryside District land areas are intended to provide for a full range of agricultural and farming activities and related uses along with low density residential development.

The conflicts between farming and rural residential development should be minimized as the needs of farming are acknowledged and non-farm development is accommodated as a subordinate use. When non-agricultural land uses extend into agricultural areas, farms often become the subject of nuisance suits. As a result, farms are sometimes forced to cease operations. Many others are discouraged from making investments in farm improvements. In recognition of the farmer's "right-to-farm" without being restricted by neighboring residential areas, hours of operation of farm equipment, restrictions on odor-producing fertilizers, and other restrictions designed to limit the perceived negative impacts associated with reasonable farming practices should not be imposed on farming activities within the Rural Countryside District. The general intent of the Rural Countryside District is to encourage farming and maintain rural qualities in areas so designated in the County.

Rural Countryside, as a component of the Comprehensive Growth Management Plan, is not limited to traditional farming but extends to all aspects of the County's rural character. Agricultural land refers not only to tilled fields, but also to open fields, pastures, and woodlands which are either prospects for additional farm acreage or are valuable as they are for their many contributions to the environment and to the rural

appearance of the County. Agriculturally related or support industries (farm implement dealers, supply services, storage and processing facilities, etc.) should be permitted within this district in recognition of their important support of the farming community.

Residential development and density in the Rural Countryside District should be minimized to avoid future conflicts between farming activities and rural homes as well as to assure water quality protection. The objectives of this District can best be achieved through five acre minimum lot sizes. Clustering would be encouraged provided water quality protection can be assured. Due to the water quality protection and rural preservation advantages of clustering residential development, the County should explore the option of providing property owners with the incentive of higher possible densities if certain standards of rural residential development are met. These density bonus incentive standards include such conditions as development clustering, visual enhancement to reinforce rural character, rural highway access controls, and restricting sensitive lands (i. e. surface water impoundment watersheds) or agricultural lands with conservation easements. Where these conditions are met in cluster subdivisions, minimum lot size should be reduced to 1 acre. In addition, this district should support densities of up to 1 unit per 4 acres in cluster subdivisions.

The above described residential density provisions recognize that while rural character and agricultural conservation are important County objectives, there remains a need to allow farmers and rural property owners to subdivide and sell single-family home lots as the need arises. The Plan recommends that rural residential subdivisions be directed to areas of the Rural Countryside District which have good proximity to existing residential areas and commercial and public services. Rural residential subdivisions should not be encouraged in remote areas where County roads are not adequate for increased traffic or in areas where existing agricultural activities predominate.

BAYSIDE DISTRICT

This District is distinct from the Rural Countryside District in that it is dominated by fingers of small estuaries that are linked directly to the Chesapeake Bay. It is described by the U. S. Army Corps of Engineers as being in a category 3 or 4 hurricane inundation area. Being linked so closely to the Bay, this District is considered appropriate for the location of future Tourist/Recreation Districts.

As in the Rural Countryside District, the objectives of this District can best be achieved through five acre minimum lot sizes. Again, clustering would be encouraged provided water quality protection can be assured. Due to the water quality protection and rural preservation advantages of clustering residential development, the County should explore the option of providing property owners with the incentive of higher possible densities if certain standards of rural residential development are met. These density bonus incentive standards include such conditions as development clustering, visual enhancement to reinforce rural character, rural highway access controls, and restricting sensitive lands or agricultural lands with conservation easements. Where these conditions are met in cluster subdivisions, minimum lot size should be reduced to 1 acre. In addition, this district should support densities of up to 1 unit per 5 acres in cluster subdivisions.

RESOURCE CONSERVATION DISTRICT

The County's growth management objectives indicate that special emphasis should be placed on the preservation of natural resources, sensitive natural areas, and waterfront areas. Given the exurban Newport News, Hampton Roads development pressures, there will likely exist an almost unlimited demand for waterfront homesites in the County. Without a firm commitment to preserve the natural beauty and environmental resources in these areas, the County could find these important natural assets exploited.

The Growth Management Plan Map therefore designates land areas along all shorelines and tributary streams of the County as the Resource Conservation District. These areas include tidal and nontidal wetlands which are adjacent to shorelines and tributary streams and floodplains.

The Resource Conservation District should include "Resource Protection Areas" (RPAs) as defined by the recently adopted Chesapeake Bay Preservation Act. The Preservation Act affects all drainage areas of the County which affect Chesapeake Bay water quality. RPAs must include: tidal wetlands, nontidal wetlands connected by surface flow and contiguous to tidal wetlands or tributary streams; tidal shores; and a vegetated buffer located adjacent to and landward of the above listed features.

As per State requirements, the County has prepared a Shoreline Area Management Plan as a subsequent extension of this Plan. The Shoreline Area Management Plan contains policies for water quality protection in RPAs and recommends land use regulatory approaches designed to improve Baywater quality. The Plan's Resource Conservation District contains environmentally sensitive land areas within the Chesapeake Bay watershed.

In most cases only passive recreation use and low density residential development is appropriate in the Resource Conservation District provided development design is protective of environmentally sensitive features.

The qualities of Gloucester County's natural resources are an important component of the County's heritage and a major factor influencing the County's continued economic and environmental well being.

Major areas of the County in the Resource Conservation District include the York, Piankatank, North, Ware River and Severn River shorefronts. This is not to suggest that these are the only areas of the County where resource conservation should be practiced, but rather, these are areas where large concentrations of environmentally sensitive features exist. Wherever resource constraints are present, development proposals should be carefully reviewed and mitigation measures prescribed.

Performance standards for development within areas designated Resource Conservation Districts should be framed to implement protection policies. Such policies or standards should provide that:

- No development be permitted on slopes exceeding 25 percent where soils are unsuitable.
- Development in floodplains should be limited and responsibly managed.

- Clearing of woodlands and forests should be minimized to the extent possible.
- In general, only very limited low density residential development should be permitted in those areas of the Resource Conservation District which are developable.
- When development does occur in the Resource Conservation District, all environmental impacts should be minimized; where they do occur, mitigation measures should be employed.
- The State and private conservation organizations should actively pursue programs to purchase and/or acquire easements for privately owned lands in the Resource Conservation District so they can be preserved.

It is the intention of the County to accommodate waterfront planned communities that can meet the established performance criteria.

TOURISM/RECREATIONAL AMENITY DISTRICT

These areas are delineated to meet the Plan's economic development objective of promoting tourism in the County, as well as, encouraging unique recreational amenities for County residents. The Plan Map includes five existing locations where this designation is appropriate: Moton's Conference Center, Deacon's Neck Development, Thousand Trails Campground, Gloucester Point Beach, and Ark Park. Besides waterfront hotel/convention facilities and golf clubs, these areas might include the location of another major campground which will draw on the natural assets of the County's waterfront and rural atmosphere or an equestrian center, or sports facilities. Rather than mapping each future location, implementation of the Tourism/Recreational Amenity Areas will occur through a floating zone with performance standards and locational criteria set forth in the County's zoning ordinance.

SUMMARY

The Land Use Concept Map represents the cumulative application of the districts described earlier in this section. The map is in reality the result of a composite of separate maps, one representing each of the conceptual district. Whenever conflicts develop as to which category of use should apply, the more specific or highly restrictive category should govern policy. For example, the Resource Conservation District is the most restrictive and therefore would provide the overriding policies in the area where it is applied.

To reiterate, the basic intent of the growth management concept is that the County channel most of its future residential, commercial and industrial development into and around the Development Service District, and Rural Service Centers, and should preserve lands in the Resource Conservation and Rural Countryside Districts. Existing residential neighborhoods should be recognized and protected. The aesthetic and functional characteristics of major County roads should be preserved within the Highway Corridor Districts and Greenways. The location of the districts will serve as the basis for County structuring of zoning classifications with the intent and purpose of framing land use controls and performance standards for development consistent with each Planning District.

Sprawling suburban development in Gloucester County has had negative consequences. Farmlands, open space, natural areas, and rural character have been depleted. The cost of providing services to sprawling development is high. The Growth Management Plan proposes to guide development to those undeveloped areas where major public facilities are in place or planned, while reducing development pressures in those areas where facilities cannot be provided as efficiently. The Plan channels anticipated future growth into a more harmonious and efficient pattern that is consistent with plan goals and objectives.

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Section 2

Economic Development

ECONOMIC DEVELOPMENT TRENDS

Perhaps the most difficult element to assess in the Comprehensive Plan, and the one which has the greatest effect upon future development, is the economy of the County. The complexities of the system, the outside influences, and the lack of specific information pertaining to an individual jurisdiction all tend to complicate the economic analysis.

This economic development element will discuss certain elements of the economy of Gloucester County and will make some judgments about the causes and effects of past events or proposed actions.

REGION

By virtue of its location, at the southeastern tip of the Middle Peninsula of Virginia, Gloucester County is included in the Norfolk-Virginia Beach-Newport News Metropolitan Statistical Area (MSA), which is the country's 28th most populated MSA. This MSA, composed of nine cities and three counties, is second only to Northern Virginia area in total population. Although Gloucester County is part of both the Middle Peninsula and Hampton Roads Planning Districts, it is the regional influence of the Hampton Roads area which will have greatest influence on the future economic development of the County.

Gloucester, the County seat, is 59 miles east of the state capital of Richmond, 45 miles north of the city of Norfolk and the ports of Hampton Roads, one of the world's largest and busiest natural deep-water harbors, and 135 miles south of Washington, D.C. The Norfolk Naval base, and a trio of Army bases combine to make the largest military complex in the world. With an annual payroll of \$5.5 billion, the U.S. Government is the most significant employer in the region. Newport News Shipping, based in Hampton Roads, is the state's largest private employer. Although service industries are the mainstay of the region's economy, the area is attracting many new and diverse industries. In 1987, \$368 million in capital investment in new and expanding firms, providing 8,224 new jobs, was reported.

The projected population growth of Hampton Roads between 1987 and 2005 will rank the area 33rd among the top 50 growth markets in the nation.

Gloucester County, exhibiting one of the fastest growth rates in Virginia, will play a greater role in the future economic development of the region.

The following pages will present and discuss certain elements of the economy of Gloucester County and will attempt to make some judgement about the causes and effects of events or actions, particularly related to the translation of goals and objectives into implementation strategies for the County.

POPULATION COMPONENTS IN THE LOCAL ECONOMY

It may be safely stated that the basis for any economy is the relationship of supply and demand. Many different measures exist which attempt to gauge these two factors. The simplest method for trying to make the initial determination of the direction of demand is to predict the future population and what characteristics that population might display.

Table IV-2-1

MAJOR FIRMS AND EMPLOYEES - GLOUCESTER COUNTY

FIRM	LOCATION	PRODUCT/SERVICE	EMPL.
Virginia Institute of MarineScience	Gloucester Point	Research & Training	339
Haywood Seafood	Bena	Seafood	89
Gloucester Seafood	Bena	Seafood	50
York River Seafood	Gloucester Point	Seafood	35
Virginia Power	Gloucester CH	Electricity	95
GTE	Gloucester	Telephone Service	48
County School Board	Gloucester	Education	405
County Government	Gloucester	Government Services	85
Riverside Walter Reed Hospital	Gloucester	Medical Care	210

SOURCE: "Gloucester County, A Community Profile," 1988-89

INDUSTRY

Gloucester County's industries have traditionally been oriented toward its natural resources. Seafood and farming remain as the primary local industries. The introduction of industries related to ladies

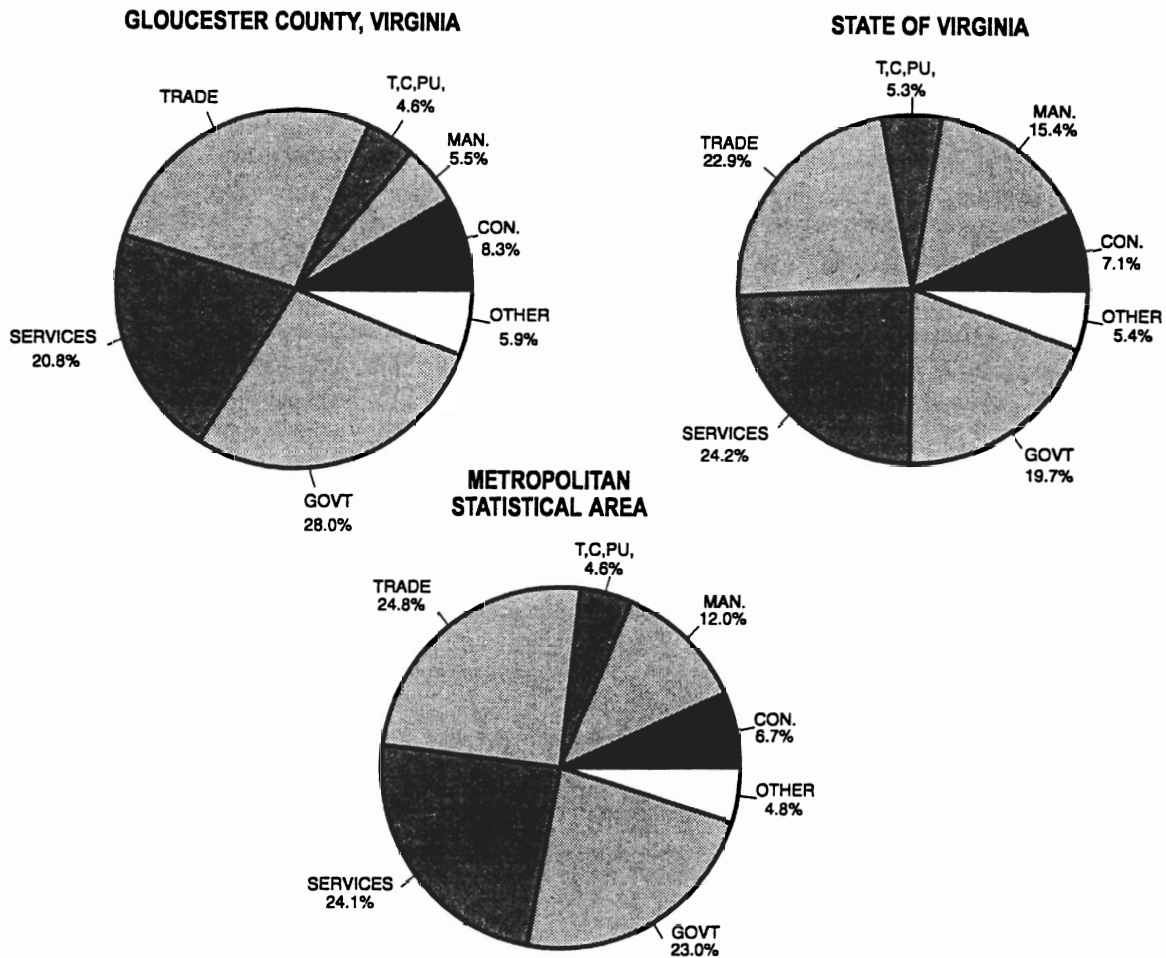
garments, fiberglass sailboats, the manufacture of concrete bricks, and brass, lumber, and metal products, as well as research and development of ocean mining, have helped to diversify the County's industrial base.

Table IV-2-2
EMPLOYMENT BY SECTOR

	1984	1985	1986	1987	1988	Ave. An. % Change '84-'88	1988 % of Total
TOTAL GLOUCESTER	4408	4855	5179	5613	6000	9.05	100.00
AGRICULTURE	62	63	64	92	94	12.90	1.57
CONSTRUCTION	237	297	372	447	495	27.22	8.25
MANUFACTURING	301	250	254	300	327	2.16	5.45
TRANS., COMM., PUB. U.	243	238	243	253	276	3.40	4.60
WHOLESALE TRADE	252	223	277	293	248	-0.40	4.13
RETAIL TRADE	1103	1374	1231	1455	1367	5.98	22.78
F.I.R.E.	150	190	199	256	261	18.50	4.35
SERVICES	925	967	1097	1172	1242	8.57	20.70
GOVERNMENT	1120	1226	1374	1494	1673	12.34	27.88
TOTAL VIRGINIA	2333	2455	2558	2680	2781	4.80	100.00
CONSTRUCTION	133	152	169	183	195	11.65	7.01
MANUFACTURING	421	423	425	429	427	0.36	15.73
TRANS., COMM., PUB. U.	127	132	137	142	146	3.74	5.25
WHOLESALE TRADE	116	117	123	128	131	3.23	4.71
RETAIL TRADE	400	430	456	482	503	6.44	18.09
F.I.R.E.	117	123	132	144	150	7.05	5.39
SERVICES	195	545	579	626	668	8.74	24.02
GOVERNMENT	505	516	520	530	544	1.93	19.56
TOTAL MSA (x1000)	484	511	532	553	565	4.18	100.00
CONSTRUCTION	30	34	38	39	38	6.67	6.73
MANUFACTURING	67	68	69	68	68	0.37	12.04
TRANS., COMM., PUB. U.	25	25	26	26	26	1.00	4.60
WHOLESALE TRADE	21	21	22	24	25	4.76	4.42
RETAIL TRADE	95	103	108	113	115	5.26	20.35
F.I.R.E.	21	23	24	27	27	7.14	4.78
SERVICES	105	114	113	130	136	7.38	24.07
GOVERNMENT	120	122	125	127	130	2.08	23.01

Source: Virginia Employment Commission, 1989

Figure IV-2-1
1988 EMPLOYMENT BY SECTOR



Source: Virginia Employment Commission

Major employers in Gloucester include the School District, the Virginia Institute of Marine Science of the College of William and Mary, and the Riverside Walter Reed Hospital. Table IV-2-1, indicates the County's major firms and their corresponding number of employees.

EMPLOYMENT TRENDS

Virginia's employment growth almost doubled the national average between 1980 and 1986, and

was the third highest in the nine-state South Atlantic Region. The Northern Virginia MSA job market grew the fastest of Virginia's 22 planning districts with a 5.7 percent growth rate. Fredericksburg followed with an increase of 4.8 percent. The Hampton Roads job market expanded by approximately three percent while the Gloucester County market grew at a nine percent rate.

The 3.3 percent unemployment rate in Gloucester County for 1988 is significantly lower than that of the nation (6.3%), of the Commonwealth of Virginia (4.2%), and of the Norfolk-Virginia Beach-Newport News MSA (4%). In fact, the County has the lowest rate of

any of the cities and counties making up the MSA.

In Table IV-2-2, the rate of growth of non-agricultural employment and that of the total population between 1984 and 1988 is indicated. In both cases, Gloucester County's rate of change is more than double that of either the MSA or the State.

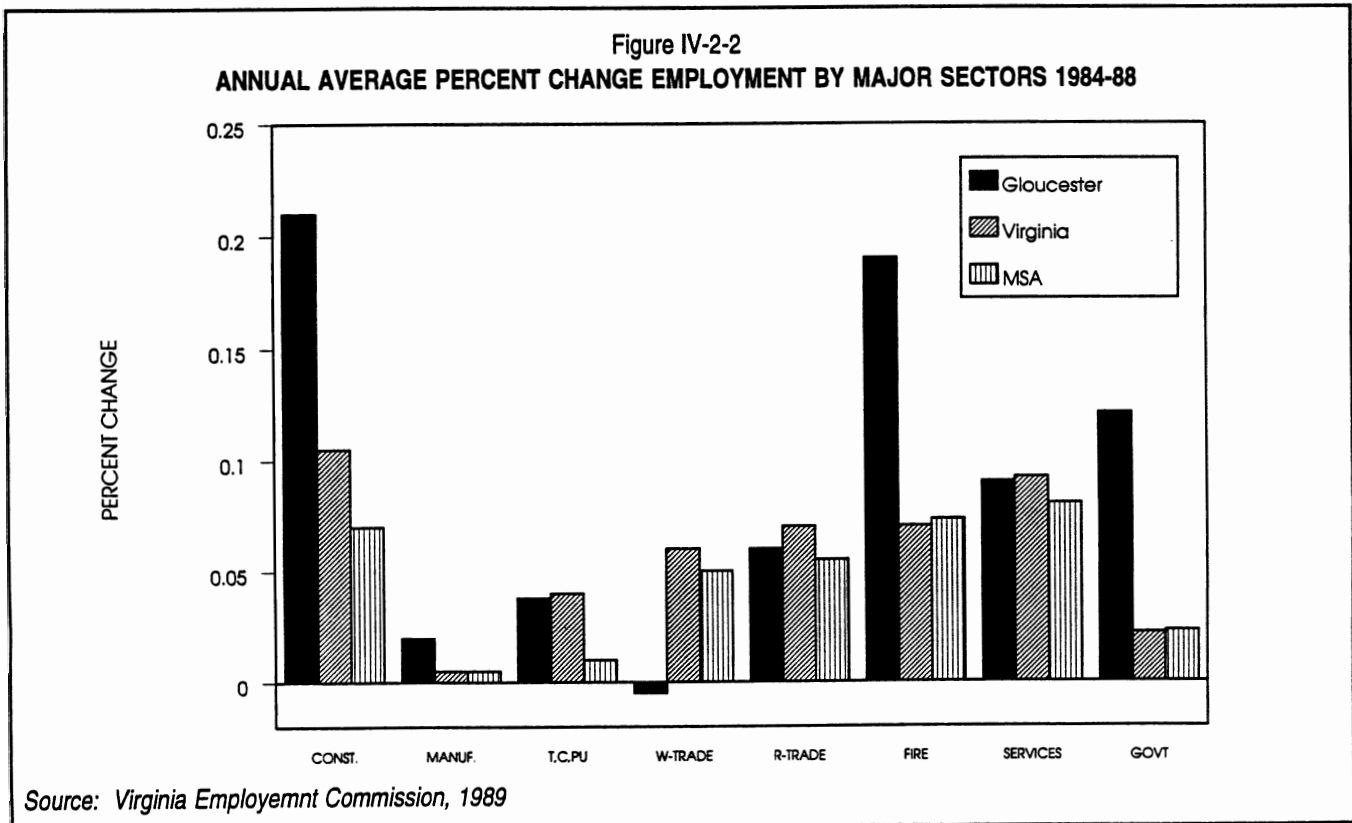
Figure IV-2-1 indicates 1988 breakdowns of total employment by major divisions for the State of Virginia, the Norfolk-Virginia Beach-Newport News MSA, and Gloucester County. Generally, state employment reflects that of the nation, with services making up close to a quarter of the total distribution of jobs in each. Retail trade is a close second, with government third and manufacturing fourth.

The distribution for the MSA exhibits a higher percentage of government employment and a lower percentage for manufacturing. In Gloucester County, this effect is further amplified, with government employment making up the greatest percentage of the total employment picture. The percentage of retail trade is also higher than the MSA. The percentage of manufacturing is roughly half of the percentage of the MSA and almost a third less than the percentage for the State and the Nation. The importance of the government and trade sectors in

the overall economy of Gloucester becomes apparent here.

The average annual percent change (1984-88) in the major sectors of employment for Gloucester County, the MSA, and the State is indicated in Figure IV-2-2. The most obvious aspect of these trends is the rapid rates of growth shown for the Finance, Insurance, and Real Estate (F.I.R.E.), Government, and Manufacturing sectors (all six times the rate of the State and MSA), as well as the Construction sector (growing at twice the State rate and four times that of the MSA). The growth in the Transportation, Communication, and Public Utilities (T,C,&PU), Retail Trade, and the Services sector has generally kept pace with that of the State and MSA. Wholesale Trade employment had the only negative growth rate of all sectors, decreasing by 0.4 percent, while wholesale employment for the State increased 6.0 percent, and for the MSA, 5.0 percent.

With respect to the trends within the County (Table IV-2-2), the Construction sector had the most rapid expansion rate followed by F.I.R.E. Government and Agriculture both occupied third place with equal rates of growth. Because the total employment numbers for Agriculture in the County are a small



percentage of total employment (1.5%), growth in this sector does not have the impact on the County as other sectors. A strong positive growth does indicate that this sector is still an important component of the overall trend.

Table IV-2-3 indicates the relationship between the increase of employment by place and of the civilian labor force by residence. With allowances for unemployment and the fact that self-employed persons, domestic workers, and others not on a regular civilian payroll, only 40 percent of the civilian work force in Gloucester County is employed in the county of residence. The indication is that the greater part of the total labor force of Gloucester goes elsewhere for employment.

Table IV-2-3
EMPLOYMENT BY PLACE AND BY RESIDENCE, 1988

	Civilian Labor Force (By Residence)	Non-Agricultural Employment (By Place)	Total Percent
Virginia	2,997,080	2,780,000	93
MSA	588,074	565,000	96
Gloucester	14,762	6,000	41

Source: Virginia Employment Commission

INCOME

Annual per capita personal income in Gloucester County in 1986 was \$12,535, which was the second lowest for the cities and counties in the Norfolk-Virginia Beach-Newport News MSA, exceeding only that of Portsmouth. The per capita income for the MSA as a whole was \$14,462 in 1986, ranking it fifth out of the eight MSAs in the state. (The per capita income for the Washington, DC-Maryland-Virginia MSA was \$20,148, considerably higher than the Virginia state average of \$15,433). Although the per capita income in Gloucester was lower than the MSA and the State, its average growth rate from 1979 to 1986 was considerably higher than both (7.7%). The average annual growth rate in the MSA was 5 percent; in Virginia, 4.6 percent.

The median household income for Gloucester County in 1986 was \$24,799, which is midway between the highest income category in the MSA; \$38,077 in

Poquoson; and the lowest, \$18,474 in Norfolk. With relation to the MSA as a whole, the median household income for Gloucester County is practically the same and is just slightly lower than the level for the state. The average annual increase in median household income in Gloucester has kept pace with the MSA, as well as with the state increase, and is expected to do the same through 1990.

The average annual percent increase of the Median Family Income in Gloucester County between 1979 and 1986 was 5.5, percent while the increase for the MSA was 6.9 percent and the State, 7.9 percent. The indication is that more families comprise a household in Gloucester County than in either the MSA or State.

FINANCE

In 1987, nearly \$13 billion was deposited into financial organizations in Hampton Roads, representing nearly 19 percent of the total deposits in the state of Virginia. In Gloucester County, the total deposits amounted to \$165,402,000, of which \$128,739,000 was in commercial banks and \$36,663,000 was in savings & loans. The commercial bank deposits represent a change of 5.4 percent from the previous year's deposits of \$122,739,000. In 1988, commercial bank deposits were \$156,614,000, a 17.8 percent increase from 1987. Total commercial deposits for the MSA during the same time period 1987-1988 declined by 5.9 percent. Currently there are six banks in Gloucester County: Chesapeake National, CRESTAR (two branches), Dominion, First Virginia, Newport News Savings Bank, and Peninsula Trust.

For the fiscal year 1988-89, Gloucester County raised its real estate tax 15 cents, while most other municipalities in the MSA raised taxes only a few cents (with the notable exception of Portsmouth which raised taxes by 10 cents per \$100 of assessed value). This increase follows on a 14 cent increase for fiscal year 1988-89. The highest real estate tax rate in the MSA for fiscal 1989-90 is Suffolk's at \$1.30 and the lowest is Williamsburg's at 52 cents per \$100. Gloucester has the lowest personal property tax rate in the Hampton Roads MSA as well as the lowest automobile tax.

The largest source of local revenue for Gloucester County in 1988 came from general property taxes including real estate and general property taxes making up 30 percent of the total revenues received. The largest portion of the revenues received came from federal and state sources totalling \$12 million and \$1.8 million respectively. Service fees accounted for 5.1 percent of total revenues, debt/loan proceeds 3.9 percent, 1.9 percent came from reserves, and the remaining revenues came from other taxes and miscellaneous sources.

The largest portion of the funds, 61.8 percent were used for education, with new school construction, repairs, and busses accounting for capital expenditures. Another 14 percent of the funds were used for Capital Projects, 6.2 percent for public safety, 4.8 percent for general government, with the remaining funds used for Public Works, Health & Welfare, Judicial, Debt Services/Leases and General Government. As the county has managed to keep sufficient operating cash on hand, no short-term financing has been needed to meet obligations.

CONSTRUCTION

In 1987 \$1,482,329,000 worth of construction activity took place in the MSA, down from \$1,820,779,000 in 1986, a decrease of 19 percent. This change reflects the general construction trend for the United States as a whole, where the housing construction pace in 1987 was at its lowest since 1982. Single-family home construction was down in all but seven of the top twenty markets in the nation, with Hampton Roads ranked 26th; Washington, DC was second in the nation in building activity. Housing starts in Hampton Roads in 1988 numbered 16,200, down 17.3 percent from 1987.

Residential building permits issued in Gloucester county in 1987 numbered 690, representing a decrease of 31.9 percent from the 1986 level of 910. In 1988 total permits numbered 504, a decrease of 37 percent from 1987. The total number of permits for the MSA decreased by 4.8 percent during the same period. The greatest increase in permits issued in the MSA was in Hampton, which had an increase of 58 percent, while the greatest decrease was Portsmouth, 61.2 percent, for the same period. It is interesting to note that mobile homes accounted for a total of 41 percent

of the residential permits issued in Gloucester County in 1988, and 22 percent in 1977.

The assessed valuations for real estate in Gloucester County for the period 1980-87 increased by 54 percent, placing it fifth in the MSA. Hampton showed the greatest increase at 68 percent and Suffolk the smallest at 29 percent. More recently, in the period 1984-88, Gloucester County has held its fifth-place ranking with a 38 percent increase, while James City County has taken over first ranking with an increase in real estate valuations of 50 percent. York County has shown the slowest growth in valuations, 20 percent. In terms of number of real estate transfers for the same period, Gloucester County, with a change of 21.9 percent, was halfway between James City County, 51.6 percent, and Virginia Beach, -0.4 percent, in the MSA. The average house cost in Hampton Roads during the first quarter of 1988 was \$91,800, making this MSA 31st in the country in resale costs.

TAXABLE SALES

Gloucester County's taxable sales have increased 48 percent from 1980 to 1988 ranking it fifth in retail sales growth in the MSA, almost equal to the 51 percent rate of the MSA as a whole. Between 1986 and 1988, taxable sales decreased by almost 10 percent, reflecting the same trend in eight of the 12 areas in the MSA, with the sales for the MSA decreasing by four percent. The most notable decreases were in Newport News (15 percent) and York County (12 percent). The most notable increase was in Poquoson - approximately 80 percent.

ISSUES

RECENT ECONOMIC DEVELOPMENT

The following recent events in Gloucester County indicate that continued economic development in the County is anticipated :

- In 1988 the Economic Development Department was established to provide staff support to the County Administrator and to the Gloucester County Industrial Development Authority in matters related to the County economic development process.
- The extension of sewer lines into the southern half of the county by the Hampton Roads Sanitation District is complete.
- The Beaver Dam Reservoir, recently constructed and located in the center of the County, supplies water to the southern part of the county.
- Plans are proceeding for the development of the 65 acre Gloucester Industrial Park, the first industrial park in the County.
- Improvements to portions of the regional transportation system within Gloucester County (such as the improvement of the Coleman Bridge York River crossing, an additional upriver crossing, and improvements to Route 17) are planned to relieve congestion while making the County more accessible for those who reside and work there.

These public facility improvements, combined with increased coordination of development efforts, will be instrumental in attracting future development within the County. However, the form and location of this development and the manner in which it conforms with the desires of the residents of the County are issues which must be addressed if a successful strategy is to be achieved.

GROWTH PROSPECTS

The following summary findings form the basis of the recommendations for Gloucester County's economic development:

- The projected rate of population growth for the period 1990-2000 in Gloucester County is 34 percent, resulting in a population of 40,314 in the year 2000, roughly double the 1980 population level for the County. This rate is almost three times that of the MSA and four times that of the State for the same period.
- Total non-agricultural employment in Gloucester County has increased at an annual average rate of nine percent between the years 1984-1988. This rate is twice that of the MSA and the State.
- Government employment made up the greatest part of the County's employment in 1988, with Retail Trade a close second, followed by Services, reflecting the general trend in the MSA. Manufacturing employment is one half the level of the MSA and two-thirds less than the State.
- The Construction, F.I.R.E., Manufacturing, and Government sectors are the fastest growing employment areas in the County, each with an average annual growth easily exceeding that of the MSA and State.
- Agricultural employment also increased; the actual numbers are low so that this growth may be somewhat misleading, although this sector is still of primary importance to the County.
- Only 40 percent of the resident civilian labor force is employed in Gloucester County.
- Gloucester County's unemployment rate was 3.3 percent in 1988, the lowest rate of any city or county in the MSA.
- The ratio of employment to population in Gloucester County in 1988 was one job for every five people while, for the MSA, the ratio was 1:2.5 and, for the State, 1:2.2. In the year 2000 the ratios are projected to be: Gloucester County, 1:6.8; MSA, 1:2.3; and the State, 1:2.1.
- The annual per capita personal income for persons in Gloucester County was second lowest in the MSA; its rate of growth was greater than the MSA, and the State.
- The average annual increase in median household income has kept pace with the MSA and the State.
- Commercial bank deposits in Gloucester County increased 5.4 percent in 1987, while those for the MSA declined 5.9 percent.

- Residential building permits decreased 37 percent between 1987-1988. In 1988, 41 percent of the residential permits were for mobile homes.
- Real estate valuations increased 54 percent between 1980-87, slightly higher than the MSA's average of 51.3 percent.
- Taxable sales in Gloucester have increased by 48 percent compared to 51 percent for the MSA between 1980-1988, with more recent sales (1986-88) decreasing 10 percent compared to 4 percent in the MSA. The relationship between the rate of population growth of population and sales in Gloucester, 1980-88, is 1.8 while for the MSA the factor is 5.4. Gloucester County's sales have not kept pace with its population.

IMPLICATIONS OF PROJECTED GROWTH

It is quite evident from the above that Gloucester County will continue to experience a substantial amount of growth in the near future. The annual per capita personal income in the County is growing at a rate faster than that of the MSA, median household income is increasing, commercial bank deposits have increased as have real estate valuations; all encouraging signs. However, there are aspects of this growth which are not so positive and which will have a profound effect upon the Gloucester County of the future.

The primary characteristic of development to date is that 60 percent of the civilian labor force seeks employment outside of the County, making Gloucester County a "bedroom" community of the expanding Hampton Roads area and, to a lesser extent, of the Richmond area. With a ratio of one job for every five people (Table IV-2-4), there simply are not enough jobs in the County. With a County unemployment rate of just 3.3 percent, those who are seeking jobs apparently are not having much trouble finding them, even if these jobs are outside of the County. The great disparity between the rate of population growth and the increase in taxable sales, as compared to the whole MSA, indicates that those who are working outside of the County are also spending their money

outside. The attraction of more in-county jobs seems to be the primary goal for the economic development of the County.

Table IV-2-4
POPULATION TO EMPLOYMENT RATIOS

	1894	1988	2000
VIRGINIA			
EMPLOYEES	2333000	2780000	3226000
POPULATION	5635500	6015100	6664600
RATIO	2.4	2.2	2.1
MSA			
EMPLOYEES	48500	56500	643000
POPULATION	12614000	1388100	1510500
RATIO	2.6	2.5	2.3
GLOUCESTER			
EMPLOYEES	4408	6000	6951
POPULATION	24500	30600	40314
RATIO	5.6	5.1	5.8

Source: Virginia Employment Commission, 1989

EMPLOYMENT BY SECTOR: 2000

The largest employment sector in the County at present is Government. Although this sector can be expected to grow in the future, it will largely depend upon demands to keep governmental services in pace with population growth.

Trade sector employment, including Wholesale and Retail Trade, is a close second to the Government sector in Gloucester County. When compared to the rest of the Norfolk-Virginia Beach-Newport News MSA, and with the State, the percentage of employment in this sector is high, although the rate of change is lower. (The Wholesale Trade portion of this sector has a negative rate of growth for the 1984-1988 period). A reverse of this trend, to bring Wholesale Trade in line with regional percentages, seems appropriate.

The rate of increase of jobs in the Finance, Insurance, and Real Estate (F.I.R.E.) sector is more than twice that of the MSA and the State, but the percentage of these jobs to overall County employment is comparable, and can be expected to remain stable. The rates of change for the Transportation, Communications and Public Utilities (T,C & PU) and services sectors are comparable to those of the MSA and State, as are their respective percentages of total population. These trends are expected to continue.

The Construction sector, which has had rapid expansion through the years 1984-1988, appears to be leveling out at a percentage in keeping with the MSA and State levels; although, future construction activity will more than likely keep growth in this sector healthy.

The greatest potential for an increase in the percent of total employment is in the Manufacturing sector, including the manufacture of both durable and non-durable goods. Although this sector has had an annual rate of change greater than that of the MSA, it still remains a disproportionate part of the total. A one-hundred fold increase in the percentage of jobs in this sector is necessary in order to bring this sector to a level comparable to the MSA and State.

The 13 percent increase in the Agricultural/Fishing sector is the second greatest increase in employment for Gloucester County in the 1984-1988 period, indicating the continuing importance of these activities for the overall economy of the County.

The types of manufacturing industries which might be suitable in Gloucester County range from electronics and electronic equipment manufacture to printing, publishing, and plastics. Given a range of 5-100 employees per acre for this type of development, anywhere from 15 to 315 acres of land could be needed for potential manufacturing facilities siting in 2000. Although it is not possible to predict accurately the County's land requirements, it seems that 315 acres would be adequate. (The proposed Gloucester Industrial Park is approximately 65 acres in size).

STRATEGIES

Gloucester County's economic development strategy is an integral component of the Comprehensive Plan process. The County's economic growth has direct consequences for land use, transportation and other infrastructure elements.

The ability to pay for the costs of growth and to manage growth effectively is related to the balance achieved between commercial/industrial development and residential development. The following points indicate some of the links between economic development and other aspects of the Plan:

- **Local economic development can affect the type and quality of residential development.**

The growth of the County's internal employment base can affect the location, timing and quality of residential development. New office and industrial developments providing jobs for primary wage earners will generate different housing demands than the County's expanding retail/residential service jobs. The latter jobs, which are more typically held by part-time workers and by household members other than the primary worker, will generally command lower salaries.

- **Increased employment opportunities within Gloucester County will present different transportation requirements than those based upon increased out-migration to jobs.**

The extent to which Gloucester County's growth is dependent upon employment expansion beyond the County's borders, specifically in the Hampton Roads area, has direct consequences for the County's transportation facilities and other infrastructure requirements. Reinforcement of the out-commuting flow directed toward the Hampton Roads area will require further investments in commuter highway capacity or transit service.

- **Economic development is linked directly to the issue of paying for the costs of growth.**

The ability to support a wide range of community facilities and services is dependent, in part, on the non-residential development that the County can sustain. To the extent that local commercial/industrial development does not occur, more reliance must be placed upon residential property taxes -- affecting both present and future home owners.

- **The character of the County's development, from its land use patterns to the incomes and**

lifestyles of its residents, is affected by the economic development that can be encouraged within the County's borders.

DEVELOPMENT APPROACH

In Gloucester County, the principal organization affiliated with the County Government charged with the formulation of plans, policies, and programs designed to accomplish local economic development is the Gloucester County Industrial Development Authority (GIDA).

The seven members of GIDA, appointed by the Board of Supervisors, are charged with fostering industrial growth within the County, and thereby creating employment opportunities. Some of GIDA's more important powers are the ability to purchase land for industrial use and the ability to apply for special state programs, e.g. the Shell Building Program. GIDA is staffed by the County's Department of Economic Development.

There are also four organizations that perform key roles in Gloucester's economic development process. These organizations are as follows:

1. Department of Economic Development, Gloucester.

Established by the Board of Supervisors in 1988, Gloucester's Department of Economic Development provides staff support to the County Administrator in matters relative to the County's economic development process. Additionally, the department provides staff support to GIDA. The Department of Economic Development is charged with the attraction of new commercial and industrial development within the County. The department works closely with the Virginia Peninsula Economic Development Council.

2. Virginia Department of Economic Development.

The Virginia Department of Economic Development is the coordinating agency for the marketing of the Commonwealth. Additionally, incentive programs such as the Shell Building Initiative and Industrial Training Program are centralized through VDED. Providing a global marketing effort, managers throughout the United States, Europe, and the Pacific Rim assist localities with prospective manufacturing, processing, and headquarters offices facilities.

3. Virginia Peninsula Economic Development Council.

Composed of representatives from four cities and three counties, VPEDC provides potential investors or companies looking for relocation sites a central point for inquiry. With an executive director of marketing, as well as other staff, its primary role is to provide assistance to the localities in marketing the individual city or county. Gloucester is a member of this council.

4. Gloucester Chamber of Commerce.

Composed of individuals and organization representatives of the business community, the Chamber of Commerce serves as the collective spokesman for private enterprise within the County. The Chamber, through a number of work program elements, encourages the expansion of existing businesses. The Chamber does not implement projects, but serves as a catalyst in stimulating other organizations, such as GIDA. It employs its own staff.

GOALS AND OBJECTIVES

The goal and objectives of Gloucester County's economic development program are based on several important County needs. Because the County has been the fastest growing area in the Commonwealth, with 60 percent of its civilian labor force seeking employment outside of the County, the overall goal of the County is to broaden its economic base by providing an environment favorable to the future growth of a balanced economy. This will accomplish two purposes. It will minimize the impact of this growth on the County's infrastructure, and it will also help to contain the County's real estate tax rate. The Objectives that serve to clarify this goal are included in Part III of this plan.

IMPLEMENTATION RECOMMENDATIONS

GENERAL IMPLEMENTATION RECOMMENDATIONS

Gloucester County is currently facing the classic situation that has confronted other counties influenced by an adjacent growing metropolitan area. The phenomenon can be briefly summarized by the following scenario: a rapid upsurge in residential growth, followed by a rise in the costs associated with residential development ranging from roads and schools to recreation and public safety services. In the usual pattern, the residential property tax is insufficient to meet the needs of the expanding community. The need for more aggressive commercial and industrial development to help share the burdens of growth is usually identified. The last response is often met with mixed feelings, depending upon the perspectives and interests of particular groups of residents. On the one hand, more robust economic development is seen as a way out of the "Paying for Growth" dilemma; on the other hand, that very added growth, if not managed properly, begins to alter the quality of life of the residents, both long settled and new homeowners.

Gloucester County is now at a key decision point for its future development. The following options indicate the direction that the County should take with respect to this development:

1. **Business/industrial development**

As the population base expands, the growth of business and professional services should generate a demand for added industrial activity. Industrial activities that could fit this demand include electrical equipment manufacture, transportation equipment, printing and publishing, plastics, petroleum products, and non-electric products.

However, the factors that have served to inhibit industrial development in the past are likely to continue to operate until significant changes in the County's infrastructure are made. The most significant changes are related to the availability

of sanitary sewer to potential business/industrial sites and the improvements to the regional traffic circulation system, including the Coleman Bridge and Route 17 improvements.

- a. Coordinate expansions of public water and waste water utilities with future designations of industrial sites.
- b. Through the planning period, determine the need, viability, and possible location for the development of an industrial airport.
- c. Incorporate new zoning classifications that reflect current industrial development practice, including designations such as research parks, science and technology parks, and similar categories appropriate to technology-driven businesses.
- d. Allow business park development as floating zones within the Development District with strict performance based locational standards.
- e. Provide bonus points within the development guidance system for evaluating Mixed Use and Planned Unit Developments for the creation of permanent professional and skilled in-County jobs.
- f. Provide sufficient industrial land relative to market requirements to provide for flexibility and reduced costs in site selection.
- g. Provide incentives to encourage developers to redevelop areas that have outlived their original purpose.
- h. Encourage a wide range of graduate level programs at area educational facilities such as Rappahannock Community College.

2. **Small business development initiatives**

Although traditional economic development approaches have focused on the attraction of new facilities to a locality, most new employment growth is generated by the expansion of existing establishments and the nurturing of new firms. Programs to promote the start-up and development of new firms may play a prominent role in

future Gloucester County economic expansion. A number of existing or new programs can support this component of the implementation strategy.

- a. Encourage the retention and expansion of existing business and industry through innovative local assistance programs such as technical assistance, small business assistance, and employment training.

3. Tourism/recreation enhancement

The hospitality industry -- lodging places, restaurants, and other establishments that serve visitors -- is a logical choice for future growth and development. Gloucester County is particularly well-suited to day travellers from the greater Hampton Roads and Richmond markets. In addition to historical sites and attractions within the County, there are a number of destinations throughout the Southern Virginia region, particularly Williamsburg, that could generate a greater market for overnight visitors.

- a. Create some special attractions that serve the recreational needs of the County visitors by planning for expanded parks and recreation facilities.
- b. When developing waterfront communities, provide for public access areas attractive to visitors.
- c. Promote the development of a waterfront conference facility.
- d. Promote the restoration of historic sites.

4. Consumer service/retail development

The growth of Gloucester County is bringing with it new consumer purchasing power. The marketplace is responding to this reality by constructing the York River Shopping Center, as well as by planning for a second center. The development in the form of retail establishments, accompanied by a range of local services from banking and real estate services to personal and commercial recreation services, will most likely locate anywhere, in the absence of any specific

policy initiatives on the part of the County.

However, if the market is so appealing to commercial developers, the County could be in an enviable position with regard to controlling both the location and quality of new development proposals.

- a. A development guidance system could afford an opportunity for the community to give priority to new commercial projects that satisfy a number of objective criteria of value to the County.
- b. A system of bonus points reflecting such considerations as traffic impacts, building and site design quality, employment benefits and other measurable impacts on the community could enter into a rating system for development.
- c. Commercial/retail sites outside the Development District should be selected with a view toward strengthening the identity and individuality of the Village Centers, Rural Service Centers, and the Crossroad Settlements in Gloucester County.

5. Coordination

Gloucester County's Department of Economic Development should continue to serve as the coordinating entity in economic development projects. County departments, such as Engineering, Community Development, and Planning, all have roles in the economic development process requiring close coordination if projects are to prove successful. Additionally, efforts of GIDA, the Chamber of Commerce, and private enterprise require close liaison with the County agencies. This coordinating role should continue to be a major function of the Department of Economic Development.

RESOURCES

There are resources available for implementing economic development efforts other than the organizational capabilities already described. These include a number of state programs to include

financing, infrastructure, and training.

1. Community Development Block Grants

CDBGs are available to eligible cities, counties, and towns for industrial or commercial revitalization, site development, access road construction, railroad span construction, and water and sewer projects.

2. Economic Development Revolving Loan Fund

The Economic Development Revolving Loan Fund provides loans to Industrial Development Authorities (IDAs) within communities eligible for Community Development Block Grant non-entitlement funds. The loans may be relented to private businesses within the IDA service areas.

3. Tax Increment Financing

The purpose of the Tax Increment Financing (TIF) program is to remove blighted conditions by improving the real estate tax base and by attracting private investment to the area. A local government may adopt TIF by passing an ordinance designating a blighted area as a development project area.

4. Virginia Revolving Loan Fund

The Virginia Revolving Loan Fund (VRLF) provides loans to assist eligible Virginia localities create or retain permanent jobs. The loans may be used for asset financing for manufacturing and related uses and may include the acquisition of land and buildings, development or redevelopment of real estate rehabilitation and renovation of buildings, and purchase of equipment and other fixed assets. The loans may be used for on-site and off-site public facilities supporting manufacturing and related uses.

5. Industrial Access Road Program

Virginia Department of Transportation (VDOT) administers a program to assist in constructing industrial access roads to serve new and expanding manufacturing or processing

companies. The program may be used to improve existing roads, construct a new road, and to maintain the access road after completion as part of the secondary highway system or road system of the locality.

6. Rail Industrial Access Program

The Rail Industrial Access Program provides funds to construct railroad tracks to new or substantially expanded industrial and commercial projects having a positive impact upon economic development.

7. Shell Building Initiative

This initiative provides funds for selected cities and counties to construct industrial shell buildings to attract basic employers to the community. The funds are awarded on a competitive basis. The Virginia Supplemental Retirement System has agreed to loan sufficient funds for the initiative to the Virginia Department of Economic Development (VDED). VDED will then loan the funds for a shell building to a selected locality and the Commonwealth of Virginia will make the interest payment on the loan. Upon the sale or lease of the building by the locality or at the end of five years, whichever is first, the locality will repay the principal and interest to the commonwealth.

8. Industrial Training Programs

The Industrial Training Division of the Virginia Department of Economic Development will prepare and coordinate an industrial training program tailored to meet the specific needs of new or expanding companies seeking to increase employment in Virginia. Industrial training will recruit prospective trainees, provide specialists to analyze job training requirements, develop and implement training programs, conduct "Train the Trainer" programs, arrange for adequate training facilities, and prepare instructional audiovisual materials for in-depth training orientation. These services are provided at no cost to the employer.

SUMMARY

The selected combination of strategies should incorporate a balance of commercial/industrial development while ensuring the quality of life that citizens and local officials seek for Gloucester County's future.

In practice, a local economic development strategy for a growing metropolitan area jurisdiction will not focus on one major direction to the exclusion of others. A more likely and successful strategy will incorporate a combination of directions. The strategy will reflect a willingness to respond to current opportunities and to incorporate basic principles sought in accommodating community growth.

The implementation actions presented in this Plan element focused on particular sectors or components of the local economy -- business/industrial development, the small business community, tourism/recreation -- which are seen as targets or opportunities for future growth. Woven throughout the recommendations are specific actions relating to transportation investments, land use policies, utility requirements, educational facilities and resources, and other elements required to support desired levels of commercial/industrial development.



Section 3

Transportation

Although the Virginia Department of Transportation (VDOT) has primary responsibility for the highway system, Gloucester County is a strong partner in transportation planning. This occurs because of its role in identifying highway improvement needs and its policies and regulations which guide land use and development in the County. Gloucester County's transportation system for the year 2010 will require special consideration for growth management issues. From the analysis and the discussion of growth management three important transportation planning directions are apparent:

1. The capacity of the major arterials is key to growth management of the County and should be carefully conserved. This implies strict access control and residential and nonresidential design standards that emphasize internalization of circulation systems.
2. Within the designated growth areas, pre-planned expansion of the highway system is required to ensure that the function and viability of growth centers do not have a negative impact on the quality of life within the County.
3. Increasingly, the private sector will have to be part of the solution of transportation issues, including financing and other transportation systems modifications.

Besides a strict capacity-based approach to highway systems evaluation, consideration must be made of the impact of roads and traffic on community character. This is particularly true in the rural villages where development historically has been primarily highway-oriented. Stripping the rural roads of the County with residential and nonresidential development will undoubtedly result in a loss of the rural character that the County wants to retain. In the village centers the evolution of the local road system will heavily influence the form of future development. Access control policies will in turn influence the future local road systems.

This element of the Comprehensive Plan sets the framework for addressing the growth management considerations discussed above. The goals and objectives statement contained in Part III provides the general guidance for developing more specific policies and implementation tools. Background for

transportation planning is provided through an assessment of the existing transportation network, of highway capacity, of safety conditions and of planned improvements to identify the issues, problems, and opportunities. Finally, this element uses the current traffic situation in Gloucester County as the basis for developing short and long term strategies to satisfy year 2010 needs.

BACKGROUND

FUNCTIONAL CLASSIFICATION OF HIGHWAYS

The skeletal framework of the County's highway system is the arterial and collector highways shown on Map IV-3-1. The map also reveals that the majority of the highway system is composed of local roads and secondary highways primarily functioning to provide access to individual properties. The state's classification is based on the Federal Functional Classification of Highways which further classifies highways as rural or urban based on the proportions of vehicle miles of travel and road mileage. Characteristics of the broad classification of highways are as follows.

Principal Arterial: Carries a high volume of traffic for intra-state, inter-county and inter-city travel. Traffic on this type of road normally has the right-of-way except in areas of high hazard, where controls are used.

Minor Arterial: Carries a high volume of traffic for intra-county and inter-community travel. These roads normally serve the higher classification roads providing access to and from the arterials.

Major Collector: Serves intra-county and inter-community travel, but at a lower volume, and usually connects to an arterial to provide access to the surrounding land. Access is not directly from this road but from a sub-road connected to the collector. They may serve community shopping areas, schools, parks and cluster developments.

Minor Collector: Serves intra-community travel at a volume below the major collector. Provides access to the land using lower order roads and sometimes direct access.

County exceeded 32,000 vehicles per day in 1988. These volumes and locations reflect the importance of this route as a major connector to York County and a commuter route to work places south of the County such as the cities of Hampton and Newport News. Other heavy traffic volumes, associated with recent growth and the commuting patterns, occur in the southern part of the County. Route 17 from Route 216 Hayes to Route 1208 near Gloucester Point carries a volume of over 40,000 vehicles per day. From Route 17 Business south of Gloucester to Route 216, Route 17 has volumes at points as high as 33,000. In the Gloucester Courthouse area Route 17

TRAFFIC VOLUMES AND TRENDS

Average daily traffic (ADT) on roadway segments, available from VDOT (1988), is plotted on Map IV-3-2, Average Daily Traffic Volumes. Total average daily traffic (ADT) on U.S. Route 17 exiting the

Table IV-3-1
AVERAGE DAILY TRAFFIC TRENDS OF PRIMARY ROADS - 1982-87

RTE	FROM	TO	1982 ADT	1987 ADT	% CHANGE	AVERAG YEARLY % CHANGE
3	RT 17 BUS	MATHEWS CL	7775	11275	45.02	9.00
14	W RT 17	KING & QUEEN CL	1615	3010	86.38	17.28
17	MIDDLESEX CL	RT 33	8060	10475	29.96	5.00
17	RT 33	RT 601	5190	7105	36.90	7.38
17	RT 601	N RT 14	5190	7105	36.90	7.38
17	N RT 14	RT 606	6855	10025	46.24	9.25
17	RT 606	N RT 17B	8840	14035	58.77	11.75
17	N RT 17B	S RT 17B	6960	13595	95.33	19.02
17	S RT 17B	RT 216	19935	32760	64.33	12.87
17	RT 216	RT 1208	26570	39685	49.36	9.87
17	RT 1208	NE COLEMAN BR	21030	31680	50.64	10.13
17	NE COLEMAN BR	YORK CL	21030	31680	50.64	10.13
B17	N RT 17	11 MS RT 1007	4700	8150	73.40	14.68
B17	11 MS RT 1007	RT 3	10885	15490	42.31	8.46
B17	RT 3	S RT 17	12110	19115	57.84	11.57
33	RT 17	KING & QUEEN CL	4205	5965	41.85	8.37
198	MATHEWS CL	RT 606	1090	1940	77.98	15.60
198	RT 606	RT 601	1010	1730	71.29	14.26
198	RT 601	RT 17	1240	1815	46.37	9.27
216	RT 17	RT 649	5185	7395	42.62	8.52

Source: 1982 and 1987 Summaries of Accident Data, VDOT.

Table IV-3-2
DEFICIENT ROAD SECTIONS

RTE	TO	FROM	1986 ADT	2010 ADT	DSV	1986 VSV	2010 VSV
17	SE York River	NE York River	24000	22000	24000	1.00	0.92
17	SE York River Bridge	RT 1204	24000	22000	24000	1.00	0.92
17	RT 1204	RT 1208	23800	21800	24000	0.99	0.91
17	RT 1208	RT 216	23800	21800	24000	0.99	0.91
17	RT 216	RT 636E	27400	21200	24000	1.14	0.88
17	RT 636E	RT 614E	27400	21200	24000	1.14	0.88
17	RT 615	RT 17B	21000	36700	30839	0.68	1.19
33	King & Queen CL	RT 17	5550	11900	5525	1.00	2.15
198	RT 17	RT 601	2100	5400	4990	0.42	1.08
216	RT 17	.55 ME RT 17	7900	9100	4769	1.66	1.91
216	.55 ME RT 17	RT 649	7900	9100	4769	1.66	1.91
614	RT 631	RT 17N	6000	7500	3461	1.73	2.17
616	RT 17B	RT 1016	2350	2500	2733	0.86	0.91
616	RT 1016	Beaverdam Swamp	2350	2500	2733	0.86	0.91
641	RT 210E	Sarah's Creek	4600	8000	5160	0.89	1.55
641	Sarah's Creek	RT 17	3650	7000	5160	0.71	1.36

ADT=Average Daily Traffic DSV=Design Service Volume VSV= Volume to Service Volume Ratio

Notes: 1. Road sections listed as deficient included those whose 1986 VSV >0.8 and/or whose projected 2010 VSV .1.0

2. Projected 2010 ADT's reflect the effect that the Upper York River Crossing, Alternative 5 will have on Route 17.

Source: "Roadway Inventory with Recommendations" Virginia Statewide Highway Plan, VDOT, 1989

Business has heavy traffic from Gloucester Courthouse east to Route 14-3, 16,300 vehicles per day. Route 14-3 leading east into Mathews County carries 11,800 vehicles.

Table IV-3-1 shows Average Daily Traffic Trends of Primary Highways in Gloucester County from 1982 to 1987. Some of these highways have almost doubled in traffic during this time period. Route 17 from Route 17 B north to Route 17 B south increased 95 percent from 1982 to 1987. Route 14 from Route 17 to King and Queen County increased 86 percent during the past five years. These rates of increase exceed the annual rate of increase in population. Thus, the recent development trends are yielding

greater travel on the County's primary highway system. If these traffic trends continue, the excess capacity the County now enjoys on many of its roadways will soon be depleted.

CAPACITY ANALYSIS

Levels of service are often used as measures of system performance in transportation planning analysis and to define public policy concerning highway performance. They are also used in traffic impact analysis to determine local traffic impacts of

proposed developments. Definitions of level of service differ for intersections and roadway segments, for city streets, and for controlled access highways. In urban and suburban areas, where intersections are closely spaced, traffic signals usually govern arterial and street capacity. Route 17 B in the Gloucester Courthouse area is an example of this situation. Thus, in urban and suburban locations roadway adequacy is assessed at intersections in the traffic impact analysis process. Another related measure of highway capacity is the volume to service volume (VSV) or volume to capacity ratio as used below.

Based on the Roadway Inventory contained in the Virginia Statewide Highway Plan, the County's highway system generally contains excess capacity to accommodate future growth. However, current and

projected volume to service volume (VSV) ratios indicate that many of the County's highways will require close monitoring. Table IV-3-2 lists the road sections which have a 1987 VSV greater than 0.8 or a projected 2010 VSV greater than 1.0. This is an indicator that the road section will likely exceed its design capacity within the planning horizon and therefore warrant further study and targeting of programmed State short- and long-range transportation improvement projects. For example, Route 17 from Route 216 to Route 636 was operating at volume to service volume ratio (VSV) of 1.14 in 1986. The Section between Route 1204 to Route 216 is currently nearing capacity.

Comparing Table IV-3-2 with Table IV-3-3, it is seen that the capacity deficiencies have increased

Table IV-3-3
VOLUME TO SERVICE VOLUME RATIOS OF PRIMARY ROUTES - 1988 AND 2010

RTE	FROM	TO	1988 ADT	2010 ADT	DSV	1988 VSV	2010 VSV
14/3	RT 3, Fort Nonsese	RT 17B	11850	18000	32463	0.37	0.55
17/33	RTS 17B & 33	RTS 33 & 198	11100	15600	30839	0.36	0.51
17	RTS 33 & 198	RT 14	7550	18000	32463	0.23	0.55
17/14	RT 14	RT 606	10535	14800	30839	0.34	0.48
17/14	RT 606	RT 17B	14300	16000	30839	0.46	0.52
17	RT 17B, W of Glou.	RT 17B, E of Glou.	14290	20000	32463	0.44	0.62
17	RT 17B, E of Glou.	RT 216	33390	36700	30839	1.08	1.19
17	RT 216	RT 1208	40515	21800	24000	1.69	0.91
17	RT 1208	RT 1001, Yorktown	32320	22000	24000	1.35	0.92
17B/14	RT 17	Court House	8565	12400	22724	0.38	0.55
17B/14	Court House	RTS 17B & 3/14	16535	20000	32463	0.50	0.62
17B	RTS 17B & 3/14	RT 17B, E of Glou.	20155	22700	29233	0.69	0.78
33	RT 17	RT 14, Shackelfords	6240	11900	5525	1.13	2.15
198	RT 3	RT 606	2030	2900	4990	0.41	0.58
198	RT 606	RT 601	1805	3150	4990	0.36	0.63
198	RT 601	RT 17	1890	5400	4990	0.38	1.08
216	RT 17	RT 649	7810	9100	4769	1.64	1.91

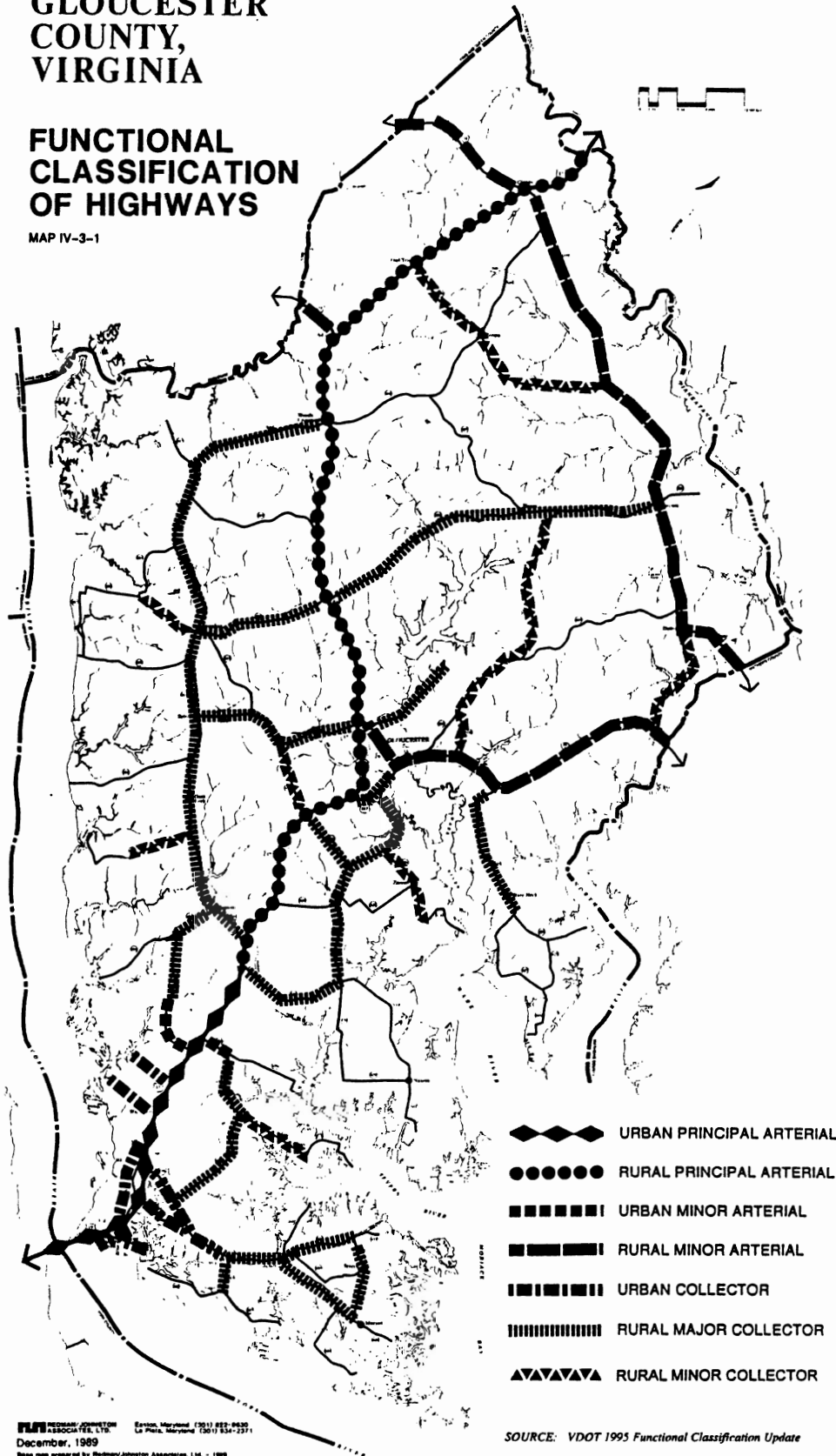
ADT=Average Daily Traffic DSV=Design Service Volume VSV=Volume to Service Volume Ratio

Sources: "Roadway Inventory with Recommendations" Virginia Statewide Highway Plan, VDOT, Aug. 1989
Average Daily Traffic Volumes on Interstate, Arterial and Primary Routes, VDOT, 1988

GLOUCESTER COUNTY, VIRGINIA

FUNCTIONAL CLASSIFICATION OF HIGHWAYS

MAP IV-3-1



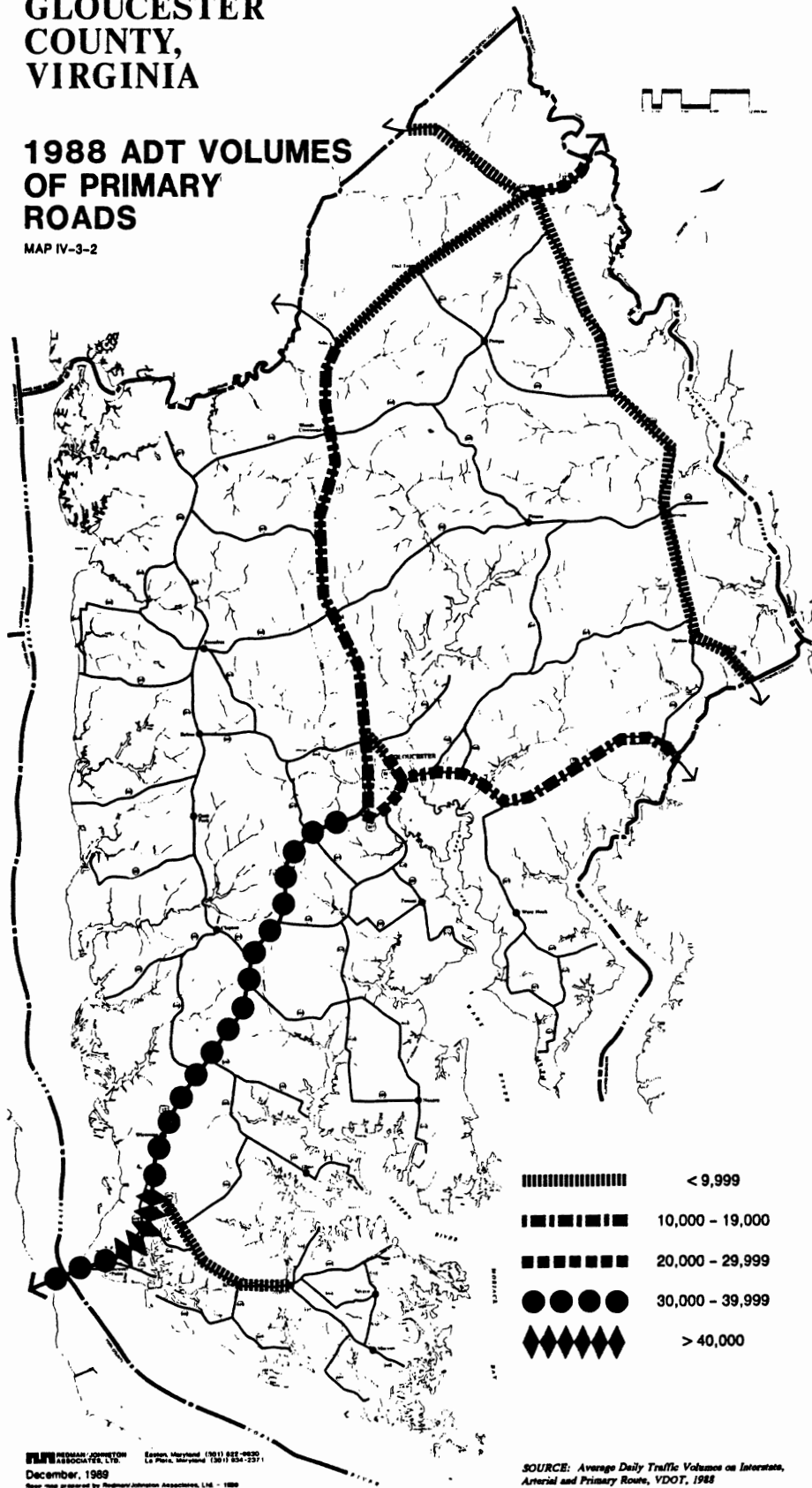
REDMAN-JOHNSTON ASSOCIATES, LTD. 7511 853-4637
December, 1989
Data map prepared by Redman/Johnston Associates, Ltd. - 1989

SOURCE: VDOT 1995 Functional Classification Update

GLOUCESTER COUNTY, VIRGINIA

1988 ADT VOLUMES OF PRIMARY ROADS

MAP IV-3-2



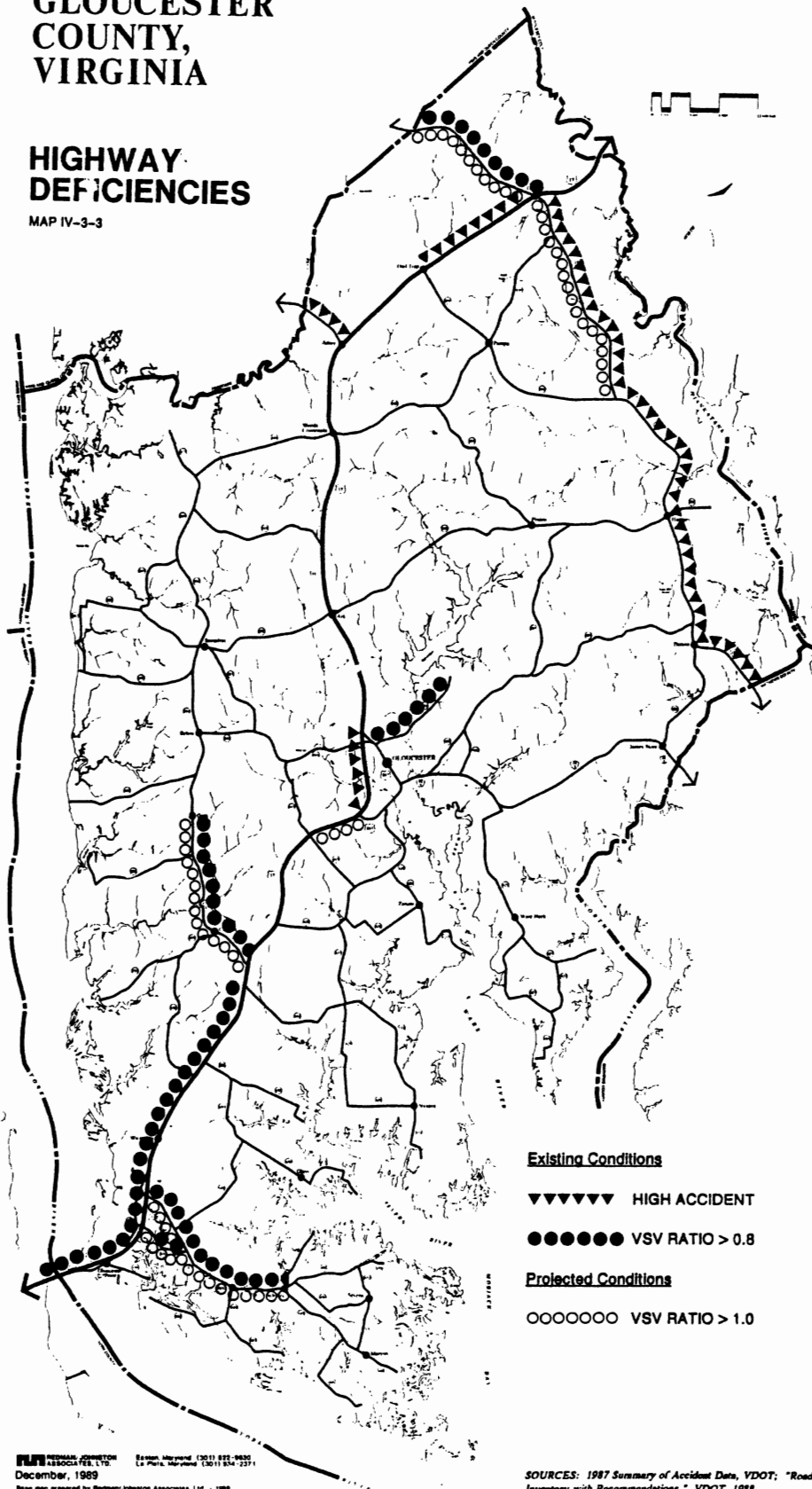
EDWARDS & KELCEY ASSOCIATES, LTD.
Essex, Maryland (301) 822-9820
La Plata, Maryland (301) 934-2371
December, 1989
Base map prepared by Federal/Johnson Associates, Ltd. - 1988

SOURCE: Average Daily Traffic Volumes on Interstate, Arterial and Primary Route, VDOT, 1988

GLOUCESTER COUNTY, VIRGINIA

HIGHWAY DEFICIENCIES

MAP IV-3-3



PLANNING ASSOCIATES
1800 EAST 17TH AVENUE
DENVER, COLORADO 80202
December, 1989

Edward, Maryland (301) 821-9800
La Porte, Maryland (301) 834-2311

Base map prepared by Federal/State Associates, Inc. - 1989

SOURCES: 1987 Summary of Accident Data, VDOT; "Roadway Inventory with Recommendations," VDOT, 1988

dramatically based on 1988 Average Daily Traffic. Route 17 between Route 216 and Route 1208 increased from a VSV of 0.99 to 1.69. Route 33 to King and Queen County increased from a VSV of 1.00 to 1.13.

Though the southern part of the County and the Courthouse area are the most noteworthy in terms of limited capacity, other areas of the County need to be monitored for capacity constraints when considering future land uses. Route 33 west to King and Queen County has exceeded design capacity.

Table IV-3-2 shows projected increases in average daily traffic for the selected road sections on the County's federal-aid highways for the year 2010. The projections on Route 17 have been modified by the impact of the future completion of the York River Bridge crossing. Other agencies have made different assumptions about the impact of an upriver bridge crossing. Projections being developed by the Peninsula Planning District Commission in conjunction with the State Highway Department District Office estimate that the Coleman Bridge Crossing will still get the majority of the increased traffic at 66,310 vehicles per day and the upper river crossing will initially receive only 8300.

SAFETY

Annually, the Traffic Engineering Division of VDOT monitors and summarizes motor vehicle accidents that occur along identified road sections. The accident, injury and death rates are calculated by dividing the total number of accidents, people injured, or people killed by the annual vehicle miles of travel at a location. Rates are expressed per 100-million vehicle miles of travel. The accident rates for primary and secondary highways in the County are shown on Tables IV-3-4 and IV-3-5. The accident rate is used for establishing priorities only and not for comparing the safety performance of different intersection and road design types.

High-accident road sections, for the purpose of this analysis, will include those road sections that exceed the State average accident and/or injury rates. The highest accident rate-road sections within the Primary System, ranked by accident rate, are shown on Table IV-3-4. The highest accident and injury rates on a Primary Road in the County occur on Route 17 in Gloucester between Route 17 business

north and south. Route 17 from Route 33 to Rt. 601 had the highest death rate in the County of 14.9 which is more than five times the State average. None of these road sections has been identified by VDOT for inclusion in the federally funded Hazard Elimination Program.

The highest accident rate roads with greater than 1000 ADT within the Secondary System are shown on Table IV-3-4. The highest accident and injury rates on a Secondary Road in the County occur on Route 1307. Route 649 had the highest death rate of 50.9 which is 16 times greater than the state average for secondary roads

Table IV-3-4
HIGH ACCIDENT ROAD SECTIONS -- PRIMARY*

Route	From	To	Total Accidents	Accident Rate	Injury Rate
14W.	Rt. 17King	Queen CL	1	88	175
17	Rt. 33	Rt. 601	6	39	164
17	N. Rt. 17 B	S. Rt. 17 B	12	144	204
198	Mathews CL	Rt. 606	4	138	172
198	Rt. 606	Rt. 601	2	103	163
198	Rt. 601	Rt. 17	4	136	136

Source: Virginia Department of Transportation's 1987 Summary of Accident Data.
* Road sections included are those primary highways which exceed the State average accident and/or injury rates. The State average for accident rates is 207; the State average for injury rates is 129.

Table IV-3-5
HIGH ACCIDENT ROAD SECTIONS -- SECONDARY*

Route	Total Accidents	Accident Rate	Injury Rate
614	42	570	515
616	13	342	369
641	14	609	0
649	10	509	560
1208	4	489	734
1216	8	489	122
1304	2	323	323
1307	5	1361	816

Source: Virginia Department of Transportation's 1987 Summary of Accident Data.
* Secondary roads having an average daily traffic greater than 1,000. Road sections included are those highways which exceed the State average accident and/or injury rates. The State average for accident rates is 389; the State average for injury rates is 213.

Table IV-3-6
COMMUTING PATTERNS
GLOUCESTER COUNTY, VIRGINIA

	1960 NUMBER	1970 NUMBER	1980 NUMBER
Total Resident Workers	3741	5048	8308
Place of Work:			
Gloucester County	2440	2660	3696
Hampton	44	168	568
Newport News	331	745	1384
York & Other	926	1469	2667

SOURCES: U.S. Census Data; Peninsula P.D.C.; and Gloucester Co. Comp. Plan, 1980

COMMUTER PATTERNS

Commuting patterns offer another indicator of growth trends which affect transportation systems. Although work trips generally represent about 28 percent of all trip purposes, they provide data during a time of day in which transportation facilities are most heavily used. Origin/destination information from 1980 on Gloucester County work trips indicate some interesting patterns. Commuting patterns indicate that Gloucester County is a net exporter of commuters and that over 40 percent of the County's work force commute more than one half hour to work. Table IV-3-6 shows an increase in out commuting from 1960 to 1980. Workers commuting within the County declined from 65 percent in 1960 to 44 percent in 1980. During the same period, the percentage of workers commuting to Hampton, Newport-News, and other points outside the County increased steadily. These trends are graphically represented on Figure IV-3-1.

Many new residents moving into Gloucester County are oriented to long-distance commuting and subsequently generate the greatest impact on the arterial routes serving the area, including Routes 17, 14 and 33. Thus commuter trips will continue to contribute to a major proportion of congestion and to unfavorable travel times to employment centers and

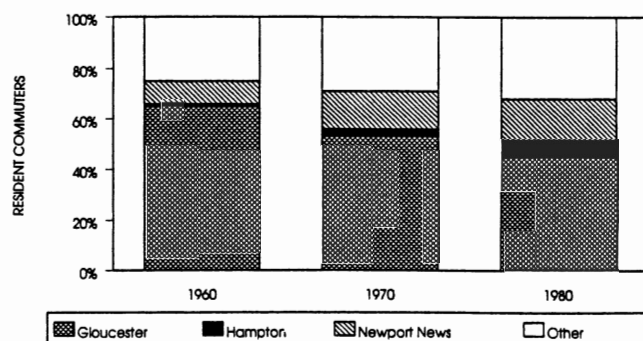
non-work travel times within the County. One objective of the County might be to examine ways to encourage a reduction in the use of single-occupancy vehicles. To maintain quality transportation service in Gloucester County, strategies must be developed to provide incentives that would encourage commuters to switch to higher-occupancy alternatives. Traffic congestion, reduced travel times and costs are major issues that will face Gloucester County as the existing excess highway capacity is rapidly depleted by future growth.

HIGHWAY IMPROVEMENTS

Through its Six Year Improvement Program, VDOT sets priorities for the funding and construction of improvements to the Primary and Urban Highway Systems in Gloucester County. The FY 89 thru 94 Program identifies the following projects:

- The construction of a variety of transportation system improvements along the U.S. Route 17 corridor including the construction and reconstruction of turning lanes.
- The construction of a parallel lane on Route 33 from Route 17 to King and Queen County line. Expected completion mid-1993.
- The construction of a left turn lane at the intersection of Route 216 and Route 641.

Figure IV-3-1
COMMUTING TRENDS



SOURCES: U.S. Census Data; Peninsula P.D.C.; Gloucester Co. Comp. Plan, 1980

- Preliminary engineering for two additional lanes over the York River at the Coleman Bridge. Expected completion is mid-1996.

The County and the State have jointly developed a Capital Improvement Program for the Secondary Highway System. Proposed funding for this six year program totals \$7.6 million. The projects are widely distributed throughout the County. The focus of this ambitious program is to maintain and improve the secondary road system by resurfacing, reconstructing existing facilities, and improving access in the rural areas. Many of the reconstruction and widening projects will make incremental increases to the capacity of those rural highways.

OTHER TRANSPORTATION FACILITIES AND SERVICES

Bus Service

Greyhound Bus Lines offers inter city passenger bus service on their New York-Washington-Norfolk schedule. The Cavalier Transportation Company runs a local bus between Richmond and Deltaville which serves Gloucester County. The Newton Bus Service at Gloucester provides charter service to all points plus regular commuter service to the Newport News Shipbuilding and Dry Dock Company. The County is also included in the Newport News commercial zone for intra-city access.

Rail Transportation

There are no railroads in Gloucester County, but with direct highway access facilities to Newport News, less than 30 miles from Gloucester Courthouse, rail service is conveniently close to this area. The Chesapeake and Ohio Railway's ocean terminal is in Newport News and its lines extend as far west as Chicago and the midwest, offering freight and passenger services. Shipments may also be made by rail via the Chesapeake and Ohio from the city of Williamsburg about 25 miles from the center of the County. The Southern Railway has a line to West Point, less than 10 miles from Gloucester County's western border, where shipment of freight is also handled.

Air Transportation

Gloucester Airport, a privately owned airport, is located one mile south of Gloucester Courthouse and is open to the public. It has one runway 4,500 feet long with 3,500 feet paved, and is lighted from dusk to dawn. Fuel, rental and charter service, flight instruction, restaurant, and adjoining golf course are available.

The nearest commercial airline service is at Patrick Henry International Airport in Newport News, about 30 miles away. This field is served by several large commercial carriers with many scheduled daily flights to other Virginia cities and Washington, D.C.

Water Transportation

The York River, which forms the southern boundary of Gloucester County, has a minimum 22-foot deep channel which is used by ocean going vessels which call at the town of West Point nearly 34 miles from the mouth of the river. Barges and other smaller vessels use the Piankatank River and the Mobjack Bay and its tributaries.

ISSUES

Gloucester County's transportation system for the year 2010 requires special consideration in view of several emerging issues:

- Increased development along the U.S. 17 corridor in the southern part of the County will erode safe and efficient operation in this segment if not properly managed.
- Increased through traffic, combined with increased local traffic on Route 17, will require additional capacity or a parallel highway be added.
- Most county secondary roads have limited capacity to support substantial increases in traffic volumes as a result of local land uses.
- A reduction in federal funding for roadways places more financial responsibility at the state, county and local levels — as well as with private developers — to fund new roadways and roadway improvements. Roadway construction funds must, therefore

be carefully expended, and road needs carefully identified and programmed.

- Such issues lead to greater concern about the ability of the existing roads to serve current and projected new development traffic in terms of control of access along principal corridors such as U.S. 17.
- Current development patterns will not support a major investment in transit service in the County. If transit is ever to become a viable alternative travel mode in Gloucester County, the land use plan must establish areas along major transportation corridors at high enough residential and employment densities to support such service.
- Congestion of the County's arterials is not solely the product of too much volume, but also of too many conflicting turning movements at intersections and driveways. This side friction inhibits the safe and efficient flow of traffic.

The Virginia Department of Highways and Transportation (VDOT) is proposing to alleviate the identified traffic congestion at the George P. Coleman Bridge across the York river between Gloucester and York Counties. This planning effort is the single public action that will have the greatest impact on the transportation network and hence land use patterns in Gloucester County. Alternative 5, shown on Map IV-3-4 is currently the one primary upriver crossing alternative being considered.

Adding an upper river bridge crossing will provide some benefits to the County by facilitating the free movement of commuters to and from the Hampton Roads-Newport News area, thus relieving some burden from the limited-capacity U.S. Route 17 facility. The upriver alternatives do not negate the need for additional lane capacity at the Coleman Bridge crossing. Economic development benefits will be derived from the improved linkage to the industrial growth phenomenon of this area. In considering upriver crossing alternatives, the State and the County need to consider the transportation and land use implications of the planned James River crossing, which would tie Gloucester even closer to the Norfolk metropolitan area.

IMPLEMENTATION RECOMMENDATIONS

The Implementation Plan is broken into two subsections: the Policy Statement and the Transportation Plan. The Policy Statement provides a framework to adapt strategically the County's transportation system to address specific development problems unique to a given locale. The Transportation Plan identifies both needs and planned improvements in order to create a transportation network that is consistent with the objectives and implementation of the Land Use Plan.

POLICY STATEMENT

The transportation plan cannot succeed without proper support and leadership from County government. The following implementation strategies establish the policy framework from which the County will create and maintain a functioning transportation system within the context of planned growth in the County.

- **Capital Programming** -- Capital programming has been recognized as a proactive way of avoiding some of the past transportation capacity problems. To ensure that opportunities for pre-planned expansion are not missed, the County will require the annual revision of the County's Capital Improvements Program to be coordinated with the Comprehensive Plan and any recommended amendments resulting from the annual review of the Plan and planning process. It is the responsibility of the Office of Community Development to monitor changing growth and development trends in the County and to advise the County Public Works Department and State Highway Administration accordingly. The annual process involving the Department of Community Development, the Department of Public Works, and the State Highway Department will evaluate the relationship between the State's available resources and the demands upon the County's road systems created by proposed land uses and land use trends.

The County should begin platting rights-of-way for new roads and streets when the land use patterns

allow. The annual Capital Improvements Budget should include funds for the design of proposed road improvements not included in the State's Six Year Improvement Program so that adequate rights-of-ways can be reserved. This will also permit the coordinated completion of the improvement if undertaken by different entities such as private developers. Pre-planned expansions should be made in development centers such as the development districts and village centers in order to identify the need for future roads.

- **Increased Coordination of the Land Use/Transportation Planning Process** -- More emphasis should be placed on coordination among the County, VDOT, and HRPDC and MPPDC staffs on matters related to planning and programming improvements and transportation systems management. There are several steps that can be taken to improve the current transportation planning process: the State and County should work very closely together to evaluate the transportation system implications of the County's new growth plans; elected officials should be major participants in this process; and coordinated State and County transportation management policy should recognize the need to expand upon the current level of commuter ridesharing in order to reduce single-occupant vehicles. This is particularly important at the intersection of arterial and major collector highways serving commutersheds and U.S. Route 17.
- **Quality of Service/Adequate Public Facilities Standards** -- The County's Level of Service (LOS) policies establish a recognizable basis for evaluating alternative plans and/or policies. LOS policies provide the basis and criteria on which to evaluate alternatives and to determine capital requirements. With establishment of LOS policies, the County makes a clear statement to developers and reflects the public's expectations about the quality of highway service it expects to achieve or maintain as growth occurs. With level of service established, the County then has a policy based upon quantified capacity measures from which to assess the traffic impacts of new developments. Whether or not a particular development will generate traffic that will exceed the capacity of the road can be determined from analysis, and the question of road

impacts is then no longer subjective.

- **Traffic Impact Analysis** -- As part of the Zoning process and implementation of the LOS Policy, the County should require a traffic impact analysis of all major new projects. This analysis will be used to determine if post-development traffic levels and patterns will be consistent with the County's Transportation Plan and highway policies and will minimize potential safety and congestion problems. At a minimum, the traffic analyses should include a description of past and present roadway conditions, existing roadway capacity, traffic accidents, existing and projected traffic volumes (ADT and peak a.m. and p.m. traffic), existing and projected levels of service, and existing and proposed sight lines based on facts and reasonable generation factors for the site and the immediately affected road networks and intersections. Where the County has short-term planned improvements scheduled, it may permit such improvements in the traffic impact analysis. The County shall adopt precise standards for the preparation of these analyses.
- **Access Management** -- An access management program should be created, initiated, and supported by appropriate ordinances to ensure that access is not unnecessarily provided along key road links or near major intersections, particularly along the designated Highway Corridor Districts.

The following techniques should be considered in managing access to principal corridor roadways.

 - Limit the number of conflict points by installing physical barriers, modifying driveways, and installing signals at driveways, etc.
 - Separate basic conflict areas by regulating the minimum spacing of driveways, by spacing driveways optimally in the permit authorization stage, by consolidating access for adjacent properties, by buying abutting properties, by denying access to small frontage parcels, and by requiring access via collector streets, i.e. service roads, etc.
 - Minimize the need to decelerate in traffic by geometrically designing access points.

- Remove turning volumes or queues from sections of the through lanes by pavement marking alterations, geometric design modifications, right-of-way acquisition (including acquisition for such techniques as constructing a service road or bypass road), or requiring adequate internal site circulation.
- Adopt guidelines for access type and minimum spacing of intersections.

Zoning and Subdivision provisions should require that development project design minimize left turn movements or conflicts both on the site and in the street.

Driveways should be designed to achieve clear sight lines based on design speeds as adopted by VDOT. Site access and circulation should conform to the following standards:

- Where reasonable access is available, the vehicular access to the site should be arranged to avoid traffic use of local residential streets situated in or bordered by residential districts.
- The road giving access to the site should have sufficient traffic carrying capacity and be suitably improved to accommodate the amount and type of traffic generated by the proposed development.
- Where necessary to safeguard against hazards to traffic and pedestrians and/or to avoid traffic congestion, the County should require that provisions are made for turning lanes, traffic directional islands, frontage/service roads, driveways, and traffic controls within the road.
- Access driveways should be designed with sufficient capacity to avoid queuing of entering vehicles on any road or street.
- **Commercial and Industrial Parks** -- In developing planned parks, linear development should be discouraged and interior uses encouraged where access control is efficient and where interior roads, rather than arterial or collector roads, provide access to each use. This land use technique will discourage shallow strip development. Deeper commercial zoning allows effective site design and

maximizes the use of each access point. As shopping centers, office parks, and industrial parks function on the basis of a known location, so can general commercial. When two or more commercial uses can use a single access, substantial improvement to the flow of traffic can result.

- **Highway Corridor Overlay Zoning** -- Overlay zoning brings to an area additional requirements and standards above those of the underlying zone. Special transportation related improvements in the Highway Corridor District shown on the Land Use Concept Plan should include access controls and transportation impact analysis for high-volume uses.
- **Integration of Land Uses** -- Integrating housing into overall design of large scale employment centers will help reduce the need to travel. Building homes within or immediately adjacent to the work place not only reduces vehicle miles of travel, but also presents opportunities for workers to walk or bike to work. Flexibility in zoning will be provided to permit such large scale mixed-use development through floating zones. To minimize noontime travel, the types of uses that should be permitted in a mixed-use project include retail and customer service activities, eateries, convenience retail, financial services, gas stations, photocopy centers, and consumer merchandise.
- **Proffers** -- In terms of highways, the County will indicate the need for dedication of rights-of-way for new roads, for road extensions, and to widen existing highways through the Transportation Plan and Capital Improvements Program.
- **Fiscal Impact Analysis** -- The development of a per-unit fiscal impact of residential and commercial development would provide a rational basis on which to accept proffers from developers. It is intended that the fiscal impacts be calculated for roads. Though impact fees are not expressly authorized for Gloucester County, the detailed impact analysis will establish the basis for such fees once the County is enabled by the State legislature. State enabling legislation does allow for the voluntary funding of off-site road improvements and reimbursements of advances by the governing body (Section 15.1-466 E of the Code

of Virginia). The standards for determining the reimbursement in State law are basically the same as those that govern the development of impact fees. The fiscal impact analysis should be used as a basis for proffering under this statute.

- **Special Service Districts**-- This approach should be used as a financing mechanism when service roads are needed to control access along a highway corridor.
- **Right of Way Reservation and New Road Construction** -- The County will preserve rights-of-way for road improvements consistent with the Transportation Plan Map and the State and County capital improvement programming.
- **Development of Local Circulation Plans** -- Developing traffic circulation plans for each Village Center, for selected Rural Service Centers, and for a portion of the Development District is needed to provide adequate traffic facilities and access control on a smaller scale.
- **Transit Development** -- The County needs to encourage the development of an adequate bus service for the Development Service District that would reduce inter-county/city traffic.
- **Transportation Management Strategies** -- The County should encourage innovative mechanisms, including private cooperation, and financial support by developers and the business community, which could be incorporated into financing policies. Transportation Management Associations (TMAs) have traditionally been a coalition of employers that engages in a wide range of activities including the promotion of ridesharing, the purchasing of vans for vanpools, the financing of area-wide street improvements such as signal upgrades, and even the planning of long-range transportation projects.

Most TMAs are supported through membership fees, sometimes voluntary, more often mandatory. Most TMAs have been initiated by employers within defined geographic areas. The southern part of the County, including the Route 17 Corridor, for example, may be a geographic area base for a TMA as it develops. Some of the County's larger employers, such as Virginia Institute of Marine

Science and Walter Reed Hospital, that want to reduce the number of employees who drive to work during peak hours have the option of implementing relatively low-cost transportation management strategies that would reduce the number of peak-period vehicle trips. The shipyards at Newport News offer an opportunity for employers to initiate their own transportation programs that would help extend the capacity of the York River Bridges.

Transportation management strategies selected by employers generally provide employees with incentives either to use alternative commute modes or to commute during non-peak hours. These include

- instituting flexible or staggered work hours;
- facilitating carpool and vanpool formation;
- setting aside preferred parking locations for carpools and vanpools;
- providing company-chartered commuter bus service;
- charging employees for parking;
- building on-site bicycle paths and safe storage areas; and
- providing transit passes or other forms of transit subsidy.

Not all businesses will immediately understand how they can benefit from trip reduction. Educating the private sector is an important part of developing and selling the concept of transportation systems management.

PLANNED IMPROVEMENTS

Map IV-3-3 summarizes the identified highway deficiencies in the County in terms of capacity as well as safety. The Transportation Plan Map (Map IV-3-4) shows the improvements, both planned and needed, to address the identified deficiencies and other transportation objectives. The following are highlights of the plan map.

Study Corridors--The Plan Map indicates a need to evaluate the need for highway safety improvements on high accident corridors. The Plan map identifies

the alternative York river crossings being evaluated by VDOT.

Planned Improvements--The Plan includes transportation improvements already programmed by the State such as additional lane capacity on Route 33.

Identified Needs--The Plan identifies transportation improvements than are needed but not already included in the State's Six Year Improvement Program. To accommodate the anticipated growth in the Development District and the increase in traffic volume on Route 17, a parallel facility is indicated. It is envisioned that this would be a controlled access highway primarily for through traffic. The Plan shows a number of road sections which will require increased capacity within the planning horizon.

Commuter Facilities--In addition to the highway improvements, new park and ride facilities need to be planned along the Route 17 corridor.



Section 4

Community Facilities and Services

Ensuring that the provision of services and facilities corresponds to the demand or need is a major component of a community's growth management. Community facilities and public services are those minimum facilities and services the County provides for the common good. Generally, public facilities include land, buildings, equipment and whole systems of activity provided by the County on the behalf of the public. The quality of public facilities contributes to the quality of life in the County. Some facilities, such as clean drinking water and adequate sewerage disposal are necessities; others, such as theaters and parks, are highly desirable for cultural and educational enrichment.

BACKGROUND

Gloucester County provides various public services and facilities for its residents, including water supply, sewage disposal, solid waste disposal, schools, libraries, public safety, and health care. The provision of these services facilitates growth and development. However, the absence of services or facilities does not effectively deter unguided growth. Rapid residential and commercial development places a burden on the County to meet service and facility needs.

A survey of existing services and facilities, in conjunction with population and economic data on which to base projections of need, provides an indication of what future improvements and additions might be necessary. In order to anticipate needs accurately, all projected figures should be updated constantly as new population and economic data become available. This section will focus on identifying existing and projected capacity of community facilities to identify the issues and problems of providing these services in the context of the County's projected growth rate and geographic distribution. To begin capacity analysis of the facilities based on growth, we will generally use the population projections shown in Table 1, part II to the Year 2010. If other projections are used, they will be so noted. The following is a discussion of the existing capacities and levels of service for selected community facilities and services, as well as projected demands. Planned facilities included in the County's annual financial planning process are noted.

WATER SERVICE

A number of laws control the use and quality of water in the Commonwealth of Virginia. A state-operated water allocation system defines water rights. This takes place within the State's judicial system and use of the Riparian Doctrine, which allow for landowners to make reasonable use of the water resources adjoining their land. Secondly, the Groundwater Act of 1973 allows the Water Control Board to designate management areas in which water withdrawals are regulated. This allows the Board to state ownership and have control of the water beneath a landowners parcel of land. Areas outside of those management areas are controlled by common law. Thirdly, the State Water Control Law mandates the protection as well as the restoration of state waters. The standards are continuously reviewed and revised as appropriate. Fourthly, the State Health Department is in charge of ensuring that all public drinking water supplies are pure, provides guidance to determine if a water supply or waterworks permit is to be issued, and assists applicants in completing all necessary paperwork pertinent to water supply. These are just some of the laws and agencies that help protect and regulate water.

Groundwater Supply

The County lies within the Coastal Plain Province and has water-bearing unconsolidated sediments of Cretaceous, Tertiary, and Quaternary age over Pre-Cretaceous bedrock. The unconsolidated sediments range from approximately 1,200 foot depths in the western section, to approximately 2,400 foot depths along the eastern edge of the County.

The Comprehensive Water Quality Management Plan for the Middle Peninsula: An Information Search and Review, MPPDC, Jan. 1989 contained the following discussion of groundwater in Gloucester County: "All of the aquifers listed, with the exception of the St. Mary's-Choptank, are tapped for either domestic or industrial use in the MPPD region. Gerglund, 1977, divided the MPPD aquifers into three general system: water table aquifers, upper artesian aquifers, and the principal aquifers.

"The water table aquifer system includes the Yorktown-Eastover and Columbia aquifers This system is a reliable source for domestic groundwater

... but it lacks the storage capacity necessary for large-demand uses. The upper artesian aquifer system generally includes the Chickahominy-Piney Point and Aquia aquifers. The aquifers are basically an adequate source of groundwater for domestic, subdivision, light industrial and agricultural demands. It appears from specific capacity data collected that the West Point area has the greatest groundwater capacity, with lower yields to the west and east of this area. Specific capacity is defined simply as the productivity of a well which is rated in gallons per minute per foot change in hydraulic head. The third and final aquifer system is the principal aquifer, which includes the Brightseat-Upper Potomac, Middle Potomac, and Lower Potomac aquifers. This system of aquifers is by far the deepest and the thickest of all three systems, with potentially large groundwater yields in both the central and eastern MPPD. Eastern areas (which includes the

eastern half of Gloucester County), while having the capability of producing large volumes of water, yield water which is high in chlorides and minerals: therefore, it is unsuitable for domestic or industrial use.”

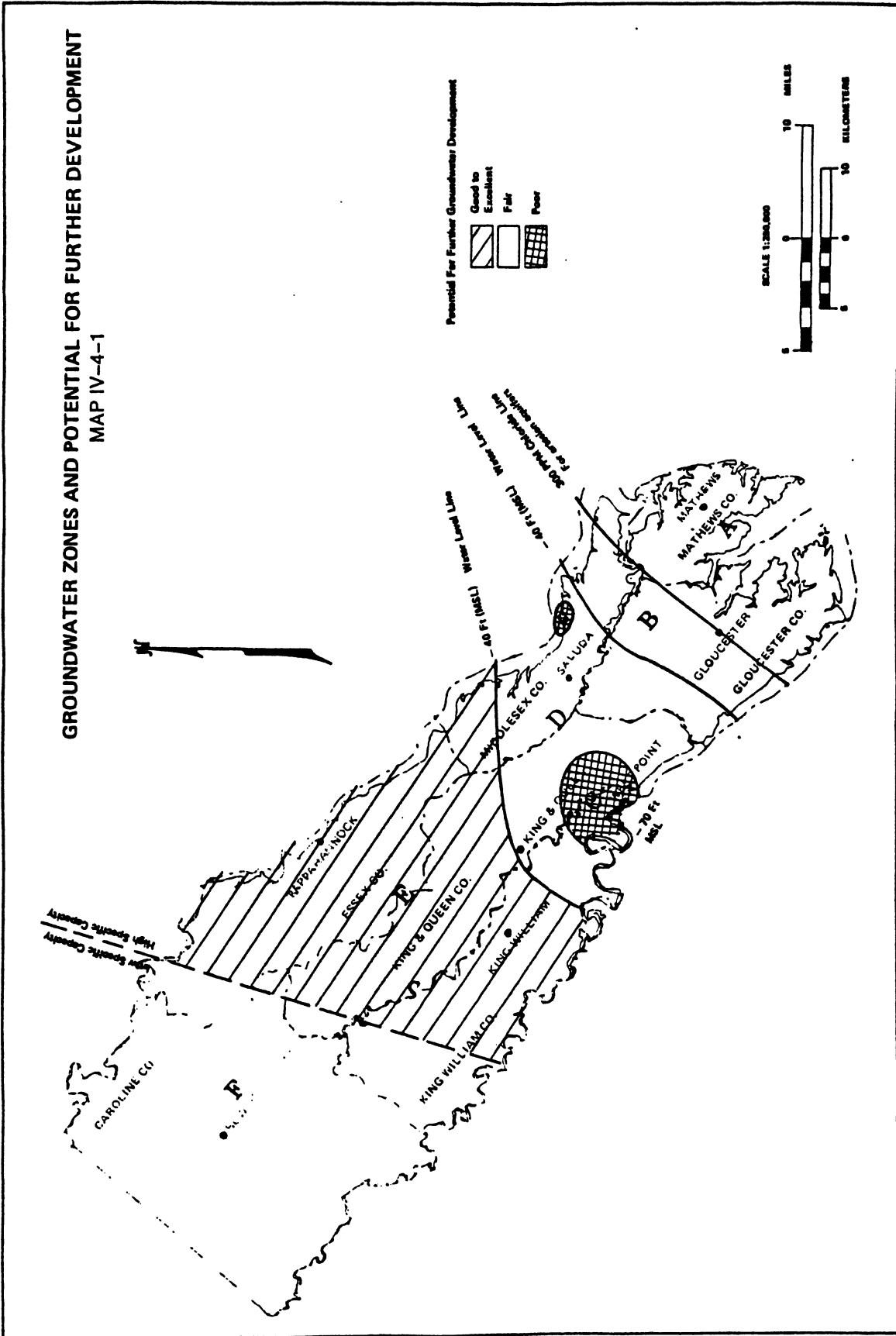
Analysis of groundwater sources by the State Water Control Board indicates that the estimated availability of water from sources throughout the Middle Peninsula varies considerably. The groundwater availability table (IV-4-1) and map (IV-4-1) show the location of zones in the Middle Peninsula and the general availability of groundwater within each zone. Gloucester falls within zones A, B, and D which indicate only fair potential for future groundwater development. The A zone is also considered the brackish water zone.

In 1983, at least 0.554 million gallons of water per day were withdrawn from aquifers in Gloucester County. Individual domestic groundwater use was

Table IV-4-1
GROUNDWATER ZONES

Groundwater Zones (see map)	Characteristics of Zone	Estimated Availability of Well or Well Field Site (mgd)	Estimated Groundwater Availability in Zone (mgd)
A	Yorktown aquifer has a low yield potential. Principal and upper artesian aquifers not suitable for potable use.	0.2 mgd from a well field in the Yorktown aquifer and Columbia Group	2-5 mgd
B	Buffer zone between pumping centers and high chloride zone.	0.2 mgd from principal and upper artesian aquifers.	2-5 mgd
C	High water level declines. Currently pumpage is 16.3 mgd in West Point and 2 mgd in Urbanna.	Limited availability from upper artesian and principal aquifers due to risk of de-watering aquifers.	19-22 mgd (includes current groundwater use of 18.3 mgd)
D	Moderate water level declines.	0.2 mgd in upper or principal aquifer.	2-5 mgd
E	Slight to no water level declines.	Variable depending on local capabilities of principal artesian aquifer, no more than 2 mgd per well field in the principal aquifer. Cones of depression should not overlap. 0.2 mgd per well in the upper artesian.	5-15 mgd
F	Moderate yield characteristics in principal and upper artesian aquifers.	0.2 mgd in the principal aquifer	2-5 mgd (bedrock aquifers not considered)
TOTAL AVAILABILITY:			32-57 mgd

SOURCE: Gloucester County Comprehensive Plan, 1980



SOURCE: Gloucester County Comprehensive Plan, 1980 (VA State Water Control Board - TRO)

not included in the following table originally compiled by USGS, therefore, actual usage was greater.

Table IV-4-2
**WITHDRAWALS FROM THE CONFINED AQUIFERS
 OF THE COASTAL PLAIN OF VIRGINIA, 1983
 - Gloucester County -**

Aquifer	Withdrawal (mgd)
Yorktown-Eastover	0.129
Chickahominy-Piney Point	0.0
Aquia	0.074
Brightseat-Upper Potomac	0.074
Middle Potomac	0.0
Lower Potomac	0.0
TOTAL	0.277

SOURCE: *Comprehensive Water Quality Management Plan for the Middle Peninsula: An Information Search and Review*, MPPDC, Jan. 1989

Table IV-4-3
**GLoucester County
 GROUNDWATER WITHDRAWALS (MGD)**

Place	1984	1985
Sea Breeze Mobile Home Park	—	0.006
Gloucester Courthouse	0.135	0.155
Gloucester Point	0.156	0.173

SOURCE: *Virginia Water Control Board. Water Withdrawal Report, Data Bulletin No. 70.*

Aside from the demand for domestic and commercial uses, improved water sources are important to fire protection and the attraction of industrial development to the County.

SURFACE WATER SUPPLY

In July of 1990 Gloucester County began delivering water service from the new Beaverdam Swamp Reservoir and its associated water treatment plant. This system replaced the dual groundwater systems that served the formerly separated systems at

Gloucester Court House and Gloucester Point. The new treatment plant has a capacity to deliver 1.95 million gallons per day and was designed and built to accommodate future expansion readily. This system could ultimately deliver 4.0 million gallons per day of treated water.

The Department of Utilities currently delivers approximately 800,000 gallons per day (gpd) to approximately 3,450 customers. With an estimated average consumption of 100 gallons per capita per day, the reservoir should be adequate to supply water through the twenty year planning period. However, the County may see an unexpected demand for public water should water table aquifer systems within the County continue to experience salt water intrusion.

SEWERAGE SERVICE

In 1988 Gloucester County was faced with major decisions relative to public sewer policy. The county's one public sewer service within the Courthouse Sanitary District was at full capacity and under a state mandated consent decree that prohibited future connections. The option that was eventually chosen by the county was connection to the Hampton Roads Sanitary District (HRSD). HRSD installed a 30-inch force main under the York River and along U.S. Route 17 to the Courthouse Sanitary District treatment plant. The treatment facility at the Courthouse was subsequently removed.

Gloucester County's participation in HRSD essentially provides for a limitless supply of sewerage service capacity. The County's agreement with HRSD is such that should the primary force mains, which are owned by HRSD, reach capacity, HRSD will upgrade the affected facilities. However, HRSD will not install, or maintain service lines that the county or its developers, install to serve specific projects.

SOLID WASTE

In January of 1991, after considerable debate, Gloucester County joined the Virginia Peninsula Public Service Authority (VPPSA). VPPSA members include the cities of Hampton, Newport News, Poquoson and Williamsburg and the counties of

Essex, Gloucester, Mathews, Middlesex, James City, King William, King and Queen, and York. The authority is run by a board consisting of a political appointee from each member jurisdiction.

The purposes of the Authority are to develop regional refuse collection, waste reduction and disposal alternatives, with the ultimate goal of acquiring, financing, constructing and/or operating and maintaining a regional garbage and refuse collection and disposal system or systems, and to develop and maintain a regional information base pertaining to solid waste issues.

In joining the Authority, Gloucester hopes to realize benefits such as access to technology and information that will enhance solid waste disposal within the county. To date the county continues to investigate suitable options for solid waste disposal.

At present, Gloucester County is considering collection options that will likely include a combination of a door-to-door collection system for the more urban

areas of the county and convenience stations in the rural areas.

Regardless of the methods chosen, the County will seek alternatives to its existing collection system of 26 uncontrolled dumpster sites.

In 1989, the total annual cost for solid waste collection services is \$385,000 with disposal costs being approximately \$233,000. That puts the total cost for the solid waste management system at approximately \$618,000 per year. The County currently charges no tipping fee for commercial or residential haulers.

Materials that would otherwise become solid waste can be collected, separated, or processed and be returned to the marketplace in the form of raw materials or products. Such a method both extends the lifetime of a landfill and helps to protect the environment. The recycling of reusable waste materials can substantially reduce the required

Table IV-4-4
GLOUCESTER COUNTY
TREATMENT PLANT SEWAGE DISCHARGER

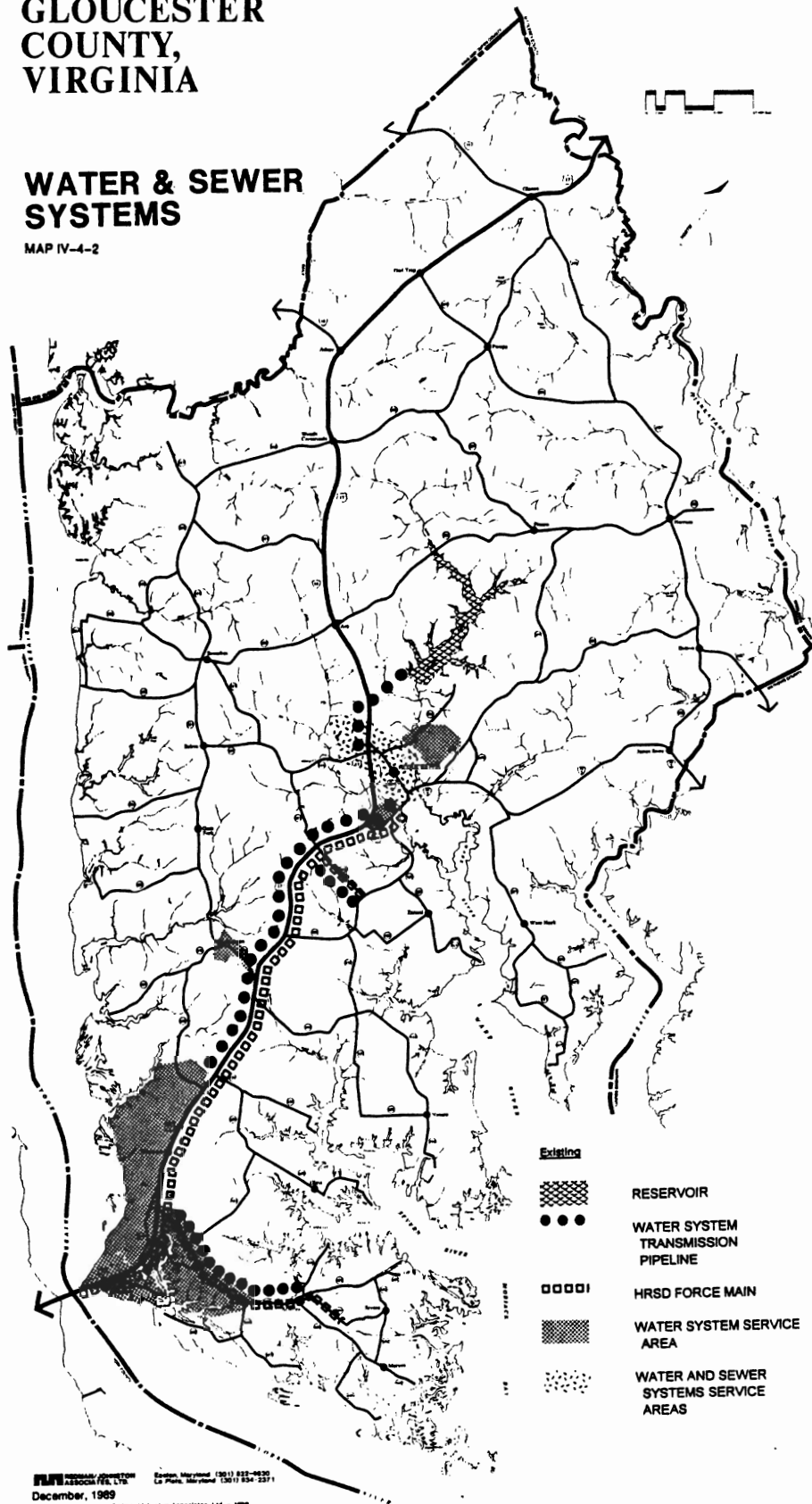
<u>Municipal Discharger</u>	<u>Receiving Waters</u>	<u>Design Flow</u>
Achilles Elementary School, Route 216	Thorntons Creek (York Basin)	.006 MGD
Gloucester Intermediate School, Route 17, White Marsh	Intermit. tributary Hayes Mill Pond Carter's Creek (York Basin)	.0128 MGD
Rappahannock Community College Route 33, Glenss	unnamed tributary to Dragon Run	.018 MGD
<u>Industrial Discharger</u>	<u>Receiving Waters</u>	<u>Limits</u>
Gloucester Sanitary District 1 Riverside Middle Peninsula Hospital (formerly Walter Reed Memorial Hospital) Route 17, Gloucester	Beaverdam Swamp (tributary Ware River)	pH, 6-9

SOURCE: Phase I: Comprehensive Water Quality Management Plan for the Middle Peninsula: An Information Search and Review, MPPDC, 1989.

GLOUCESTER COUNTY, VIRGINIA

WATER & SEWER SYSTEMS

MAP IV-4-2

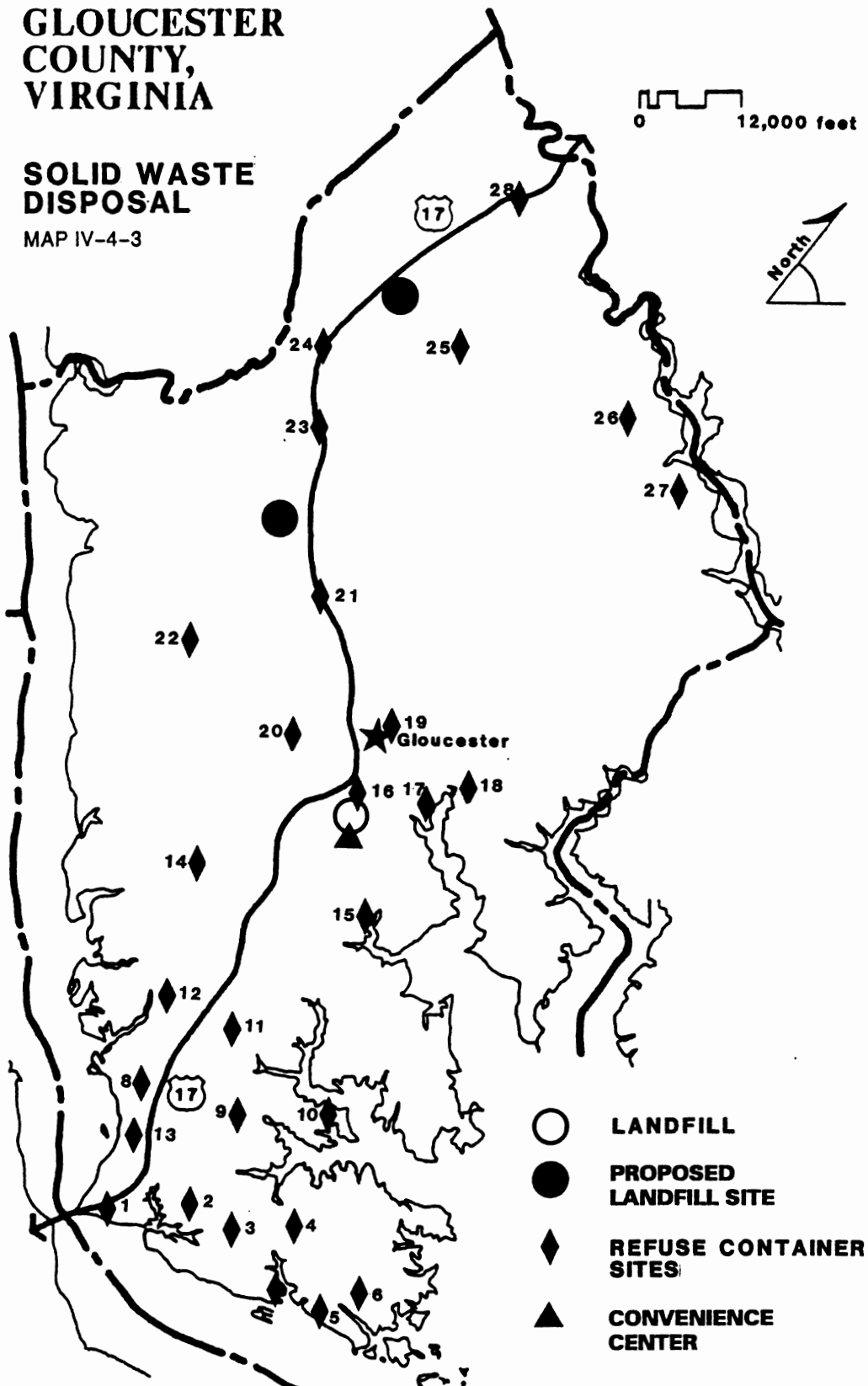


GLOUCESTER COUNTY, VIRGINIA

SOLID WASTE DISPOSAL

MAP IV-4-3

0 12,000 feet



December, 1989

REDMAN JOHNSON
ASSOCIATES, LTD.

Easton, Maryland (301) 822-0630
La Plata, Maryland (301) 634-2871

Base map prepared by Redman/Johnson Associates, Ltd. - 1988

Table IV-4-5
GLOUCESTER COUNTY REFUSE CONTAINER SITES

Site No.	Location
1	Gloucester Point, beneath bridge on Rt. 1208
2	Tidemill, at intersection of Rt. 216 and Rt. 699
3	Bena, at intersection of Rt. 216 and Rt. 643
4	Perrin, at intersection of Rt. 653 and Rt. 1104
5	Jenkin's Neck, 6 miles south of Rt. 646 from intersection with Rt. 649
6	Maryus, on Rt. 649, 0.6 mile east of intersection with Rt. 652
7	York River Seafood, 0.15 mile off Rt. 1102
8	Wicomico, on Rt. 1304, west of Abingdon School
9	Lowground Road, 0.8 mile on Rt. 641 south of intersection with Rt. 656
10	Glass, 1 mile on Rt. 656 north of intersection with Rt. 620
11	Brays Point, at intersection of Rt. 636 and Rt. 656
12	Coke, on Rt. 636 south of intersection with Rt. 633
13	Hayes, off Old Rt. 17 behind Abingdon Rescue Squad
14	Gum Fork, on Rt. 614, 0.4 mile south of intersection with Rt. 631
15	Paynes Landing, at end of Rt. 630
16	Gloucester County Sanitary Landfill, off Rt. 17 across from airport
17	Ware House Landing, end of Rt. 621
18	Ware Neck, on Rt. 623
19	Gloucester Courthouse, behind Health Department
20	Bellamy, on Rt. 616 just north of intersection with Rt. 615
21	Ark, on Rt. 17 next to Ark Post Office
22	Sassafrass, on Rt. 614 just south of intersection with Rt. 606
23	Woods Cross Roads, intersection with Rt. 17 and Rt. 610
24	Adner, just south of intersection of Rt. 14 and Rt. 17
25	Pampa, 0.2 mile south on Rt. 610 from intersection with Rt. 601
26	Ferrys Creek, 103 miles east on Rt. 198 from intersection with Rt. 601
27	Harcum, 0.9 mile north of Rt. 606 from intersection with Rt. 198
28	Glenns, just north on Rt. 17 from intersection with Rt. 33

capacity of future landfills by 10 to 15 percent. Building and construction waste typically comprising ten percent of the waste load can be recycled or disposed of by alternative means.

EDUCATION

General

The Gloucester County School System employs approximately 650 people with approximately 34 percent of the teachers having advanced degrees. Gloucester County presently operates eight public schools that include kindergarten through grade 12 (see Map IV-4-4). All schools are accredited by the Commonwealth of Virginia. The high school and middle schools are also accredited by the Southern Association of Schools and Colleges. Past and current enrollments for these schools are listed in Table IV-4-6.

Table IV-4-6 indicates the effect of growth on public school enrollment during the decade. Total enrollments have increased by 1,400 students, which represents an average annual percent change of 2.9. The growth rate is substantially less than the increase in dwelling units. This is indicative of a national trend in smaller pupil generation rates per household formed. Current school facilities planning indicates that many schools exceed capacity; however, with the planned facilities completed, the projected enrollments should be met.

Figure IV-4-1 shows that the greatest increase in students over the past decade has been elementary age children (grades K-6). This indicates that expansion of the middle school and high school will need to be planned for in order to accommodate the larger student body anticipated in the next five to ten years.

As can be seen in Table IV-4-7, all existing schools are presently over capacity, with the school system servicing 1,055 more students than it was designed to accommodate. Mobile units are present at all facilities to lessen the impact on individual classrooms. The School Board's goal is to remove all the mobile units by 1990 through the construction of a new middle school and new classrooms to be added to Abingdon Elementary (10 classrooms) and to Page Middle (eight

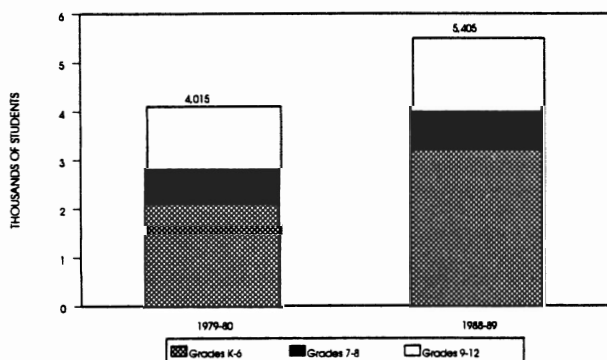
classrooms). In addition to the planned construction, Peasley Middle School will add to enrollment capacity.

Table IV-4-6
PUBLIC SCHOOLS ENROLLMENT
1979-80 THROUGH 1988-89

SCHOOL FACILITY	1979-80 (grades)	1988-89 (grades)	AVG. ANN. % CHG.
Abingdon Elementary	515 (K-4)	581 (K-5)	
Achilles Elementary	414 (K-4)	469 (K-5)	
Botetourt Elementary	540 (K-4)	596 (K-5)	
Petsworth Elementary	N/A	734 (K-5)	
TC Walker Elementary	N/A	807 (K-5)	
Gloucester Middle	627 (5-6)	N/A	
TOTAL Grades K-6	2096	3187	3.8
Gloucester Intermediate	627 (7-8)	N/A	
Page Middle	N/A	771 (6-8)	
TOTAL Grades 7-8	627	771	2.1
Gloucester High	1297 (9-12)	1447 (9-12)	
TOTAL Grades 9-12	1297	1447	
TOTAL	4015	5405	

SOURCES: "Gloucester County Comprehensive Plan, 1980
Gloucester County Board of Education, 1989

Figure IV-4-1
PUBLIC SCHOOLS ENROLLMENTS
1979-80 Through 1988-89



SOURCES: Gloucester County Board of Education, 1989;
Gloucester County Comprehensive Plan, 1980

Table IV-4-7
GLOUCESTER COUNTY PUBLIC SCHOOLS CAPACITIES
VERSUS ENROLLMENT - 1989

School Facility	Existing Capacity	Existing Enroll.	Propos. Capacity*	Mobile Units
Abingdon Elementary	382	581	632	9
Achilles Elementary	333	469	333	7
Botetourt Elementary	441	596	441	7
Petsworth Elementary	571	734	571	8
TC Walker Elementary	581	807	581	11
Page Middle	715	771	915	5
Peasley Middle	810	706	810	n/a
Gloucester High	1,223	1,447	1,223	9
TOTAL	5,056	6,111	5,506	56

* New construction combined with deletion of existing mobile units.

SOURCES: Gloucester County Comprehensive Plan, 1980
Gloucester County Board of Education, 1989

Special Programs

In addition to the regular skills programs normally provided, Gloucester County's school system also has a Vocational Education Program and a Special Education Program. Both programs are staffed by directors and teachers with specialized training and are housed in classroom space adapted to their special needs.

The Special Education Program provides services in several areas at various levels within the school system: learning disabled, educable or trainable mentally retarded, speech impaired, emotionally disturbed, and visually impaired. Children and young adults aged two through 21 who are handicapped can enroll in special education programs. Students with special education needs or handicaps also have access to programs in Mathews and Middlesex counties such as the emotionally disturbed student program in Middlesex County and the trainable mentally retarded person vocational training provided at the Puller Center, Gloucester Courthouse, sponsored by Mathews County. If a student needs training provided outside the area, it is arranged and financed, in part or full, by the school system.

The Vocational Education Program is intended to provide those students in the program, or in

individual courses, with skills upon graduation. Special facilities and equipment are provided for a wide variety of vocational training, particularly to meet the needs of those students not planning to attend college after high school.

Education Costs

The local cost per child figures (Table IV-4-8) do not include capital outlay and debt service which are a part of the total operating cost figures. According to the State Department of Education, construction costs during FY 1986-87 approximated \$6,500/pupil for elementary schools, \$7,100/pupil for middle schools, and \$6,900/pupil for high schools.

Table IV-4-8
OPERATING COSTS

	1978/79	1988/89
Local Cost of Operation/Child	\$ 1,251	\$ 2,682
Total Operating Cost	5,618,414	17,755,000

SOURCE: *Gloucester County Comprehensive Plan, 1980*

Higher Education

In addition to the county school system, Rappahannock Community College, at Glenss, and the Virginia Institute of Marine Science, at Gloucester Point, offer educational opportunities at the college level; specialized services to meet educational needs, cultural events, workshops, meetings, lectures, conferences, seminars, special community projects, and advisory services. Approximately fifty percent of Gloucester High School's graduates continue their education in four year, two year, business or trade schools. Students in the class of 1988 were awarded \$223,792 in scholarships.

Gloucester County is also well situated relative to the regions's 11 major colleges and universities, including the College of William and Mary in Williamsburg, which is a state university. There are also 10 private career schools within the region.

PUBLIC LIBRARIES

The Gloucester Library system includes a library located in the Gloucester Court House area and one in the Gloucester Point area (Map IV-4-4). Being a member of an Interlibrary Loan program gives residents access to a much larger selection than could be held in an individual building. General services provided by the library include book loans, access to reference volumes and periodicals, and State library services. Other services and special events include story times for preschool children, feature length movies, film showings for nursing home patients, poetry readings, recordings and cassette players for loan, hearing and vision-impaired services, genealogical resources, and access to the U.S. Library of Congress services.

The Gloucester Library has about 6,500 square feet with the latest addition, and the Gloucester Point branch has 1,200 square feet. Combined, the branches have about 17,500 volumes. Use of the library system has increased 92 percent in the past two years.

In 1988-89 the library used \$53,500 provided by the County for operating expenses. The State provided \$17,271, which was used for books and library materials. The balance of the \$81,459 spent was met through generous private grants, contributions, fines and copier fees for copier.

Additional library related services are available to Gloucester residents through the County schools' libraries, Virginia Institute of Marine Science at Gloucester Point, and the Rappahannock Community College at Glenss. Public libraries in nearby urban areas such as Williamsburg and York County are also utilized by County residents.

PUBLIC SAFETY

The Sheriff's Department is currently housed in the courthouse complex. Staffing in 1980 consisted of one sheriff, nine deputies, and four switchboard operators. As of October 31, 1988, staffing consisted of 40 sworn officers and seven civilian employees, providing County residents with 24-hour police protection. The Sheriff's Department works closely with the State Police and Sheriff Departments in neighboring localities. Specially trained units include

the Canine Corps, the Dive Team and Boat Patrol. The Gloucester County Jail is staffed to provide services for 20 inmates.

Increasing urbanization requires expanded and increasingly sophisticated public safety services. One indicator is the increase in the crime rate and in the crime index that has been evident in recent years. The crime rate has increased from 1,987.3 in 1985 to 2,258.3 in 1988. The crime index rose from 457 in 1985 to 633 in 1988. During that time, six sworn officers and one civilian were added to the sheriff's staff.

Two volunteer rescue squads serve Gloucester County: Abingdon Volunteer Rescue Squad and the combination Gloucester Volunteer Fire and Rescue Squad. Fire protection is also provided by a volunteer fire department located in the Abingdon District. All Gloucester County rescue squads and fire departments have working agreements with neighboring counties for additional protection and service. Map IV-4-4 shows the distribution of these facilities.

The Gloucester County Rescue Squad has a station on Main Street in the Court House as well as one at Harcum on Route 606. Equipment consists of five pumpers, an equipment truck, a boat and three ambulances. Construction of a third station at the intersection of Routes 606 and 615 in Sassafras.

HEALTH CARE

Health services in Gloucester County include a variety of general practitioners and specialists with local offices, a hospital, a local public health center, a regional mental health clinic, mental retardation services, and substance abuse counseling. Walter Reed Memorial Hospital, located near the county courthouse on Route 17 (Map IV-4-4), offers hospital care including 24-hour emergency room services, laboratory and X-ray facilities, EKG and a pulmonary function physical medicine department, intensive care/coronary care units, wellness center and general medical beds.

The Gloucester Health Department offers a wide variety of services to the community, including Home Health Services, Tuberculosis follow-up, Family Planning Clinics, Crippled Children's Follow-up, Maternal and Child Health Clinics, Immunizations,

Sanitation (Septic Tank Permits, Food Establishment Inspections), a federally funded Nutrition Program - WIC (Women, Infants, and Children), and a family planning project. Local contributions are based on a 100 percent assessment of land values. Gloucester contributes about 45 percent of the local public health center costs.

Located on Route 17 south of the courthouse, the Middle Peninsula-Northern Neck Mental Health Services Clinic provides counseling, psychotherapy, psychiatric, and diagnostic services to residents of the County and the surrounding area. Client fees are based on income, and the clinic depends heavily on local funds and matching State and Federal funds.

The Northern Neck-Middle Peninsula Mental Retardation Services is authorized to screen, plan and integrate services for persons experiencing multiple problems related to mental retardation. It also serves as an advisor to families of the mentally retarded, requesting services from local agencies or State facilities.

Adult Activity Centers provide a structured day for the mentally retarded, and are designed to help them participate in the normal activities of their community, avoid unnecessary placement in a State institution, and to relieve total family dependence.

The emphasis of the Work Activity Centers is therapeutic, social, and vocational. Training reduces the financial and personal dependency on family and guardians of the mentally retarded and physically handicapped. Fees for services to the mentally retarded and physically handicapped persons are based on the individual's ability to pay. Located in the Lewis B. Puller Center, (a sheltered workshop for the handicapped), Gloucester Courthouse, Old Route 17, the program is intended to provide activities to maximize independence and to provide normalization and work skills for the mentally retarded.

The CARE Program for alcohol and drug abuse offers outpatient treatment and referral for persons with drug and alcohol problems. It also consults with family members in either individual or group therapy sessions. All contacts are kept confidential and service fees are based upon the individual's ability to pay. The CARE Program is located on Route 17 between Gloucester Courthouse and Gloucester Point at Hayes.

The Gloucester County Department of Social Services provides: Casework services toward self-support, strengthening of family life, improving self-

image toward becoming a productive citizen for all Income Maintenance and Medicaid recipients, Foster Home investigations and Foster Care placements, Adoptive Home investigations, child placement (Licensed Adoption Agency); Protective services for abused or neglected children; referral to and through all community agencies; work with community clubs and organizations; need resources for agencies and the community; companion services for Social Security Insurance recipients, and Adult Protective Services for the aged, infirm, and disabled.

GENERAL GOVERNMENT

Gloucester County is governed by a seven-member Board of Supervisors who are elected for four-year terms. There is one representative each from Petsworth, Ware, Abingdon, York and Gloucester Point Magisterial Districts and two at-large. A chairman and vice-chairman are selected by the board from among its members.

The Board, in turn, appoints a County Administrator who serves as the chief administrative officer of the county government. The County Administrator implements the policies of the Board of Supervisors, directs the operations of the county government, and proposes actions to the supervisors for their consideration. Also appointed by the Board is the County Attorney.

Additional elected officials who serve the County include the Clerk of the Circuit Court, Treasurer, Commissioner of the Revenue, Commonwealth's Attorney, and Sheriff.

PUBLIC BUILDINGS

A feasibility study, entitled "Court Green and Botetourt Building" was completed in May 1979 by Fauber Garbee, Inc., Architects. The study was initiated "for the purpose of determining continued and adaptive uses for the buildings located on the Court Green and the Botetourt Building", since many of the county supported operations, departments, and personnel are housed in these buildings. Included with the study is a "Report of the Architectural Study of the Buildings on the Court House Green, March, 1978", by the Gloucester County Historical and

Bicentennial Committee. The report contains an evaluation of each of the buildings, and the feasibility study expands on this report through a survey of county space needs, specific recommendations for use and improvement of each building, and long-range and interim proposals.

The long-range proposals briefly outline appropriate future uses and a protective ordinance intended to help preserve the character of the buildings and their immediate surroundings. These buildings are a valuable asset to the County and, as significant historic landmarks, should be maintained and protected through local ordinances.

An additional County office building houses many of the County's various offices and personnel. The structure encompasses approximately 24,600 square feet of space and will house the circuit and district courts, offices of clerks of both courts, accessory space associated with both courts, and judges chambers; juvenile and domestic relations court, office of the clerk, service units, accessory space, and probation office, commissioner of revenue; County treasurer, real estate records; sheriff's department; and a law library.

ANIMAL CONTROL

Gloucester County employs a full-time animal warden and operates an impoundment facility to house those animals picked up as strays, unlicensed dogs, or those reported as nuisances for whom no owner can be located. The facility accepts animals brought in by county residents and refers all cats, small puppies, and animals other than dogs to the Gloucester Mathews Humane Society on Route 14-3, about two miles east of Gloucester Courthouse.

ISSUES

Based on the background analysis in the preceding section, the following issues have been identified as needing consideration by the County to address growth management concerns related to community facility and service provision within the planning horizon of twenty years. The issues discussed begin with general identification and are broken down by functional area.

GENERAL COMMUNITY FACILITY AND SERVICE PROVISION

Traditional planning theory suggests that development should occur around those population or development centers with sewer service. This is a theory that makes sense and, if accomplished, assures a serviceable development pattern. However, this theory may not work in Gloucester County. If growth trends by Magisterial District continue, a substantial portion (over 50 percent) of the County's future growth will locate in the rural part of the County where no major new sewer service or sewer expansions are now planned. These areas tend to be more difficult to accommodate with most County services.

The distribution trend of recent development in the County is being driven by the exurban growth of the Hampton Roads metropolitan area. This trend is pronounced throughout the region. If this growth is to be accommodated without major investment in sewer service facilities, the result will be in the form of suburban or rural sprawl now witnessed in many parts of the County. The current zoning would only add more impetus to the tendency for development to sprawl. Because a couple of acres in the country is what the former suburban resident from the Hampton Roads Metropolitan Area moving to Gloucester County often desires, development will naturally be market responsive.

The County is sensitive to the possibility of increasing its role as a "bedroom community" for other counties, which has implications for public costs and revenues. Applying a countywide generalized pupil generation rate to the households projected in the continued development scenario will yield 4,500 more students by 2010 with associated school facilities needs. Clearly, the County's economic development programs will have to address ways of off-setting imbalances in the resident population versus the jobs formula. In this way the County will attract higher-value land uses (industrial and commercial) that will help it provide adequate public facilities and services without substantial increases in taxes.

Growth in the sewer service areas can be managed along more traditional lines. The challenge is to ensure that public services and facilities and the highway systems keep pace with the conversion of

land in these areas from rural to suburban development.

In summary, the general issues facing the County as it considers growth management and community facility and service provision are as follows:

- How to ensure that the capacity of public infrastructure is adequate at the time it is needed in the designated growth centers.
- How to provide most efficiently public improvements for new development.
- How can the rate of growth be controlled to a degree that allows the State and County governments to provide the require infrastructure and facility improvements in a timely manner.
- Future development should be encouraged where adequate public facilities exist or are planned.

SEWAGE DISPOSAL

The provision of sewerage and sewage disposal facilities is one of the most powerful growth management tools available to County policy makers. This is especially true in Gloucester County, where so much of the desirable residential property is unsuitable for development on septic tank disposal systems. The County's ability to grow depends, to a large extent, upon its ability to provide economical sewer service. If sewer capacity cannot keep pace, growth will be restricted in the sewer service areas and be encouraged in the rural areas.

The existing HRSD interceptors in the southern part of the County (Map IV-4-3) will serve a major portion of the County and provide the potential structure for a County designated development district. The regional approach to providing sewer service offers opportunities for cost effective service and eliminates the difficulties associated with getting approvals for additional discharge locations in the Chesapeake Bay ecosystem. Future locations of additional interceptors have profound implications for the amount and the nature of future growth in those areas.

Approximately 86 percent of the residences in the County are served by individual septic tank-soil

absorption systems. These systems consist of a septic tank, which serves as a settling chamber, a sludge storage tank, and a drainfield that allows dispersion of the settled wastewater through the soils for further treatment before it reaches the groundwater table. The unsuitability of the soils for septic systems in many areas has made it necessary for development to be on large lots or, at some locations, for development to be forbidden until sewerage takes place.

One method of controlling the location of growth and improving the efficiency of service provision is to direct future growth in areas of the County already served or proposed to be served with public water and sewer, primarily the HRSD. This is not to imply that the County should deviate from its current policy of requiring residential developers to extend the water and sewer lines at their costs within the overall plans of the County.

EDUCATION

To project future public school space needs, a number of assumptions must be made, including assumptions about Federal and State tax policies for private schools, dropout and enrollment rates, standards related to classroom and total school size, and local School Board initiatives. The following assumptions were made in projecting school facility needs: (1) There will be no drastic changes in Federal and State tax policies concerning private schools; (2) the future enrollment and dropout rates (per 100 people) will stay at current levels; (3) no major changes will be made in classroom and school size standards; and (4) private schools, both parochial and secular, will continue to be an educational alternative.

Table IV-4-9 shows the projected pupil enrollment based on the population projections contained in Part II of the Plan. From these projections, school capital needs can be generally gauged. Table IV-4-10 expresses facility demands based on classroom needs. These projections use the current teacher/pupil ratio as an indicator of classroom need to offset the many and varied unique programs in use throughout the County's educational system. Using average school sizes (elementary, 500-900 students and secondary 1,200-1,400 students), the year 2010 public school needs would be for approximately three additional

TABLE IV-4-9
PROJECTED PUPIL ENROLLMENT
1989 - 2010

	Elementary	Secondary	TOTAL
1989			
1995	3,187	2,218	5,405
2000	3,521	2,477	5,998
2005	4,022	2,831	6,853
2010	4,357	3,066	7,423
	4,840	3,406	8,246

NOTES: Projections based on Population Projections contained in Part II of this Plan. Though past trends have shown some decline in pupils per capita population, these projections assume this trend will level off; therefore, a constant ratio of pupils to population based on 1989 enrollment was used.

Table IV-4-10
PROJECTED CLASSROOM NEEDS
1995 - 2010

	Elementary	Secondary	TOTAL
1995	17	15	32
2000	40	36	76
2005	56	49	105
2010	78	68	146

NOTES: Classroom needs are based on the projected change in enrollment divided by the number of pupils per teacher in 1989 (21 for elementary and 17.5 for secondary.) These projections assume that the current level of service will be maintained throughout the planning period.

elementary schools, one additional high school, and one additional intermediate school. Since it has been found that some parts of the County are growing more rapidly than others, overcrowding at selected schools is likely to result. The planned schools need to be located in those areas where the most growth is expected. In locating schools, the County will also have to consider the advantages and disadvantages of school centralization versus decentralization. Centralization of school facilities generally allow greater variety and sophistication of facilities. Community-oriented schools reduce transportation costs and allow closer interaction with the student's immediate community.

PUBLIC SAFETY

As the population increases along with their activity, the need to protect the public safety of the County citizens also increases. Adequate police and fire protection, ambulance service and emergency management need to be provided in close proximity to the County residents. Areas of dense population and rapid growth need to expand their capability.

The farther new development is from existing facilities, the more it will cost the County to provide those services. If the County is to experience various concentrations of development at multiple diverse points of the County, the existing facilities would be inadequate to cover all areas. New facilities could be added to serve individual areas, but not without substantial costs. If on the other hand, development is located near existing facilities, it may cost the County added expense, but the cost can be absorbed in phased increments to match the growth rate of development. For example, it is much less expensive to put an addition onto an existing firehouse than to acquire land and construct a new firehouse.

Distance of existing facilities to growth areas is important to response time in emergency situations. Therefore, police and fire protection should be located to serve proposed concentrated residential development as well as commercial and industrial areas. Even non-emergency services can be made more efficient if located closer to the population concentrations. For example, Sheriff's Deputies currently need to drive to Gloucester to process an arrest when many of the apprehensions are made in the southern parts of the County.

Fire Prevention -- Water supply can be a serious problem for areas outside public water service areas. In those rural areas, a water supply plan could be developed to insure that pumper availability and surface water supplies are coordinated. This would eliminate some of the problems associated with fire protection in rural areas.

Law Enforcement -- Deficiencies in facility space for police functions have been recognized and additional facilities are currently being planned. International City Managers Association studies indicate an average of 2.07 police personnel per thousand population in jurisdictions between 25 and 50 thousand people. Considering those actively involved in law enforcement, the current level of

service is approximately 1.35 police personnel per thousand. This ratio does not take into consideration that a substantial portion of the Sheriff's Department's effort is directed toward serving the Courts and other administrative duties. Any reduced manpower needs that may be attributable to the County's low crime rate and rural nature are offset by the greater travel time and distances associated with rural service delivery. The current service level indicates a necessity to monitor closely manpower needs and to increase personnel commensurate with the planned population growth. By the year 2010 police personnel will need to increase by 25 to 40 sworn officers. Along with this increase in personnel will be the need to expand administrative offices and detention facilities.

LIBRARIES

The current level of service in Gloucester County is well below Virginia state standards of two volumes per capita. Past demand for services has not warranted increased services; however, recent trends in library use (up 92 percent in the past two years) reflects the higher level of expectation in service from residents migrating into the County.

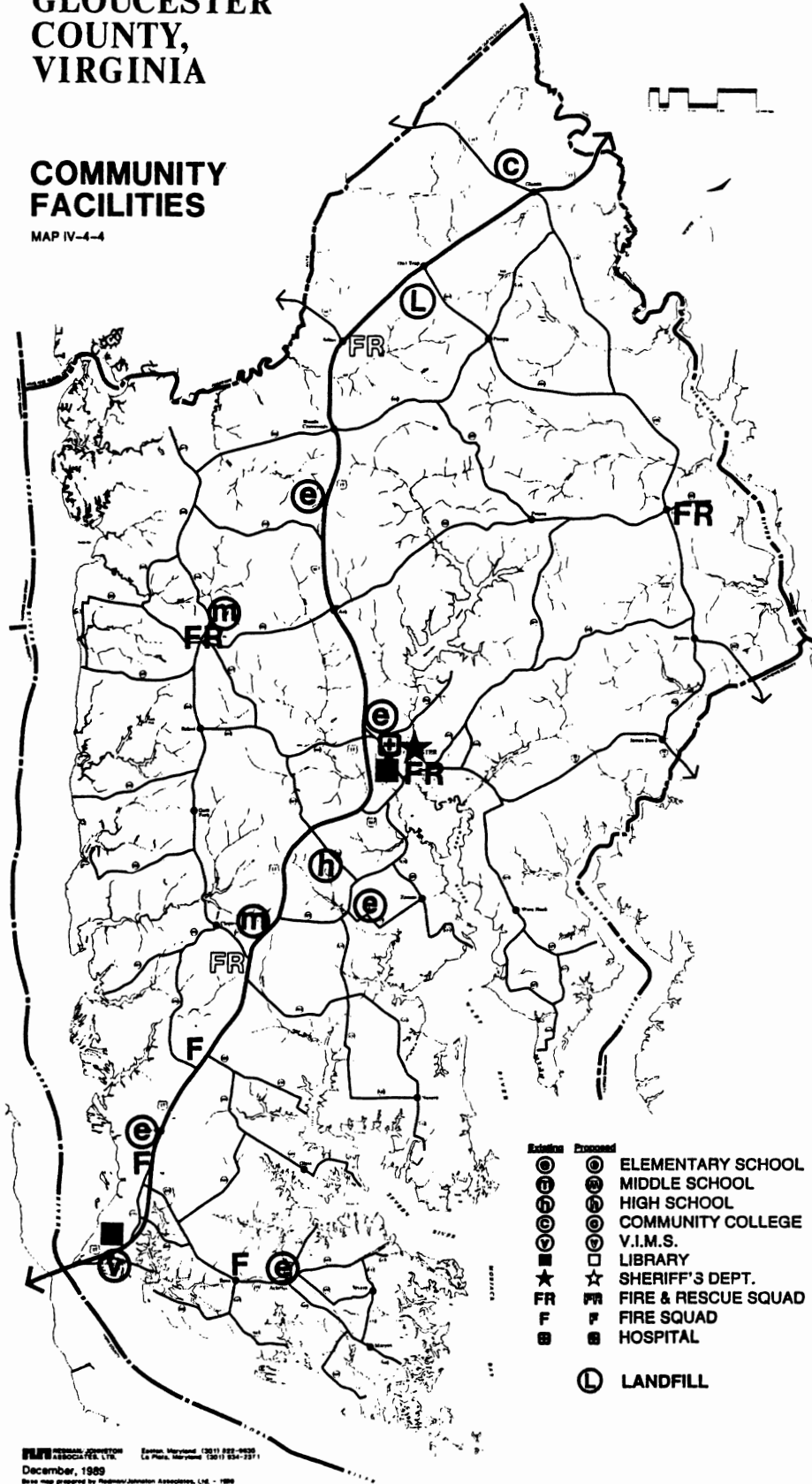
Based on the American Library Association standards for service, and using the current population projections, the recommended levels of service in the following categories have been estimated: total volumes required; square feet required; ground floor area; and total seats required. The population projections contained in Part II indicate that the 23,000 additional people expected in the County by 18,500 will require 45,700 more books, 9,250 square feet of library space and 57 additional seats. The Gloucester Library System has little capacity for more volumes, thus additional library space will be needed.

Virginia state standards indicate that the main branch of a County library system should have a minimum of 16,000 square feet and 60,000 volumes. Considering the location of the proposed development district in the southern part of the county and the anticipated growth, the Gloucester Point branch library will need to be expanded considerably within the planning period.

GLOUCESTER COUNTY, VIRGINIA

COMMUNITY FACILITIES

MAP IV-4-4



PLANNING ASSOCIATES, INC. Eastern Maryland (301) 855-4920
 December, 1989 La Plata, Maryland (301) 534-2311
 Base map prepared by Radmer/Johnson Associates, Ltd. - 1988

SOLID WASTE

By the end of the twenty year planning period, the county will be generating almost twice the solid waste per year than it is currently due to future growth. Since the present landfill is virtually at capacity and is scheduled to be closed in the fall of 1993, the county must immediately pursue other disposal options.

A report prepared by Olver Incorporated titled, "Preliminary Landfill Siting and Recycling Evaluation" dated May 1, 1989, recommends two specific sites for potential landfills. The two sites that scored highest in the evaluation's matrix were site No. 27 (Marlfield) and site No. 13 (Owl Trap) respectively. The approximate locations of these sites are shown on Map N-4-3. Should the county elect to establish a landfill to meet its disposal needs, one of these two sites should be selected based on data within the above referenced evaluation.

ADMINISTRATIVE FACILITIES

Based on nationally derived indicators, the County will need 28 additional employees and 15,000 square feet of additional office space to provide services to future residents.

IMPLEMENTATION RECOMMENDATIONS

There are alternatives available for achieving the objectives relating to the provision of facilities to manage and accommodate growth. This section provides a brief discussion of the general techniques recommended. More specific recommendations are included as needed for individual public services.

DEVELOPMENT SERVICE DISTRICTS

Development Service Districts established in the growth management plan are based on the premise that new development can be serviced most efficiently if it is limited to certain areas within the County. The key to the success of a Development District is in the

availability of services and capital improvements; therefore, the County must provide adequate sewerage capacity, water, roads and schools in order for the districts to accommodate the anticipated growth. It is essential, for example, that these areas have access to adequate sewer if they are to develop at the intensities necessary to manage and define growth within the County.

CAPITAL PROGRAMMING

A capital programming plan should be developed in conjunction with a growth management plan. For example, a well designed capital improvements plan will provide for the orderly extension of sewer and water at a rate needed to accommodate anticipated growth. The capital improvements plan will provide the vehicle for the County to set priorities and to make the most efficient use of available funds. Capital programming is the tool which should be used to guide growth toward predetermined areas of the County and at predetermined rates. The County should use the capital improvements program to guide developers in proffering conditions for the provision of public facilities.

VOLUNTARY PROFFERS

Voluntary proffers provide a direct means of obtaining the needed capital improvements to service new developments. Proffers should continue to be used to help defray the costs of expanding public services and facilities. Off site improvements of public facilities and dedication of land, but not cash, contributions can be used to offset the impacts of a proposed development associated with a rezoning. (Section 15.1-491.2 Code of Virginia.)

FISCAL IMPACT ANALYSIS

The development of a per unit fiscal impact of residential and commercial development would provide a rational basis on which to accept proffers from developers. It is intended that the fiscal impacts be calculated for water and sewage facilities, parks,

roads and schools, as well as for more public welfare needs such as police, fire, and emergency medical facilities. It is intended that the impacts be calculated based on accepted methodologies and following the standards described below.

Generally, the court decisions upholding impact fees or development exactions require that they meet a three-part standard. First, new development must demand new capital facilities. Secondly, a rational nexus or close relationship must exist between this new development and the need for these new facilities. Finally, there must be some assurance that sufficient benefit accrues to the particular development that pays the fees. These tests are similar to the standards set forth by the Virginia General Assembly (Section 15.1-491.2 Code of Virginia) for voluntary proffering. Virginia courts have upheld the use of the proffer system when the above referenced standards are adhered to.

Though impact fees are not expressly authorized for Gloucester County, the detailed impact analysis will establish the basis for such fees once the County is enabled by the State legislature. Gloucester County may now use, to some degree, impact fees for water, sewerage and drainage control. (Section 15.1-491.2 Code of Virginia.)

ADEQUATE PUBLIC FACILITIES STANDARDS

Adequate facilities standards will help control the development process by showing that sufficient infrastructure and services are present or will be provided. These standards can ensure that land development coincides with the location and timing of capital facilities. Standards for water, waste treatment, transportation, and educational facilities guide the development review process. County established acceptable levels of service will serve as a basis for determining the impacts of development and for programming capital facilities.

Adequacy of the development should be considered for fire suppression, roads, schools, sewerage, storm drainage, and water. Minimum standards to determine adequacy need to be established for Gloucester County. For example, one of the criteria for determining the adequacy of sewer is that the interceptor is adequate to handle the peak flows calculated by the methodology set forth in the County's

local ordinance for water and wastewater service. The County should consider dividing itself into policy areas that require different levels of service. For example, rural areas may require a Level of Service B for roads, but in urban areas (full service areas) Level of Service D may be tolerated.

Though it is recognized that Gloucester County is not currently enabled to deny approval of subdivisions based on the lack of adequate public facilities, the State law (Section 15.1-466 E) does provide for the means of voluntarily achieving adequate facilities objectives. The County should pursue this technique in light of efforts by a growing number of Northern Virginia counties to gain the authority to tie development approvals more closely to the availability of public facilities.

SPECIAL TAXING DISTRICTS

Special taxing districts should be used by the County to provide certain additional public services for an area benefitting exclusively from such services. Gloucester County has the authority under the Virginia Water and Sewer Act to create Public Service Authorities for the purpose of providing any or all of the utilities and services described in the Act.



Section 5

Housing

The two dominant forces affecting the structure and characteristics of the County's housing market in recent years have been the high proportion of mobile home development and the increase in growth primarily in the northern part of the County. These factors, with the housing characteristics and demographic trends, will be examined to provide the background for evaluating the alternative implementation strategies necessary to achieve County housing objectives.

a trend that has continued and accelerated into the 1980s with an increase of 4,200 housing units through the period 1980 to 1989. The current estimate of housing units in the County is approximately 12,500 units.

The characteristics of the housing units accommodating the County's households and unoccupied units are shown in Table IV-5-1. It is particularly relevant that owner occupancy has been maintained and even increased somewhat in the County. Rental units increased from 14 percent to 16 percent of the housing stock between 1970 and 1980. Vacant housing declined from almost 14 percent of the housing in 1970 to 9 percent in 1980. These trends generally imply a more stable local housing situation and one increasingly typical of a growing County. The proportional increase in occupied and owner occupied units is believed due in large measure to basic changes in the income and socio-economic level of the households migrating into the County.

BACKGROUND

This section identifies the characteristics and trends of the Gloucester housing market. The Census Bureau indicates a change of 2743 housing units from 1970 to 1980 or a 53.4 percent increase. This is

Table IV-5-1
HOUSING STATUS AND UNITS PER STRUCTURE - GLOUCESTER COUNTY

	1970	%	1980	%	% CHANGE
Year-round Units	5135	97	7878	94.8	53.4
Vacant Seasonal	159	3	435	5.2	172.9
TOTAL HOUSING UNITS	5294	100	8312	100	57
Owner Occupied	3712	72.3	5871	74.5	58.2
Renter Occupied	718	14	1275	16.2	77.6
Vacant - For Sale	47	0.9	146	1.9	210.6
Vacant - For Rent	71	1.4	78	1	9.8
Vacant - Held for Sale			124	1.6	---
Vacant - Other	587	11.4	153	1.9	---
Vacant - Year-round			231	2.9	---
TOTAL YEAR-ROUND	5135	100	7878	100	53.4
Units in Structure:					
1 Unit	4643	90.4	6209	78.8	133.7
1 Unit, attached			73	0.9	---
2 Units	73	1.4	179	2.3	145.2
3 and 4 Units	32	0.6	193	2.4	503.1
5 or More Units	69	1.3	281	3.6	307.2
Mobile Homes	318	6.2	943	12	196.5
TOTAL UNITS	5135	100	7878	100	52.4

Analysis of the physical nature of Gloucester's housing units (see Table IV-5-1) reveals the following characteristics. First, it is obvious that though it has declined proportionally, the dominant unit is the single-family detached home. This type of housing still comprises almost four-fifths of all residential units. Second, the number of units in "apartment" structures (five or more units in the structure) increased by over 300 percent between 1970 and 1980. Third, the mobile home is a significant and increasing factor in the County's overall housing picture. The proportion of mobile homes in the total housing stock increased from 6.2 percent to 12.0 percent between 1970 and 1980. This trend has continued through this decade with almost 16 percent of the current housing stock in mobile homes. Table IV-5-2 shows that 23.3 percent of new home construction since 1980 has been in mobile homes.

Between 1980 and 1988, the County's stock of year-round housing increased by over 4,100 units, of which over 800 were multi-family. This reflects a 160 percent increase in multi-family units since 1980. Between 1989 and 2010, the County is expected to add about 414 housing units a year. The Comprehensive Plan and associated County policies will, ultimately, influence where future housing is located in the County, as well as the mix of types of housing.

Table IV-5-2
DWELLINGS BY TYPES 1970-89

	Conventional		Mobile Homes		Total Dwelling Units
	Dwelling Units	%		%	
1970	4,817	93.8	318	6.2	5,135
1980	6,935	88.0	943	12.0	7,878
1989	10,719	86.0	1,732	14.0	12,451

SOURCE: Department of Community Development, Gloucester County

Gloucester residents have, in general, noticed that the cost of housing and the cost of living have soared. These observations are substantiated when the median family income is compared with the cost of owner occupied housing in the County since 1970. The median value of an owner occupied house in Gloucester has increased at a greater rate than median family incomes. The median cost of owner occupied

housing increased 466 percent since 1970 while the median family income during that time only rose 233 percent, showing a relative loss in purchasing power of the housing consumer.

ISSUES

AFFORDABLE HOUSING

One consequence of becoming a "bedroom community" is that newcomers not only add to the demand for public services, they also place more stress on the cost and availability of housing. Residents coming into the County are able to afford older structures that, in the past, might have been available to low or moderate income residents. They also build new housing that is markedly higher in value than some of the existing rural dwellings, heightening the degree of disparity between the cost of housing and the existing resident's ability to pay. Many of the new residents either continue to commute to jobs in the Hampton Roads area or they come to retire in Gloucester. Consequently, there is not a corresponding increase in new jobs that in many growing communities alleviates some of the housing problems by increasing the existing residents' financial ability to acquire new housing. The result is an increased gap between the housing that the market provides and what the lower income residents of the County can afford. Problems have also been created by the gap between the quality of housing owned by new residents and low income residents.

Another serious issue facing Gloucester is the availability of affordable housing for the lower income residents. A gap exists between what is or can be built, and what many of the elderly, lower income residents and newly formed families are able to afford. The predominant form of housing available in the County is the single family detached dwelling unit. Typically, the cost of this particular dwelling type is simply too high for most people falling into these groups. Lower income families are excluded from the housing market when development is restricted to single family residences since they generally cannot afford this type of housing. Most of the high density housing that has been built in the County has failed to meet the needs of those with modest incomes,

especially the six percent "hardcore" underhoused living without bathrooms and/or heating with wood exclusively.

Affordable housing is also a problem for many elderly persons who must rely on limited, fixed incomes. This fact is underscored since 44 percent of the householders (family and non-family) below the poverty level are 65 years or older. Those elderly who are able to afford larger homes may reach a point where they no longer wish to or are no longer able to maintain them, and, therefore, would be interested in smaller homes on smaller lots or attached dwelling units of one type or another.

Newly formed families are another group that often lacks the necessary capital for financing even modestly priced single family homes. Instead, they look to multi-family units or mobile homes as a more practical place to live.

The need to provide for more affordable housing is a concern raised by elected officials, planners and citizen groups throughout the County. It has been noted that housing costs in the County increased dramatically between 1970 and 1986. During this period, owner-occupied housing accounted for an increasingly larger share of total housing.

RENTAL HOUSING SUBSIDY PROGRAMS

Affordable rental housing in Gloucester is subsidized through the following:

Department of Housing and Urban Development (HUD)

1. Section 221 (d)(3) provides mortgage insurance to help finance the construction or substantial rehabilitation of large multi-family (5 or more units) rental or cooperative housing projects for low and moderate income families.
2. Section 8 Existing Certificates and Moderate Rehabilitation Housing provide assistance on behalf of households occupying physically adequate, moderate-cost rental housing of their own choosing in the private market. Federal payment per unit equals the difference between the government-established Fair Market Rents and thirty (30) percent of the tenant's income. This Program is administered through the Rental Assistance Office.

3. Section 8 New Construction and Substantial Rehabilitation subsidizes rents of lower-income households occupying public and privately developed projects. Federal payment per unit equals the difference between the government-established Fair Market Rents and thirty (30) percent of the tenant's income. In Gloucester, this Program is administered through the Rental Assistance Office.

Farmers Home Administration (FmHA)

Section 515 of the Housing Act of 1949 authorizes FmHA to make or insure loans to finance the purchase, construction, or rehabilitation of rental and cooperative housing in rural areas for occupancy by the elderly, the handicapped, or low and moderate income families. The purchase of a site and the provision of essential housing-related facilities may be included in a loan where appropriate. The 1983 amendments to the Act require that, to the extent that rental assistance programs are available, all units must be occupied by very low income persons (income below 50% of the median).

The Rental Assistance Office which administers HUD's Section 8 Program reports that there is a backlog of applicants on a waiting list for the availability of affordable rental housing through the Section 8 Program. With only 50 units in the County approved for Section 8 entitlement, some applicants will wait as long as three years for acceptance.

HOUSING CONDITION

The condition of the housing stock in Gloucester, as of 1980, is characterized as follows:

1. Age of the Housing Stock—According to the Census, only 2152 of the year round housing units were built in 1939 or earlier. This is just 16 percent of the current inventory and illustrates the fact that the County has experienced a substantial proportion of its growth since the beginning of World War II. Over 60 percent of the total housing stock was built after 1970.

2. Bathroom Facilities—The absence of bathroom facilities is an indicator of housing problems. In 1980, 432 (6.0 percent) of the total occupied units lacked complete plumbing for exclusive use. As a point of comparison, Mathews County to the east had 9.8 percent of its housing units without adequate plumbing and Middlesex had 9.1 percent. These are units which should be targeted for rehabilitation and may be candidates under the Residential Shoreline Sanitation Program for financing. This Program was established as part of the Chesapeake Bay initiative for the purpose of providing low income residents with funding to repair/replace septic systems which are in violation of sanitation regulations.

3. Heating Equipment—14.4 percent of the housing in 1980 lacked central heating and were heated exclusively with fireplace, woodstove, or portable heaters (electric or kerosene).

Scattered site mobile homes in the County represent a unique housing condition. It has been difficult for the County to control the quality and location of mobile homes on individual lots.

For the most part, the overall housing stock appears to be in reasonably good condition. It does exhibit characteristics of a rural area. Given the fact that a significant proportion of the housing is associated with the exurban migration, the conventionally built housing stock has been priced beyond the reach of people of relatively modest means. The high proportion of mobile homes located in the County during the decade has provided a substantial pool of affordable housing in lieu of more conventional multi-family structures.

HOUSING AVAILABILITY

Gloucester's housing stock is in generally good condition; however, some families are ill-housed, and there is a continuing need for new units to accommodate families of modest means. Efforts by the private-developer community in association with County and State agencies began to increase the number, quality and variety of housing units available

in the County during recent years.

One housing production requirement must be kept in mind. The effective operation of the housing transfer process involves a continuous creation and rapid turnover of vacancies. There must be an ever-available reservoir of standard housing vacancies to broaden the choices available to those seeking new quarters. This reservoir includes new units produced speculatively for sale or rent and occupied units put on the market as families are disbanded, move out of the area, or transfer within the area.

Although new units obviously are not produced specifically for a "vacancy reservoir", the maintenance of an adequate vacancy reserve must be taken into account in estimating new production requirements. As population grows, the size of the vacancy reserve must also grow. However, the rate of vacancies (as a percent of the total housing stock) may remain relatively stable. Appropriate target rates may vary with the area, but a common standard is one percent for owner-occupied and five percent for renter-occupied units. In 1980, about one percent of the rental units was vacant and ready to be rented. About 1.9 percent of the owner occupied units were available for sale. These indicators show that the County's "vacancy reservoir" for rentals is a potential area of concern in the overall housing picture.

The movement of a large generation of people now in their twenties out of their parents' homes and into the housing market, the growth of female employment, the associated trend toward postponing marriage and maintaining independent households all contribute to the national trend toward increased number of single heads of households. In Gloucester the single households increased to 17.5 percent in 1980. This is a clear trend which has created a demand for smaller affordable dwelling units.

The following is a summary of the problems and issues related to housing described above:

- A lack of affordable housing exists for a spectrum of the County's households due to a variety of forces.
- The lack of affordable rental housing is most acute with the lowest income households, especially the elderly and single parent household

- There is a need for improvement of housing conditions in some areas especially for the "hardcore" underhoused usually found in dwellings lacking adequate plumbing and sanitation facilities.
- Mobile homes are used to a large degree by low and moderate income residents; however, concern exists among County residents that the configuration and development of mobile homes sites and parks are not generally providing safe, sanitary or pleasing environments for the residents. Equal concern exists for the negative fiscal impact that occurs when such a large proportion of new housing is in the form of mobile homes, which generates significantly less revenue for the County.
- Based on current trends, a need exists for small affordable housing units for the single head of household segment of the population, both young and old.

IMPLEMENTATION RECOMMENDATIONS

There are a variety of implementation alternatives available to local governments for the provision of affordable housing. The following implementation techniques have been selected to implement the County's identified objectives.

Flexibility in Housing Types -- Foster land use patterns that reduce unit land costs and encourage flexibility in housing types. This can be achieved through planned residential development and cluster development provisions in the County's zoning ordinance. This strategy will also be implemented by one of the basic concepts of the Land Use Plan, which is to allow maximum flexibility in configuring lots into clusters rather than relying on minimum lot sizes to determine the desired density. This flexibility also allows for maximizing efficiency in providing infrastructure to the homesites. The creation of a Development District in close proximity to places of employment is consistent with housing objectives.

The Development District will be capable of accommodating higher density development with adequate road systems and public facilities. The Land Use Plan encourages development in the Rural Service Centers and Crossroad Settlements throughout the County, thereby providing flexibility in location of housing, as well as housing diversity. Finally, the Land Use Plan allows for multi-family housing to be permitted in the Village Centers and Development District and other appropriate locations without increasing overall permitted densities.

Use Federal and State Programs -- Continue to use Federal and State programs to help meet Gloucester County's housing needs. The following housing programs should be used by the County to assist residents with low to moderate incomes.

- **Virginia Housing Partnership Program** -- Gloucester is eligible to apply for either a block grant or grant for specific project under this program. Eligible activities include single and multi-family rehabilitation, energy loans, and funding for emergency home repairs.
- **Virginia Housing Production Program** -- Loans are provided to non-profit organizations or for-profit developers to construct single-family homes.
- **Small Cities Community Development Block Grant (CDBG)** -- Funds are passed through the State Department of Housing and Community Development for a variety of housing related projects such as housing rehabilitation programs.
- **HUD Section 236 Program** -- subsidizes mortgages for rental housing projects and provides rent supplements which are subsidy payments to the owners of private rental housing on behalf of lower-income tenants.
- **HUD Section 202 Housing for Elderly and Handicapped** -- provides direct loans for the development of rental housing for the elderly and handicapped. Projects also receive Section 8 subsidies.

- **HUD Section 8 Housing Vouchers** -- provides rent subsidy payments to be based on a newly established payment standard rather than on actual unit rents. The standard is to be based on the Fair Market Rents set for the Section 8 Existing Housing Program. Families renting units above or below the new payment standard will pay more or less than 30 percent of adjusted income for rent.

Bonus Densities for Affordable Housing -- Grant bonus densities to planned development projects to encourage the provision of more affordable housing. It is recommended that in order to encourage the production of housing for low-income residents, the density of development within certain districts may be increased with the following guidelines:

- Development not receive more than a bonus of one additional dwelling unit per acre above the permitted density.
- The units provided must meet all conditions with regard to income qualifications and other standards that may be established by the County to ensure that the units are bona fide affordable housing.
- The bonus for low-income housing should not be permitted where subsidized units constitute more than 20 percent of a development, except in the case of a development of fewer than 10 dwelling units.

Intra-family Transfers -- Permit intra-family transfers of lots in the Rural/Agricultural Conservation Districts for immediate family members to insure availability of ample building lots for family members in spite of lower densities.

Mobile Homes -- Continue to permit mobile homes as a means of providing affordable housing with the needed performance standards to insure that their use creates a safe, sanitary and comfortable living environment. Mobile homes, or manufactured housing, tend to be less expensive than most other types of single family homes and, consequently, serve as a practical alternative to affordable housing. Within the Gloucester County Zoning Ordinance, Subdivision Ordinance and other applicable

ordinances, mobile home subdivisions and mobile home parks will be required to meet all the same standards as required for other single family dwelling detached development. For example, road standards that apply to conventional housing will also apply to mobile home parks. Mobile homes will continue to be permitted in mobile home parks and subdivisions through conditional zoning in the Development District where the infrastructure can support the density. Individual mobile homes on scattered sites will be permitted in the Agricultural and Rural Conservation Districts, subject to certain performance standards such as controls on types of roof, width and configuration of the units.

Accessory Apartments -- Permit accessory apartments under certain conditions with adequate safeguards to protect the character of the existing residential neighborhoods. This strategy will stimulate new, moderate cost rental housing for both young and elderly households while preserving large, older homes and allowing elderly homeowners to stay in their homes. Among the conditions of approval for accessory apartments is that the accessory apartment be "clearly subordinate to" the main unit. This will be achieved by requiring that the apartment be less than a specified percentage of the square footage of the original house. Another condition is that conversions should not be permitted in new housing. Finally, the house should have at least one owner occupied resident and should, from the exterior, appear to be a single family residence.

Indoor Plumbing/Adequate Sanitation -- Provide technical assistance to get indoor plumbing for all existing low and moderate income residents who want it. Actively promote the Residential Shoreline Sanitation program so that failing septic systems can be brought into compliance in the target areas.

Fixed Floor Area Ratio -- A fixed floor area ratio for single family residential structures in a planned residential development will allow smaller homes to be built on smaller lots. Housing costs can be contained in the small lot single family developments by tying the size of the dwelling unit to the size of the lot by a maximum floor area ratio per lot. This will ensure that the scale of the house is consistent with the lot, thus preserving the less dense residential character sought in single family detached housing.

Commercial Apartments -- Permit commercial apartments in the moderately intense commercial use zones in the Activity Centers and Commercial Centers. This type of housing represents a lower cost option for builders since there is no land value associated with the dwelling units. In addition to providing more affordable housing, locating residential uses in commercial areas also provides for the more efficient use of existing infrastructure and government services and greater accessibility to jobs. Because they are used during the hours normally left vacant -- the night and early morning hours -- greater use is made of existing parking lots. The County should tie increased lot coverage or floor area ratios to the provision of second floor residential units as an additional incentive to increasing affordable housing stock.

Housing Code -- Adopt and enforce a housing code to remove substandard conditions of rental housing.

Volunteerism -- Coordinate local resources to rehabilitate and upgrade existing housing. One approach is to use apprentices in the building trades at the Vocational-Technical Center to rehabilitate houses.

Self Help -- Encourage the formation and operation of Self-Help groups. One such organization is the Habitat for Humanity. The County might consider providing money for these organizations.

Designing for Economy -- Designing for economy can be achieved without sacrificing marketability. The County should proactively educate builders on techniques proven to save money and, when possible, reduce standards that will save money without sacrificing structural strength or aesthetic quality. In most cases current County building codes permit cost saving designs; however, there are opportunities for the County to relax standards. The County needs to evaluate the building code to ensure that unnecessary impediments are not preventing the use of economical designs.

Expedition of the Administrative Process -- The County can make a direct contribution to affordable housing by expediting its procedures regulating land use and housing construction. A basic step the

County should take to promote affordable housing is to review the actual experience of the entire regulatory process from zoning through permitting in order to identify procedures that can be simplified, abbreviated or improved. Some of the features of a regulatory modernization arrangement are as follows:

- Provide formalized assistance to developers prior to application.
- Consider expediting reviews and approvals through a development coordination office possibly in the County Administrator's Office.
- Use administrative hearings in lieu of legislative bodies, or appointed boards or commissions.
- Prepare a variety of policy manuals to be made available to builders and developers as a unified and ready source of information.
- Use "over the counter" or "one stop permitting" when possible, particularly on small projects.
- Use private consultants to augment County planning and engineering staff during periods of intense permit activity.
- Provide for interdepartmental coordination for complex projects possibly through the County Administrator's office or the Department of Community Development, where umbrella authority exists to break free any problem areas.
- Review legislative procedures to explore means of reducing processing time.

Housing Trust Fund -- The Virginia Housing Development Authority (VHDA) and Virginia Department of Housing and Community Development (VDHCD) will be administering such a State fund to be used as a revolving loan fund to induce the development of low and moderate income housing statewide. A housing trust fund can be both a generator and a conduit of funds for the development of affordable rental housing. To create a flexible Housing Trust Fund as a mechanism to help fund affordable rental housing, the County should consider the following:

- Designing a housing trust fund that will be a stable source of financing. Sources could include proffers in the form of cash contributions from developers, donations from corporations, County government contributions, and real estate transfer taxes.
- Designating uses for housing trust funds such as interest rate buy-downs for projects meeting affordable rental housing criteria, second trust financing, land cost buy-downs, water and sewer tap fee reductions, rent supplements, and seed money for non-profit developments.
- Actively pursuing state enabling legislation, as necessary, to allow the use of housing trust funds and certain revenue sources for affordable rental housing.

SUMMARY

In the end, it is the inability of the market to accommodate easily the needs of all the residents of Gloucester that underlies the entire housing issue. The housing problem is also one that cannot easily be solved. The federal government and others have been grappling with this issue for decades. Despite these efforts, it is still a major problem, and certainly one that will not be solved by this Plan. The best that can be done is to work at the housing issue from a variety of directions and to seek incremental gains.



Section 6

Parks and Recreation

As a result of a seemingly endless process of land development, federal, state and local governments have become involved in providing recreational systems to insure that recreational, scenic, and open space land is preserved for current and future generations. Parks, recreation, and open space are essential to the health, general welfare, and well-being of the public. Gloucester County must continue to be involved in recreation planning, because it is in the community in which people live that their unique recreational interests and needs are best served.

Gloucester can expect the need and resulting demand for recreational opportunities to expand as the population grows, particularly in the southern portion of the County, which is the most densely developed area. The County should provide recreational facilities and services for all populations, but an emphasis on senior citizens' programs is needed due to the increasing size of the aging population. Although silent and sometimes forgotten, the disabled, the elderly, and the poor are special segments of the population that also need recreational activities. The trend towards more leisure time will intensify citizens' demands for recreational facilities and programs. Rising incomes in Gloucester could provide citizens with the means to pay for recreational activities of both a public and private nature.

With regard to land for recreational facilities, those areas with soils suitable for development will be under the greatest pressure for urbanization and, therefore, also would be areas of greatest need for public recreation. With a majority of Gloucester's total land area in woodlands, the County should encourage the expanded use of commercial and private woodlands for public recreational activities. With over 12,000 acres of tidal wetlands in Gloucester, the County must safeguard these areas while utilizing their recreational potential. Gloucester's abundant water resources provide excellent water-based recreational opportunities, limited only by the lineal development along the waterfront (prohibiting public access to the water), shoreland erosion, and stinging sea nettles, which limit swimming potential.

Land use concentrations indicate that suburban populations tend to demand and participate in more recreational pursuits than do city dwellers. As single-family home lots become smaller, the need for public areas for recreation will increase. Continued growth, leading to denser development, will emphasize the

need to expand the County's public recreational program.

In addition to the data provided in this chapter, more detailed information can be found in A Comprehensive Recreation Plan for Gloucester County, 1990. This plan is a supplement to the County's Comprehensive Plan and should be used when addressing parks and recreational needs and plans.

RECREATIONAL INVENTORY

Many recreational facilities in Gloucester County are privately owned. The general public has only limited access to private facilities. There is a great demand put upon the few public facilities that are listed on the following three (3) charts.

As can be seen in the County Owned Recreational Facilities Summary table, there are very few public areas or facilities.

Semi-public areas---One reason public use is limited on school properties is because school-sponsored activities occur both during and after school hours, which does not leave much time for activities for the general public.

Gloucester County's extensive shoreline provides residents with ample water area to partake of water-related activities. According to the Virginia Division of Parks and Recreation, 17.08% of County residents participate in power boating and 7.19% in sailing. A number of these individuals store their boats out of the water and need to utilize ramps when they go boating. Privately-owned marinas, in addition to supplying boat ramp access to the water and boat storage (slips and/or dry docks), contribute to the economy of the County. There are also a number of other areas where boat ramps give access to the water; however, most of these ramps are privately owned and maintained. Oliver's Landing is the only ramp owned and maintained by Gloucester County. At present, there are a few additional ramps where the public has access to the water since these ramps are owned by the Virginia Department of Transportation or the Department of Games and Inland Fisheries.

Unlike facilities, the majority of the recreational programs in Gloucester are sponsored by the Department of Parks and Recreation (DP&R).

TABLE IV - 6 - 1
 COUNTY OWNED OR LEASED RECREATIONAL FACILITIES SUMMARY

NAME LOCATION	ABINGDON PARK Route 1304 Wicomico *	ARK PARK Route 17 Ark *L	BEAVERDAM RESERVOIR Rt. 616 & Rt. 606 Gloucester Point	GLOUCESTER POINT BEACH Route 1208 Gloucester Point	PINE MILL Route 610 Signpine *L	TINDALL'S POINT PARK Route 17 Gloucester Point
Acreage	12 acres	28 acres	5 acres	5 acres	5 acres	4 acres
FACILITIES:						
Bank Fishing	0	0	5	1	0	0
Beach	0	0	0	1	0	0
Boat Ramp	0	0	2	0	0	0
Fishing Pier	0	0	2	1	0	0
Horseshoe Court	0	0	0	1	0	0
Nature Trail	1	0	1	0	0	0
Picnic Area	1	0	4	4	0	2
Soccer Field	1	1	0	0	1	0
Volleyball Court	0	0	0	1	0	0
IDENTIFICATION	AB	A	BV	BE	P	T

* Under Construction

L Leased

Enrollment in these programs has been steadily increasing over the years, which indicates that the Department of Parks and Recreation has been quite successful in its endeavors.

PLANNED FACILITIES

The Gloucester County Department of Parks and Recreation (DP&R) has been working with various groups and organizations in efforts to increase the diversity and availability of parks and recreational facilities in the County. As can be seen in Map IV-6-1, two out of the six recreational facilities are privately-owned properties and leased for public use.

Several of the County's owned or leased recreational facilities have room for further development. The completion of these park projects should be a priority.

In addition to attempting to acquire more facilities, DP&R conducted a needs survey through random phone calls to County residents in June and July of 1989. Through that survey, it has been determined that the three activities most families participate in throughout the year are Cultural Programs (67%), Community Special Events (67%), and Visiting County Parks (51%). In addition, Education Programs, Athletics and Swimming have the greatest yearly participation. This type of information can be useful in guiding priorities for the County in determining funding for recreational facilities and programs.

TABLE IV - 6 -2
SCHOOL OWNED RECREATIONAL FACILITIES SUMMARY

ELEMENTARY SCHOOLS					
Name	Abingdon	Achilles	Botetourt	Petsworth	T.C. Walker
Use Type	Public	Public	Public	Public	Public
School Acreage	21.16	8.5	7.76	19.95	19.4
Recreational Acreage	0.65	3.4	2.4	5.8	5.75
Playground	1	1	1	2	1
Nature Trail	0	0	0	1*	0
Exercise Trail	0	1	0	0	0
Adult Soccer Field	0	0	0	0	0
Youth Soccer Field	0	0	0	1	2
Football field	0	0	0	0	0
Adult Baseball Field	0	0	0	0	0
Basketball Court	1	1	1	2	0
Adult Softball Field	0	0	0	0	0
Youth Softball Field	0	1	1	1	1
Tennis Court	0	0	0	0	0
Archery Range	0	0	0	0	0
Pistol Range	0	0	0	0	0
Volleyball	0	0	0	0	0
Gymnasium	1	0	0	1	1
Map Identification	E1	E2	E3	E4	E5
SECONDARY SCHOOLS					
Name	High	Page	Peasely	Rappahannock	Grand
Use Type	Public	Public	Public	Community College	Total
School Acreage	54.8	31	43	100	305.57
Recreational Acreage	12.95	10	4.35	8.65	53.95
Playground	0	0	0	0	6
Nature Trail	1	0	0	1	3
Exercise Trail	0	0	0	0	1
Adult Soccer Field	1	1	1	1	4
Youth Soccer Field	0	0	0	0	3
Football Field	0	1	0	0	1
Adult Baseball Field	1	1	0	0	2
Basketball Court	1	0	0	0	6
Adult Softball Field	0	1	1	0	2
Youth Softball Field	1	0	0	0	5
Tennis Court	4	2	0	4	10
Archery Range	0	0	0	1	1
Pistol Range	0	0	0	1	1
Volleyball	0	0	0	1	1
Gymnasium	1	1	1	0	6
Map Identification	H	M1	M2	C	

* Size - below standard

TABLE IV - 6 - 3
STATE OWNED RECREATIONAL FACILITIES

STATE FACILITIES - BOAT RAMPS						
NAME:	Capahosic Landing	Cherry Point Landing	Deep Point Landing	Gloucester Point Boat Launch	John's Point Landing	Miller's Landing
LOCATION:	Route 618	Route 654	Route 606	Route 1208	Route 657	Route 612
RIVER:	York	Severn	Piankatank	York	Severn	Poropotank
PRIMARY FEATURE:	River	River	River	River	River	River
TYPE:	Public	Public	Public	Public	Public	Public
ACREAGE:						
TOTAL	0.4	0.3	1.5	1.2	1	1
LAND	0.4	0.3	1.5	1.2	1	1
WATER	0	0	0	0	0	0
BOAT ACCESS:	0.4	0.3	1.5	1.2	1	1
FACILITIES:						
BOAT ACCESS						
LANES:	0.4	0.3	1.5	1	1	1
WHARF	No	No	No	Small	Yes	Unsafe
RAMP TYPE	Concrete	No	No	Concrete	No	Dirt
OTHER						
MAP ID:	B1	B2	B3	B4	B5	B6
NAME:	Oliver's Landing	Paynes Landing	Severn Landing	Tanyard Boat Launch	Ware House Landing	Williams Landing
LOCATION:	Route 633	Route 630	Route 649	Route 617	Route 621	Route 1303
RIVER:	York	Ware	Severn	Poropotank	Ware	Timberneck Cr.
PRIMARY FEATURE:	River	River	River	River	River	River
TYPE:	Public	Public	Public	Public	Public	Public
ACREAGE:						
TOTAL:	0.3	1	0.4	0.4	0.5	0.2
LAND:	0.3	1	0.4	0.4	0.5	0.2
WATER:	0	0	0	0	0	0
BOAT ACCESS:	0.3	1	0.4	0.4	0.5	0.2
FACILITIES:						
BOAT ACCESS						
LANES:	1	1	1	1	1	1
WHARF:	Yes	Yes	No	Small	Small	Large
RAMP TYPE:	Shell	No	No	Concrete	Concrete	Dirt
OTHER:						
MAP ID:	B7	B8	B9	B10	B11	B12

STATE FACILITIES - OTHER

NAME:	Wellford Taliaferro
LOCATION:	Rt. 14 & Rt. 623
TYPE:	Public
ACREAGE:	
LAND	2
PICNIC	1
PICNIC TABLES	6
MAP ID:	

The established local recreation and park site standards of the Virginia Division of Parks and Recreation call for at least ten (10) acres of recreation land for each 1,000 persons in a community, one-quarter of which should be for active recreation (Table IV-6-4). This does not include large regional and state parks, golf courses and other special recreation areas, but it does provide for all park needs at the neighborhood, community and district park scale.

By these standards, Gloucester County should have approximately 353 acres of recreational area by 1990 (Table IV-6-5), with 88 acres available for active recreation. However, there is only a total of 75.5 acres of public lands in the County. School properties have 53 acres of recreational facilities, but use by the general public is limited. Therefore, only 75.5 acres can really be counted as parkland, and this includes leased properties. This makes the County deficient by a total of 223 acres! When planning for recreational facilities to provide for existing needs and additional future demands, the County must not look just at the total acreage needed but also ensure that various types of parks are built and distributed equitably throughout the County.

ISSUES

A recreation need exists when the demand is greater than the supply. If that need can be identified before it occurs, the potential exists to be able to thoughtfully plan for recreational activities and have them available as needed. A variety of methods with varying degrees of accuracy exist in order to determine present and future needs. Available resources such as personnel and finances preclude the degree of accuracy that could be attainable in determining need.

TABLE IV - 6 - 4
PARK STANDARDS

PARK TYPE	SERVICE RADIUS		MINIMUM SIZE (acres)	ACRES PER 1,000
	URBAN/ SUBURBAN	RURAL		
Neighborhood	0.5 mile	1-1.5 miles	5	3
Playground or Playlot	0.5 mile	-	0.25	-
Community	1 mile	3.7 miles	20	3
District	5 miles	10-15 miles	50	4
Regional	25 miles	25 miles	100	*
State	1 hour	50 miles	400	10
TOTAL				20

* Variable

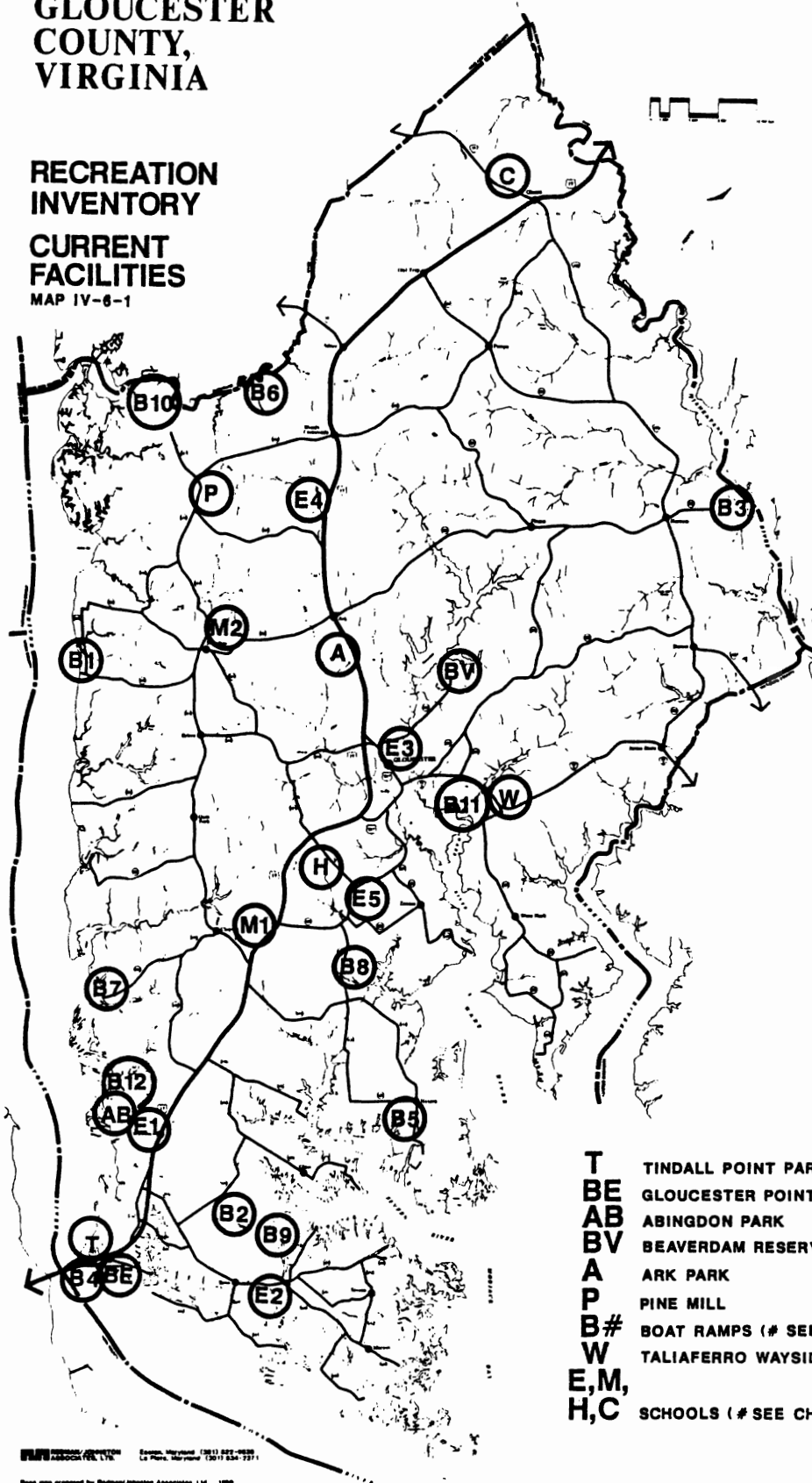
Source: Virginia Division of Parks and Recreation

**GLOUCESTER
COUNTY,
VIRGINIA**

**RECREATION
INVENTORY**

**CURRENT
FACILITIES**

MAP IV-6-1



- T** TINDALL POINT PARK
- BE** GLOUCESTER POINT BEACH
- AB** ABINGDON PARK
- BV** BEAVERDAM RESERVOIR PARK
- A** ARK PARK
- P** PINE MILL
- B#** BOAT RAMPS (# SEE CHART)
- W** TALIAFERRO WAYSIDE
- E, M, H, C** SCHOOLS (# SEE CHART)

PLANNING AND DESIGN SERVICES, INC. 1911 823-1000
12100 W. WILSON ROAD, SUITE 100, WILSON, VA 24187
Map prepared by National American Association, Ltd. 1989

TABLE IV-6-5
PROJECTED DEMANDS FOR PARKS
GLOUCESTER COUNTY, VIRGINIA

	EXISTING PARKS (acres)	ACRES PER 1,000	1990 NEEDS (acres)	2000 NEEDS (acres)	2010 NEEDS (acres)
Population			35,218	47,474	58,729
PARK TYPE					
Neighborhood	0.0	3	105.65	142.42	176.19
Playground or Playlot	0.0	-	-	142.42	-
Community	9.0	3	105.65	189.90	176.19
District	0.0	4	140.87	-	234.92
Regional	0.0	*	-	-	-
TOTAL	9.0	10	352.18	474.74	587.29

* Variable

Sources: Virginia Division of Parks & Recreation
Redman/Johnston Associates, Ltd.

There are various methods that can be used to determine the recreational facilities need for a given area. Detailed descriptions of these methods can be found in Recreation Needs Analysis: A Review of Techniques and A Preliminary Needs Assessment for Southeastern Virginia, SVPDC, August 1988. Accuracy of the resulting analysis naturally depends on the number of factors that are included. These factors include accurate counts of existing facilities and participation use surveys collected from resident and non-resident usage of facilities. One method is the Population Ratio Facility Standards methodology. For instance, the population ratio standard for a Junior Olympic swimming pool is 10,000 people per pool. If the population of a given area was 20,000, two pools would be needed. The Gloucester Parks and Recreation Advisory Committee and Department of Parks and Recreation reviewed state, national, and other localities' space standards to develop the standards listed in Table IV-6-6. These figures provide a quick look at the County's needs, but they do not take into consideration the socioeconomic, geographic, climatical, and cultural differences between localities.

In order to have more locally specific needs identified, participation rates requiring surveys are needed. Once again, available resources affect the

accuracy, as they determine the form the survey takes. The Virginia Department of Parks and Recreation conducted such a survey in 1982 and updated it in 1987 by utilization of a data base. In the 1982 survey, participants were given a list of activities and asked to note which ones they would participate in and how often they would participate. Unfortunately, that survey was only able to include County residents utilizing County-located facilities. It therefore did not take into account non-residents utilizing County-located facilities or residents utilizing facilities located elsewhere.

IMPLEMENTATION RECOMMENDATIONS

Information listed in A Comprehensive Recreation Plan for Gloucester County details an implementation plan according to a twenty year time table. This implementation plan and the strategies outlined in the Goal and Objectives Section of the recreation plan should be followed.

SUMMARY

By being aware of what facilities, programs and park types are available versus what is needed, Gloucester County is able to establish priorities. The goal of meeting the recreational demands of its citizens can be reached quickly and cost-efficiently.

The demand for recreational facilities is great and adequate park acreage is required to meet that demand. In addition to purchasing land, Gloucester County has the opportunity to address many needs by developing current resources.

Private business and organizations meet the recreational needs of a limited population. These

sources can not serve the entire population, but there are essentials to meeting the overall demand of Gloucester citizens. Development of private recreation facilities should be encouraged.

As with all elements of this Plan, demands for facilities will increase and change as the County continues to grow. Re-evaluation will be needed periodically in order to ensure that facilities and programs continue to be maintained or established in the most efficient manner.

MAP - Potential sites for new or improved parks & rec facilities

TABLE IV-6-6
GLOUCESTER COUNTY
RECREATIONAL NEEDS: 1990 - 2010

FACILITY TYPE	EXISTING PUBLIC SUPPLY	SPACE STANDARD ONE PER FIGURE	1990 NEED POPULATION: 35,218	2000 NEED POPULATION: 47,474	2010 NEED POPULATION: 58,729
Baseball Field	2	8,000	4	6	7
Basketball (outdoor)	6	5,000	7	9	12
Boat Landing	5 L	5,000	7	9	12
Campground	3 P	10,000	4	5	6
Football Field	1	10,000	4	5	6
Golf Course	1 P	25,000	1	2	2
Outdoor Performance	0	15,000	2	3	4
Picnic Area	7	2,000	18	24	29
Playground	6	3,000	12	16	20
Public Beach	1	15,000	2	3	4
Skating Area	0	30,000	1	2	2
Soccer Field (adult)	7	10,000	4	5	6
Soccer Field (youth)	3 L	15,000	2	3	4
Softball Field	4	5,000	7	9	12
Swimming Pool	0	20,000	2	2	3
Tennis Court	10	2,000	18	24	29
Trails	6 *	8000	4	6	7

* Below acreage standards, four out of the six are below standard

** Standard will probably be met through commercial or private development

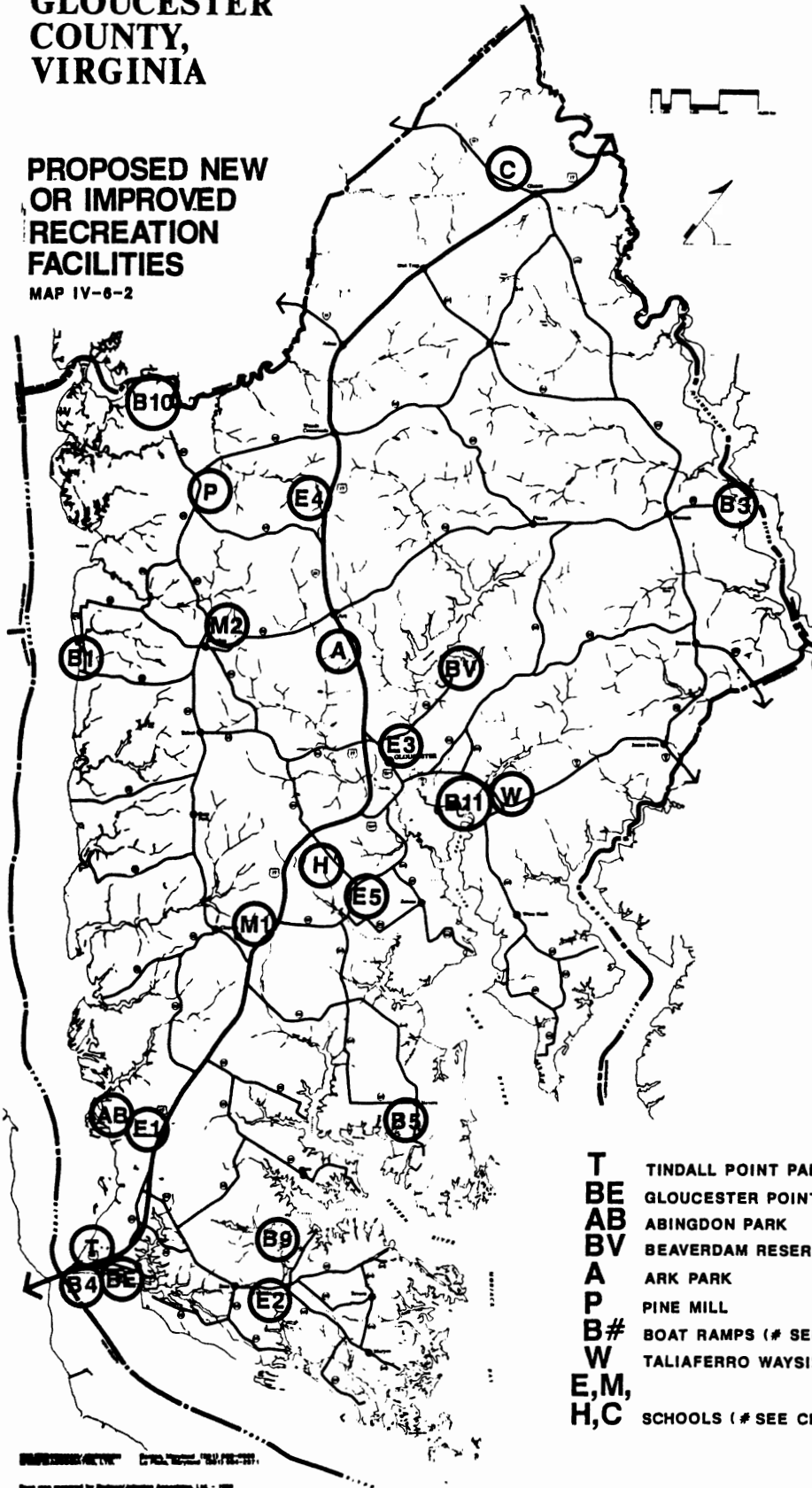
L Leased Properties

P Privately Owned

GLOUCESTER COUNTY, VIRGINIA

PROPOSED NEW OR IMPROVED RECREATION FACILITIES

MAP IV-6-2



- T** TINDALL POINT PARK
- BE** GLOUCESTER POINT BEACH
- AB** ABINGDON PARK
- BV** BEAVERDAM RESERVOIR PARK
- A** ARK PARK
- P** PINE MILL
- B#** BOAT RAMPS (# SEE CHART)
- W** TALIAFERRO WAYSIDE
- E, M, H, C** SCHOOLS (# SEE CHART)

UNIVERSITY OF VIRGINIA CENTER FOR REGIONAL DEVELOPMENT
Map was prepared by Regional Planning Associates, Inc. - 1989



Section 7

Historic and Cultural Resources

History can be kept alive through education and preservation, both of which can take many forms and vary in intensity. History is something one lives in daily and is not only a "do not touch" museum. Old homes can be restored to become comfortable homes of today or they can be refurbished as offices. Historic sites can honor the past while providing a place for leisure activities. An old church can still hold worship services similar to those held one hundred years ago. Various programs exist to help individuals and groups temporarily or permanently protect sites and structures considered significant. The past is a building block for the future, and if a plan is to be comprehensive, it must incorporate that past as a key element of planning for the future.

Continued historic and cultural resource preservation and enhancement through sensitive land use planning and other administrative means would provide Gloucester County with a number of benefits including:

- *Promotion of a strong sense of community pride for County residents;
- *Community revitalization through the renovation or adaptive reuse of older structures;
- *Increased property values and tax revenues as a result of renovation and restoration; and
- *Increased revenues from tourism generated.

The area known as Gloucester County was once inhabited by nomadic Indians. Just prior to the immigration of Europeans, the Indians lived in more permanent settlements and had become largely dependent upon agricultural products. One of the known archaeological sites in Gloucester County is Werowocomoco, Powhatan's principal village, where Captain John Smith was taken prisoner.

With the advent of the Europeans, physical evidence of man's presence became more evident. Spanish mariners explored the area in the late 1500's. The English began colonizing the County in the late 1600's when land in the Middle Peninsula was declared open to patenting in 1649.

Numerous historic sites listed on the National Register are scattered throughout the County. For example, the Gloucester County Courthouse Square Historic District, creating a park-like setting in the

heart of Gloucester, contains such buildings as the colonial T-shaped courthouse, Federal-period clerk's office, debtors' jail and other structures. The Gloucester Point Archaeological District, consisting of 59 acres, was added to the National Register in 1985 and to the Virginia Landmarks Register in 1987. Gloucester County is the birthplace of prominent individuals like Walter Reed, an eminent research scholar and the conqueror of Yellow Fever. Historic sites are a valuable asset to the community and deserve protection. Various methods to safeguard these sites exist, including historic site designation, historic zoning, tax exemptions, and acquisition of easements.

PROTECTION & PRESERVATION PROGRAMS

Outsiders, whether they go to a new place as tourists or as potential residents, will be attracted to a community that seems to respect itself and to have character and individuality. Tourists spend money with local merchants, and new residents spend even more. Local industry and business, if they recruit from outside the region, benefit, too, if it can be shown that the community is a good place to live. Historic preservation enhances the community character and shows that the community has pride and self-awareness. There are several methods available by which communities can make historic preservation a reality. While much has been done to preserve local architecture and history, many opportunities still exist to further preservation effort programs.

A number of existing programs provide assistance in protection or preservation, offer tax benefits, provide professional historical/architectural consulting, and so forth. More detailed information on programs including the National Historic Landmark, National Register of Historic Places, Conservation and Preservation Easements, and Historic Overlay Districts can be obtained from various historic preservation organizations and such publications as *Virginia's Heritage: A Property Owner's*

Guide to Resource Protection, published by the Virginia Department of Conservation and Historic Resources.

NATIONAL HISTORIC LANDMARK

A historical resource is generally a site over fifty years old. The criteria for determining these sites has been established by guidelines set forth by the Secretary of the Interior. A district, site, building, structure or object can be considered a historic resource. The criterion is that the resource must be significant in American history, architecture, archeology, engineering or culture.

One of the highest honors for a property owner to have bestowed upon his or her property is the designation of National Historic Landmark. This program, run by the National Park Service, is the primary Federal means of recognizing the exceptional national significance of historic properties. This program is also one of the major tools used to scrutinize proposals for additions to the National Park System and to select nominations to the World Heritage List.

In recognition of the historic significance of a property, the owner receives a certificate of designation and a plaque bearing the name of the property and attesting to its national significance. In return, the owner agrees to display the plaque publicly but is not required to grant public access to the property. Ownership and use of the property is not changed by being listed as a National Historic Landmark. Instead, an honor is granted.

NATIONAL REGISTER OF HISTORIC PLACES

In 1966, Congress established the National Register of Historic Places as the Federal Government's official list of properties, including districts, significant in American history and culture. In Virginia, the Register is administered by the Virginia Landmarks Register. Some benefits resulting from a listing in the National Register include the following:

- National recognition of the value of historic properties individually and collectively to the Nation.

- Eligibility for Federal tax incentives and other preservation assistance.
- Eligibility for a Virginia income tax benefit for the approved rehabilitation of owner-occupied residential buildings.
- Consideration in the planning for federally and state assisted projects.

Listing does not interfere with a private property owner's right to alter, manage or dispose of the property.

VIRGINIA LANDMARKS REGISTER

The Virginia Division of Historic Landmarks (VDHL) surveys historic buildings, structures and archaeological sites to determine eligibility to be listed on the Virginia Landmarks Register. As with being on the National Register of Historic Places, listing does not limit or regulate the property owner as to what can or cannot be done with the property. In order to be considered for listing on the National Register or have an easement on the property accepted by the VDHL, the site usually must first be listed on the Virginia Landmarks Register.

VIRGINIA HISTORIC PRESERVATION EASEMENT

A state-held historic preservation easement monitored by the Virginia Division of Historic Landmarks (VDHL) is an excellent means of perpetually preserving a historical structure and property for future generations. Regulations state that easements may be assignable to other parties or run with the land. The benefits for a property owner donating his land to the VDHL include income, estate, inheritance, gift and property tax benefits. In exchange, the owner gives the VDHL the final word regarding proposed alterations. However, for properties whose fair market value is largely based on the value of development rights, this method of preservation may not be the most financially expedient for the property owner or for the VDHL.

LOCAL HISTORIC OVERLAY ZONE

A third, but separate, type of designation is the locally-zoned historic district, which is an overlay on the existing zoning ordinance of a specified area. This district, legally allowed by the Code of Virginia, Title 15.1, Chapter 11, Article 9, Section 15.1-503.2, is designed in order to maintain the visual character of the community. It may allow an appointed Commission to monitor changes, alterations, and demolition of buildings and structures of architectural or historic significance. In Gloucester County, the governing position is filled by the Board of Supervisors. The main purpose of such zoning is:

- to safeguard the heritage of the County by preserving the District therein which reflects elements of its cultural, social, economic, political or architectural history;
- to stabilize or improve property values in such a District;
- to foster civic beauty;
- to strengthen the local economy;
- to promote the use and preservation of Historic Districts for the education, welfare and pleasure of the residents of the County.

Monitoring of historic buildings and structures by the Historical Committee under the supervision of the Board of Supervisors is done so that property owners can gain recognition and protect the special character of their historic neighborhood. There are well-publicized design guidelines that the Committee would employ when assisting the applicant in obtaining a certificate of approval for alteration or new construction. The government supports these owners' efforts through tax benefits and other programs. By creating such districts, a community can look forward to being able to maintain its identity in the face of advancing new developments.

Article 6 of the Gloucester County Zoning Ordinance details those regulations regarding Historic Districts that fall under the jurisdiction of the County. Eighteen properties are presently located in this zoning

category. All of these properties are also included on the National Register of Historic Places.

Books and pamphlets have been written which discuss historic sites and structures within the County. Some of these can be found in the library in Gloucester or Gloucester Point. A wealth of information on the County's historical and archaeological sites and structures can also be found at the Virginia Division of Historical Landmarks, located in Richmond.

NON-PROFIT PRESERVATION AND CONSERVATION ORGANIZATIONS

Various organizations exist in Virginia whose aim is to preserve and conserve archaeological and historical resources. These include, but are not limited to, the Archeological Society of Virginia, the Association for the Preservation of Virginia Antiquities, and the Council of Virginia Archaeologists. Individuals can contact the Virginia Department of Conservation and Historic Resources in Richmond for a more complete listing of existing organizations.

IMPLEMENTATION RECOMMENDATIONS

Many historians have long believed that the old is to be appreciated for its beauty and its continuing usefulness, and should be made whole and fresh; the new should fit gracefully into the existing town or its environs. In order for the County to continue to maintain its sense of history, regulations need to be developed.

The following strategies are designed to facilitate achieving this Plan's goal of preserving and enhancing the County's rich cultural and historic heritage.

- **Inventory:** Encourage the establishment, maintenance and updating of a comprehensive listing of historical districts and sites in Gloucester County which includes discussion of significant sites. Such a listing with an accompanying map should be readily accessible in the Department of Community Development to alert planners of historic sites in or near proposed developments.

TABLE IV-7-1
HISTORIC SITES AND BUILDINGS IN GLOUCESTER COUNTY

1. † Paradise	31. Warner Hall	63. Mill Hill (Morven)	92. † Valley Front
2. † Woodstock	32. Eagle Point (Vue de L'eau)	64. * Toddsbury	93. Aspen Hill
3. † Violet Bank	33. Land's End	65. Newstead	94. * Walter Reed's Birthplace
4. Oakwell	34. Free School House (Peasley Hs.)	66. Holly Hill	95. Belroi (Belle Roy)
5. † West End	35. Point Lookout	67. Mt. Zion Methodist Church	96. Bellamy Methodist Church
6. Old Purton	36. Sherwood (Shabby Hall)	68. † Waverley	97. Springfield (Mundunga)
7. † Greenwich	37. Level Green (Beau Pre')	69. † Midlothian	98. † The Shelter
8. Cappahosic House	38. Shipyard	70. Eaton Hill	99. Wayunda
9. † Mulberry Hall	39. Crow Point	71. Freewelcome	100. Kenwood
10. Tippecanoe	40. Wilson's Creek	72. † Elm Bank	102. Summerville
11. † Woodbury	41. White Hall	73. Boxley	103. Independence
12. † New Bottle	42. Goshen	74. Sunnyside	104. † Newington
13. Concord	43. Warehouse	75. Freeport	105. * Roaring Spring
14. Hava's Hall	44. Hael Western (Hael Weston)	76. Camden	106. † Wareham
15. *† Rosewell	45. * Ware Church	77. † Highgate	107. † Campfield
16. *† Fairfield (Carter's Creek)	46. Church Hill (Mordecai's Mount)	78. † Cheesecake	108. * Court Green Complex
17. Shelly	47. Pig Hill	79. Glen Auburn	109. † Honeypod Tree
18. Timberneck	48. Site of First Ware Church	80. † Turk's Ferry	110. Long Bridge Ordinary
19. Powhatan's Chimney	49. Glen Roy	81. Leaville Springs	111. Clifford
20. * The Hills	50. * Lowland Cottage	82. † Roseway	112. Enfield
21. Gloucester Towne	51. Hockley (Erin, Cowslip Green)	83. † Dragon Ordinary	113. Airville
22. * Little England	52. Booth Old Home Site	84. Kempsville	114. † Mount Pleasant
23. * Cluverious House	53. Ware Point	85. † Mount Prodigal	115. † Robin's Mill
24. Fairfield (Vaughan's Creek)	54. Groomsville (Constantinople)	86. Bacon's Quarter	116. * Abingdon Glebe
25. † Salt Springs	55. † Bloomsbury	87. Church Hill (Petsworth Parish)	117. Roadview
26. Lisburne	56. Belle Ville	88. † Poplar Springs (Petworth Parish Ch.)	118. White Marsh
27. † Belle Farm	57. Dunham Massie	89. Pleasant View	122. * Abingdon Church
28. Lansdowne	58. † Back Creek	90. † Marfield	123. Seawell's Ordinary
29. † Brew House	59. Burg Western	91. † Hickory Hill	119. Millwood
30. Severn Hall	60. Elmington		120. Hichory Fork
	61. Cherokee		121. † Abingdon
	62. Exchange		124. † Gloucester Place
			125. The Hook

* denotes listing by the Virginia Historic Landmarks Commission

† denotes the building is not longer standing

• **Historically Significant Open Space:**

Designate open spaces in developments and parks which include historical resources.

- **Adaptive Re-Use:** Promote the adaptive reuse of historic structures for public and private uses including, but not limited to, Bed and Breakfast establishments, craft/gift shops, museums, and studio space for artisans, when such uses minimize exterior structural alteration.

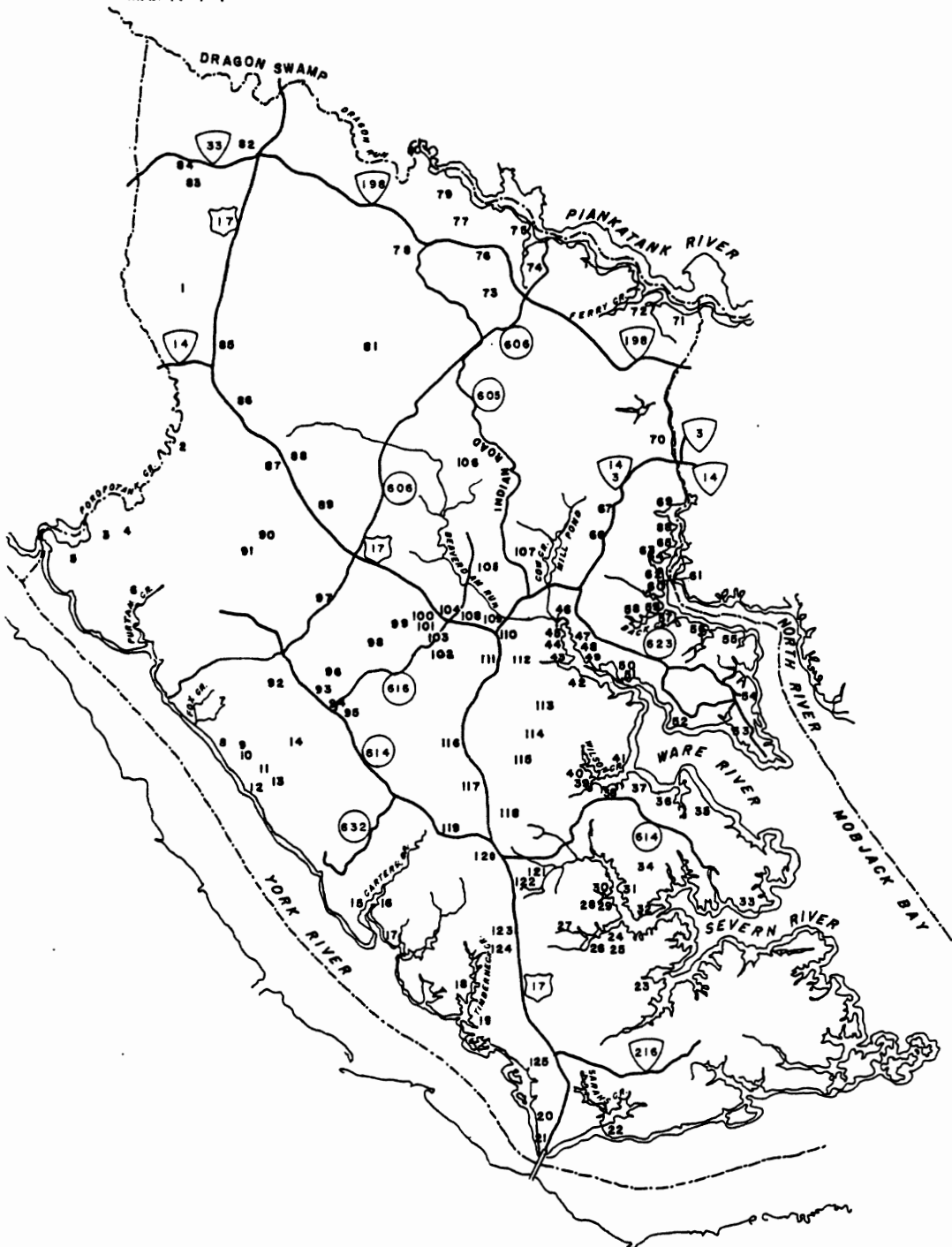
- **Support Owners:** Encourage, through the use of various incentives, the preservation of historic structures. Include tax incentives for major structural or exterior renovation or the donation of protective historic easements.

- **Local Historic Districts:** Encourage, through the use of various incentives, the establishment of local historic districts throughout the County.

GLOUCESTER COUNTY, VIRGINIA

HISTORIC SITES

MAP IV-7-1



Include tax incentives and recognition through the awarding of plaques.

- **Zoning Ordinance:** Rewrite the local Historic District overlay section within the Zoning Ordinance so that it provides more detailed guidelines for users. Within it, develop a Historic Area Work Permit to regulate and monitor major structural or exterior renovation.
- **Historic District Commission:** Create a Historic District Commission composed of volunteer citizen residents who are qualified by special interest, knowledge or training in such fields as history, architecture, preservation or urban design.
- **Tourism:** Promote historic sites in the County through tourism via such items as pamphlets distributed at the Chamber of Commerce and other locales. Some existing pamphlets include "Gloucester County Driving Tour", "The Walter Reed Birthplace", "Gloucester Point's Heritage", and "Rosewell, Historic Ruins of Virginia".
- **Support Organizations:** Support efforts of preservation and cultural organizations in the County and encourage open communications between these organizations.
- **Education:** Encourage school system and community wide participation in a historical resources management program through education and public awareness.
- **Awareness of Existing Tools:** Support educational efforts by promoting awareness of existing tools as is done in "A Property Owner's Guide to Resource Protection" published by the Virginia Department of Conservation and Historic Resources.
- **State and Federal Programs:** Support state and federal programs, such as the National Register of Historic Places, which provide incentives to foster protection or restoration of structures.
- **Review Development Proposals:** Review development proposals which may adversely affect historic resources when granting permits for development or other forms of land alteration,

such as grading, mining, etc. Negotiate mitigation measures where possible to reduce impact.

- **Transfer Development Rights:** Allow developers to apply development rights to other tracts of land within the County to prevent intense development from occurring adjacent to a historic district.
- **Support Archaeological Research:** Support archaeological research through such techniques as preservation and by encouraging developers to allow archaeologists a limited time to excavate their land before development begins.

SUMMARY

Gloucester County has a past rich in local history, both pre-Colonial and Colonial. Efforts already exist to preserve that history for future generations. By supporting existing projects, educating residents, and continuing to expand rehabilitation and preservation efforts, County residents will have a heritage that they can pass on to their children and to tourists.

The background of the page is a microscopic image of plant cells, showing a grid-like structure of cell walls. A dark blue rectangular box is overlaid on the right side of the page, containing the text. The text is in a white, serif font. The word "Section 8" is larger and positioned above a thin white horizontal line. Below the line, the words "Natural Resources Protection" are written in a smaller font.

Section 8

Natural Resources Protection

Section, 8, the Natural Resources Section of the Comprehensive Plan, has been replaced by an amendment to the Comprehensive Plan, entitled Natural Resources and Environmental Quality, adopted by the Gloucester County Board of Supervisors on November 7, 2001 as an update to the Comprehensive Plan. This amendment has been incorporated as Appendix B of this document.

The background of the page is a microscopic image of plant cells, showing a grid-like structure of cell walls. A dark blue rectangular box is overlaid on the right side of the image, containing the text 'Part V' and 'Implementation Recommendations'.

Part V

Implementation Recommendations

The Comprehensive Plan is intended to capture a vision of the future Gloucester County. As such, it provides a basis for a wide variety of public and private actions and development decisions which are to be undertaken in the County over time. It is not a static document because a community is not static, but one which provides general guidelines to the local community in order that piecemeal improvements or day to day decisions can be properly evaluated against their long-range impact upon the community and their relationship to existing settlement patterns.

The Plan and, in particular, the Land Use Element, indicates the proposed general or conceptual development pattern of the community projected to 2010. However, it is not a detailed blueprint. Local conditions, values, and philosophies change as a result of economic and political pressures and the Plan must subsequently be responsive to these changes. The Plan is not a document that encourages regimentation. It is, however, a guide to development that permits an orderly and economical growth of the community. Such growth allows it to be served more efficiently with a variety of governmental services and facilities. Implementation involves the concerted actions of both County elected officials and certain appointed boards. This Part addresses two aspects of plan implementation that need additional treatment: Administration and Enforcement; and Development Standards and Design Guidelines.

PLAN ADMINISTRATION AND ENFORCEMENT

One of the most important, yet often neglected, issues to be considered in the formulation of the Comprehensive Plan, Zoning Ordinance and Subdivision Regulations is administration and enforcement. Even the most well conceived plans and ordinances will lose effectiveness (and in some cases be invalidated) without consistent and equitable administration and enforcement. The responsibility for administering and enforcing the Comprehensive Plan and its associated ordinances and regulations rests primarily with the County Board of Supervisors, Planning Commission, Board of Zoning Appeals and the staff of the Office of Community Development and Codes Compliance. Each group has a different

role in administration and enforcement, and each group's role needs to be defined and understood in the context of this Plan.

IMPLEMENTATION ACTION PLAN

The actions needed to guide construction of plan implementation tools, particularly the preparation of new land use and development regulations, as well as operational features of future administrative structure, are summarized below:

1. Where possible, use clear measurable performance standards in ordinances to minimize interpretive confusion.
2. Where uses are subject to Board of Zoning Appeals special exception approval, enumerate minimum standards by use and improve the criteria or standards which the Board uses as a yardstick to determine the appropriateness of a given use in the respective zoning district.
3. Reduce the number of special exception uses where possible by establishing clear standards by which they may be permitted by right and subjected to established standards.
4. Establish a policy for reasonable time frames for review of rezoning application, special exception uses, subdivisions, and uses subject to site plan review and approval.
5. Establish clearer administrative procedures documenting applicant, staff and approval authority responsibilities for processing rezoning, special exception uses, subdivisions, and uses subject to site plan review and approval.
6. Utilize standard forms and checklists for ministerial and administrative procedures that clarify for all parties various application submission requirements, improvement guarantees, and inspection procedures.
7. Review and refine rules of procedure for use by the Supervisors and Boards for all zoning forms of action that require public hearings.

8. Provide adequate budget and staff, as well as training and support, for administrative procedures and inspection functions, and attempt to coordinate and/or integrate inspection and administrative functions to the maximum extent possible.
9. Revise the penalty section of the Zoning Ordinance to allow civil penalties for less serious violations.
10. Require the annual revision to the County's Capital Improvements Program to be coordinated with the Comprehensive Plan and any recommended amendments resulting from the annual review of the Plan and planning process.
11. The Plan should be reviewed and updated every five (5) years.

DEVELOPMENT STANDARDS AND DESIGN GUIDELINES

This section addresses the many aspects of development design in Gloucester County. Development design can be generally defined as the management of the visual and physical development of the built environment. Primary emphasis is placed on the preservation of the County's rural character. The intention is to respond to growing public concern about the increasing transformation of Gloucester's traditional rural landscape to sprawling suburban residential and strip commercial development similar in nature to the land use pattern ringing most of the metropolitan centers throughout the Hampton Roads region and the nation. What concerns the public is that, if measures are not taken now, Gloucester could become conventionally suburban, with only vestiges of the traditional rural landscape of compact village centers, scattered farms, open fields, and forests remaining.

Managing development design to maintain and enhance the rural character and aesthetics of the County is an important component of Gloucester's Comprehensive Plan. Application of development

design standards is appropriate anywhere human features are present, and where the physical and visual properties of development can significantly influence the character of the County's rural, suburban, and urban areas. Development design guidance, or the lack thereof, significantly affects real estate values, community pride, a sense of obligation to private property, personal enjoyment and satisfaction, and the overall investment climate in Gloucester County.

This section will discuss and recommend various approaches to influence positively the development design of areas throughout Gloucester County.

THE RURAL LANDSCAPE

Within those areas of the County designated as Rural/Agricultural Conservation Districts, the Plan recommends providing zoning ordinance and subdivision regulation incentives for cluster development. Through the clustering approach for rural subdivisions, the developer is able to increase base densities and decrease lot sizes in return for setting aside 50 to 70 percent of the overall parcel as open space. The resultant open space would be permanently protected by conservation restrictions for future agricultural use, forestry, or simply community open space.

Buildings would either be located in a wooded fringe at the edge of fields, or screened and setback from the fields and public roadways by a landscaped buffer area. Buildings should be sited so that obstruction of views from public ways will be minimized. This can be achieved by taking advantage of topographic changes or existing vegetation. This requirement would preserve rural views and enhance the rural image of the County. Although individual septic systems could be built for each house, joint systems shared by several houses would become possible, allowing siting on the most suitable soils in the tract, and at the greatest distance from any wells. Lots would be accessed from new subdivision roads instead of from numerous driveways fronting on public routes.

Everyone seems to benefit when such creative land development strategies are followed. Farmers who view their land as their "pension" no longer have to destroy their farms in order to retire with a

guaranteed income, as their equity is not diminished. Land will still remain available for productive agricultural activities and open space, thus reinforcing the County's rural character. The County government does not have to raise large sums of money to subsidize agricultural preservation through acquisition of land or conservation easements. The administrative complexities posed by alternative measures such as Transferable Development Rights (TDR) programs are avoided. Developers are not placed under any unreasonable constraints, and realtors gain a special marketing tool, in that the rural views from the new houses will be guaranteed by the conservation easements that protect the open fields and forests from future development. And finally, housing costs may be reduced because of smaller lot sizes and lower land costs.

This residential land development approach is specifically designed for rural areas, where local officials and residents are looking for rural and agricultural conservation options that involve little public expenditure, are easy to administer, allow full equity for rural landowners, and are not unfair to developers.

In order to preserve the County's rural character, the following implementation techniques are recommended. They are organized by Landform.

TABLE I
Development Type: Single Family
Landform: Farm fields

Where single family residential development locates in or near farm fields, the following goals and implementation techniques are recommended

GOAL: Minimize Visual Impact.

IMPLEMENTATION TECHNIQUES:

1. Structures should not be placed in open fields.
2. Residences should be located adjacent to tree lines and wooded field edges.
3. Residences should not front directly on off-site streets.
4. Where clustering will yield open space that can remain in active agriculture, its use should be explored and possibly required.

GOAL: Retain Rural Features.

IMPLEMENTATION TECHNIQUES:

1. Existing farm roads should be upgraded to state standards and incorporated into subdivision design.
2. Hedge rows, fence rows, and tree lines should be preserved.
3. Existing agricultural structures such as barns and silos should be preserved where feasible.

GOAL: Minimize Site Disturbance

IMPLEMENTATION TECHNIQUES:

1. Roads should follow existing contours.
2. Disturbance for the construction of roads, basins, and other improvements should be kept at a minimum.
3. Disturbance on individual lots should be limited.

TABLE II
Development Type: Single Family
Landform: Waterfront

Where single family development locates at or near the waterfront, the following goals and implementation techniques are recommended.

GOAL: Minimize Visual Impact.

IMPLEMENTATION TECHNIQUES:

1. A minimum building setback from all water bodies should be consistently maintained.
2. Site disturbance per lot should be limited to the minimum necessary to allow for the desired use. Disturbance in this context means any land disturbing activity, including clearing, grading, and construction of buildings or other structures.

GOAL: Retain Water Quality.

IMPLEMENTATION TECHNIQUES:

1. A water quality management plan should be prepared to control chemical pollutants, including fertilizers.
2. High quality waters should be identified and monitored to maintain and enhance water quality.
3. On-site wastewater treatment facilities should be designed to protect surface water and groundwater.

GOAL: Minimize Site Disturbance.

IMPLEMENTATION TECHNIQUES:

1. Total disturbance, especially within buffer areas, should be limited. Disturbance in this context means any land disturbing activity.
2. Roads should follow existing contours.
3. Disturbance for the construction of roads, basins, and other improvements should be kept to a minimum.
4. Disturbance on individual lots should be limited.

TABLE III
Development Type: Single Family
Landform: Wooded Slopes

Where single family residential development locates on wooded slopes, the following goals and implementation techniques are recommended

GOAL: Minimize Visual Impact.

IMPLEMENTATION TECHNIQUES:

1. Structures should not be placed on ridge lines.
2. Trees on ridges should not be removed.

GOAL: Retain Woodland Features.

IMPLEMENTATION TECHNIQUES:

1. Hedge rows, fence rows, and tree lines should be preserved.
2. Wooded areas between the principal structure and the drive or roadway should be retained.
3. The creation of extensive lawn areas should be discouraged.

GOAL: Minimize Site Disturbance.

IMPLEMENTATION TECHNIQUES:

1. Roads should follow existing contours.
2. Disturbance for the construction of roads, basins, and other improvements should be kept to a minimum.
3. Disturbance on individual lots should be limited.
4. Building envelopes should be limited and located in the most suitable areas for development.
5. Areas outside building envelopes should be restricted against development.
6. Building envelopes should avoid steep slopes.
7. Natural vegetation on each site should be preserved to the maximum extent possible.

COMMUNITY CENTERS

The Plan designates numerous Rural Service Centers and Crossroads Settlements throughout the rural areas of Gloucester. These centers, which can generally be termed rural centers, have traditionally served as focal points for the surrounding rural community. They play an important functional role in providing homes, limited neighborhood-oriented commercial services and businesses, and civic buildings such as churches, post offices, fire halls, etc. Many of the rural centers throughout Gloucester contain historical structures which should be preserved through local historic district zoning.

These centers each have a unique rural character and "sense of place" with which local residents easily identify. Development design standards for rural centers would help to preserve their rural ambiance while still accommodating limited future growth in a responsible

manner. It is ironic that the traditionally tightly-knit village pattern so typical of rural areas is often illegal to produce or emulate in many, if not most, rural Virginia communities today. Developers are required to separate different land uses and set each house on suburban size lots. Such regulations inadvertently destroy the rural character of existing settlements at a rapid pace and prohibit the development of other villages and crossroads communities.

The following are recommended development design guidelines for existing and future Community Centers:

- Residential, small-scale commercial and public/semipublic uses should be permitted to coexist adjacent to one another as was done in traditional rural villages.
- Where existing buildings express a traditionally modest (pre-zoning) front setback, creating a characteristically close relationship with the street, it would be highly desirable to retain this pattern in order to preserve the community's character.
- Off-street parking lots should be placed only to the rear or side of buildings. The visual impacts of parking areas upon community character can easily be reduced through landscaping and buffering requirements.
- Open storage areas, exposed machinery, and outdoor areas used for the storage and collection of rubbish, should be visually screened from roads and surrounding land uses.
- Because roadside trees are extremely important to the character of any village or settlement, removal of trees over five inches in diameter should be absolutely minimized, especially along roadways. Removal of existing trees can usually be lessened by shifting the site of the building, parking lot, or entrance/exit drives. In addition, planting of new trees along roads is encouraged to reinforce rural character.
- Lighting should be controlled in both height and intensity to maintain rural character. Luminaries should be shielded to prevent excessive lighting and glare beyond lot lines onto neighboring properties or public ways.
- It is particularly important that new construction be designed and built to blend with its surroundings. New construction in rural centers should be compatible with surrounding buildings in terms of formal characteristics such as height, massing, roof shapes, and door and window proportions. Where new construction is surrounded by existing historic buildings, building height and exterior materials should be harmonious with those of adjacent properties.

- One of the most readily apparent aspects of community character is signage. Since signs are intended to be highly visible and attract attention, they often produce a lasting impression on locals and visitors. Signage standards for rural centers should enhance the unique character of the community. Signs in these areas should relate to pedestrians and to people in slow moving vehicles. They should be designed to be readable to these people, thereby encouraging shoppers and passersby to stop and linger. Large auto-oriented signs are a modern addition in these areas and are inconsistent with both the scale of buildings and rural village character. The size, materials, color, lettering, placement, and illumination of signs in rural centers should respect the unique character of existing buildings.
- Provisions should be made in the County's development ordinances to accommodate the limited growth of existing rural centers in a manner which compliments the existing character of the center. Provisions should also be made to allow for the development of additional mixed-use centers in appropriate rural locations throughout the County.

HIGHWAY CORRIDORS AND ROADWAYS

Certain major highways and roadways throughout the County have been designated in the Plan as important corridors where access and aesthetics should be controlled in order to either avoid unappealing forms of commercial strip-development and resultant traffic congestion, or to preserve scenic rural views. Both of these objectives have great merit for the maintenance and improvement of rural character in Gloucester.

Along designated scenic routes, development should be limited and buffered from roadway view. Signage should also be limited to avoid distracting from rural vistas. Along major County highways such as Routes 17, 3/14, 33, and 198, limiting access is vital to preserving roadway capacity, decreasing congestion, and improving safety. Commercial development should not be stripped along the corridor, but rather, it should be concentrated into defined commercial nodes located at major road junctions.

The large-scale and permanent loss of scenic views, characteristic landscapes, and open space is perhaps the most devastating visual result of conventionally regulated commercial highway development in rural areas. The tendency has been for zoning to encourage new development to line both sides of major roadways, eventually obscuring fields, pastures, or woodlands behind commercial frontage lots. This kind of homogenous

development contributes greatly to the loss of rural character and community identity.

When zoning highway commercial areas, the County should not succumb to the "broad brush" approach of designating all roadside areas for new commercial development, but should instead examine the rural landscape to identify the amenities and visual resources that are present. Rather than allowing linear developments, commercial zoning can break the standard pattern by designating commercial nodes in compact, centralized areas, with visually important landscapes protected in between. Commercial development, regardless of where it is located in the County, should also be subject to development appearance standards that ensure compatibility to surrounding land uses and promote a high quality built environment that compliments the community character of Gloucester.

DEVELOPMENT APPEARANCE STANDARDS

All future development in the County, except for single-family homes and farm buildings, should be subject to design review for compliance with minimum development appearance standards. These minimum standards that should be achieved are performance standards rather than inflexible and stringent criteria. The intent of these performance standards is to promote quality development that will compliment the community character of Gloucester. One of the reasons for implementing these standards is, of course, to influence development aesthetics in a positive manner. However, this objective is justified by the greater goals of protecting and enhancing real estate values, fostering civic pride, and improving the overall investment climate within the County.

These standards are not intended to restrict imagination or development creativity, but rather, to assist in focusing on development design principles that should result in enhancing the visual appearance of the built environment in Gloucester. The development appearance standards relate to such factors as: relationship of buildings to the site; relationship of existing buildings and site to adjoining areas; landscape and site treatment; building design; signs; and maintenance. These standards should not be considered cost prohibitive or overly restrictive since they embody common sense design principles that were traditionally employed throughout the country prior to the advent of post-war suburbanization.

The following are recommended development appearance standards for future multi-family, commercial and industrial development in all areas of Gloucester County:

Relationship of Buildings to Site

- The site should be planned to accomplish a desirable transition with the streetscape and to provide for adequate planting, safe pedestrian movement, and screened parking areas.
- Site planning in which setbacks and yards are in excess of zoning restrictions should be encouraged to provide an interesting relationship between buildings. Buildings in Community Centers are encouraged to minimize front setbacks to enhance the traditional street/building relationships typically found in rural villages.
- Parking areas should be treated with decorative elements, building wall extension, plantings, berms, or other innovative means so as to screen parking areas from public ways.
- Without restricting the permissible limits of the applicable zoning district, the height and scale of each building should be compatible with its site and existing (or anticipated) adjoining buildings.
- Newly installed utility services and service revisions necessitated by exterior alterations should be placed underground wherever possible.

Relationship of Buildings and Site to Adjoining Area

- Adjacent buildings of different architectural styles should be made compatible by such means as screens, site breaks, and materials.
- Attractive landscape transition to adjoining properties should be provided.
- Harmony in texture, lines, and mass should be required. Monotony of design should be avoided.
- Adjacent incompatible land uses should be screened from one another by landscaping, berms, walls, and fences.

Landscape and Site Treatment

- Where natural or existing topographic patterns contribute to the beauty and utility of a development they should be preserved and developed. Modifications to topography should be permitted where they contribute to good appearance, or where they are necessary.
- Grades of walks, parking spaces, terraces, and other paved areas should provide an inviting and stable appearance for the pedestrian.
- Landscape treatment should be provided to enhance architectural features, strengthen vistas and important axes, and provide shade.
- Unity of landscape design should be achieved by repetition of certain plant varieties and other materials and by coordination with adjacent development.

- Plant material should be selected for interests in its structure, texture and color, and for its ultimate growth. Plants that are indigenous to the area and others that will be hearty, harmonious to design, and of good appearance should be used.
- In locations where plants will be susceptible to injury by pedestrian or motor traffic they should be protected by appropriate curbs, tree guards, or other devices.
- Parking areas and traffic ways should be enhanced with landscaped spaces containing trees or tree groupings.
- Where building sites limit planting, the placement of trees in parkways or paved areas should be required.
- Screening of service yards and other places that tend to be unsightly should be accomplished by use of walls, fencing, plantings, or combinations of these. Screening should be effective in winter and summer.
- In areas where general planting will not prosper, other materials such as fences, walls, and pavings of wood, brick, stone gravel, and cobbles should be used. Carefully selected plants should be combined with such materials where possible.
- Exterior lighting, when used, should enhance the adjoining landscape. Lighting standards and building fixtures should be of a design and size compatible with the building and adjacent areas. Lighting should be restrained in design and not be excessively bright.

Building Design

- Architectural styles should not be restricted. Evaluation of the appearance of a project should be based on the quality of its design and the relationship to its surroundings.
- Buildings should have good scale and be in harmonious conformance with permanent neighboring development.
- Materials should have good architectural character and should be selected for harmony of the building with adjoining buildings. Materials should be of durable quality. Materials should be selected for suitability to the type of buildings and the design in which they are used. Buildings should use the same material for all building walls and other exterior components wholly or partly visible from public ways. They should also employ materials that are architecturally harmonious. In any design in which the structural frame is exposed to view, the structural materials should be compatible within themselves and harmonious with their surroundings.
- Building components, such as windows, eaves, doors, parapets, should have good proportions and relationships to one another.
- Colors should be harmonious and should use only compatible accents.

- Mechanical equipment or other utility hardware on roof, ground, or buildings should be screened from public view with materials harmonious with the building, or they should be so located as not to be visible from public ways.
- Exterior lighting should be part of the architectural concept. Fixtures, standards, and all exposed accessories should be harmonious with building design.
- Refuse and waste removal areas, service yards, storage yards, and exterior work areas should be screened from view of public ways.
- Monotony of design in single or multiple building projects should be avoided. Variation of detail, form, and siting should be used to provide visual interest. In multiple building projects, variable siting of individual projects should be used to prevent a monotonous appearance.

Signs

- Every sign should have good scale and proportion in its design and in its visual relationship to buildings and surroundings.
- Every sign should be designed as an integral architectural element of the building and site to which it principally relates.
- The number of graphic elements on a sign should be held to the minimum needed to convey the sign's major message and should be composed in proportion to the area of the sign face.
- The colors, materials, and lighting of every sign should be restrained and harmonious with the building and site to which it principally relates.
- Each sign should be compatible with signs on adjoining premises and should not compete for attention.

Maintenance – Planning and Design Factors

- Continued good appearance depends on the extent and quality of maintenance. The choice of materials and their use, together with the types of finishes and other protective measures, should be conducive to easy maintenance and upkeep.
- Materials and finishes should be selected for their durability and wear, as well as for their beauty. Proper measures and devices should be incorporated for protection against the elements, neglect, damage, and abuse.
- Provisions for washing and cleaning of buildings and structures, and control of dirt and refuse should be incorporated in the design. Configurations that tend to catch and accumulate debris, leaves, dirt, and rubbish should be avoided.

- Provisions for landscape maintenance and replacement (i. e. native species) should be added.

SUMMARY

Essentially, the broad choice in future development patterns for Gloucester is between a creative extension of the traditional rural character concept, and repetition of conventional suburban development practices, wherein 100 percent of the tract is covered by streets, houses, yards, and strip commercial development. The former enables a large proportion of new homes and businesses to be sited so as to command uninterrupted views across open fields, pastures, and woodlands permanently protected from future development.

When a subdivision, shopping center, or other large scale development is proposed in a rural setting, residents and County officials often have difficulty convincingly describing just what is at stake. Fortunately, or unfortunately, the quality of a rural landscape is not easily measured in dollars and cents. Lacking a direct market value, however, a rural landscape might wrongly be assumed to have no value. This is a very real dilemma in a society which knows the value of very few intangibles, such as rural character.

Application of the development design standards described in this chapter should help the next generation of development to be such that the County's rural character and quality of life will be preserved and enhanced. Incorporation of these standards into County development ordinances, to the degree possible, will help ensure that necessary discussion occurs and that development design choices are made consciously rather than by default. It is understood that not all design concepts and guidelines can be defined by ordinance language. Nevertheless, this County policy should help County officials address the loss of character due to the homogenous visual appearance of suburban sprawl. It will provide a common yardstick by which to evaluate future development in Gloucester County.

APPENDIX A

GLOUCESTER POINT PLAN

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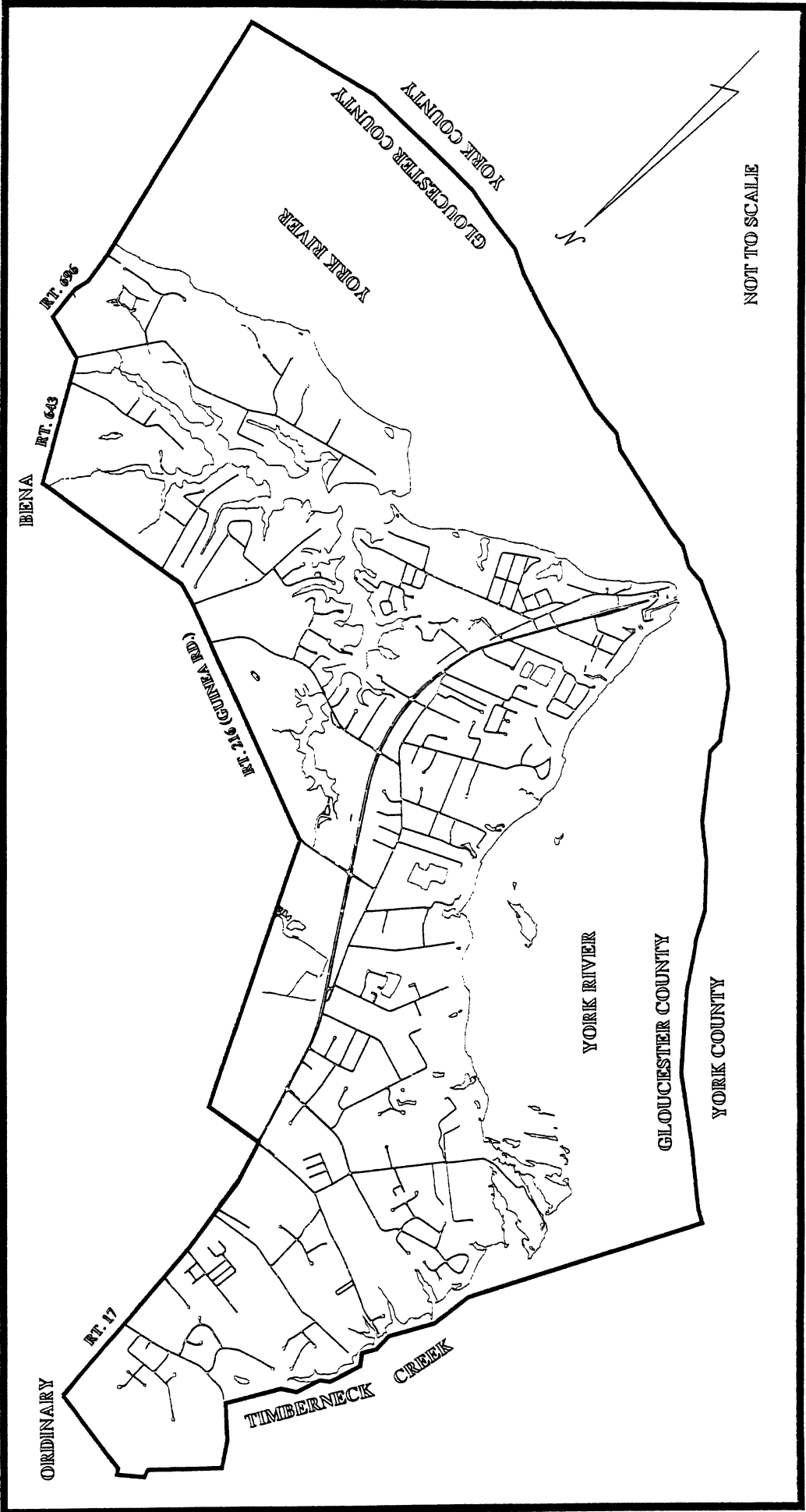
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GLouceSTER POINT CENSUS DESIGNATED PLACE 1990 BOUNDARIES



PREFACE: SELECTION OF GLOUCESTER POINT CENSUS DESIGNATED PLACE AS STUDY AREA

The 1991 Gloucester County Comprehensive Plan defines two village centers which anchor the northern and southern ends of a forty square mile Development District. The planning process for the southern village center has employed boundaries defined by the United States Census Bureau, which has delineated a Gloucester Point Census Designated Place within the Hampton Roads Urbanized Area. Quoting from 1990 Census information:

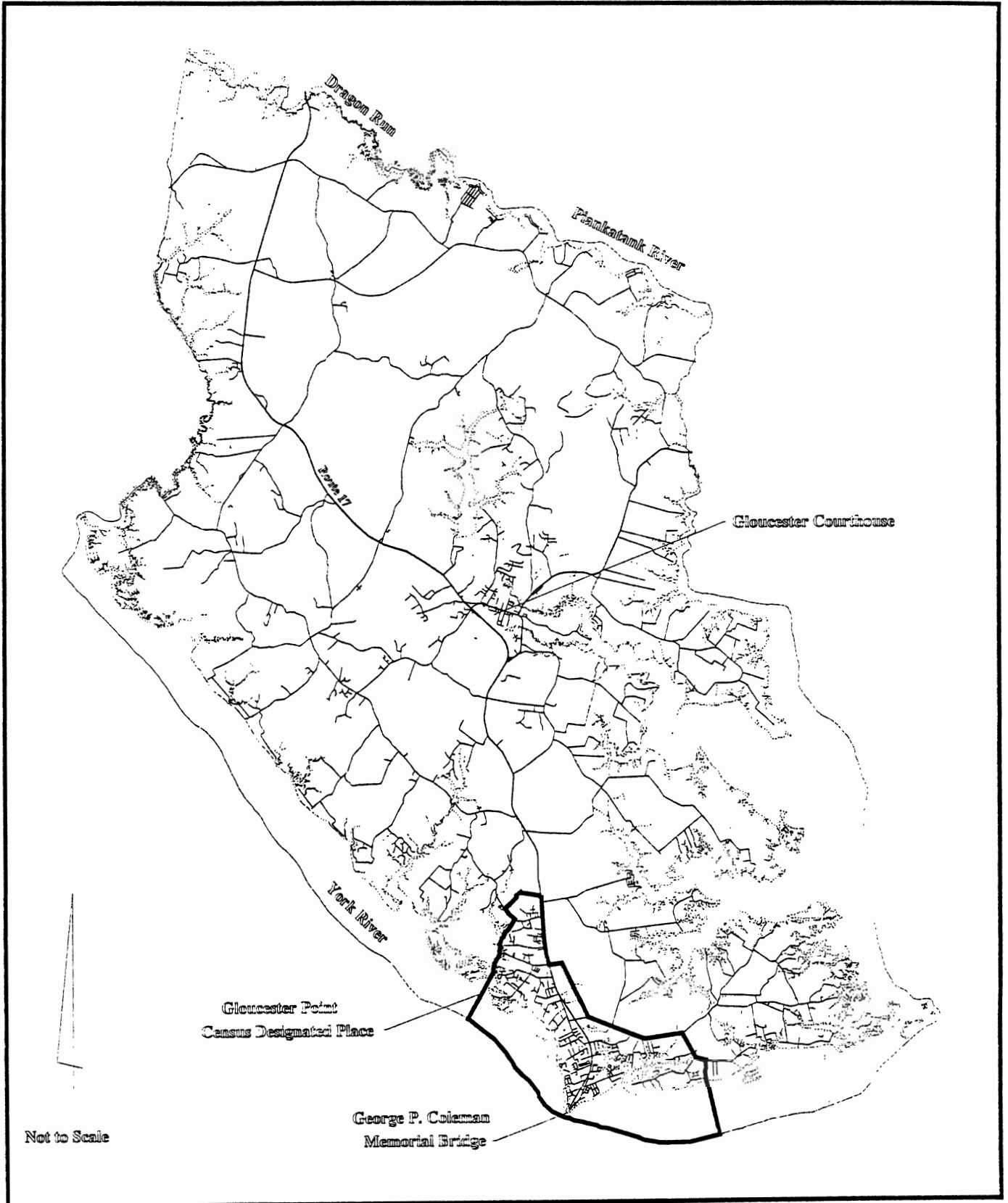
“Census designated places are delineated for the decennial census as the statistical counterparts of incorporated places. CDP’s comprise densely settled concentrations of population that are identifiable by name, but are not legally incorporated places. Their boundaries, which usually coincide with visible feature or the boundary of an adjacent incorporated place, have no legal status, nor do these places have officials elected to serve traditional municipal functions. CDP boundaries may change with changes in the settlement pattern; a CDP with the same name in previous censuses does not necessarily have the same boundaries.”

In 1980, the U.S. Census Bureau defined a CDP at Gloucester Point, and in 1990, CDP boundaries shifted in response to shifts in the urbanized area. Current CDP boundaries extend south from Ordinary to Gloucester Point, and east from Gloucester Point to Bena (see map). As with any urbanized area, many factors have influenced community character in the CDP, which now exists as an extension of the Hampton Roads metropolitan area. For four decades, the southern tip of Gloucester County has struggled to maintain its rural

heritage while incorporating the development which continues to spill over from south of the York River. The conflict between preservation (of various forms) and development is relatively new to Gloucester, and the committee which put together this document has tried to learn from its metropolitan counterparts, focusing on successful and not-so-successful planning efforts. Transportation safety and efficiency, corridor aesthetics, ecological preservation, and access to urban services have been discussed in terms of their metropolitan significance, while focusing clearly on their local importance.

The Gloucester Point Plan recognizes the significance of metropolitan penetration into the Middle Peninsula, and has relied on CDP boundaries, deriving benefits from the statistical detail afforded by the designation. The Plan becomes an explicit recognition that an “urbanized area” within a rural County requires a highly localized planning effort and suggests a level of service provision not generally associated with rural jurisdictions. Finally, the Plan implies that there exists a “place” called the Gloucester Point CDP – a place including the neighborhoods of Ordinary, Wicomico, Hayes, Tidemill, Bena, Little England, and Gloucester Point. Defining the character of this seven square mile area has proven difficult, but remains one goal towards which this Plan strives.

GLOUCESTER POINT CDP VICINITY MAP



EXECUTIVE SUMMARY

Fundamental notions of growth management form the basis of the Gloucester County 1991 Comprehensive Plan. Between 1980 and 1990, County population grew from 20,000 to 30,000, and suburban sprawl began to take its toll on the County's resources. The planning effort documented herein results from the acknowledgment in the Comprehensive Plan update process that long range goal setting for a seven square mile area which houses one third of Gloucester's residents can only occur at a very local level. For nearly a year, a core group of Gloucester Point citizens met twice monthly at the Virginia Institute of Marine Science to discuss the status of their community, and to formulate goals for its future. This volume documents the studies which comprised the first community based planning effort at Gloucester Point, and sets forth the resulting land use plan.

Geographic boundaries used for the purposes of the study conform to those established by the United States Census Bureau, which has defined a Census Designated Place (CDP) in the Gloucester Point area. The seven square mile area extending from Ordinary to Bena bears the CDP title because it lies within the Hampton Roads Urbanized Area and contains greater than 2,500 people (in fact, the CDP contains 8,500 people – greater than 1,000 per square mile). The Census Bureau views it as a statistical counterpart of an incorporated place, and the use of CDP boundaries affords this study great demographic detail.

The CDP planning process began with a survey designed to identify issues in need of attention. The committee outlined problems, and also identified fundamental questions which will guide Gloucester Point planning efforts in years

to come. The initial survey solidified feelings which had surfaced in early meetings – the aesthetic, safety, and convenience problems associated with Route 17 ranked first among citizen concerns. The committee agreed that the business stripped primary highway has come to divide the community, and proposed a Highway Corridor Overlay Protection District as a first step toward encouraging a more carefully planned development pattern. The Highway District will become part of an overall zoning code upgrade – an effort which also ranked high among citizen concerns. The proposed zoning configuration seeks to retain the residential quality of the CDP, to allow mixed use in appropriate locations, to discourage the commercial strip pattern on Route 17, and to protect the community's ecosystem.

Environmental enhancement ranked forth among citizen concerns. An environmental inventory, focusing on nine physiographic features, proved essential, and made clear the fact that balancing development and preservation within the CDP will prove difficult. Environmental concerns factor into development throughout the County – the Chesapeake Bay Preservation Ordinance defines all County lands as either Resource Protection Area (RPA) or Resource Management Area (RMA) – but within the CDP certain areas fall subject to a multitude of physiographic features. West of Route 17, steep slopes and narrow RPA fingers dominate. East of Route 17, RPA, hydric soils, 100 year floodplain, and hurricane inundation concerns dominate. Development in these areas will require careful planning.

Each of the top four citizen concerns – business strip control, U.S. 17 upgrade, zoning code upgrade, and environmental enhancement – relate to problems associated with densely settled areas, but to what demographic extent is Gloucester Point urbanized? Looking strictly at population density, demographic analysis reveals an area comparable in size and population to the Town of Culpepper, Virginia. Within this seven square mile area live 8,509 residents – 30% of total County population within 3% of its land area. This fact alone indicates a heavily developed, "urbanized" area, but other factors point to metropolitan influence. Most strikingly, there exists a significant diversity of housing stock within the CDP – 17% of housing structures contain more than one unit per structure. This level of multi-family housing within a largely single family community is generally associated with urban areas; contrast the percentage with a 4% figure for the remainder of the County. Finally, in the period from 1985 to 1990, 26% of the people who moved into Gloucester County settled in the CDP – obviously, this "urbanized" area continues to attract new residents, and already supports a population which functions as part of the metro region.

Concurrent with the issue identification process, County planning staff began a detailed land use survey, hoping to provide an accurate picture of the distribution and proportion of six land use categories within the CDP. Staff also conducted a survey of Route 17 frontage, pinpointing uses along a five mile stretch of highway, almost all of which is zoned Business (B-1). Results of these vital studies showed that while single family use occupies most of the CDP, roughly one-third of the land remains vacant. Furthermore, roughly one-third of the land fronting Route 17 lies vacant, and commercial use occupies only 40%. Committee discussion began to focus on vacant land, and on the effects new development will have on

the community. Throughout the process, committee members raised the question: how many more on-site sewage disposal systems can the CDP support? The environmental inventory indicated that the Virginia Department of Health has condemned shellfish beds in Timberneck Creek and Sarah Creek. Along with other factors associated with intense waterfront use (agricultural and residential runoff, petroleum leaks from watercraft) the high number of septic tanks within the CDP has contributed to water pollution.

The possibility of scattered infill throughout the community, and of large scale development in certain areas brought sanitary sewer policy to the fore. Two trunk lines connect the CDP with the Hampton Roads Sanitary District – one along Route 17 and one along Route 216. The committee agrees that sewer expansion is the best long range strategy for sewage disposal at Gloucester Point, but short range questions remain. One additional question generated much debate – the 216 line extends through ecologically sensitive areas (subject to hurricane inundation and to hydric soil considerations). In light of this, what densities should the community encourage? On one hand, members see the need to direct development away from these areas, and on the other, they sense the need to encourage infrastructure utilization. The Plan settles on a compromise medium density, but once again, questions remain.

Sewer policy surfaces as one of many urban issues faced by a community statistically defined as the only urbanized area on the Middle Peninsula. An efficient transportation network emerges as another. The problem becomes particularly acute at Gloucester Point, since the community's "main street" also serves as a regional transportation artery. Projects such as Route 17 six-laning, Coleman Bridge

four-laning, and the long range upriver crossing are designed to improve the transportation network in the Gloucester Point area, as well as throughout the County. These high impact, high cost projects will require careful coordination among the County, the Virginia Department of Transportation, and regional agencies

The land use plan which results from the year long planning process described above seeks to provide a framework for achieving the goals outlined by CDP residents. The three overriding goals guiding the plan are: to enrich the lives of area residents; to encourage systematic planning and review; and efficiently to program needed public facilities. A generalized land use plan delineates a Suburban Residential District, a Mixed Use District, three business districts, a Resource Conservation District, and a Public Amenity District. The Suburban Residential District is designed for moderate density residential development, in order to preserve the suburban character of the CDP. The Mixed Use District will encourage the establishment and expansion of activity centers in appropriate locations which feature a mix of commercial, recreational, and residential uses. The three business classifications are designed to diversify the business strip along Route 17. General business, offices and institutions, and light industrial employment centers would be encouraged at various points along the highway. Developed and redeveloped under guidelines established by a Highway Corridor Overlay Protection District, these three areas would provide attractive, diverse businesses with safe, efficient access. The Resource Conservation District generally coincides with the Chesapeake Bay Resource Protection Area, and includes the most sensitive shoreline features. Finally, the Public Amenity District recognizes the need for parks and other public land uses which will enhance the overall quality of the CDP.

To conclude, we must emphasize that the process and the plan described herein represent the beginning of locally-based long range planning for Gloucester Point. The citizens who have dedicated their time to the effort have stated clearly that in order to preserve and encourage a coherent community character, some definitive plan will prove necessary. Massive recent change has occurred within the CDP, and citizen planners find themselves trying to catch up with the change while addressing ongoing development pressure. The overall merit of this plan will be judged as implementation occurs. Part of its value, however, lies in the fact that it sets in motion the process which will allow broad based citizen input regarding long range goal setting and implementation Gloucester Point.

SECTION 1: IMPACT OF GLOUCESTER POINT URBANIZATION

GLOUCESTER POINT, LARGEST URBAN SETTLEMENT ON THE YET-RURAL MIDDLE PENINSULA

Some reason lies behind every urban settlement, as it has throughout human history. On the rural Middle Peninsula are found three settlements worthy of an urban designation: the Town of West Point associated with pulp mills; the County seat-riverfront Town of Tappahannock at an intersection of key regional highways; and unincorporated Gloucester Point, a U.S. Census Designated Place housing more than 8,500 persons on seven square miles of land area. Gloucester Point represents an attenuated finger of the burgeoning Hampton Roads Metropolitan Area pushing northwestward from Norfolk-Newport News toward Metropolitan Richmond. Gloucester Point's basic purpose is to serve as a rural bedroom community for this emerging coalescence of Hampton Roads and Richmond.

Paramount among concerns of Gloucester citizens is the issue of crossing the York River. South of this navigable water body lies one of our Nation's foremost conurbations, VIRGINIA'S URBAN CORRIDOR, sometimes referred to as VIRGINIA'S GOLDEN CRESCENT. Stretching from our National Capitol to our State Capitol, this band of urbanization represents a southerly extension of the BOSTON-WASHINGTON CORRIDOR, America's greatest concentration of population and employment. Stretching from metropolitan Richmond to metropolitan Hampton Roads, this east-west segment of the URBAN CRESCENT portends an urbanization of Virginia's Lower Peninsula. Only the broad York River insulates yet-rural Gloucester

County from more extensive urbanization, as it has throughout the County's agrarian history. The following U.S. Census data reflect a rural area with no industry or railroad ; agrarian, that is, until this physical barrier, the York River, was bridged and the economic barrier of a bridge toll lifted. Farm population between 1980 & 1990 decreased by one-third to 406 persons, 2% of Gloucester County's rural population and only 1% of its total population.

Year—Population	Year—Population
1800 ... 8,181	1900 ...12,832
1810 ...10,427	1910 ...12,477
1820 ... 9,678	1920 ...11,894
1830 ...10,607	1930 ...11,019
1840...10,715	1940 ... 9,548
1850 ...10,527	1950 ...10,343
1860 ...10,956	1960 ...11,919
1870 ...10,211	1970 ...14,059
1880 ...11,876	1980 ...20,107
1890 ...11,653	1990 ...30,131

EXHIBITS

Plate 1 METROPOLITAN HAMPTON ROADS illustrates how this expanding metropolitan area has pushed steadily northward; - and the proximity of Gloucester Point to the City of Williamsburg which is mid-way between Metropolitan Hampton roads and Metropolitan Richmond.

STUDY AREA DEFINED AS A "CENSUS DESIGNATED PLACE" BY THE U.S. CENSUS BUREAU

THE DESIGNATION "GLOUCESTER POINT" RECEIVED ITS SOLE DEFINITION IN TERMS OF AREA AND BOUNDARIES FROM THE U.S. CENSUS BUREAU. During each decennial U.S. Census, the U.S. Department of Commerce (Census Bureau) must collect data for urbanized, unincorporated areas. When an urban enclave is evident to these Federal demographers, they lay down a set of perimeter boundaries, run through rough calculations of area, population and housing units; and confer with local, regional and State officials. The area defined as the "GLOUCESTER POINT CDP" in 1980 was enlarged for the 1990 U.S. Census by amending territory east of VA-699 to "BENA" and VA-643, including the Little England peninsula served by VA-642. Boundaries of 1980 near "ORDINARY" remained, along with VA-216, Guinea Road. Immediate agreement was reached by Planning Commissioners and staff members that these finite boundaries would be used throughout all the initial studies. Based on this decision, a base map was prepared, depicting a study area containing approximately seven

square miles of land and approximately three square miles of tidal water. These seven square miles represent 3% of Gloucester's land area but contains 30% of County population. "Gloucester Point" population density 1990 was 1,309 persons per square mile. Our Middle Peninsula Planning District staff prepared a digitized study area base map at a scale of 1 inch = 1,000 feet. Thus began preparation of the first comprehensive community plan for Gloucester Point.

JUSTIFICATION FOR PREPARING A "GLOUCESTER POINT" COMPREHENSIVE COMMUNITY PLAN

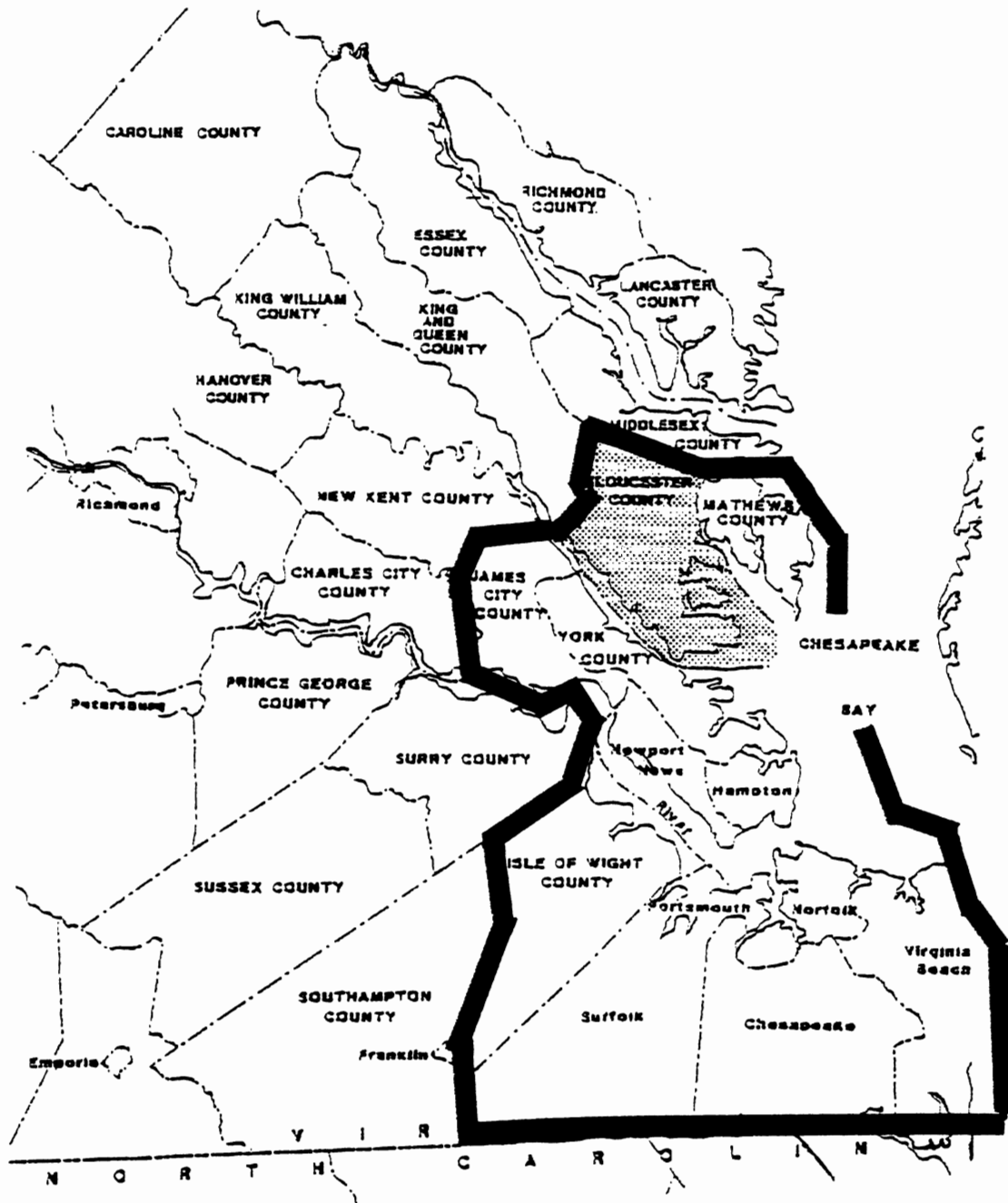
Throughout all discussions of the concept of a "Gloucester Point" community, Commissioners, citizens and staff have agreed that urbanization has created a distinct enclave worthy of special County planning consideration. Toward this end, comparisons between "Gloucester Point CDP" and several Virginia incorporated communities were five subjects of research and discussion:

INCORPORATED AREAS COMPARABLE TO GLOUCESTER POINT

Jurisdiction	Population	Land Area	Population Density
Gloucester Point	8,509	7 sq. mi.	1,200 persons per sq. mi.
Abingdon Town	7,640	8	955
Culpepper Town	7,563	7	1,076
Franklin City	7,566	4	1,875
Smithfield Town	4,410	7	630
South Boston City	7,000	6	1,166

All of these thriving Virginia jurisdictions are well known to our local citizens. Each operates a municipal government that provides services and plans for its future. Each has established goals and objectives intended to guide its future development. Under such circumstances, it seems prudent for Gloucester County leaders to subscribe to a proposal for preparation of a community plan for Gloucester Point. Of special interest has been the Town of Smithfield, the sole urban enclave in the vast rural County of Isle of Wight. Planning Commissioners and members of the special Point Planning Subcommittee have studied Smithfield Town Planning documents and were in the course of this research encouraged to press for a Gloucester Point plan.

PLATE 1: METROPOLITAN HAMPTON ROADS



SECTION 2: PHYSIOGRAPHIC FEATURES AND THEIR IMPACT ON URBANIZATION

Current land use at Gloucester Point reflects long standing economic and cultural ties to Chesapeake Bay tributaries. The York River, Sarah Creek, and Timberneck Creek supported Native American settlements, and continue to sustain a viable seafood industry. Most significantly, the draw of waterfront property now dominates land use within the CDP. Paradoxically, the availability of riverfront homesites adjacent to Hampton Roads employment possibilities has degraded Gloucester Point's most significant natural resource. Although one third of the land within the CDP remains vacant, including significant waterfront areas, intense development has resulted in the condemnation of shellfish beds in sections of Timberneck Creek and Sarah Creek.

This plan seeks in part to balance future development opportunities with environmental preservation, incorporating the efforts associated with the Chesapeake Bay Preservation Act. Addressing damage already inflicted will prove difficult; the County's Chesapeake Bay Preservation Ordinance addresses new development and redevelopment, but existing uses continue to pollute the Bay's tributaries at Gloucester Point. This section of the Plan provides an inventory of natural features within the CDP, paying particular attention to sensitive areas such as hydric soils and steep slopes. The purpose of this environmental inventory is to provide a base from which environmental goals can be built into the community's long range plans.

Physical Features and the Chesapeake Bay Preservation Act

Discussed further in section 6, the Chesapeake Bay Preservation Act provides for local and

state enforcement of wetlands protection regulations. In an effort to incorporate Bay regulations into this plan, the extent of Chesapeake Bay Protection Areas within the CDP has been measured, based on official County maps. The following chart displays the results:

TOTAL AREA WITHIN
GLOUCESTER POINT:
7.4 SQUARE MILES

TOTAL RPA AREAS*:
0.9 SQUARE MILES
TOTAL RMA AREAS*:
6.5 SQUARE MILES

*as defined by this survey

Specific delineation of Resource Protection Areas requires site specific analysis; the above figures seek to indicate the extent to which the Bay regulations will impact future development at Gloucester Point. Notably, inland extensions of the RPA generally coincide with other sensitive areas, such as steep slopes and hydric soils. A great deal of existing development lies within the RPA, a situation which will hinder the short term effects of the program. As such properties redevelop, however, the long term reduction of nonpoint source pollution will begin to take effect.

Wetlands

Long viewed as areas suitable only for dredge and fill activities, wetlands have only recently received recognition as a vitally important resource. Wetland functions include: serving as breeding grounds for aquatic life; absorbing flood waters; filtering sediment and pollution; re-oxygenating water; and providing habitat for

a vast array of wildlife. Moreover, the aesthetic value of wetlands raises land value and enhances community open space systems.

Within the CDP, the most extensive wetlands exist at Carmine's Island, where Timberneck Creek meets the York River. Significant wetland systems also exist in the southeastern end of the CDP. National Wetlands Inventory Maps provide the most detailed wetlands delineation available for the CDP, and were employed in mapping Resource Protection Areas. As part of the continuing planning process for the Gloucester Point Area, a detailed, site specific tidal and non-tidal wetlands analysis will become essential.

Hydric Soils

Hydric soils are the most predominant physical feature in the CDP, comprising large sections of the southeastern end of the area, and one significant section in the northern end. The 1991 Gloucester County Draft Comprehensive Plan defines a hydric soil as "one that in its undrained condition is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation." Because this definition includes both drained and undrained soils, not all hydric soils are wetlands. Hydric conditions pose septic and engineering limitations, and development on hydric soils warrants a high degree of scrutiny. (For further discussion on hydric soils and development possibilities, see section 4)

Slopes

Steep slopes (over 25%) within the CDP predominantly occur along Timberneck Creek, where deep ravines drain into the creek. Also, steep banks exist along parts of the York River. Generally speaking, areas west of Route 17 lie atop an escarpment, areas east of 17 in a low

flat. Elevation ranges from sea level to forty feet above mean sea level. Most of the CDP is not impacted by steep slopes.

Identification of steep slopes remains essential because of the various development problems associated with such areas. First of all, development on steep hillsides can exacerbate erosion and sedimentation associated with stormwater runoff. Leaving these areas in their natural state helps minimize the sedimentation and water quality degradation associated with erosion. Second, as waterfront development pressures mount, rising land values will outweigh the additional costs of building on steep slopes. Outlining the need to preserve these areas before such time will prevent further degradation of Gloucester Point's water resources.

Highly Erodible Soils

Highly erodible soils present severe erosion and sedimentation problems. This potential results in part from steep slopes, which increase runoff velocity. The exact degree of a soil's erodibility depends upon soil content, slope, and runoff volume – an erodibility index can be calculated for any soil using a formula which factors in the above variables. Soil survey documents discuss the particular characteristics of erodible soils. Within the CDP, highly erodible soils generally coincide with steeply sloping areas, emphasizing the need to preserve these sensitive areas.

Hurricane Surge Limits and Floodplains

The Virginia Department of Emergency Services, the Federal Emergency Management Agency, and the U.S. Army Corps of Engineers map storm tide levels for category 2, 3, and 4 hurricanes. The maps indicate that such storms pose serious threats to the southeastern portion of the CDP – including storm tide levels in the

matrix of physiographic features affecting development will ensure that such threat is clearly delineated and factored into long range land use decisions. 100 year floodplains add another layer to the matrix of sensitive areas. The Gloucester County Office of Community Development and Codes Compliance has floodplain maps available for review. Floodplains are discussed further in section 6.

Land Use and Environmental Quality

Understanding the dynamic relationship between Gloucester Point's natural and man-made environments will prove essential in making sound long range environmental planning decisions. Of particular importance within the CDP is the link between land and water. As previously stated, CDP land use has already degraded water quality, and pollutants continue to enter the tributaries. Identification of natural pollution barriers (such as wetlands), and of sensitive areas will facilitate development of long range strategies to mitigate the effects of land disturbing activities. This study represents a preliminary inventory of physical features; detailed ground and surface water studies, and a detailed soil survey will also prove necessary for long range planning.

SECTION 3: HISTORY AND HERITAGE OF GLOUCESTER POINT

No comprehensive planning document would be complete without referencing the history of the geographic area involved. Local citizens working on a plan for the future of GLOUCESTER POINT must understand and appreciate centuries of urbanization which led up to the present-day settlement. Toward this end, authors of this initial comprehensive plan proposal decided to quote verbatim from our own Historical Committee's Bicentennial brochure "GLOUCESTER POINT'S HERITAGE" which relied on research by Martha W. McCartney of Williamsburg.

"GLOUCESTER POINT'S HERITAGE"

At the southern tip of Gloucester County lies an historic area which has few parallels in Virginia. Here lie traces of Virginia's historic past that extend back to very beginnings of American colonial history. Although the community of Gloucester Point and campus of the Virginia Institute of Marine Science are the most visible features in the modern landscape, trenches from the Civil War remain evident in areas close to the York River. Beneath the soil lie remains of a much earlier time. A county-owned park is available to learn more about the history of Gloucester Point.

TYNDALL'S POINT: In 1608, Robert Tyndall, a mariner who came to Virginia with Christopher Newport in the first party of English settlers, sailed into the York River on a voyage of exploration. When he drew a chart of the shoreline, he gave his own name to the marshy-tipped promontory that extended into the York River, constricting it to its narrowest dimension. John Smith, who mapped Virginia in 1610, perpetuated the name Tyndall's Point.

During the second quarter of the 17th century, as a tobacco economy gained momentum, settlement encompassed countryside across the York River. The river became an important conduit of shipping and trade. By 1633, colonial government decided to build a tobacco warehouse at Tyndall's Point to serve needs of the region's planters. In 1640, a son of Virginia Governor Yearly patented 4,000 acres (6.3 sq mi) at Tyndall's Point. Soon after, his land was subdivided, and settlers came to live at the Point. A "Greate Road" extended from the interior of Gloucester County to Tyndall's Point, where a public ferry plied the York River, linking outlying settlers with the peninsula and governmental seat at Jamestown.

FORTIFICATIONS: By 1667 an earthen-walled fort had been constructed at Tyndall's Point as a defense against the Dutch. Narrowing of the river at the point provided control of the upper reaches of the York River and the inland countryside. Officially named Fort James when it was rebuilt with brick in 1671, the structure was the first in a series of fortifications that were built at Tyndall's Point during the next 200 years. After Nathaniel Bacon's rebel army burned the colony's statehouse at Jamestown in 1676, Virginia's Executive Council considered building a replacement at Tyndall's Point. The House of Burgesses rejected the proposal in a 21 to 18 vote.

COLONIAL GLOUCESTERTOWN: In 1680, the Virginia Assembly, in response to a directive from the King, passed an act promoting urban development in the colony. Tyndall's Point was one of 20 locations selected to be an official port. The act encouraged

development of these towns by offering lots at a price of 100 pounds of tobacco, provided the buyer began construction of a dwelling or warehouse within 3 months. Lots that were not improved within that time could be resold. Tradesmen were enticed to settle in the proposed towns by a provision that offered them freedom from liability for bad debts for a 5 year period. All goods exported from Virginia were to pass through one of the 20 planned towns. All goods imported to the colony, including slaves, servants and merchandise, were to be landed and sold there. Warehouses were to be established at each port town.

By 1682, 50 acres of land surrounding a cove near Tyndall's Point had been surveyed into 86 half-acre lots which were offered for sale by the town's trustees. The lots fronted on streets which were laid out along a gridiron plan. Although a copy of the 1682 town plat has never been found, a 1707 version is believed to duplicate the town's original layout. The community was known as Gloucestertown. Pirates came ashore during 1682 and carried off a considerable quantity of goods, monies and plate. They were never captured.

Virginia planters, whose farms were widely dispersed along the colony's navigable waterways, had little interest in urban development. But in 1691, a new act promoting town development was passed and again, Gloucester Town was designated an official port. However, it was not until 1706 that town-founding in Virginia was undertaken in earnest. This time, all imports except slaves, servants and salt and all exports except coal, timber and corn were to be cleared through the port towns. Town markets could be held twice a week and a town fair once a year. Those who purchased lots were given a year to build "a good house to contain twenty feet in the least". Meanwhile, fortifications at Tyndall's Point continued to be manned, and a ferry traversed

the York River, conveying travelers to Yorktown which had been established in 1691. In 1713, an official tobacco warehouse was built at Gloucestertown, a facility that continued to function until after the American Revolution. This insured Gloucestertown's future as a port, for the law required all exported tobacco to be inspected at one of the official warehouses. Thus, merchants, planters and mariners were brought together there. Gradually, Gloucestertown developed into a thriving seaport and village. A post windmill was situated on the bluff overlooking the river where its blades could catch waterborne breezes. A fort at the tip of Tyndall's Point was outfitted with guns which were trained over the river controlling inland access. Gloucestertown's lot owners were socially and economically diverse. A tavern had been built within the town to serve needs of travelers. Gloucestertown continued to play an integral role in the region's livelihood.

THE AMERICAN REVOLUTION: In July 1781 when the theater of war shifted to the James-York peninsula, American forces at Gloucestertown were ordered to withdraw, stripping the fort at Tyndall's Point of its weapons. Cornwallis, convinced that the harbor between Yorktown and Gloucestertown was the only site on the Chesapeake Bay in which a line of battleships could be protected from a superior naval force, moved into the region, taking possession of the harbor and both communities. Realizing that his men were vulnerable to an overland attack, Cornwallis established a stronghold at "Gloucester Point", fortifying it with a line of entrenchments, four redoubts and three batteries. From the strength of that position, his army had an overland escape route. His troops could ride out into the surrounding countryside, foraging for food and livestock. In September 1781 American military commanders attempted to check the British Army's foraging expeditions and to seal off

their enemy's potential route of escape. Skirmishes occurred with the result that the British were contained within their own lines. Their plight worsened and Cornwallis's fears about vulnerability of his position became a harsh reality in October 1781 when the British were conclusively defeated in the Battle of Yorktown. After the American Revolution, Gloucestertown population dwindled to only a dozen houses. Its military facilities were manned and maintained.

THE CIVIL WAR: At the onset of the Civil War, Gloucester Point was fortified by the Confederates with a star-shaped fort and water battery. While construction was underway, the Confederates came under fire of Union armed steamers. The Confederates were obligated to withdraw when Union forces swept up the James-York peninsula. Nineteenth century Gloucestertown never attained the social and economic importance it had had during the colonial era.

New commercial, residential and educational structures were built over remains of the early town. Even so, much of colonial Gloucestertown remains intact beneath lawns of modern houses, the campus of the Virginia Institute of Marine Science and parkland owned by Gloucester County. In 1985, the Gloucester Point Archaeological District, consisting of 59 acres, was added to the National Register of Historic Places."

TWENTIETH CENTURY URBANIZATION; WARS, AN INSTITUTE AND THE BRIDGE:

During depths of the Depression in 1938, the Virginia General Assembly passed an act creating an Institute of Marine Science to be located at Gloucester Point. With this new branch of the College of William and Mary came new urban residential and commercial growth and a Gloucester County decision to

create a Gloucester Point sanitary district. Ultimately, this service district with its fees and ad valorem County tax rate overlay provided potable water and street lights for approximately one square mile of Gloucester Point. A first vital step toward urban services in a rural county had thus been taken. World War II ushered in an era of unprecedented population growth around the Harbor of Hampton Roads centered on Norfolk and Newport News. Every branch of America's Armed Forces enlarged or established massive military installations. Production of warships, weapons systems and munitions attracted war workers by the tens of thousands. Fifty miles outside the epicenter of this wartime whirlwind, Gloucester Point began to feel effects of an expanding metropolis. After World War II, an expanded Hampton Roads metropolitan area retained its wartime population, was further stimulated by American military involvement in Korea and Viet Nam, etc. and continued to attract new economic sinews such as laboratories of what today is the National Aeronautics & Space Administration.

Gradually, Hampton Roads succumbed to the same centrifugal forces then shaping post-War America; a move to open space along urban fringes of old core cities. An urban metro-core consisting of newly merged county-cities Hampton (1954) and Newport News (1958); at that time, geographically, Virginia's two largest cities; exerted outward influences pushing northward along the U.S. 17 highway corridor. As it had, throughout three centuries, Gloucester Point enjoyed the isolation provided by the York River, tempered only by the limited capacity of river ferry service. Gloucester Point avoided most of the metropolitan sprawl spreading westward between the Hampton-Newport News core and the booming City of Williamsburg. All of this changed in 1956 when Virginia constructed a

toll bridge between Yorktown and Gloucester Point. For a generation, this Coleman Bridge toll served as an economic barrier and kept most metropolitan growth on the southern side of the York River. However, when the toll was removed in 1976, Gloucester County found its vast open spaces and natural beauty attractions to out-bound suburbanites and real estate developers. Gloucester Point grew to the north to Ordinary and to the east to Bena. To cope with this influx of urbanization, Gloucester County built its Beaverdam Reservoir and a water distribution system stretching from Gloucester Courthouse to Gloucester Point. When the sanitary sewage plant at Gloucester Courthouse failed, the County was forced to join the Hampton Roads Sanitation District which agreed to parallel the trunk water main from Gloucester Courthouse to Gloucester Point with a trunk sewer main extending under the York River to the treatment plant in York County. Highway access, water and sewer service, relatively inexpensive land and, until 1985, no zoning control over land use, combined to spur on the outward spread of metropolitan development. Gloucester Point has been at the point of metropolitan penetration. It has grown from a scattering of seventeenth century colonists to a compact urban settlement housing more than 8,500 residents. Urban intensification persists, hampered only by a lack of sanitary sewers and an adequate road network. As the 21st Century nears, Gloucester Point now stands in stark contrast to the remainder of its large rural County now beset by forces of rapid change and urbanization.

SECTION 4: EXISTING LAND USE

Gloucester County remains one of the Virginia counties within which no incorporated town exists and from which no land has been removed for creation of a city. Traditionally, the U.S. Census cites urban unincorporated communities as "census designated places," and profiles them as incorporated areas. In 1980, the Gloucester Point area received CDP designation, and in 1990 the geographic area was enlarged. The Gloucester Point Citizens' Planning Committee has agreed that all Gloucester Point research and planning efforts will utilize CDP boundaries (see map).

Within such clearly defined boundaries, the effort to pinpoint existing land use becomes possible. This type of study proves necessary because current land use at Gloucester Point will strongly impact future land use. Patterns have emerged, both good and bad, which will not change quickly. The existing accumulation of structures, streets, water lines, and power lines represents an enormous investment worthy of careful management and maintenance. During this decade, access to sanitary sewers may stimulate in-fill development within the Gloucester Point area. The Chesapeake Bay Preservation Act will also influence land use; by tying Bay Act provisions into the land use survey, this document can become an integral part of the effort to preserve the Bay and its tributaries, which constitute Gloucester County's most significant natural resource.

CONDUCT OF THE 1992 GLOUCESTER POINT LAND USE SURVEY

Federal transportation laws mandate that Gloucester County take part in the Metropolitan Planning Organization

continuing transportation study administered by the Hampton Roads Planning District Commission. The Gloucester Point land use survey therefore employs land use categories used by HRPDC for Metropolitan Hampton Roads. By means of research and field work, County staff were able to pinpoint parcel by parcel land uses within the CDP.

CDP LAND USE SURVEY RESULTS

The chart and graph on page 16 illustrate the distribution of six land use classifications within the CDP - Single Family, Multi Family, Public/Semi Public, Commercial, Industrial, and Vacant. As previously stated, these categories are used by the Hampton Roads Planning District Commission in its metropolitan transportation studies. The percentages shown on page 16 are derived from tax record acreage estimates. As the Table 4.1 shows, single family use continues to dominate the CDP (for more information on housing see section 5). Overall, the housing stock within the CDP is of high quality, and certain neighborhoods display an admirable degree of internal coherence, including some with community open space and beach access. When one examines the entire CDP, however, no general theme exists; much of the single family housing is randomly placed, with no access to public space, and no transition between neighborhoods. In order to develop a clearly defined sense of community character, planning efforts will have to focus on ways to unite the various single family neighborhoods which comprise the CDP. For the purposes of this study, single family homes were allotted a maximum of five acres - on a parcel of twenty acres which held one home, for example, five acres would be counted as single family use,

while the remaining fifteen would be counted as vacant. This arrangement came about as a way to estimate the amount of potentially developable land. In classifying mobile homes, staff counted isolated trailers as single family dwellings, and those within trailer parks as multi family units. The issue of mobile homes as a part of the overall community has proven to be a divisive one, but the Citizen's Committee generally agrees that unregulated placement of trailers has a negative effect on community character, and on the community's ability to provide services (since each new trailer increases service demand but does not add a corresponding long-term share to the tax base). Multi family housing ranges from the isolated triplex structure to the large apartment complex. This stock of multi family housing, with a few exceptions, lies woven within the single family neighborhoods, a diverse pattern which adds to the overall quality of the CDP. Although multi family use comprises only a small segment of the existing development, it must be considered in the development of a future land use plan. Commercial and industrial uses exist mainly along Route 17, and are discussed below.

Second only to single family use, vacant land occupies 33% of the total land area within the CDP. This might seem surprising in an area which houses over 1,000 people per square mile, but it shows that significant potential for infill exists. Furthermore, this vacant land lies scattered throughout the CDP; several large (over 30 acres) open areas exist, but much of the vacant land takes the form of isolated lots. As growth pressures from Hampton Roads continue, piecemeal infill projects may add to the number of individual septic systems within the CDP. This issue raises difficult questions regarding long term infrastructure and environmental preservation goals. In certain parts of the CDP, the southeastern end in particular, many lots of greater than five acres

contribute to the amount of vacant land. Predicting how this land will be used twenty years from now proves difficult – much of it currently serves as farmland, and may continue to do so. The possibility of large scale development exists in certain areas, however, and a definitive land use plan is needed. Furthermore, Gloucester Point's location on the fringe of a growing metropolitan area makes identification of potentially developable land essential.

Not all of the vacant land within the CDP will support development; the percentage total in Table 4.1 reflects the predominance of wetlands in certain areas. The existing land use map, which displays Resource Protection Areas, clarifies the issue of developable versus undevelopable land. Certain vacant areas, where hydric soils dominate, may become particularly important in light of the new Hampton Roads Sanitary District sewers. The sanitary restraints associated with hydric soils have thus far kept these areas undeveloped; however, the availability of sewer line hook up may make intense development possible. The community now has the opportunity to decide what level of development should be encouraged in these environmentally sensitive areas. The creation of public open space within the CDP remains one of the Committee's primary goals – such large, physiographically restricted sites may provide the needed opportunity.

As part of the land use survey, staff conducted a Route 17 frontage study, to answer some of the Committee's concerns regarding upgrade of this regional highway. The physical products of this labor include a videotape of the uses fronting both sides of the highway from Ordinary to the Coleman Bridge and a 1" = 100' frontage map. The following chart further details frontage use, filtering data gathered in a

parcel by parcel land use analysis into linear feet:

TABLE 4.2: U.S. 17 FRONTAGE

Use	Linear Feet	Percent Total
Residential	10,635	19%
Commercial	21,725	40%
Industrial	590	1%
Public/ Semi Public	4,210	8%
Vacant Land	17,440	32%
Total	54,600 LF	100%

Although virtually all of this five mile stretch (ten miles of frontage) is zoned business (B-1), only 40% of the frontage actually supports commercial/business use. Perhaps even more striking, the percentage of vacant frontage approximates the percentage of vacant land in the entire CDP. This fact belies the perception of Route 17 as a built out business strip – a perception which stems from the lamentable condition of the corridor, which is characterized by random access points along the highway, poorly maintained landscaped areas, and a barrage of oversized signs confronting highway goers. Each of these factors is the result of unguided commercial development on the fringe of an expanding metropolitan area – as Hampton Roads grew

across the York River, businesses found location along a regional transportation artery where land could be developed virtually free from control. The resulting agglomeration of buildings and access points has created daunting transportation safety and efficiency problems. The importance of this corridor as an entrance to Gloucester County cannot be ignored. The Citizen’s Planning Committee has established upgrade of these conditions as its primary goal, developing Highway Corridor Overlay Protection District and several zoning amendments as ways to achieve that goal.

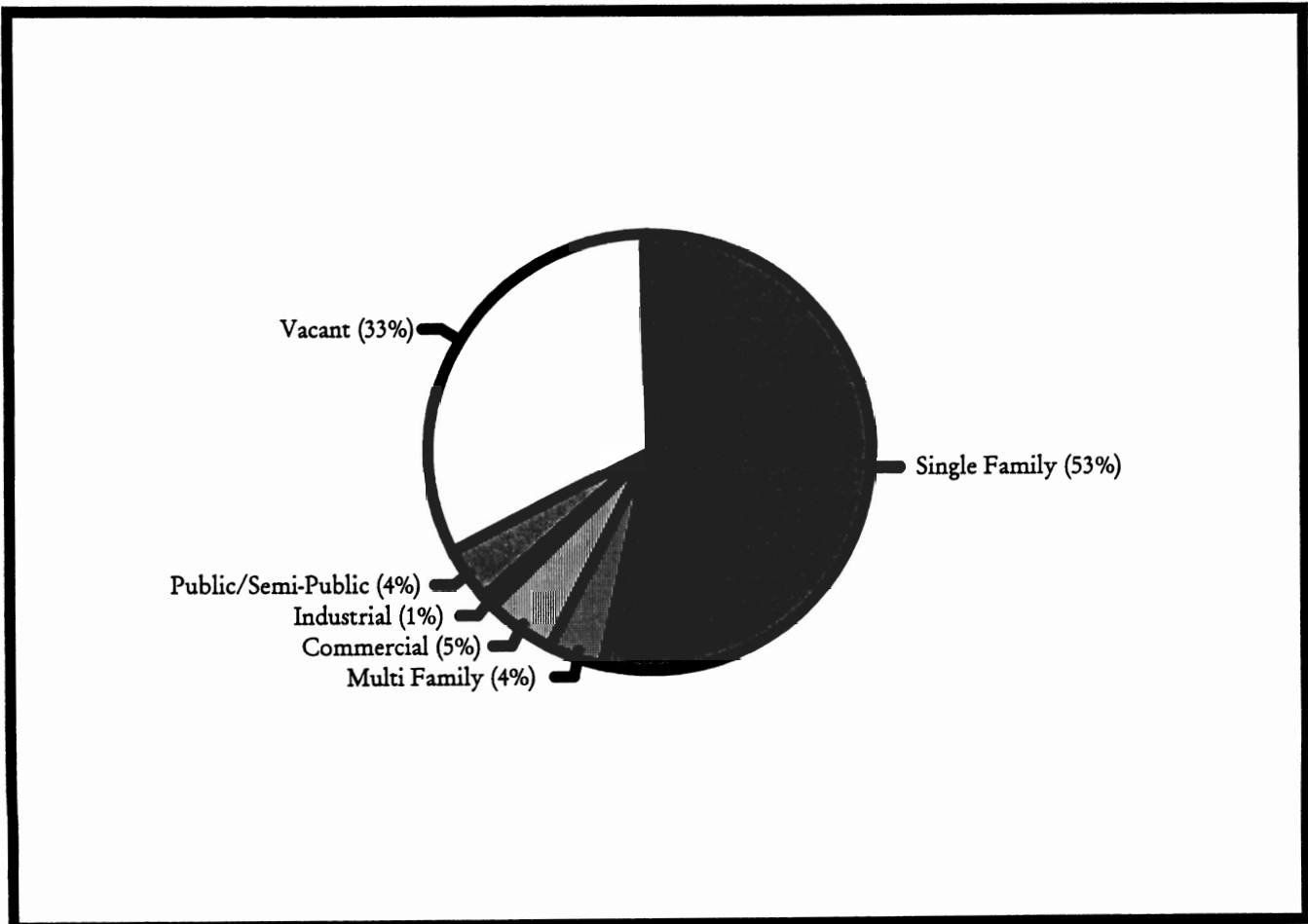
Conclusions

Generally, land use at Gloucester Point reflects the impact of development pressure from south of the York River. Random business access congests an overburdened freeway and older homes exist astride large new subdivisions – encouraging new development and redevelopment to respect the community's historic character will prove difficult. Repairing the damage which has already been inflicted, while appropriately guiding development on vacant and often sensitive lands will require constant monitoring and planning. All land use decisions affecting the CDP must relate to preserving the character and environment of this suburban "Gateway to Gloucester."

Table 4.1: CDP Land Use

Land Use	Percent of Developed Area	Percent of Total Area
Single Family	79%	53%
Multi Family	6%	4%
Public/Semi-Public	6%	4%
Commercial	8%	5%
Industrial	1%	1%
Vacant	-	33%
Total	100%	100%

Figure 4.1: CDP Land Use



SECTION 5: DEMOGRAPHIC PROFILE OF GLOUCESTER POINT "CDP"

As of 1990, roughly 30% of Gloucester County's 30,000 residents lived within the Gloucester Point Census Designated Place – an entity which comprises only 3% of the County's total land area. This level of concentration alone warrants development of a Gloucester Point land use plan, but in order to work out the specifics of such a plan, demographic details must be analyzed. Toward this goal, section 5 will present 1990 census data on age, race, gender, housing, and income, briefly discussing the impact each has on land use planning at Gloucester Point.

The U.S. Census (1990) reports a total Gloucester Point CDP population of 8,509 persons. Within this total, an Age Spread is vital to any planning endeavor; certain predominant age groups might warrant specific community action. The median age among persons residing within the "CDP" is 33.5 years.

TABLE 5.1: AGE SPREAD

Age Category	Number of Persons	% of Total Population
Under 5 years	653	8%
5 - 15 years	1,325	15%
16 - 17 years	226	3%
18 - 20 years	325	4%
21 - 24 years	414	5%
25 - 44 years	2,971	35%
45 - 54 years	986	11%
55 - 59 years	369	4%
60 - 64 years	364	4%
65 - 74 years	558	7%
75 - 84 years	267	3%
85 and older	51	1%
TOTAL	8,509	100%

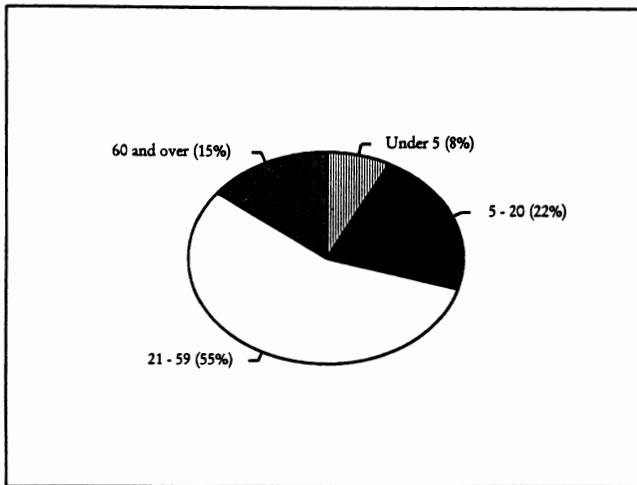
One summary may serve as an essential reference point in the Gloucester Point Plan: (see graph next page)

TABLE 5.2: FOUR BASIC AGE GROUPS

Age Category	Number in CDP	Number in County
Under 5 years	653 (8%)	2,274 (8%)
5-20 years	1,876 (22%)	7,023 (23%)
21-59 years	4,740 (55%)	16,209 (54%)
60 and over	1,240 (15%)	4,625 (15%)
TOTAL	8,509 (100%) (1,309 people per sq. mi.)	21,622 (100%) (95 people per sq. mi.)

The above table and accompanying graph (next page) display population distribution among four basic age groups, comparing the CDP to the entire County. Each group demands different community services, and comparing these figures to existing facilities will have obvious planning implications. It is interesting to note that each group holds the same percentage within the CDP as it does in the County, but this fact does not necessarily imply identical planning strategies; specific goals and needs for the CDP have been identified, based in part on the above figures, by the Gloucester Point Citizen's Planning Committee. These data support the committee's desire for improved recreational facilities and local employment opportunities, and they should be tracked as this bedroom community diversifies.

FIGURE 5.1 (Four Basic Age Groups)



HISPANIC persons of every race totaled only 115, barely 1%, in 34 households.

GENDER finds Gloucester Point almost evenly divided between male and female, at the same ratio as the County:

MALE: 4,176 persons, 49%
 FEMALE: 4,333 persons, 51%

The following table depicts the racial profile of the Gloucester Point CDP, and compares the percentage of persons in each race category to the corresponding figure for the entire County (shown in parentheses).

TABLE 5.3: RACIAL PROFILE

RACE	PERSONS	%PERSONS	HOUSEHOLDS	%HOUSEHOLDS
White	7,684	90% (88%)	2,943	90%
Black	686	8% (11%)	286	9%
Asian or Pacific Islander	99	2% (1%)	21	1%
Native American, Eskimo, or Aleutian Islander	13	- (-)	5	-
Other	27	- (-)	8	-
TOTAL	8,509	100%	3,263	100%

Household composition data pinpoint information vital to community services planning. The Gloucester Point CDP displays 3.01 persons per family, and 2.61 persons per household.

TABLE 5.4: HOUSEHOLD COMPOSITION

HOUSEHOLD TYPE	CDP TOTAL
Family	2,484...76%
Non-family	779...24%
Total	3,263...100%

TABLE 5.5: FAMILY HOUSEHOLDS

Family Households:	
Married couple	2,074...83%
Female head	315...13%
Other	95...4%
Total	2,484..100%

T

TABLE 5.6: NON-FAMILY HOUSEHOLDS

Non-Family Households:	
65 & over, lone female	174..22%
65 & over, lone male	47...6%
Under 65, alone	430..55%
Other	128..16%
Total	779..99%

FIGURE 5.2: Family Households

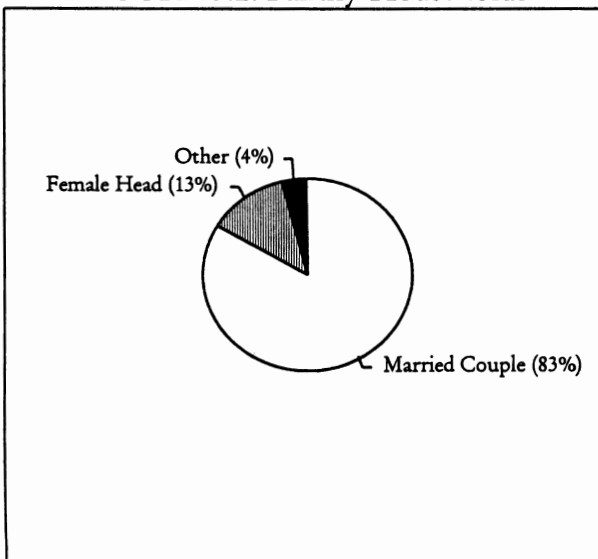
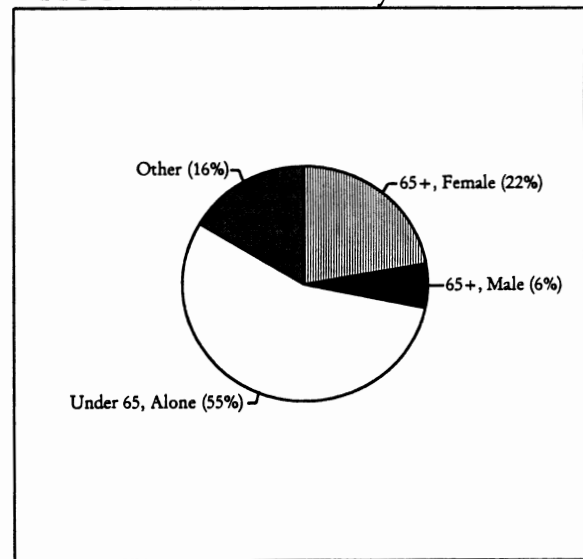


FIGURE 5.3: Non-Family Households



Within the Gloucester Point CDP, the percentages of family and non-family households approximate those for the entire County. Among family households, however, a greater percentage of those within the CDP are headed by arrangements other than married couples (17% as opposed to 14% for the county). The bulk of these families are headed by female householders with no male present. As this single parent trend continues, the need for day care services (public and/or private) will increase. Among non-family households, the CDP displays a smaller percentage of persons over sixty-five who live alone (28% as opposed to 34% for the entire county). When one looks at the total number of persons over sixty-five as a component of the total population, however, the CDP shows a slightly higher percentage (11% as opposed to 7%). This difference may result from the recent influx of middle aged individuals, who still commute to Hampton Roads, into the northern area of the County. As the Gloucester Point population ages, the community must address the needs of its senior citizens. Tracking household data will prove essential to long range planning efforts at Gloucester Point.

The above statistics generally present a static demographic picture of the CDP. Examining in-migration allows a more dynamic look at the area, and provides answers as to the origins of population and development pressure. The 1990 Census asked respondents to reveal their place of residence as of 1985. The results indicate the number of persons five years and older (as of 1990) who moved into the CDP over the five year period, and also indicate the area from which they moved.

TABLE 5.5: RESIDENCE IN 1985

Place of Residence	# of People	% Total
Same House	3,957	50%
Different House in County	1,521	20
Different Virginia Locality	1,184	15
Different State	1,056	13
Different Country	139	2
Total Persons Five and Over	7,857	100%

As Table 5.5 shows, 30% of 1990 CDP residents lived outside Gloucester County in 1985. This percentage approximates the 32% figure for the entire County; clearly, Gloucester Point continues to provide an attractive location for new County residents. 50% of these newcomers arrived over the five year period from another area of Virginia, and 44% from another state. As part of Virginia's "Golden Crescent," Gloucester Point offers waterfront housing in a yet rural county adjacent to employment opportunities at VIMS and in Hampton Roads. Long range plans must take into account the community's unique demographic situation.

HOUSING type and value also play a predominant role in assessing community status and in setting goals for future development and redevelopment. The 1990 Census finds the following for the Gloucester Point CDP:

TABLE 5.6: HOUSING TYPE

Housing Unit Type	# of Housing Units	%Total
Single family detached	2,319	66%
Single family attached	162	4%
Two - four units	303	8%
Five - nine units	182	5%
Ten or more units	167	4%
Mobile homes	452	13%
Total	3,585	100%

Essentially, the community is composed of detached single family dwellings, typical of what makes up so much of contemporary suburban America. These homes have established an unmistakable pattern, forming the fabric of the community – citizens have continually expressed the desire that this pattern be preserved. More than one dwelling unit in ten is a mobile home (comparable to entire county) – some of which comprise trailer parks and some of which exist as detached single family dwellings.

TABLE 5.7: VACANCY STATUS

Occupied housing units	3,263	91%
Vacant H.U.'s, year round	236	7%
Vacant H.U.'s, seasonal	86	2%
Total	3,585	100%
Homeowner Vacancy Rate = 2%		
Rental Unit Vacancy Rate = 11%		

Year round vacant units, when not properly maintained, can have negative effects on both the character and safety of the community. The CDP does, in fact, display a number of abandoned dwellings which have deteriorated

to the point that they are structurally unsafe. These data should be regularly updated, and appropriate action taken.

Throughout the development of this plan, the Gloucester Point Citizen's Planning Committee has expressed the desire to maintain the high quality housing stock within the CDP. This goal, combined with the need to provide a range of affordable housing, emphasizes the importance of housing value estimates:

TABLE 5.8: HOUSING VALUE (OWNER OCCUPIED UNITS)

Value	# of Units	% Total
Less than \$50,000	109	6%
\$50,000 - \$99,999	1,061	57%
\$100,000 - \$149,999	431	23%
\$150,000 - \$199,999	140	8%
\$200,000 - \$299,999	96	5%
\$300,000 and above	22	1%
Total	1,859 units	100%
Median Value = \$90,400		

TABLE 5.9: MONTHLY RENT (RENTER OCCUPIED UNITS)

Rent	# of Units	% Total
Under \$250 per month	109	13%
\$250 - \$499 per month	649	75%
\$500 - \$749 per month	103	12%
\$750 - \$999 per month	4	-
\$1000 or more/month	1	-
Total	866 units	100%
Median rent = \$386		

*Note: the above values represent a sampling of the occupied housing stock – not all occupied units were sampled.

As table 5.7 shows, the CDP offers a wide range of values for owner occupied and rental housing. Rental units account for 28% of the occupied housing stock, a figure which warrants consideration when planning for affordable housing; affordable rental units (and owner occupied units) represent an essential aspect of community development. Poorly managed rental units, however, can cause blight within any neighborhood. Efforts should be made within the CDP to encourage development of attractive, well-managed affordable housing, which will add to community character.

At \$30,568, the MEDIAN HOUSEHOLD INCOME for the CDP approximates that of the entire County (\$31,591). CDP per capita income (\$13,975) also compares with that of the County (\$13,122). Analyzing median nonfamily household income, however, one sees a dramatic difference: \$19,089 for the CDP as compared to \$14,492 for the entire County. Since CDP numbers factor into County numbers, the difference may be even greater than suggested here. The discrepancy perhaps results from the prevalence of apartments and condominiums within the CDP; this arrangement allows single professionals more readily to locate at Gloucester Point. Furthermore, since apartments often house multiple unrelated individuals (and thereby several incomes), they tend to generate higher nonfamily household income levels than do single family residences housing lone individuals.

At 8.0, the percentage of persons below the poverty level within the CDP compares with 8.4 for the entire County. One disturbing statistic indicates that nearly 25% of female

householder families within the CDP fall below the poverty level. This contrasts with a figure of just over 6% for all CDP families; services tailored to the needs of female householder families will clearly become a vital issue as this plan proceeds to implementation.

A brief mention here of water supply and sewage disposal will help complete the demographic picture of Gloucester Point. One third of CDP housing units use water supplied by a public or private system, as compared to only 15% for the entire County. Once again, CDP figures factor into County calculations, so a greater difference exists than indicated here. The remaining two thirds of all CDP housing units employ drilled or dug wells. 1990 Census figures estimate that public sewerage serves 12% of CDP housing units, reflecting septic systems which serve apartments and condominiums; recently installed Hampton Roads Sanitary District sewer lines have not yet become available to CDP households.

Conclusion

The 1990 Census suggests that the Gloucester Point CDP is a metropolitan fringe suburb approaching maturity. Interestingly, the data indicate continuing demographic change in the community; from 1985 to 1990, 26% of the people who moved into the County settled in the CDP. In other words, the community's share of recent County in-migration approximates its share of total County population (30%). Since the CDP lies within the Hampton Roads Urbanized Area, the Census Bureau classifies the entire population as urban – as the largest urban enclave on the Middle Peninsula, Gloucester Point poses serious challenges to long range planning.

Affluent, white, and well-preserved is one way of profiling this riverfront community. However, its potentials and problems relate to other issues to which this document turns its attention. Not to be overshadowed by Route 17 issues, CDP demographic data clearly indicate certain needs. Addressing the most pressing demographic needs (community facilities for the various age groups) may, in fact, help alleviate Route 17 problems. As local opportunities for employment, day care, and senior services arise, traffic on this regional artery will decrease. Tracking needs and setting long range goals must become an ongoing process.

SECTION 6: CURRENT LAND USE MANAGEMENT REGULATIONS

Various federal, state, and local regulations affect land use at Gloucester Point, and building these management practices into the first community plan will encourage discussion of necessary issues. This section seeks briefly to define the most important regulations which have impacted the development of the plan.

Zoning

Roughly one decade ago, Gloucester County adopted its first zoning code. Coming in the midst of a housing and population explosion, this original code was a first effort to manage the sprawl of commercial and residential development which resulted largely from pressure exerted by an expanding Hampton Roads Metropolitan Area. As it relates to Gloucester Point, the existing zoning ordinance warrants serious consideration – preserving existing neighborhoods, creating new residential opportunities, providing for mixed uses at certain locations, and improving the Route 17 business strip will require amendments to the ordinance. This plan will serve as a guide for such amendments. The map on the following page displays the current zoning pattern within the CDP.

Chesapeake Bay Preservation Act

In response to agreements between Virginia, Maryland, Pennsylvania, and Washington, D.C., the Commonwealth of Virginia in 1988 adopted the Chesapeake Bay Preservation Act. The Act mandates that all Tidewater Virginia localities establish programs to protect and improve Bay water quality, in conformance with performance standards set forth by the State. The Act seeks to balance development with preservation, specifically addressing non-point source pollution (pollution such as

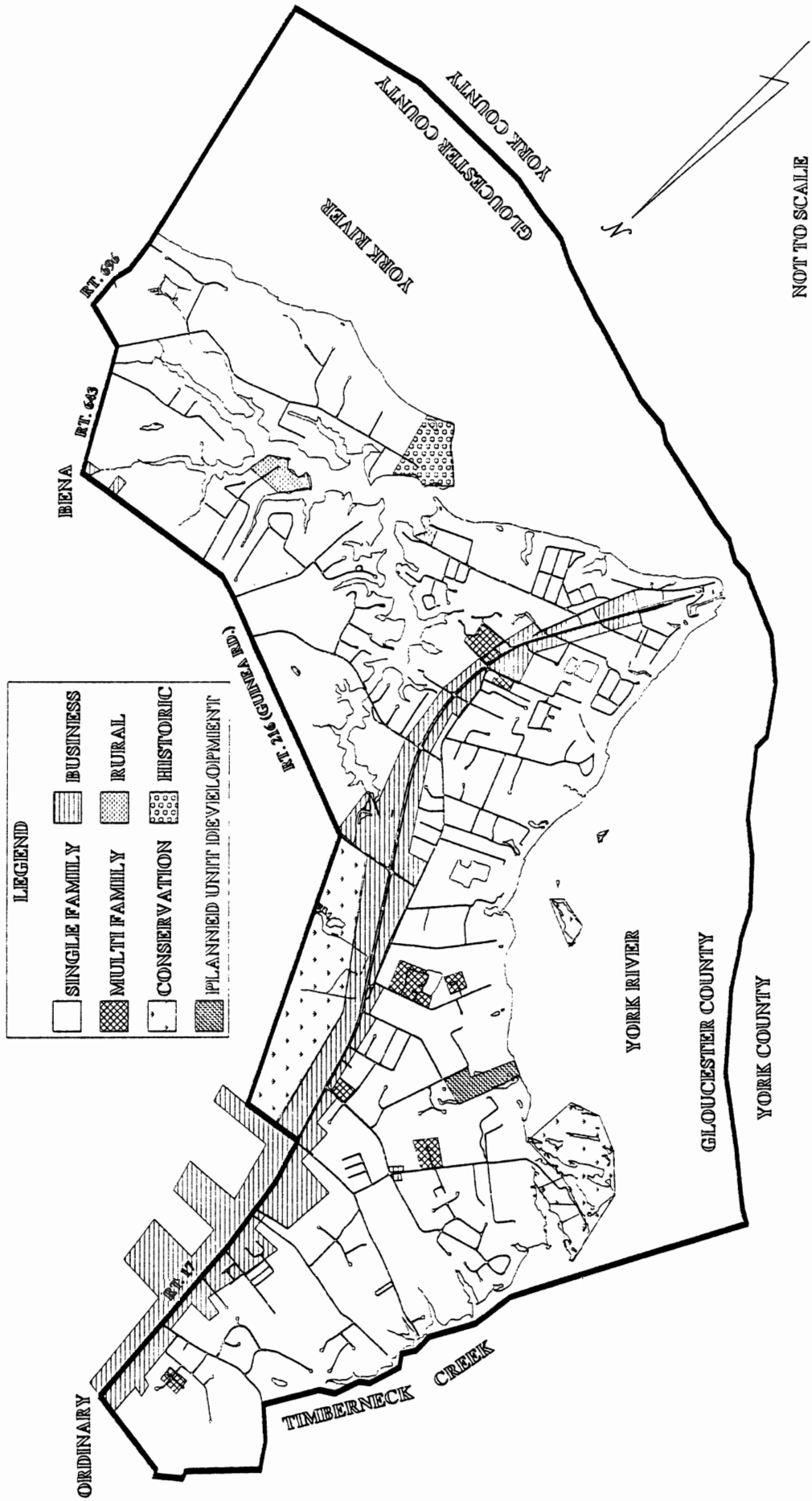
agricultural runoff, which cannot be traced to a specific source). Local programs shall protect high quality state waters and restore all other state waters to a condition that will permit public uses and will support aquatic life. Localities will achieve this goal by preventing any increases in pollution, reducing existing pollution, and promoting water quality resource conservation. Gloucester County's Chesapeake Bay Preservation Ordinance became effective on November 15, 1991.

Chesapeake Bay Preservation Areas:

The ordinance classifies all land within the County as either Resource Protection Area or Resource Management Area. Resource Protection Areas (RPA) consist of lands at or near the shoreline which have intrinsic ecological and biological value in regards to water quality. These lands naturally filter pollution-laden runoff entering the Bay and its tributaries, thereby minimizing the adverse effects of human activities. The RPA includes tributary streams, tidal wetlands, certain non-tidal wetlands, tidal shores, and other lands necessary to water quality protection. The RPA also must include a vegetated buffer, extending 100 feet from the landward side of the other RPA features. Within the CDP, major inland extensions of the RPA occur south of Bena, coinciding with prevalent hydric soils.

Resource Management Areas (RMA) include lands which, if improperly used or developed, may degrade water quality or diminish the functional value of the RPA. The RMA shall be designated contiguous to the entire landward boundary of the RPA and shall include floodplains, highly erodible soils, highly permeable soils, non-tidal wetlands not

GLOUCESTER POINT CDP -- CURRENT ZONING



NOT TO SCALE

*NOTE: OFFICIAL ZONING MAP LOCATED AT OFFICE OF COMMUNITY DEVELOPMENT

included in the RPA, and other lands necessary to ensure water quality protection. Due to the extent of these features throughout the County, and because the entire County falls within the Bay watershed, the local ordinance classifies all land not included in the RPA as RMA.

Performance Criteria:

<This section briefly describes criteria associated with use and development of land within Chesapeake Bay Preservation Areas. A complete list of performance criteria can be found in the Gloucester County Chesapeake Bay Preservation Ordinance >

General Criteria--

Any use, development, or redevelopment of land within Gloucester County must adhere to certain management criteria. Most significantly, land disturbance and impervious cover shall be minimized and indigenous vegetation preserved. Indigenous vegetation, which can thrive without fertilization, provides an inexpensive, long term solution to sediment and pollution filtration. Minimizing land disturbance and impervious cover ensures that such natural filters do not become compromised.

Development exceeding 2,500 square feet of land disturbance shall be accomplished through a plan of development review process, and shall comply with the requirements of the local sediment and erosion control ordinance. These efforts will allow reasonable management of development activity, preventing the erosion associated with land disturbance from degrading water quality.

On site sewage disposal systems shall have pump-out accomplished once every five years, and, for new construction, shall provide a reserve sewage disposal site with a capacity at

least equal to that of the primary site. Septic systems have a direct impact on water quality; pumpout will prevent overburdening of otherwise stable systems. Provision of reserve drainfield sites will ensure that adequate area exists to replace failed systems.

Stormwater management criteria shall apply such that, for development, post-development non-point source pollution runoff load shall not exceed the pre-development load. For redevelopment, a 10 percent reduction in non-point source pollution shall be achieved, except on sites currently employing water quality best management practices, in which case post-development load shall not exceed pre-development load. Specific strategies will vary according the scope of the proposal, but all will address the connection between land use and water quality. A 10 percent load reduction for redevelopment will help decrease existing pollution levels.

Agricultural lands shall have a soil and water quality conservation plan approved by the local Soil and Water Conservation District by January 1, 1995. Silvicultural activities are exempt from these regulations provided that such operations employ water quality protection techniques prescribed by the Department of Forestry's "Best Management Practices Handbook for Forestry Operations." Neither farming nor forestry plays a significant role within the CDP.

Performance Criteria for Resource Protection Areas--

Land development within an RPA may be allowed only if it is water dependent or if it constitutes redevelopment. Water dependent facilities, such as piers or marinas must comply with all other pertinent regulations, and shall be limited to the minimum disturbance

necessary. Redevelopment must comply with all applicable criteria.

A 100 foot vegetated buffer shall be retained if present and established where it does not exist. Such buffer will be deemed to achieve a 75% reduction in sediments and a 40% reduction in nutrients entering the Bay system. By maintaining an area of indigenous vegetation, runoff and erosion will be minimized, and non-point source pollution filtered. Within this buffer, trees may be removed to create sight lines or vistas, provided that they are replaced by vegetation equally effective in retarding runoff, preventing erosion, and filtering non-point source pollution. Dead, diseased, or dying trees may be removed at the discretion of the landowner. For shoreline stabilization projects, trees and woody vegetation may be removed and necessary techniques employed based upon the best available technical advice and in compliance with applicable permit conditions. These conditions will ensure maintenance of a viable buffer area while allowing reasonable woodlot management to take place.

On lots recorded prior to the effective date of these regulations (October 1, 1989), application of the buffer area shall not result in loss of buildable area. Under such circumstances, buffer area modifications shall be the minimum necessary to provide buildable area, and shall not exceed a 50 foot reduction. Where possible, an area equal to the encroaching area shall be established elsewhere on the lot to provide for water quality protection. Undeveloped lots recorded prior to October 1, 1989 might, depending specific circumstances, be exempt from the reserve drainfield requirement. These regulations do not affect existing uses unless a change in use or in the nature of the improvements (such as adding a pool or shed) is desired. These

regulations will not prevent repair of storm or fire damage.

On agricultural lands, the buffer area shall be managed to control concentrated runoff and to prevent noxious weeds (such as kudzu) from invading the buffer area. The agricultural buffer area may be reduced when a federal, state, or locally funded best management program or a soil and water conservation plan, approved by the local Soil and Water Conservation District is implemented on the adjacent land.

For the most part, state and local government activities must comply with the regulations. Utilities and roads are exempt, however, provided that such activities comply with erosion and sediment regulations, and locate outside the RPA if possible.

Specific conditions for granting exceptions, waivers, and appeals are detailed in the Gloucester County Chesapeake Bay Preservation Ordinance.

Floodplain Regulations

Floodplains are defined as having a 100 percent probability of being flooded over a 100 year time period, or a 1 percent chance of being flooded in any given year. The Federal Emergency Management Agency (FEMA) divides the floodplain into the floodway (land adjacent to the water channel) and the floodway fringe, using the two classifications for insurance purposes. To qualify for flood insurance, floodway development is prohibited. Furthermore, FEMA discourages development in the floodway fringe. Floodplain filling and development can severely alter flood water storage capacity, drainage patterns, and runoff velocity and volume. Since floodplain boundaries at Gloucester point largely coincide with other sensitive areas, such as hydric soils and Resource Protection Areas, limiting

development in these hazard prone areas becomes even more vital. Floodplain maps are available for review at the Gloucester County Office of Community Development and Codes Compliance.

Wetlands regulations

As discussed in section 2, wetlands serve many physical, biological, and cultural purposes, and an array of local, state, and federal wetlands regulations impact land development. As discussed above, the Chesapeake Bay Preservation Act grants a degree of local control over wetlands management. At the state level, the Virginia Wetlands Protection Act of 1972, as amended, requires a special permit prior to starting construction, dredging, or filling activities in a tidal wetland (including pier, bulkhead, and rip rap construction). The act provides the authority for permit decisions made by the Gloucester County Wetlands Board, but ultimate authority to administer the Wetlands Protection Act lies with the Virginia Marine Resources Commission, which reviews local decisions. The State Water Control Board, the Department of Transportation, the Virginia Institute of Marine Sciences, and the Department of Conservation and Historic Resources also participate in the permit review process.

Section 404 of the federal 1977 Clean Water Act, as amended, regulates non-tidal wetlands, prohibiting disposal of dredged or fill material into "waters of the United States" and adjacent wetlands. The U.S. Army Corps of Engineers and the Environmental Protection Agency possess joint administrative authority over Section 404. Because Section 404 does not cover all activities which affect wetland ecosystems, other legislative programs have been enacted, including the "Swampbuster" provision of the federal Food Security Act of 1985. The Swampbuster provision discourages draining of wetlands for conversion into farmland, and grants the USDA Soil

conservation Service a greater role in wetlands decision making.

Although all federal definitions focus on three factors: hydrology, soils, and vegetation, wetlands definition remains a debated issue, and the multitude of regulatory agencies involved further confuses the issue. Nevertheless, identifying the pertinent regulations and agencies builds into this plan the mandated goal of wetlands preservation.

National Wetland Inventory Maps, produced by the U.S. Fish and Wildlife Service, have been utilized in efforts to map Chesapeake Bay Preservation Areas at Gloucester Point. Because of limitations posed by scale and aerial photography, however, a more detailed, site specific wetlands inventory should accompany updates of this plan.

Septic Tank Regulation

Realizing the impact which septic systems have upon water quality, and in light of the alarming degradation of the Chesapeake Bay estuary system, the Virginia State Board of Health recently strengthened its regulations regarding placement of sewage disposal systems. This action may have profound implications for the CDP, where hydric soils and high water tables frequently occur. This will especially prove true for the southeastern end of the community. The unlikelihood of sewer and water extension to these areas drives home the impact the new regulations will have. Many areas affected by new septic provisions will already have been classified conservation areas as a result of this plan. Due to the lack of site specific soil data, however, the full impact of the Health Department's decision cannot be gauged.

Conclusion

Identifying local, state, and federal regulations provides an essential base for any long range plan. Certain new management guidelines, such as the Chesapeake Bay Preservation Ordinance and updated septic restrictions, will help the community address problems it has faced in trying to cope with metropolitan spillover development. The effectiveness of these regulations has not yet been tested – incorporating them into the plan will do just that. Certain long standing codes, most notably the County Zoning Ordinance, have proven inadequate to meet the needs of a Census Designated Place of over 8,500 people. A thorough update, based on goals outlined in this plan, is now due. This document represents an initial effort to define the Gloucester Point Area, and to identify areas most in need of attention.

SECTION 7: GLOUCESTER POINT PLAN SUMMARY OF GOALS & OBJECTIVES

The entire context of this Gloucester Point Plan implies an interest in the welfare of its residents, recognition of the inter-related nature of the many things that make up this highly urbanized area, and recognition of the value of a long-range view when certain decisions are made which will affect the welfare of these citizens and their relationships to their surroundings. It seems almost superfluous to set down specific goals and objectives with respect to the various elements of this Gloucester Point Plan. If briefly stated, these goals and objectives seem so broad as to be practically useless in confrontations with specific future problems needing solution; if stated at length, they overlap every feature of the Plan. Even so, these statements will sometimes provide guidance for decision making in future encounters, and taken together offer a statement of purpose and direction for local planning efforts which most citizens can understand. Because "GLOUCESTER POINT" is only a small unincorporated area with no established identity beyond that conferred upon it by the U.S. Bureau of the Census, its residents must define their basic goals and defend them when pertinent County, Regional, State, and Federal decisions are being rendered. Gloucester County in its COMPREHENSIVE PLAN sets down a broad summary of goals and objectives for a local jurisdiction with 230 square miles of territory and 30,131 residents. Much of this seems not to be entirely applicable to Gloucester Point which in the context of this Plan encompasses 30% of the County's population but only 3% of its territory. Gloucester County's long-range goals and objectives are indeed relative to welfare of growing Gloucester Point and its expanding population. However, the extent to which this

Point area has become urbanized dictates refinement of local objectives. Toward this end, the Point Plan is dedicated.

THREE OVERRIDING GOALS FOR GLOUCESTER POINT

This Gloucester Point "area" plan is primarily directed toward physical development of an urban community as delineated by the U.S. Census Bureau. At the same time, this Plan necessarily goes beyond physiographic factors to touch upon economic and social problems which cannot be translated completely into physical plans. The intended very broad scope of this Plan is emphasized in a statement of its three overriding community goals:

1. **TO ENRICH THE LIVES OF RESIDENTS OF GLOUCESTER POINT AND SURROUNDING AREAS OF SOUTHERN GLOUCESTER COUNTY:** This goal implies concern for the economic, social and cultural life of the residents and may not necessarily relate only to physical components and facilities.
2. **TO ENCOURAGE SYSTEMATIC PUBLIC AND OFFICIAL PLANNING REVIEW OF PROPOSALS WHICH FALL WITHIN THE SCOPE OF THIS GLOUCESTER POINT PLAN:** This goal is to ensure that inter-relationships are adequately investigated, that alternatives are considered, and that effects of any proposal on both the short-range and long-range future of Gloucester Point and its environs are considered. This broad goal is simply intended to promote planning as a routine element in the conduct of County business

as it applies to Gloucester Point. Among these areas of concern are land use management and environmental protection and administration of County minimum standards codes.

3. TO PROGRAM NEEDED PUBLIC SERVICES AND FACILITIES EFFICIENTLY AND

ECONOMICALLY: Residents of Gloucester Point expect high standards for public education, public safety, public utilities, traffic safety, community recreation, waste disposal, library and similar services. Such services and related facilities are provided wholly or partly by political agencies. Financing these services will be increasingly difficult. Point residents must actively participate.

ENVIRONMENTAL GOALS

In planning for physical facilities, this Plan is concerned with all aspects of external environment, conditions which we see and conditions which we otherwise experience in living or working at Gloucester Point. The natural environment of Gloucester Point, and many aspects of its man-made environment, contribute greatly to enjoyment of life near the York River. On the other hand, certain aspects of man-made environment are unattractive or disorderly and deserve a continuing effort toward improvement. All decisions related to this Plan must be subject to thoughtful environmental review. This goal is to enhance and protect the natural setting of Gloucester Point, to promote a deeper awareness of its natural beauty and to preserve/protect environmentally sensitive areas which are under pressure from continued urbanization. This goal should be addressed through these more specific objectives:

1. Maintain the beauty of Gloucester Point by protecting its wetlands, marshes, wooded slopes and stream valleys.
2. Reduce air and water pollution in accord with established legal standards through diligent enforcement of codes and ordinances with emphasis on the Chesapeake Bay Preservation Ordinance which deals with the entire community as a "Resource Management Area".
3. Develop and maintain a quality living environment throughout Gloucester Point with special attention on improvement of any conditions currently deemed substandard.
4. Prohibit land uses which generate unnecessary pollution, and encourage protection of permanent open spaces.
5. Improve the appearance and environmental quality of existing commercial areas, and ensure more attractive appearances in future commercial and industrial developments. Emphasis centers on the U.S. 17 "Coleman Corridor" as commercial intensification and road improvements occur and private redevelopment results.
6. Encourage donation of permanent open spaces, wooded areas, parks and environmentally sensitive areas to Gloucester County or to non-profit organizations dedicated to environmental protection.
7. Encourage development of pedestrian trails throughout the Point.
8. Re-evaluate zoning district boundaries, and downzone where it is appropriate to protect environmental integrity of adjacent areas.
9. Restrict to extent possible development or disturbance activities within Gloucester County's 100 year floodplain in the Point area.
10. Encourage natural plantings on critical slopes to reduce erosion and runoff and to enhance natural beauty of Gloucester Point.

11. Promote planting strips and vegetated buffers along US 17 and other arterial roadways and between land uses where one that is more intensive or offensive may exert adverse influences upon less intensive land uses; and require shrubbery and/or earthen berms in new or enlarged parking lots.

LAND USE GOALS

Background studies reveal Gloucester Point as an extension of the Hampton Roads Metropolitan Area, a bedroom community with seven square miles of territory and 8,509 residents. Economic sinews are limited to a ribbon of businesses strung out along five miles of U.S. 17 frontage and the Virginia Institute of Marine Science, a component of Virginia's College of William and Mary. The seafood industry also plays a role in the area's economy. The Land Use Plan for year 2010 seeks to harmonize developments which often fail to blend well in such an intense suburban setting, to define appropriate guidelines for in-fill development and to establish limitations on urban intensification. The basic goal is to encourage and provide for harmonious use of the land and adjoining tidal areas in a manner that meets needs of a growing population, stimulates physical, social and economic development, and protects a delicate ecological balance at Gloucester Point and its environs. Objectives are to:

1. Maintain integrity of existing residential areas, and plan appropriate locations for all types of residence; and for affordable housing; to accommodate persons/families of all levels of income and for a growing number of senior citizens.
2. Plan for the location of retail and wholesale commerce, office and employment centers and essential personal and automotive

- service facilities; and give due consideration to the attraction and siting of light industry, research laboratories and food processing.
3. Maintain an interchange of information and ideas with Gloucester County agencies, the Middle Peninsula Planning District Commission and the Hampton Roads Planning District Commission; and in so doing encourage proper land use management at the local, County, regional and metropolitan levels.
4. Prevent any intrusion of inappropriate land use in stable areas.
5. Allow physical and infrastructure determinants to define the boundaries, densities and ultimate build-out configurations for existing and future land use planning activities.
6. Concentrate new development in appropriate locations by encouraging more efficient site design and the sharing of access, parking and utilities.
7. Authorize higher densities outside the 100 year floodplain where public water and sewer service, open space, and other amenities are incorporated in site design proposals.
8. Once a Gloucester Point Plan has been recommended by the County Planning Commission and adopted by the Board of Supervisors as a component of the COUNTY COMPREHENSIVE PLAN, initiate research to review Census Designated Place boundaries for their adequacy in delineating this urban community.

TRANSPORTATION GOALS

Although principal elements of a future transportation system already are in place, numerous improvements become necessary as in-fill development occurs. A basic goal is to

ensure that Gloucester Point's major thoroughfares form a system that efficiently serves to connect various elements of the land use component of this Plan. Toward that end are these basic objectives:

1. Foremost among problems besetting Gloucester Point is its position astride U.S. 17 at the foot of the York River Coleman Bridge. Since U.S. 17 is used beyond its design capacity, widening this primary highway commands a top priority status. Many community needs are met and local functions performed by business firms having sole access to U.S. 17.
2. All new access roads and rights-of-way should meet standards set by the Virginia Department of Transportation. New privately maintained roads should not be approved unless satisfactory reasons are openly accepted by Gloucester County in the course of plat approval.
3. Encourage citizen participation in streetscape landscaping and maintenance programs/projects to improve roadway appearances.
4. In cooperation with VDOT, plan for improved pedestrian walkways and bicycle paths within public rights-of-way whenever possible.
5. All streets should possess design character and pleasing appearance, the appearance of a street being as important as its function.

HOUSING AND COMMUNITY DEVELOPMENT GOALS

By YEAR 2000, there should be no substandard dwellings in Gloucester Point. A housing plan and program should provide for decent, safe and sanitary housing in a suitable living environment for all citizens of Gloucester Point. Toward these ends, the following objectives apply in a County housing program:

1. Undertake a comprehensive survey of housing conditions throughout Gloucester Point. Establish priorities for community improvement. Maintain and improve the physical condition of dwellings.
2. Encourage private and non-profit development of affordable housing to accommodate moderate income families/individuals, young and old.
3. Encourage and support strengthening of residential neighborhoods; foster organization and action among local civic organizations.
4. Encourage senior citizen conversions as a way to provide affordable housing.

PUBLIC FACILITIES GOALS

Work cooperatively with Gloucester County officials; in some cases regional service agencies in which the County participates; to provide and improve essential public services and community facilities; such as fire and rescue, public safety, library and schools, parks and recreation, senior citizens, public utilities, street lights and garbage/trash collection. Upon the quality of such essential public services will depend the quality of future urban life at Gloucester Point and its growing urban environs. Several objectives are:

1. One issue to be resolved in the extension of sewer lines and street lights is the extent to which an enlargement of Sanitary District #2 might serve such purposes to the satisfaction of local residents.
2. Should a desire to provide a COMMUNITY CENTER CORE AREA materialize, citizen committees from Gloucester Point should initiate action with the County Planning Commission to prepare a site-specific proposal which

ultimately could become a Comprehensive Plan amendment.

3. Consideration should in time be given to development of a satellite Gloucester County office center to provide, more conveniently, some County services. Advances in computer technology and electronic communications may provide attractive cost-effective opportunities.
4. Encourage private development interests to share in the costs of providing new local public facilities.

IMPLEMENTATION GOALS

While this first attempt to frame a Gloucester Point plan may prove to be interesting reading to a few inquiring citizens and students of government, its value lies not in this but in the use made of it in deciding what to do and what not to do to improve conditions of life in the Gloucester Point urban community. If conditions may indeed be improved by implementing this Plan, then implementation goals should include items such as these:

1. A continuing program to improve public understanding of the need for a comprehensive long-range view of community problems; and Usefulness of this Plan and the Gloucester County State-mandated planning process in evaluating factors involved in any study of alternatives and in deciding upon effective courses of action.
2. Procedures which will encourage systematic reference of proposed improvements or land use management alternations to this Plan.
3. Continuous general review and periodic comprehensive review and updating of Point Plan elements in a context of the County Plan.

CONCLUSION

Usefulness of these goals need not be diminished by not being able to find one that exactly fits a planning question raised or finding several that may seem to offer somewhat different advice on the question. **TAKEN TOGETHER, THESE GOALS SIMPLY MEAN THAT A REASONED APPROACH IS JUSTIFIED WHEN IT COMES TO ENLARGING OR REBUILDING PORTIONS OF GLOUCESTER POINT.**

SECTION 8: LAND USE AS A FUNCTION OF TRANSPORTATION

Land use planning and transportation planning are integrally linked. In order for a managed, long term growth scenario to become a reality, the transportation infrastructure necessary to support that scenario must be planned for. Likewise, for a transportation system to function efficiently, land use impacts on that system must be taken into consideration. This section details a transportation plan designed to foster the long term success of Gloucester Point as a business and residential center.

The map on page 38 designates four types of roadways which comprise the Gloucester Point Transportation Plan. These are, in descending hierarchical order, Major Arterial, Minor Arterial, Major Collector, and Minor Collector. Each plays a vital role in Gloucester Point's transportation network, as described below. The Plan designates both existing and proposed routes; in cases where no specific improvements are recommended, the County will need to monitor these thoroughfares to determine any needed improvements as infill development continues at Gloucester Point.

MAJOR ARTERIAL:

The transportation Plan designates only one Major Arterial – U.S. Route 17, the George Washington Memorial Highway.

Within the lifetime of everyone involved in composing this planning document, U.S. 17 was a two-lane highway connecting northern Virginia to southeastern Virginia and points beyond. Its "primary" purpose was to provide for long-distance travel from one region of Virginia to another. Four-laning began to occur in the 1960s. During these last three decades, vibrant urban corridors flanking U.S.17 pushed out from metropolitan core cities such as

Newport News. Comprising these urbanized corridors were bedroom suburbs for overcrowded old central cities and roadside commerce to serve both an expanding metropolis and larger volumes of automotive travelers. Congestion was a predictable outcome. Some of it resulted from competition between through and local traffic; for to suburban/ex-urbanites, segments of U.S.17 had become their "main street". In turn, results (e.g., accidents and gridlock) from and complaints over mounting congestion led to traffic signals, by-passes, highway upgrading and controls over access. This, precisely, explains the changing role that U.S.17 has come to play at Gloucester Point. This highway, historically, was the force which made possible and shaped a roadside urban community. Gloucester Point, like communities adjacent to U.S. 17 along its eleven mile York County "corridor", expanded into a major urban node on the transportation network and emerged as an urbanized tentacle of the Hampton Roads Metropolitan Area. U.S.17 for the foreseeable future will remain the "main artery" for both Gloucester County and the Middle Peninsula. As such, it is indeed the "GLOUCESTER GATEWAY" and an automotive arterial vital to interests of interior Counties such as Mathews and Middlesex. Among transportation elements of any plan for the Gloucester Point community, it is and will remain paramount.

Until just recently, U.S.17 enjoyed its role as a "primary Federal-aid highway" within a national transportation network second only to the Federal Interstate and National Defense Highway System. Passage of the 1991 Federal 'INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT'

(ISTEA) leads to creation of a new unitary 'NATIONAL HIGHWAY SYSTEM' (NHS) which will embrace U.S.17, make available funds for improvements to ease traffic congestion and render financial assistance to improve environmental features such as air quality. ISTEA is acknowledged to be a far more complex National Highway Act than its predecessors. Signed into law by President Bush in late December 1991, ISTEA challenged our Virginia Department of Transportation (VDOT) to approve 1992-3 authorizations by autumn 1992. VDOT responded with non-Interstate allocations, including a four mile widening (to six lanes) for U.S.17 in York County from the Coleman Bridge to Fort Eustis Boulevard VA-105. (A scant 3 miles separates this proposed improvement from the Lower Peninsula's lifeline, Interstate 64; VA-105 passes through open areas, a National Park & a Newport News watershed.) ISTEA includes a Federal "demonstration" grant for widening the Coleman Bridge to four lanes. ISTEA now authorizes use of Federal funds to construct/enlarge toll facilities such as the Coleman Bridge. VDOT is now moving to widen from four to six lanes U.S.17 from the Coleman Bridge to Guinea Road, VA-216, a distance of 2.4 miles. Altogether, VDOT has zeroed in on what has come to be regarded as one of the principal transportation bottleneck in our Hampton Roads Metropolitan Area - the U.S.17 Coleman Bridge connection between the Middle and Lower Peninsulas of Virginia. This seven mile stretch between Fort Eustis Boulevard VA-105 and Guinea Road VA-216 may emerge as one of Virginia's beneficiaries of Federal ISTEA legislation. Seven miles of six lane highway, direct connection with Interstate 64, and a modern four lane Coleman Bridge would place urban Gloucester Point squarely in the path of metropolitan expansion. For these reasons, U.S.17 corridor physical highway improvements are designated as the foremost

feature of any Gloucester Point Plan Transportation Element.

MINOR ARTERIAL:

These thoroughfares link Gloucester Point to adjacent areas, and distribute local traffic to Major Arterials. The four designated minor arterials are:

1. VA-216, GUINEA ROAD, which links Gloucester Point to residential communities and seafood business to the east, and which distributes traffic from the east onto Route 17.
2. ROUTE 641, TIDEMILL ROAD, east of Route 17, which distributes traffic between Routes 17 and 216.
3. ROUTE 1216, HAYES ROAD, from its intersection with Route 641 to its northern intersection with Route 17. This section of "Old 17" distributes large volumes of residential traffic onto Route 17. It also provides an alternative to Route 17 for north-south travel.
4. ROUTE 636, PROVIDENCE ROAD, which links Gloucester Point to areas west and north, and which distributes traffic onto Route 17.

MAJOR COLLECTOR:

Major Collectors carry relatively high volumes of traffic, and often distribute traffic from Minor Collectors and local streets to Arterials. The Plan designates three Major Collectors:

1. ROUTE 641, TIDEMILL ROAD, west of Route 17, which connects Routes 1216 and Route 17.
2. ROUTE 1216, HAYES ROAD, from its intersection with Route 641 to its southern intersection with Route 17. This segment links local streets and a minor collector with the Gloucester Point Arterial system.
3. ROUTE 1301, FIELDS LANDING ROAD, which carries local residential traffic to Route 17. This road also offers

possibilities for crossing Timberneck Creek as lands to the west develop.

MINOR COLLECTOR:

Minor collectors transport traffic from local streets to routes of higher order. The Transportation Plan Map designates several existing routes as minor collectors, emphasizing their importance to Gloucester Point's transportation network.

ROUTE 216/17 INTERSECTION IMPROVEMENT

The intersection of Routes 17 and 216 is in a very real sense the transportation hub of Gloucester Point. As such, it is an extremely busy intersection with unique transportation demands. Specific improvements to the intersection will be discussed in an upcoming supplement to the Comprehensive Plan; as needs are identified, Gloucester should seek funding to upgrade this critical node.

ALTERNATIVE TRANSPORTATION MODES

Water-borne transportation has always been a vital part of Gloucester Point's transportation system. Boating for one's livelihood, for recreation, or for transport across the York have helped shape the community, and remain important factors. Access to water-based transportation needs to be considered as transportation improvements are made. Again, a coherent system of collectors and local streets will ensure that Gloucester Point residents have safe and efficient access to the marinas and boat landings throughout the CDP. Route 17 improvements and access controls will guarantee better access for tourists and County residents who live outside the CDP.

In addition to water-based transportation, bikeways and walkways also need to be considered for their impact on Gloucester

Point's transportation network. As Route 17 is widened, and as new collectors are constructed, the County should investigate the possibility of provisions for these alternative modes. Coordination with VDOT will prove essential. The Intermodal Surface Transportation Efficiency Act makes available new funding sources for such improvements, and these should be investigated and sought where appropriate. Also, the County should consider ways to encourage the private construction of such facilities as new development occurs.

HIGHWAY CORRIDOR OVERLAY DISTRICT

The 1991 Gloucester County Comprehensive Plan proposes a Highway Corridor Overlay District to help manage growth within the Route 17 corridor. Specifically, the District recommends measures to protect and enhance the safety, efficiency, and aesthetics of Gloucester's primary transportation facility. Enactment of such measures will ensure the long term viability of Route 17 as a transportation artery and an economic development corridor. The District is discussed in detail in the main body of this Plan, but bears mentioning here because of its critical importance at Gloucester Point. Adoption of such measures will prove essential to the public health, safety, and welfare, and will have a significant impact on the image of this "Gateway to Gloucester." As the main entrance to Gloucester County, Route 17 at Gloucester Point needs to function safely and efficiently, and needs to present a positive, attractive image to residents and visitors. The following measures should be considered:

- Access Management. Perhaps no other issue bears as much importance to the safety of the highway as access to individual sites. The County should consider ways to manage access so that highway safety is not degraded. Shared access, reverse frontage,

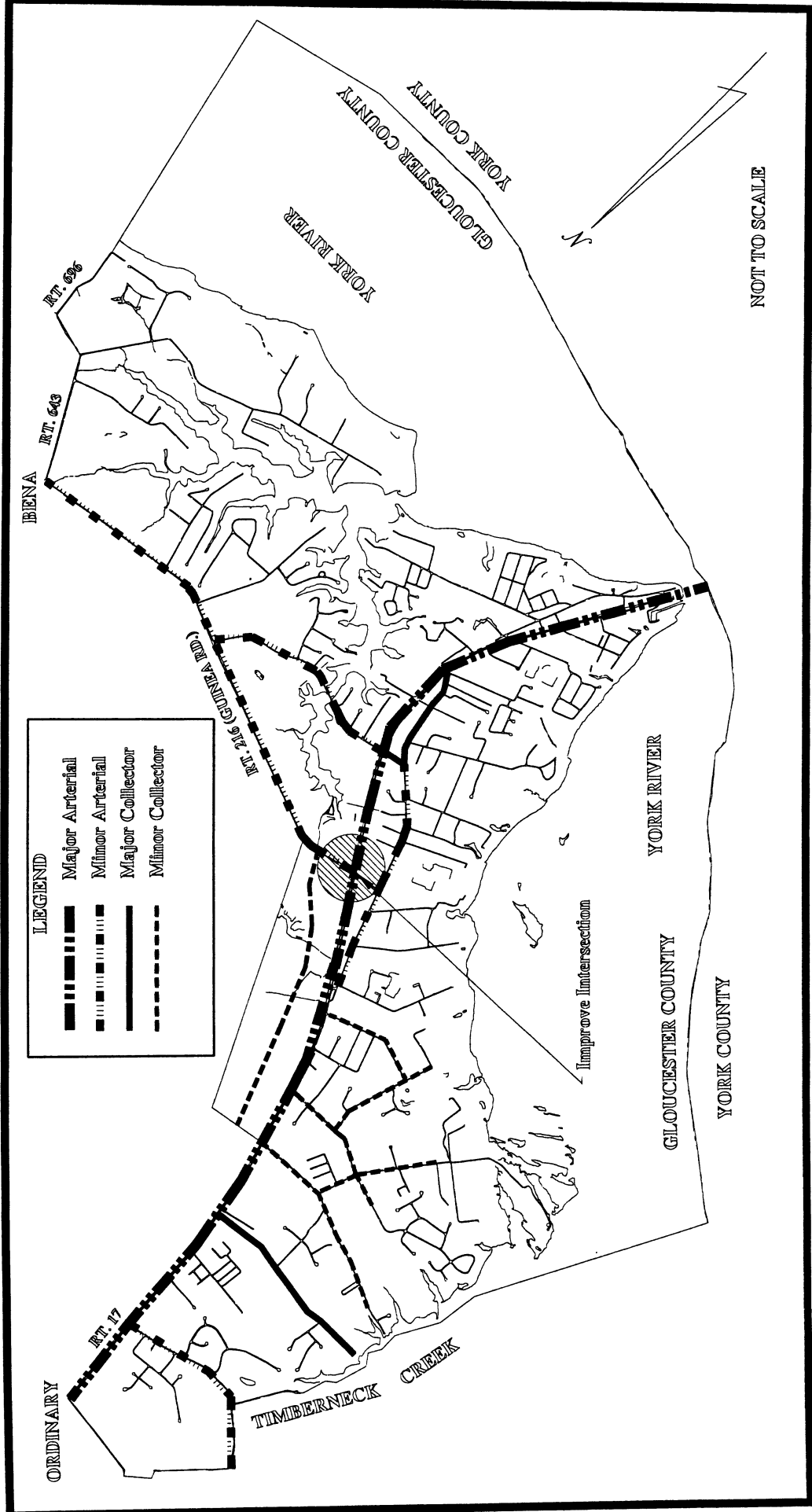
and access from side streets should all be examined.

- **Site Design Standards.** Issues such as signs, landscaping, and setbacks should be analyzed in relation to their impact on highway safety and aesthetics.
- **Building Design.** The County should consider ways to encourage selection of materials and colors which enhance the overall character of the highway. This is a difficult objective, which involves subjective analysis, but standards and guidelines which encourage traditional materials and colors, befitting Gloucester's colonial heritage, will prove beneficial to the highway corridor.
- **Development Incentives.** The County should consider ways to provide incentives for new development to meet better-than-minimum standards, and to encourage existing development to retrofit to meet the new standards.

CONCLUSION:

In a developed area such as Gloucester Point, transportation planning will involve upgrading and connecting existing facilities. In other words, the basic thoroughfare network is already in place, but needs adjustment and monitoring. A widened Route 17 will improve the quality of this suburban community. Integration of other transportation modes, such as bikeways and sidewalks, will complete the transportation package necessary for an area supporting almost one-third of Gloucester County's population.

GLOUCESTER POINT CENSUS DESIGNATED PLACE TRANSPORTATION PLAN



SECTION 9: LAND USE AS A FUNCTION OF POTABLE WATER AND SANITARY SEWERS

Of the sections outlined for this community plan proposal, none has been more difficult to compose than an element dealing with sanitary sewers.

Gloucester Point is served entirely by "on-site sewage disposal systems"; i.e., septic tanks. Some of its area, including the VIMS campus, is part of Gloucester County's "Sanitary District #2". However SD#2 was called upon only to provide water and street lights. In 1991 the new Countywide water system reduced the function of SD#2 to provision only of street lights.

The Virginia Institute of Marine Science is making plans to provide sewer lines and a pump station to replace its septic tanks and take advantage of the new Hampton Roads Sanitation District force main which bisects its campus. The VIMS plan is limited in extent to its campus. The York River Shopping Center complex currently pumps its sewage from the east side of U.S. 17 to a sewage treatment field west of the highway. It is anticipated that the Hampton Roads trunk sewer will receive this flow upon completion of the regional facility.

Throughout metropolitan Hampton Roads, suburban areas developed with septic tanks have largely been replaced with gravity sewerage systems. This is a costly investment, one that requires up-front cash for major capital improvements. Research revealed few areas within Gloucester Point which might be attractive to private developers who could extend sewer mains and open up adjacent areas for extension of the sanitary sewerage system. Other ongoing research looks to systemic extensions involving small dimension suction lines and private/public grinder pumps.

Experience elsewhere suggests that such systems, depending upon large private investments and high maintenance costs, might not be appropriate for a seven square mile area and 8,500 residents. Research will continue.

Water service has been extended off trunk mains to most of this area defined by the U.S. Census Bureau as Gloucester Point. The one major exception is southwest of Bena, including Little England Peninsula. A combination of low population density and physiographic constraints may for fiscal reasons serve to restrain County water main extension south along Mark Pine Road and east along Little England Road. However, word of well failures along the north side of Sarah Creek may compel private property owners and County officials to go over available options. One other area into which water mains have not been extended to date is at Ordinary, west of U.S. 17 in the vicinity of VA-667 and VA-1315. This section of Ordinary has been slow to develop, but the pace may increase since large tracts of land and sanitary sewerage are both available. Water service is not difficult compared to providing sanitary sewerage.

SECTION 10: PARKS AND OPEN SPACE

Excerpt from the Comprehensive Recreation Plan for Gloucester County 1990

The following information is offered to assist in the overall land management plan for Gloucester Point. The recommended number of facilities and type of facilities are taken from A Comprehensive Recreation Plan for Gloucester County.

Goal: To continue to improve the existing public recreation facilities located within Gloucester Point.

Objectives:

1. To fund the capital improvement requests for the park at Gloucester Point Beach. The request includes funding for a concession building with restrooms, expansion of the pier and lighting of the pier, removal of the Oyster House, construction of a wharf, construction of a picnic shelter and playground, and paving of the parking lot.
2. Plan for the development of Tyndall's Point Park. Consider using the County's building located at the park for a nature/historical museum.
3. Continue to fund improvements at Abingdon Park. Plans for future expansions at the park include additional athletic fields, tennis courts, and more.

Goal: To develop new recreational facilities which include the following:

athletic fields (1 baseball, 2 or more softball fields)
 waterfront access for swimming, boating, and observation
 tennis courts (4 or more courts)
 swimming pool
 playgrounds
 picnic areas

Goal: To preserve public properties and purchase new public lands for park development.

Objectives:

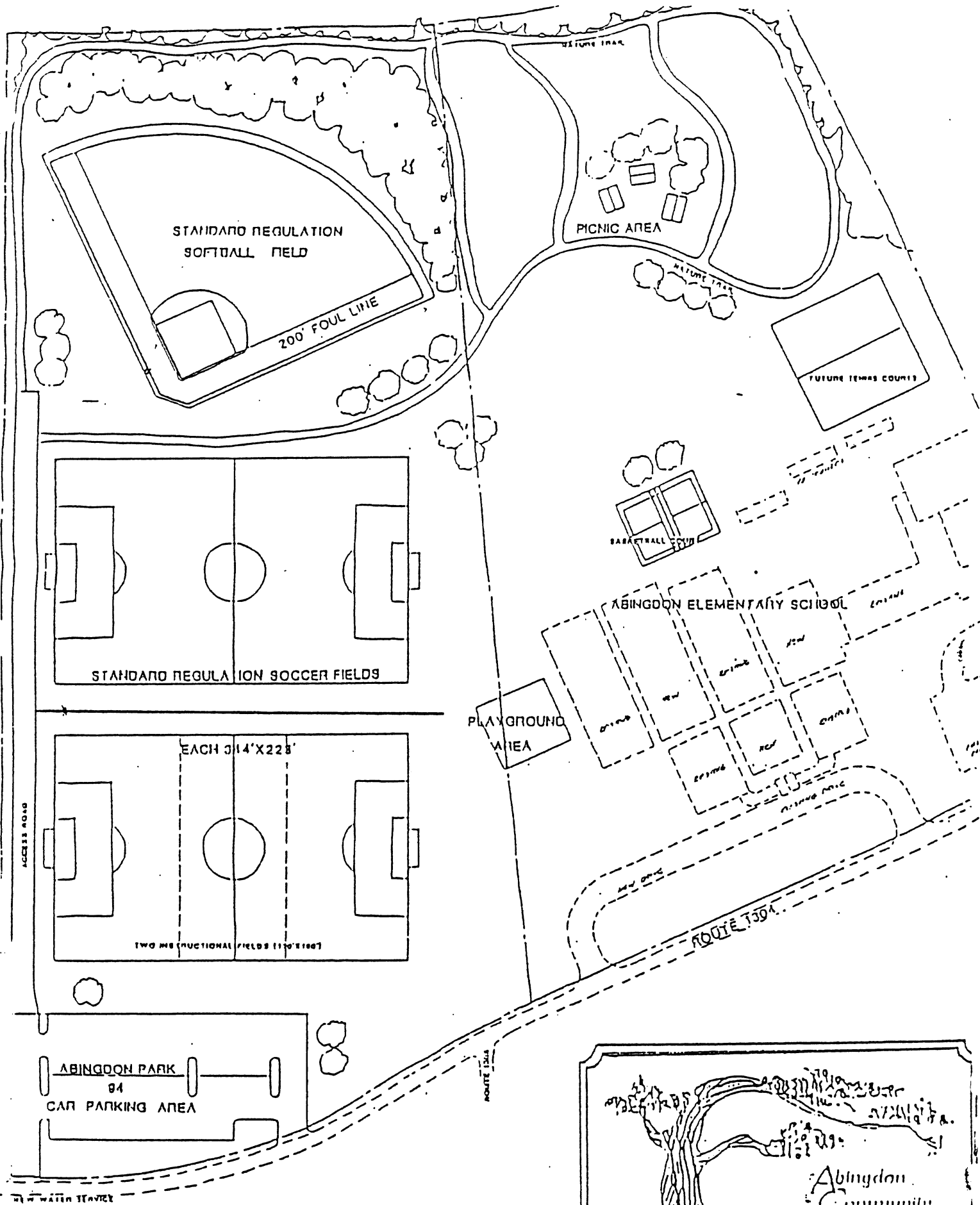
1. To consider developing a County park in the Tidemill area which could have a pond for recreational use
2. To investigate the purchase of land in other areas which may be appropriate for public parks.

Goal: To beautify public lands.

Objective:

1. To work with County staff and civic groups in planting and maintaining beautification plots on public properties.

Goal: To encourage developers to build recreation facilities for their residents of subdivisions and multi-family units.



SECTION 11: COMMUNITY CORE AMENITIES ESSENTIAL TO AN URBAN SETTLEMENT

One Subcommittee concern dealt with inadequacies of Gloucester Point as the "GATEWAY TO GLOUCESTER". Appearances along U.S. 17 are considered a negative impact upon the rural County's image. Moreover, this relatively dense suburban settlement astride U.S. 17 lacks any focal point or central core area; identification of such a focal point might help unify and identify the Gloucester Point area. The following is a report, written by Point Planning Committee member Roger Davis, offering one possible suggestion.

"The idea of a "CORE CONCEPT" would be to locate selected government services, community amenities and job opportunities within and near the Gloucester Point "U.S. Census Designated Place" population center. There are several potential undeveloped sites that could well serve as a location for such a complex. It is not the intent of this discussion to debate the merits of a specific site; but rather to explore the idea of "SATELLITE SERVICES" within a community core center that may lend a "SENSE OF PLACE" to our rural setting. At this stage, we are talking "what if" and "could be" with an open mind and no financial structure for implementation. Our goals must ultimately be wanted by the local population of Gloucester Point, must serve a community purpose, should enhance the aesthetic quality of place; and, of course, be supported by a reasonable tax base. Staff reminds us of the admonition: "Make not little plans, for they have no magic to stir human minds..." Toward this end, sentiment prevailed in these words: "Most residents prefer the rural quality and village atmosphere that best reflects their heritage of land and water. The Route 17

corridor, widening of the Coleman Bridge and continued pollution of local waters is a major trauma to local residents. An appropriate community core could do much to provide needed services, establish a sense of place and create an enhanced quality of life for the Gloucester Point U.S. Census Designated Place."

"A campus like complex planned with room to expand could include a building(s) to house County satellite services related to tax/fee payments, basic County information, inspection permit servicing and a place for citizens to confer with County officials. Also, a place to house human resource services closer to the clients involved and a field office for the Sheriff to provide faster response time and closer community contact would be of great value. A modern satellite service center utilizing electronic media renders such a local dream possible. Incorporation of "wetlands" property into community recreation and a "central" park to provide and maintain "green space" would provide a quality public setting for the entire Gloucester Point community. A public waterfront is the dream of every waterfront community; a Gloucester Point tidal basin for children and paddle boats within a "central park" could become a symbol of the newly urbanized Gloucester County. Perhaps classroom spaces for a community college satellite or a vocational training center could be incorporated in the community core. This idea of a learning center with on site tutorial services reflects the potential gold mine of local retired professional people. To offer opportunities for local residents to upgrade individual skills and to stimulate intellectual levels is an exciting prospect. Utilization of

computer aided instruction equipment opens up startling possibilities. Such a campus setting could include private office buildings and might be served by one of the new parallel service roads being considered for the U.S. 17 Corridor. Such a central core would enhance both Gloucester Point and Gloucester County; for this is indeed the 'GATEWAY TO GLOUCESTER', and undoubtedly, as it goes, so goes Gloucester."

SECTION 12: FUTURE LAND USE

ACHIEVING A VILLAGE SCALE LAND USE SCENARIO

The term “Village” conjures a wide array of images, particularly in the context of land use planning. In Gloucester County, the term most often refers to Gloucester Courthouse, the County seat, where densities, mixed uses, infrastructure, and settlement patterns combine to form what most residents consider a village. The term less often refers to Gloucester Point, where less cohesive development patterns, a commercial strip, and a lacking community center have made village identification more difficult. A primary goal of this plan is to foster development and redevelopment at Gloucester Point which contributes to the creation and reinforcement of village character. Village scale at Gloucester Point implies several factors: infrastructure extension, mixed use, and moderate density, to name a few. These goals, however, cannot override the basic fact that individual development projects must help create an attractive, sustainable, livable environment well beyond the twenty year time frame of this plan. This section constitutes the land use framework which will help create such an environment.

DEVELOPMENT DESIGN

The overall design of development and redevelopment within the CDP has the potential to help bring about the sense of place that can be called a village. Future development and redevelopment at Gloucester Point can take one of two paths – continued reliance on conventional “strip” commercial

and isolated residential patterns, or reorientation toward a more “nodal” development pattern. The latter, toward which this Plan directs itself, involves the creation of distinct activity centers within the Gloucester Point CDP. These centers should evolve around existing uses, and should provide for a mix of uses, including commercial, residential, and civic spaces. In order to create village scale activity centers, the following guidelines should be used.

- **Mixed use.** This term implies different meanings to different people, but in the context of village development design, it means simply that Gloucester Point residents should have safe and efficient access to all of the uses associated with daily life, such as homes, employment, shopping, and recreation. Such uses should correct, rather than continue, the pattern of strip development along Route 17. For commercial uses, this can be achieved by shared entrances, internal street networks, and orientation towards adjacent residential uses. For residential uses, emphasis on interconnection and internal amenities such as neighborhood parks should predominate.
- **Amenities.** Large scale development projects should include as part of their design measures designed to enhance the overall quality of the CDP. Such measures could include the provisions of public spaces, accommodation of alternative transportation modes (bikes, pedestrians, transit), and landscaping and other site design treatments which help create a sense of place. Stormwater management facilities offer significant opportunities in this arena. State law now requires a degree of stormwater management which, for most

large development projects, results in construction of retention basins. For the most part, these facilities are placed to the periphery of such projects, fenced, and allowed to overgrow in weeds. Future development at Gloucester point should consider ways to incorporate these facilities into the design process, by providing fountains, ponds, etc. This type of amenity will enhance the individual development as well as the community at large.

Obviously, in an area like Gloucester Point, where most of the land is already built-out, implementation of these objectives will prove difficult. These general guidelines, however, offer a clear community vision for development and redevelopment. They should serve as a basic framework for development design, and should be used by the County in analyzing rezoning proposals and amending land use ordinances.

VILLAGE RESIDENTIAL DENSITIES

Gross residential density is a measure of housing units per acre of land. It is a very broad calculation which includes all land within a defined area (including wetlands, roads, and non-residential uses). Establishing a gross density for future residential development is perhaps the most difficult part of the land use planning process, but it nevertheless proves necessary and useful. Relating a base density factor to individual development projects can become a daunting academic exercise, but base density must form a part of this plan if the document is to account for long term infrastructure needs. Simply put, the County can adequately service only a limited number of people. Furthermore, given the built-out nature of the CDP, a consensual gross density is

vital to securing residents' visions for their own neighborhoods. This section establishes such a density factor.

Existing development at Gloucester Point displays a gross density of roughly one housing unit per acre. Given this fact, and given the limited amount of vacant developable land, future housing density should not exceed two units per acre. This figure will allow for infill and redevelopment, without jeopardizing the character of existing neighborhoods. It is also consistent with the capacity of the Major Thoroughfare Plan. In translating this gross density factor into a recommendation for appropriate zoning categories, it is important to keep in mind that few tracts of land remain which will support large scale development projects. If all of the vacant land within the CDP were to develop at the 10,000 square foot minimum lot size prescribed by the current Single Family zoning classification, overall CDP density would approximate two units per acre. Current residential zoning thus seems appropriate, within the limits described below.

THE LAND USE CATEGORIES

Land Use classification scenarios are broadly stated visions of how development should occur over the next twenty to fifty years. They need not translate directly into zoning classifications, but rather guide zoning and other land use decisions. In terms of this particular scenario, the County may wish to utilize the Land Use provisions simply in analyzing rezoning proposals, or it may wish in certain cases to use them as the basis for initiating a rezoning. This flexibility is deliberate, and will afford a higher likelihood of successful implementation.

Suburban Residential District

As shown on the Land Use Map, the Suburban Residential District covers the majority of the CDP. The district is designed for moderate density residential development at a gross density of two units per acre. Based on existing development density, this can be achieved by efficient use of the current Single Family (SF-1) zoning district. However, the current SF-1 minimum lot size of 10,000 square feet should be seen as an absolute minimum, utilized where infrastructure is extended and where other development amenities such as parks, sidewalks, landscaping, and waterfront attractions are included. Where development of new neighborhoods does occur in the CDP, isolated cul-de-sac street forms should be avoided, in favor of street networks which connect to adjacent neighborhoods. This pattern will offer transportation alternatives, and prevent over-reliance on major highways.

Village Mixed Use District

At certain locations within the CDP, activity centers have begun to develop which display a tight mix of uses. These places warrant identification due to their potential for future expansion as commercial, recreational, and residential centers. Potential uses include waterfront and regional commercial establishments, parks and community centers, government buildings, and townhouse and multi-family development. Not all of these uses are appropriate at all of the Village Mixed Use centers, and proposals will need to be judged on an individual basis. The district is intended primarily as a tool for analyzing rezoning proposals. It is intended that mixed use developments will take advantage of public water and sewer infrastructure. Also, certain of these areas are directly adjacent to single family residential neighborhoods; this factor must be considered in the design and approval process. Where future development does occur, the

following design elements should be considered.

- Water quality protection. Where mixed use developments locate at the shoreline, impact on the shoreline and associated water body should be minimized. Furthermore, mixed use projects should examine the possibility of providing for regional or subregional stormwater management. In other words, large scale development projects might be able to treat stormwater runoff from surrounding properties as well as on-site runoff.
- Landscaping and buffering. Site design features should enhance the overall visual impact of the project. Furthermore, where mixed use projects locate adjacent to residential areas, adequate screening should be employed.
- Adequacy of existing and proposed transportation facilities. Mixed use development has the potential to add significant demand on Gloucester Point roads. To prevent overburdening of these systems, traffic analyses should be part of the review process.

Route 17 Commercial Districts

Currently, virtually the entire Route 17 corridor from the Coleman Bridge to Ordinary is zoned Business (B-1). The district promotes all types of commerce, and has fostered the creation of a business strip, with the associated negative impacts on the safety, efficiency, and aesthetic quality of the corridor. Economic activity in the corridor is vital to Gloucester County, and in order to promote stable economic development, the County will enact measures designed to improve the overall quality of the Route 17 corridor. The Highway

Corridor Overlay District, discussed in the main body of this Plan, will form a major part of this effort. In addition, the County will undertake efforts to diversify the zoning pattern within the corridor. To foster this objective, certain portions of the corridor bear one of the following commercial designations. Due to development pressure within the corridor, the County will undertake to rezone some or all of these areas to encourage desirable economic growth. Where development and redevelopment do occur in the corridor, consideration should be given to provision of public open space which encourages full utilization of the corridor, and enhances existing and future uses. Furthermore, such development should:

- ⇒ minimize visual impact on the highway;
- ⇒ provide access in a safe and efficient manner (this may involve a combination of shared entrances, rear access connector roads, and access derived from roads which intersect Route 17);
- ⇒ provide for pedestrian and bicycle circulation.

- **Business and Professional Office District.** This district is intended to encourage the orderly development of office-type commercial facilities. The types of uses envisioned will expand the employment and tax bases in Gloucester County. In addition, these uses generate less traffic than traditional "highway-type" retail establishments. The district has been designated where existing uses and developable vacant land suggest that office use is appropriate. This Plan envisions office development in accordance with policies specified in the Highway Corridor Overlay District. Effective implementation of this district will require creation of a new

zoning classification, and rezoning of appropriate areas.

- **Retail Commerce District.** This district is intended to support the more conventional highway-type retail establishments. Numerous concentrations of such uses characterize the corridor; this Plan supports the continuation and expansion of such uses. However, if retail commerce is effectively to serve the long range needs of Gloucester Point residents, improvement of the current strip-type pattern will prove necessary. Given this factor, redevelopment of existing, underutilized facilities should take precedence over construction of new facilities. Such redevelopment should occur in accordance with the Highway Corridor Overlay District. In addition, the County should consider the benefits of formalizing a set of redevelopment guidelines to encourage the orderly reuse of existing highway structures.
- **Industrial Employment District.** In order to encourage campus-type industrial activity, which will diversify the employment options available to Gloucester residents, the Plan establishes an Industrial Employment District. Uses envisioned include light industrial and manufacturing businesses, situated on landscaped parcels served by connected, internal road networks. Effectively designed facilities could have a positive impact on the overall quality of the corridor. Because few large vacant parcels remain within the corridor, implementation of this concept will prove difficult; nevertheless, this document designates a portion of the highway which seems to offer possibilities. The district is intended primarily as a tool for analyzing rezoning applications.

Resource Conservation District

Resource protection, and waterfront resource protection in particular, is critical to the sustained use of Gloucester Point. A healthy waterfront will support residential development, economic development, and a high quality of life. Given these factors, the Land Use Map designates a Resource Conservation District.

The District generally coincides with the Chesapeake Bay Resource Protection Area, which generally includes: wetlands, shorelines, tributary streams, and a vegetated buffer landward of the other features. To the extent possible, future development should locate outside the Resource Protection District. However, given the proposed moderate residential density, the possible expansion of waterfront commercial uses, and the prevalence of the water resource, some future development will take place within the District, in accordance with the Chesapeake Bay Preservation Ordinance. Where such development does occur, appropriate measures should be taken to minimize and mitigate environmental impacts. In particular, development should:

- avoid unsuitable slopes;
- avoid disturbance of wetlands;
- employ responsible floodplain management techniques;
- minimize clearing and land disturbance;
- utilize vegetative and/or structural best management practices to mitigate encroachments into the Chesapeake Bay Resource Protection Area (RPA).

It is the intention of the County to accommodate planned waterfront development that can meet the established performance criteria.

Where appropriate, State and private conservation organizations should actively pursue programs to purchase and/or acquire easements for privately owned lands in the Resource Conservation District so they can be preserved.

Public Amenity District

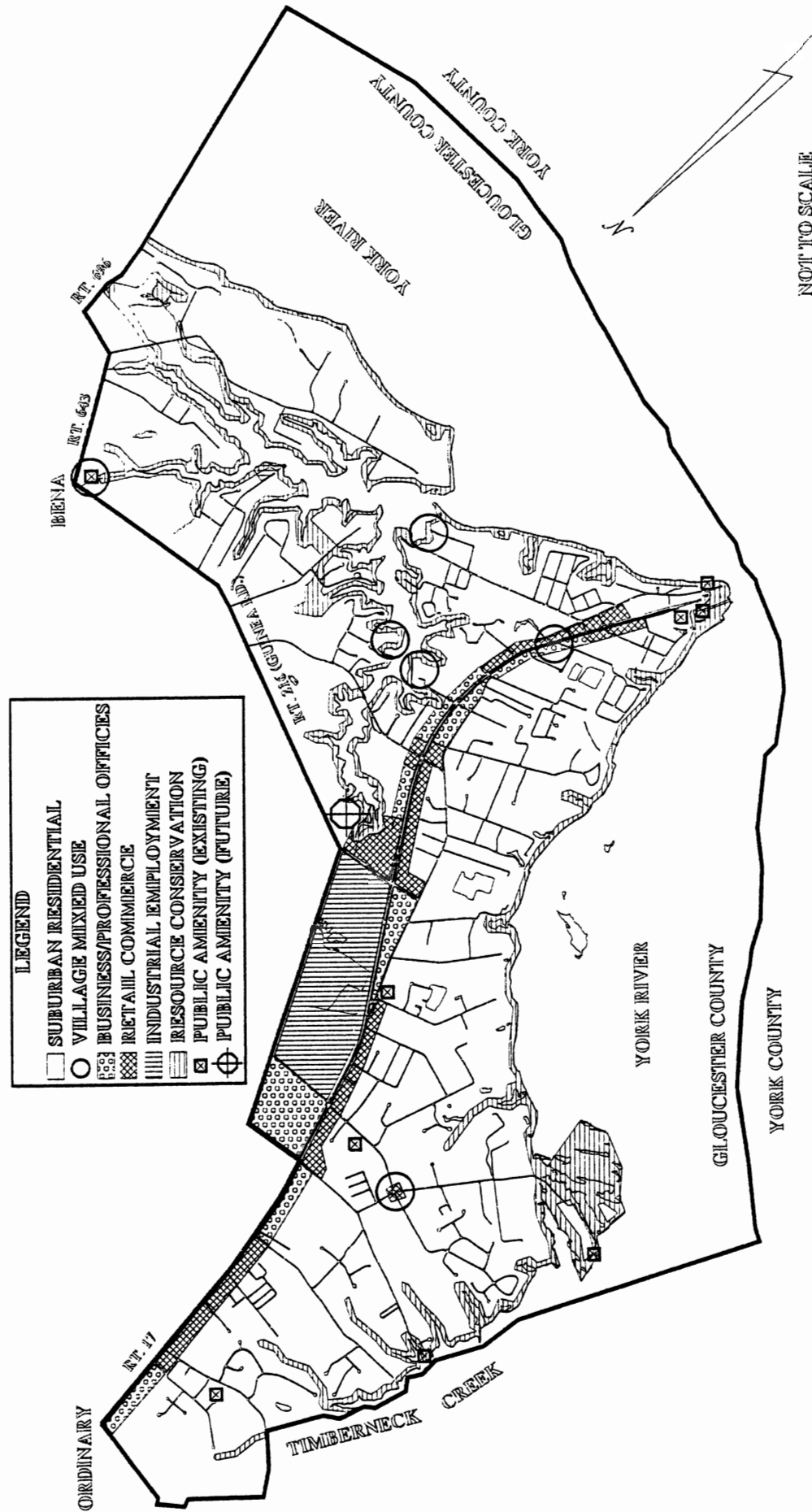
This plan recognizes the existence and potential need for expansion of public land uses. These include schools, boat landings, parks, and fire/rescue stations. Primary public uses are designated on the Land Use Map. Such uses definitively add to the quality of life at Gloucester Point, and therefore warrant recognition. As vital parts of the community, their expansion should be encouraged (where it does not conflict with other plan goals).

In addition to these existing uses, the Land Use Map designates a possible future community center, which might serve as a waterfront park facility as well as a center for certain County services. This element is indicative of a need. Its full scope remains to be determined.

CONCLUSION

This section outlines a broad vision for community development at Gloucester Point. Its scope is ambitious; it seeks in many ways to reorient a largely built-out community. Its strength lies in the fact that its inception is based on the consensus of a dedicated group of Gloucester Point residents. Implementation will prove difficult, but the clear vision described above represents a viable starting point.

GLoucester Point CDP -- Future Land Use



APPENDIX B

**GLOUCESTER COUNTY
COMPREHENSIVE PLAN AMENDMENT
Adopted November 7, 2001**

**NATURAL RESOURCES AND
ENVIRONMENTAL QUALITY**

Acknowledgments

Gloucester County Board of Supervisors 2001

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GLOUCESTER COUNTY COMPREHENSIVE PLAN AMENDMENT

NATURAL RESOURCES AND ENVIRONMENTAL QUALITY

(This section of the Gloucester County Comprehensive Plan was revised in 2001 by the Gloucester County Planning Commission and Planning Department with assistance from a grant from the Chesapeake Bay Local Assistance Board based on a draft document prepared by BTG in 1998. The material presented here as an update is intended to replace Section 8, the Natural Resources Section of the Comprehensive Plan that was adopted in 1991. This amendment was adopted by the Gloucester County Board of Supervisors on November 7, 2001.)

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INTRODUCTION

The Natural Resources and Environmental Quality Section of the Gloucester County Comprehensive Plan has been updated in 2001 to comply with Phase II Program requirements of the Chesapeake Bay Preservation Act (Section 10.1-2109 of the Virginia Code and related regulations 9 VAC10-20-60, as amended). This section describes the natural resources of Gloucester County, an important element of the County's Comprehensive Plan. In 1991, the County adopted a Comprehensive Growth Management Plan for the County (Gloucester County Comprehensive Plan). This growth management philosophy is motivated by the community's desire to balance population growth with the ability or capacity of the County to provide adequate public facilities and services while maintaining the rural nature and quality of the County. Inherent in the quality of life in Gloucester County is its abundant natural environmental assets including an extensive shoreline, broad estuarine rivers, forested areas, rural landscapes and waterfront vistas. The County's Zoning and Subdivision Ordinances were revised in 1998 and 1999 respectively, as essential components to implement the growth management strategies outlined in the Comprehensive Plan. These ordinances along with other County land use ordinances, policies and programs, regulate development within the County.

The effects of increased population and development impact the natural environment in many ways, including but not limited to: loss of plant and wildlife habitat from clearing of trees and other vegetation; loss of valuable wetlands and aquatic habitat from filling; groundwater contamination from septic systems and polluted stormwater; saltwater intrusion from increased demand for ground water supply; degradation of stream and river water quality from sediment and erosion; eroded stream channels from increased runoff velocity and volume; decrease in groundwater recharge and availability due to increased impervious surfaces; disruption of natural drainage systems; air pollution; increased solid wastes; and loss of scenic natural views.

Environmental deterioration is not an inevitable consequence of population growth. The development of new homes, businesses, industries, schools, and roads necessary to accommodate a growing population can occur without unduly threatening the County's environmental quality, if steps are taken to ensure that new development is designed and constructed in an environmentally sensitive manner. Certain areas of Gloucester County are more susceptible to environmental degradation than others due to the presence of sensitive natural features. Future development should be directed away from these sensitive areas and guided to areas of the County where environmental impacts will be less severe.

The impact of growth and development on the quality of Gloucester's environment is an issue of public concern. The "contained growth" philosophy provided in the Comprehensive Plan, subsequent countywide rezoning, and revised zoning and subdivision ordinances manage the location of future County growth by providing specific areas in the southern and central portions of the County for containment of the majority of expected development (see Zoning Map, Figure EV-1). Regardless of

location, all development must meet minimum performance standards for environmental protection required by the County's Erosion and Sediment Control Ordinance, Chesapeake Bay Preservation Ordinance, Wetlands Zoning Ordinance and all applicable state and federal regulations.

THE CHESAPEAKE BAY PRESERVATION ACT

LOCAL PROGRAM ELEMENTS

The Chesapeake Bay is the most significant and important natural resource in the Tidewater Region of Virginia. In response to interstate regional agreements among Virginia, Maryland, Washington D.C., and Pennsylvania and the federal Environmental Protection Agency (EPA) to clean up the Chesapeake Bay, the State of Virginia adopted the Chesapeake Bay Preservation Act, mandating all Tidewater Virginia localities to establish programs, plans, and ordinances to protect and improve the Bay's water quality. These "local programs" must comply with the Chesapeake Bay Preservation Area Designation and Management Regulations adopted by the Virginia Legislature on November 15, 1990, as amended. In Gloucester County, the York River, the Piankatank River, and the Mobjack Bay watersheds and all their associated tributaries are affected by these regulations. Therefore, management measures structured by the County in response to the Bay Preservation Act influence the entire land area of the County, as Bay System tributary streams are located throughout Gloucester.

Gloucester County adopted a Chesapeake Bay Preservation Area Ordinance as the cornerstone of its response to the Chesapeake Bay Preservation Act and interstate efforts to help protect and restore the Bay. The ordinance affects all property in the County. The ordinance's focus is to improve water quality by protecting environmentally sensitive areas such as tidal shores, wetlands, and highly erodible soils. These sensitive areas, called Resource Protection Areas (RPA's), are closest to shorelines and have an intrinsic water quality value or are most sensitive to development impacts. Figure EV.2 shows the locations of RPA's within the County. The riparian buffers associated with Resource Protection Areas include a minimum 100-foot wide area landward of environmentally sensitive areas which are to be safeguarded during development to help ensure the integrity of the sensitive areas. All other lands in the County are classified as Resource Management Areas (RMA's), and are intended to protect the integrity of the RPA's. As a result, the County's Chesapeake Bay Preservation Ordinance acts as an overlay district for the entire County regardless of the zoning district.

Gloucester County's *Site Plan Handbook*, produced by the Office of Community Development and Codes Compliance, now the Department of Codes Compliance, summarizes the County's Chesapeake Bay Ordinance in checklist form for site developers, and includes stormwater calculation worksheets that can be used to achieve compliance with pollutant removal requirements.

Figure EV-1 - Zoning Map

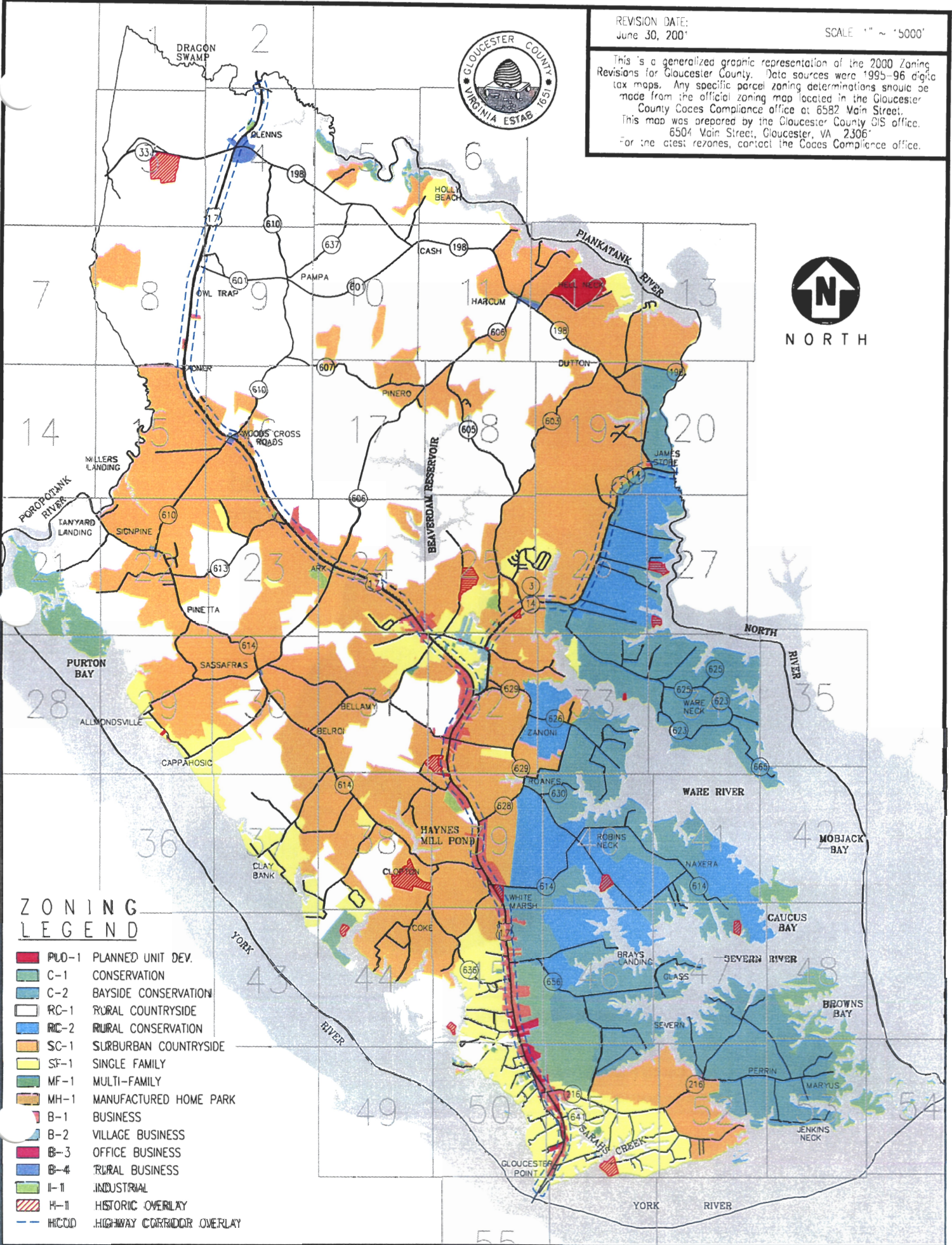
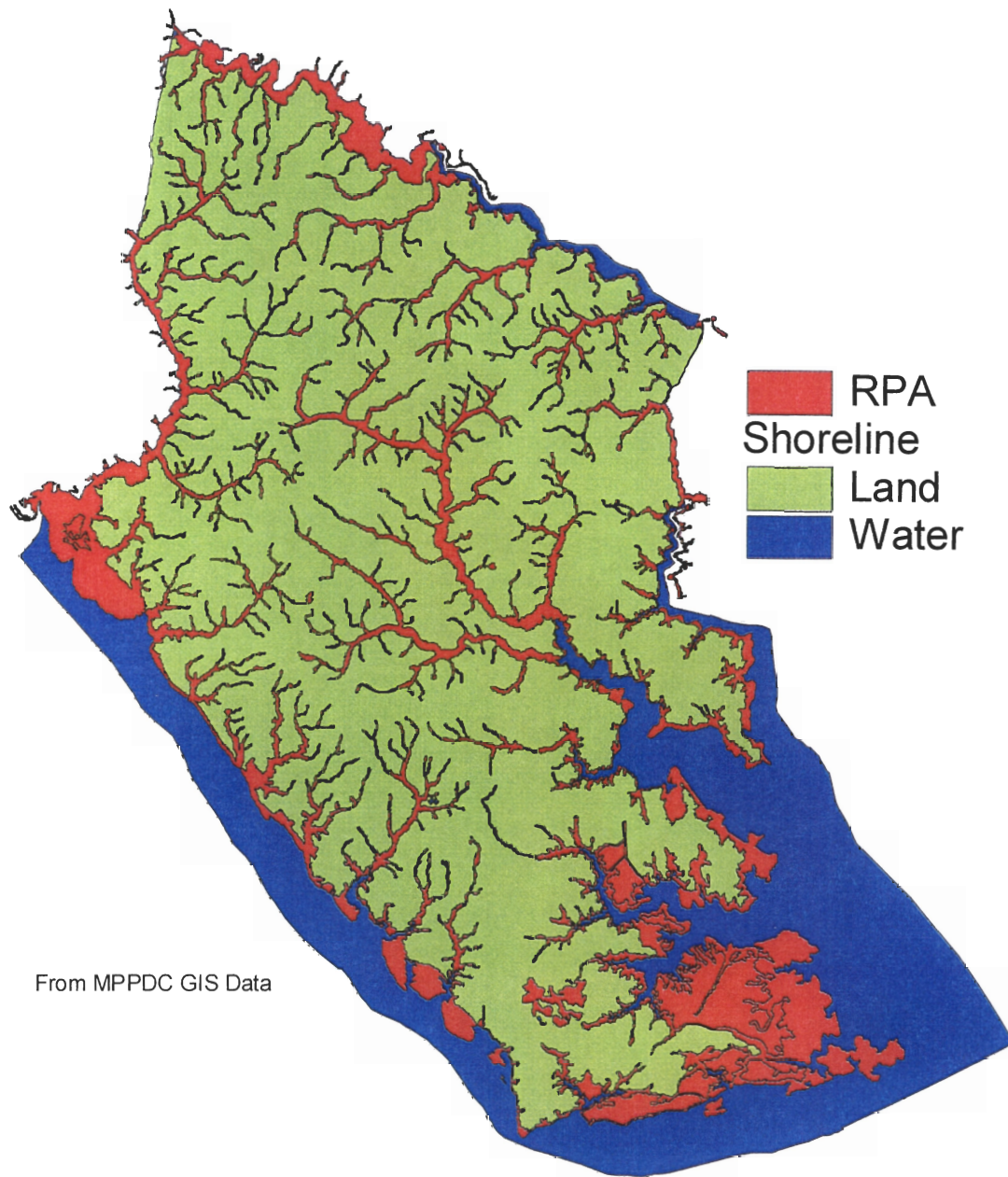



Figure EV-2 – Resource Protection Areas (RPA)



	Figure EV.2 Resource Protection Areas (RPA's)
	Gloucester County Comprehensive Plan Update
	Gloucester County Planning Department - 2001
	Data is of a general nature – field verification is required

BACKGROUND INFORMATION AND ENVIRONMENTAL QUALITY ISSUES

Receiving an average of 41 inches of precipitation annually, Gloucester County has a temperate climate with average temperatures ranging between 42°F in January and 79°F in July. Due to the County's proximity to the Chesapeake Bay and the Atlantic Ocean, extreme variations are somewhat moderated; however, hurricanes and tropical storms are occasionally a hazard. High winds that accompany some storms can cause damage to homes and crops and accelerate erosion of shorelines.

The County encompasses a total land area of 225 square miles including a variety of terrain ranging from level land throughout most of the County to a few areas with steep slopes (over 15 percent) in the northern half of the County. Elevations range between sea level and approximately 133 feet.

The soils of Gloucester County are formed from unconsolidated marine sediments. The area generally west of a line running from Hayes north to Dutton contains mostly deep, well-drained permeable soils. Most agricultural land and forests are located in this portion of the County, although it contains some areas with sandy ravines. The area generally east of the above mentioned line occurs in a lower elevation and contains a high percentage of soils with wetness problems. These soils also have a high clay content that restricts the movement of water.

Characteristics of the natural environment influence development potential. While some natural characteristics facilitate and enhance development, others should limit certain land uses and the intensity of development. Much of the County's existing settlement pattern was established long before environmental regulations or land use standards were even implemented in Gloucester County. Analysis of the County's natural features provides a means for determining appropriate future development and redevelopment potential of the land. This section depicts the general locations of the County's major natural growth determinants. These include wetlands, floodplains, and areas where soils have limitations for development or are most likely unsuitable for conventional waste treatment (e.g., in-ground septic systems). A more detailed and larger scale map of these features is available for reference at the Department of Codes Compliance. Field verification is required to accurately locate any specific constraints, such as wetlands. A discussion of specific components of the County's Natural Resources Element of the comprehensive plan is provided in the following subsections.

GEOLOGY

Gloucester County is capped to depths that range from 20 to 170 feet by marine deposits of fine silty sand, fine sand, and clayey silt. These flat-lying sediments occur on the higher and lower terraces and on the coastal plain peneplain.

In the northwestern part of the County, fine silty sand and clayey silt occur on the coastal plain peneplain. These are reworked sediments from older materials. They lay flat, forming a uniform layer that ranges up to 45 feet thick. The peneplain is the beveled surface of a formerly higher area.

In the central part of Gloucester County, higher marine terraces are present. On these terraces are sediments of fine silty sand. The sediments have been called the Columbia formation (McGee, 1888), although today, the major higher terrace present is called the Wicomico, with some Sunderland terrace occurring at higher elevations (Wentworth, 1930).

To the east of Gloucester Courthouse a scarp occurs. On the lower terraces east of this escarpment, clayey silt with fine sand marine sediment is present. These lower terraces have been named, in order from highest to lowest, the Chowan, the Dismal Swamp and the Princess Anne (Wentworth, 1930). The gentle escarpment has been called the Surry Scarp (Wentworth, 1930). Tidal marsh and swamp occur in the extreme southeastern and northwestern parts of Gloucester County.

Soils present in the County reflect the parent materials and periods of their deposition. The older, more mature soils occur on the beveled peneplain surface. Soils that are less mature weather from the materials on the higher terraces. The youngest soils occur on the lower terraces. At depths of 20 to 170 feet below the surface of Gloucester County lies gray fossiliferous marl, yellow and reddish brown sand, and some glauconite. Dipping gently seaward, these are the older marine sediments. From youngest to oldest, they are known as Pleistocene deposits, the Yorktown formation and the St. Mary's formation (Geologic Map Virginia, 1963).

SOILS

Soils are among the most basic resources, consisting of a mixture of air, water, mineral and organic matter, and living things. *The Soil Survey of Gloucester County, Virginia*, 1980, compiled by the Soil Conservation Service, contains detailed maps of the many soil classifications in Gloucester County. Other than specific studies by a soil scientist, this soil survey is the County's best source of information concerning the locations of soils exhibiting development constraints. Figure EV.3 shows the digital soils map of Gloucester County, compiled by the Middle Peninsula Planning District Commission. When used with other resource information such as slope, hydrology, and flood-prone areas, it provides useful data on which to plan and base County policies concerning future land use. Gloucester County's numerous soil types fall into one of six general soil classifications listed below. Primary concerns are soils' suitability for agriculture and individual waste treatment systems or septic tanks. Typically, soils best suited for agriculture are also the soils best suited for septic tank use. Areas where County soils are unsuitable for septic tank use are mapped in Figure EV.4, and areas having highly permeable soils are mapped in Figure EV.5. Soils having slopes greater than 15 percent ("steep soils") are mapped in Figure EV.6. The Middle Peninsula Planning District Commission prepared these maps in 1998. The relationship between the

location of these soils and the location of future growth should be taken into consideration in any decisions regarding general land use policies in Gloucester County.

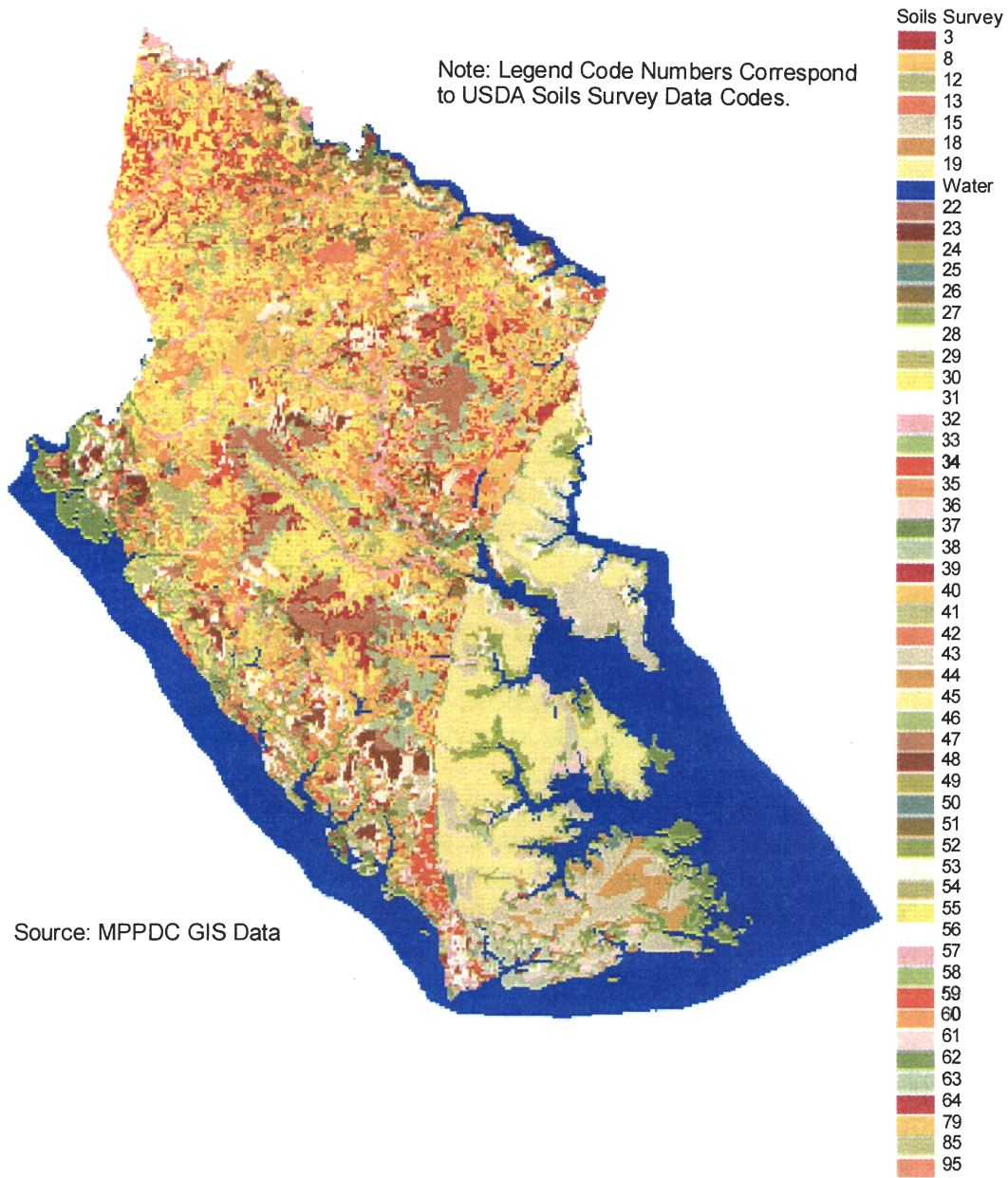
Each general soil association area contains soils of major extent and others of minor extent which follow a definite pattern. The County contains six such associations which are categorized as follows:

1. **Sulfaquents-Fluvaquents Association:** Deep, poorly drained and very poorly drained soils that are flooded by tides and that have a mixed sandy, loamy, and clayey substratum, on saltwater marshes.
2. **Lumbee-Lumbee Variant-Kalmin Association:** Deep, poorly drained and well-drained soils that have a dominantly clayey subsoil; at elevations of less than 20 feet.
3. **Meggett-Dogue Association:** Deep, poorly drained and moderately well-drained soils that have a dominantly clayey subsoil; at elevations of less than 20 feet.
4. **Suffolk-Eunola-Kenansville Association:** Deep, well-drained and moderately well-drained soils that have a dominantly loamy subsoil; at elevations of 30 to 50 feet.
5. **Emporia-Hapludults-Wrightsboro Association:** Deep, well-drained and moderately well-drained soils that have a dominantly loamy or clayey subsoil; at elevations mainly above 50 feet.
6. **Kempaville-Hapludults-Eunola Association:** Deep, well-drained and moderately well-drained soils that have a dominantly loamy or clayey subsoil; at all elevations.

Reducing the number of categories to three general divisions related to soil suitability for individual waste treatment systems provides some indication of the impact that future residential growth may have on the County and its present resources. These categories are: (1) well-drained, permeable soils; (2) marginal soils; and (3) soils unsuited for housing using septic systems. Percentages in each category, based on an estimate of 140,034 total acreage, are noted in Table EV-1.

On a more detailed level, a specific type of soil that is unsuitable for development is hydric soil. A hydric soil is one that in its undrained condition is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation (plant life growing in water or in a substrate that is at least periodically deficient in oxygen as a result of excess water content). Because this list includes soils that are either drained or undrained, not all hydric soils are wetlands (discussed later in this section).

Figure EV-3 – Soils



Source: MPPDC GIS Data


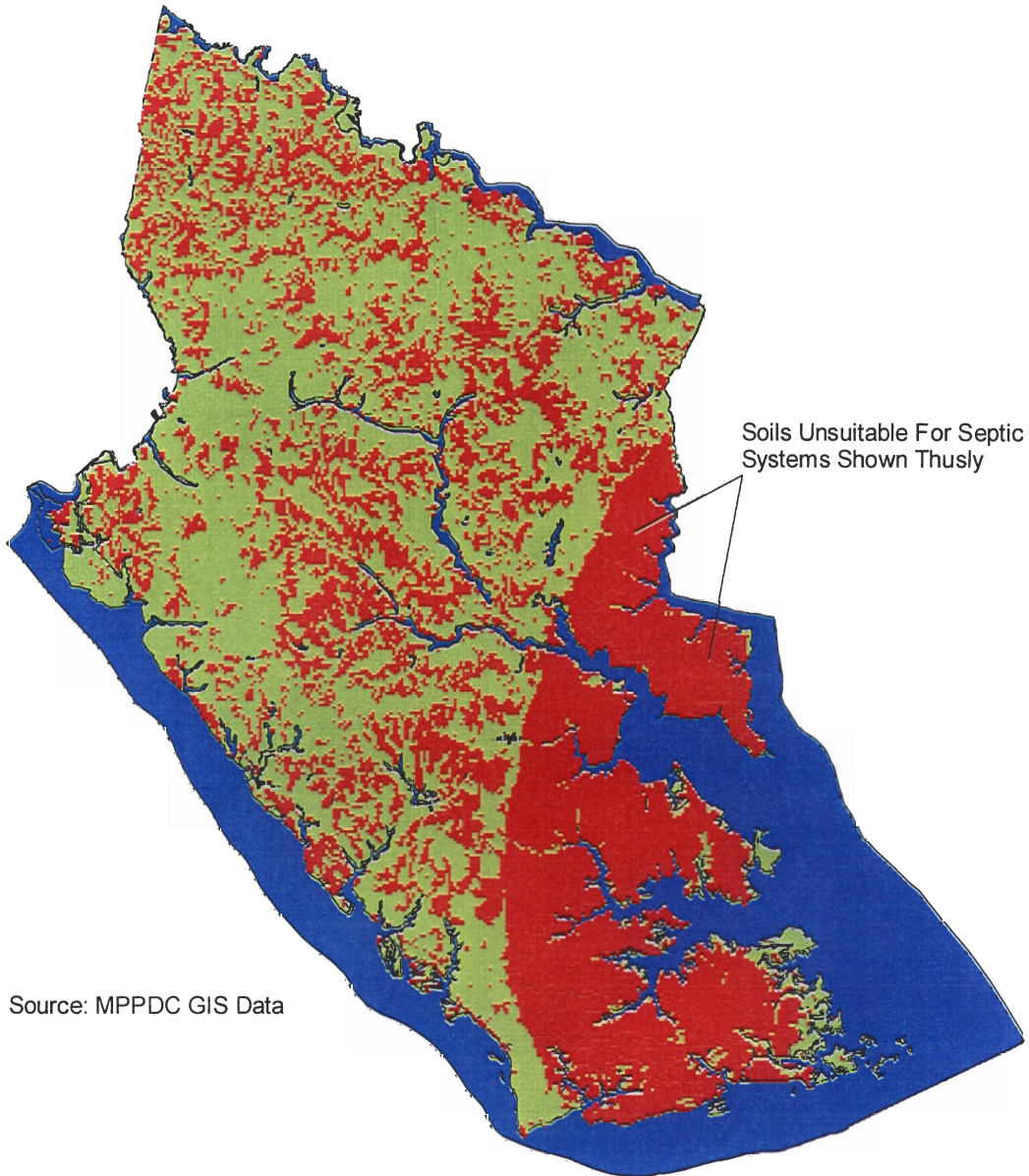
	Figure EV.3 Digital Soils Map
	Gloucester County Comprehensive Plan Update
	Gloucester County Planning Department - 2001
	Data is of a general nature – field verification is required

Figure EV-4 - Septic Suitability



Source: MPPDC GIS Data


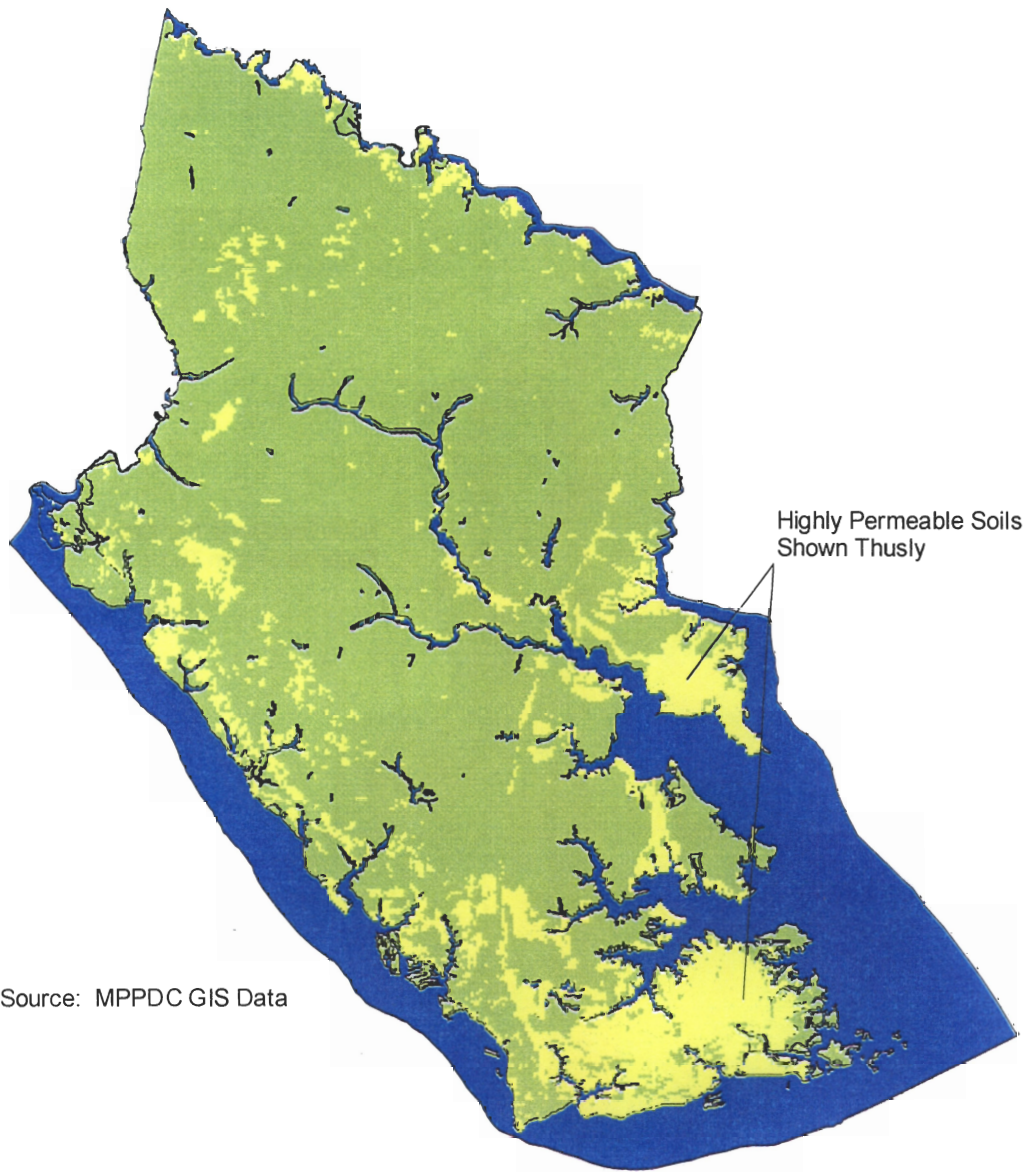
	Figure EV.4 Septic Suitability
	Gloucester County Comprehensive Plan Update
	Gloucester County Planning Department - 2001
	Data is of a general nature – field verification is required

Figure EV-5 – Highly Permeable Soils



Source: MPPDC GIS Data


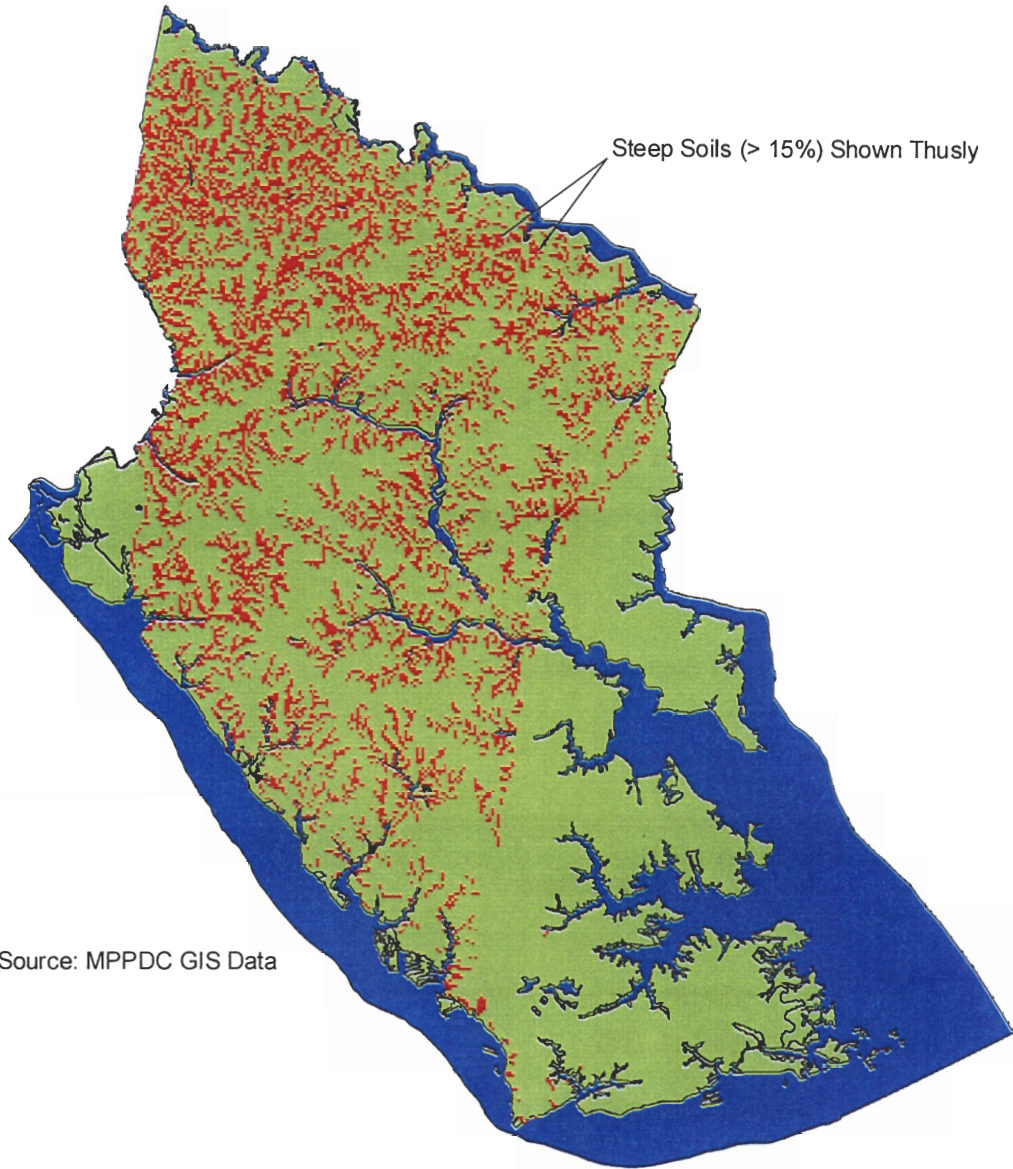
	Figure EV.5 Highly Permeable Soils
	Gloucester County Comprehensive Plan Update
	Gloucester County Planning Department - 2001
	Data is of a general nature – field verification is required

Figure EV-6 – Steep Slopes



Source: MPPDC GIS Data


	Figure EV.6 Steep Soils
	Gloucester County Comprehensive Plan Update
	Gloucester County Planning Department - 2001
	Data is of a general nature – field verification is required

Table EV-1 - Development Suitability of Soils in Gloucester County

	<u>Soil Suitability</u>	<u>Acreage</u>	<u>Percent</u>
I.	Well drained, permeable soils, suited for septic systems	31,180	22.27
II.	Marginal Soils, portions of which will meet Health Department standards for housing using septic systems. (Only approximately 50% of these soils will meet requirements on depth to gray mottles and permeability rate greater than 1.0 inch per hour. Placing 50% of marginal soils in suited and 50% in unsuited soil group gives a final figure of 39% of County suited for septic systems, and 61% unsuited		
	1. Well drained soils with permeability problems	12,178	8.70
	2. Moderately well drained soils, with permeability problems.	7,275	5.2
	3. Moderately well drained soils, no permeability problems.	12,458	8.90
	4. Sloping soils (6-15% slope).	4,530	3.22
	Total Marginal Soils =	36,441	26.02
III.	Soils <u>Unsuited</u> for Housing Using Septic Systems		
	1. Marshes		
	A. Salt Water Flooded	6,842	4.89
	B. Fresh Water Flooded	5,995	4.28
	2. Very poorly, poorly and somewhat poorly drained soils.	30,654	21.89
	3. Steep, and Restrictive Side Slopes.	21,025	15.01
	4. Clayey, well and moderately well drained soils	6,622	4.73
	5. Fill Areas, Ponds, etc.	1,275	.091
	Total Unsuited Soils	72,413	51.71

Source: Gloucester County Comprehensive Plan, 1980

Much of the rapid residential and commercial development the County has experienced over the past two decades has occurred in the vicinity of Route 17, south of the Courthouse to Gloucester Point. An examination of general soils categories and their locations in conjunction with the apparent development trends indicates that a number of problems face the County regarding various types of land use and the corresponding suitability of their locations. Prior to environmental and land use regulation, residential and commercial uses have located in the southeastern half of the county where the soils are poorly suited for residential development. Wastewater disposal and water supply needs are soil-related problems that could be aggravated by unguided future development.

The recommended Land Use Plan generally coordinates the proposed Bayside Conservation District and Resource Conservation District with large areas of soils unsuitable for septic tank use or otherwise unsuitable for high density or commercial development due to physical constraints. The exception to this is land inside the

proposed Development District which is designated for commercial and higher density residential due to existing patterns of development and existing and proposed water and sewer availability. The 1998 rezoning of the County (Figure EV-1) followed the recommendations of the Land Use Plan by zoning much of the land east of Route 17 as Bayside Conservation (C-2) and Rural Conservation (RC-2). Areas extremely unsuitable for development due to the preponderance of wetlands have been zoned as Conservation (C-1) and do not permit any residential development. These districts permit limited uses consistent with the environmental constraints associated with the land. The subdivision ordinance requires residential zoning for major subdivisions. Therefore, properties within RC-1 and RC-2 districts would require a rezoning in order to be developed into four or more residential lots or any subdivision requiring a new road. Where low-density residential development is permitted, clustering and open space preservation are encouraged (see discussion on page 45).

In addition to zoning districts, new residential development may be limited by soil suitability and the location of wetlands and perennial streams due to the implementation of the Chesapeake Bay Preservation Act. Site specific information for each lot is required in order to determine the adequacy of each parcel for development based on the soil conditions, septic suitability and the location of Resource Protection Areas (RPA). Prior to approval of a new subdivision, each lot must have a primary means of sewage disposal acceptable to the Health Department and a one hundred percent reserve area. Lots recorded prior to the adoption of the Chesapeake Bay Preservation Ordinance are also required to have a suitable septic disposal system and a 100 percent reserve area, however, if such cannot be provided on the site, relief of this requirement may be granted by the Gloucester County Chesapeake Bay Preservation Ordinance Administrative Board.

High percentages of well-drained, permeable soils are found west of Route 17 between Gloucester Point and Ordinary, and in scattered portions of the northwestern half of the County. A partial answer to present water supply and sewage treatment problems might be to direct some of the future growth to those areas that are better suited for this development. However, this must be balanced against the County's desire and commitment to preserve some of the northwestern half of the County for agricultural and forestry uses, for which it is well suited. Therefore, the best means of overcoming soils limitations for development is to provide public sewer to overcome waste treatment problems and guide future growth as currently planned within the Development District along the Route 17 corridor. The east side of Route 17 within the proposed development district has a high incidence of hydric soil conditions. This will mean that proposed development will need to be designed with sensitivity to the existence of non-tidal wetlands. This requires the field verification of non-tidal wetlands early in the development process.

Gloucester County has implemented a number of policies to ensure that wetlands issues are identified early in the development process, as noted in the wetlands section of this document.

SOIL ERODIBILITY AND STEEP SLOPES

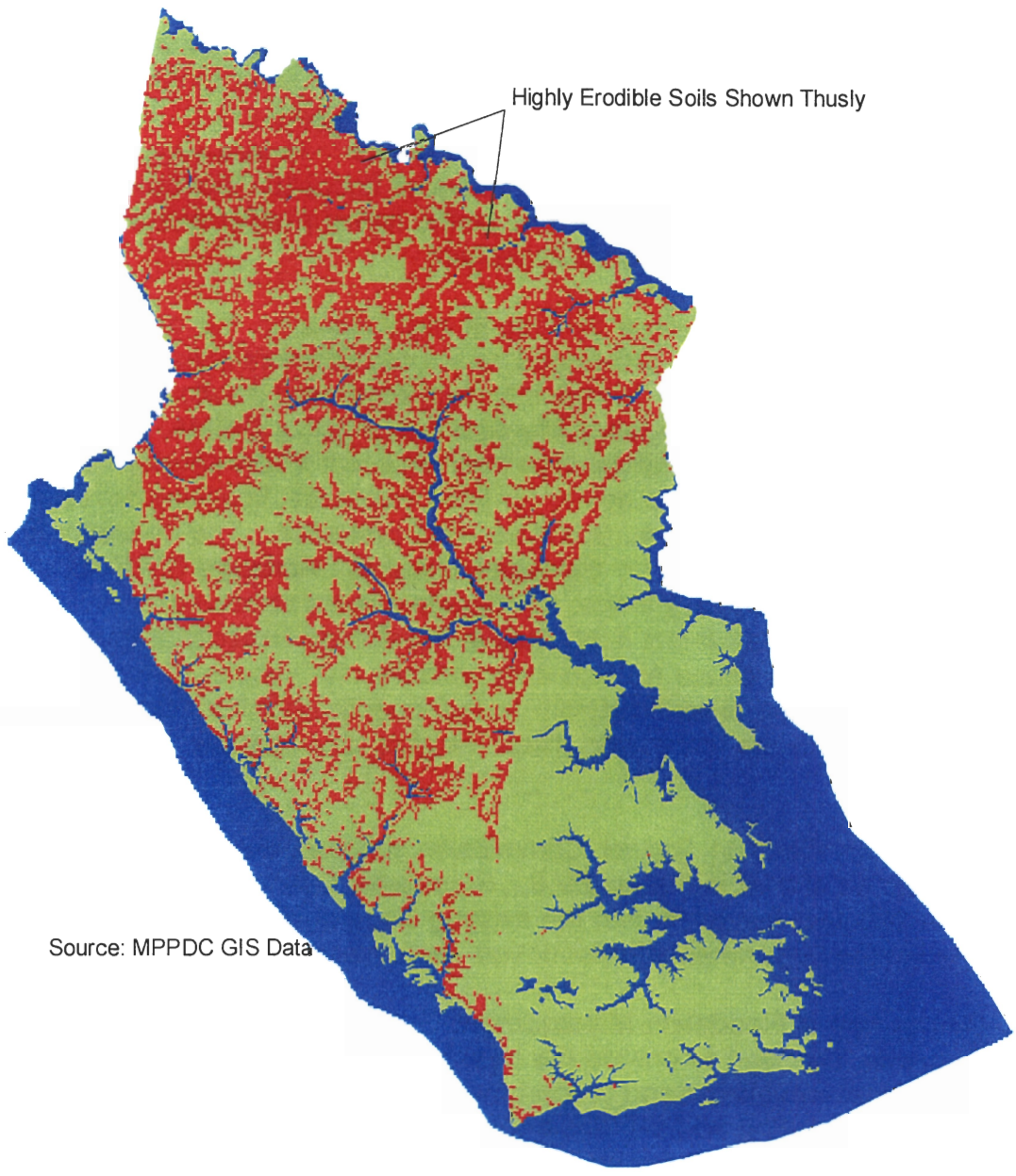
Planning guidelines generally rate areas with longitudinal slopes less than 15 percent as suitable for development, depending on other factors such as erosion, drainage, and soil types. In most instances, areas with slopes greater than 15 percent are less suitable for construction or require careful design consideration and treatment.

Figure EV.7 depicts areas having highly erodible soils, as mapped by the Middle Peninsula Planning District Commission in 1998. Erodibility is a measure of how easily soil can be carried by storm run-off. Erodibility is a particular concern where slopes are excessive. Most land in the County is relatively flat or gently sloping with comparatively few areas having slopes greater than 15 percent. The majority of extreme slopes (greater than 15 percent) are located in the higher terraces in the extreme northwestern portion of the County, and in shoreline areas, particularly along the Piankatank and the York Rivers.

Gloucester County is in the process of incorporating soils information into the existing Geographical Information System (GIS) maintained in the Department of Information Technology (DIT).

Topographic information is required to be shown on site plans and major subdivision applications. This site specific information on large development proposals enables County staff to evaluate, and try to avoid, impacts of proposed development relative to steep slopes. The County's Erosion and Sediment Control Ordinance is designed to reduce construction-related erosion and sedimentation. Any land disturbance activity that exceeds 2,500 square feet must comply with the requirements of the Erosion and Sediment Control Ordinance. Forestry operations and agricultural are managed under Best Management Guidelines through the Department of Forestry and the Tidewater Soil and Water Conservation District, respectively. Preservation of steep slopes through cluster development is encouraged for subdivisions in the C-2, RC-1, RC-2, SC-1 and HC-1 zoning districts.

Figure EV-7 – Highly Erodible Soils



Source: MPPDC GIS Data



Figure EV.7 Highly Erodible Soils

Gloucester County Comprehensive Plan Update

Gloucester County Planning Department - 2001

Data is of a general nature – field verification is required.

FLOODPLAINS

Floodplains are land areas that border streams and rivers, and are subject to flooding. The actual boundary of a floodplain varies significantly depending on the designated frequency of flooding. The 100-year frequency is most often used to determine flood hazard areas. The 100-year floodplain is the area which will be flooded by a hydrologic event occurring on the average once every 100 years. In actuality, a 100-year floodplain is a flood-prone area; although the 100-year floodplain elevations in theory will only be met or exceeded once every 100 years, *many* smaller events frequently inundate the lower portions of the 100-year floodplain.

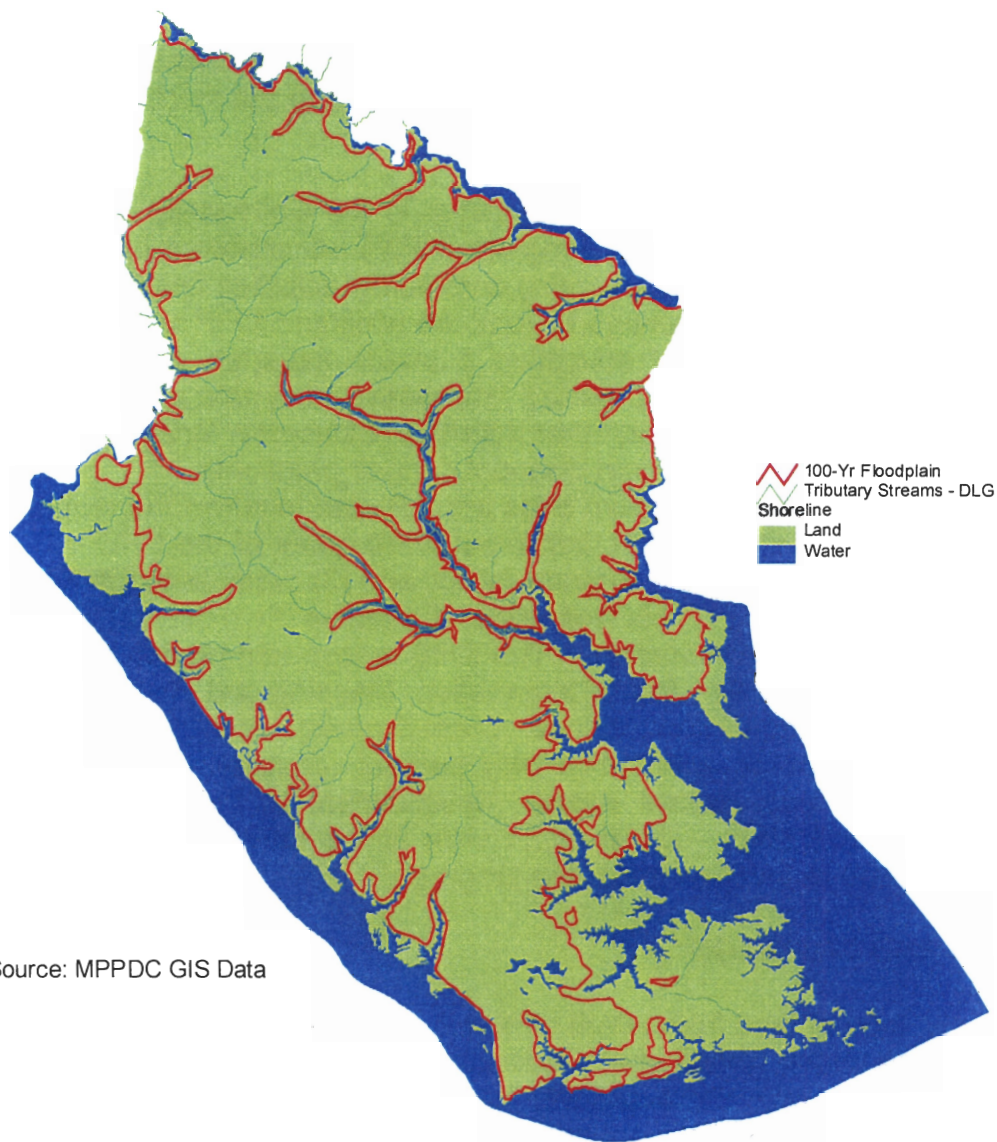
The 100-year floodplain is recognized by federal regulations as the area where the potential for flooding is a significant hazard and where development should be limited or not occur at all. The floodplain is divided into two sections: the floodway and the floodway fringe. The Federal Emergency Management Agency (FEMA) requirements address the direct aspects of potential damage that can occur if new development takes place in areas subject to flooding. To qualify for flood insurance, floodway development is prohibited, and floodway areas are, therefore, well protected. The floodway is the land area which is directly adjacent to the water channel. Although FEMA does not prohibit construction in the floodway fringe, development is not encouraged. Floodplain filling and development can result in a major loss in the storage capacity of flood waters, alter drainage patterns, and cause an increased velocity and volume of runoff. While development located on the filled floodplain is reasonably safe from flooding, areas downstream may experience increased flood heights and greater channel water velocity.

The Middle Peninsula Planning District Commission mapped the County's 100-year floodplains in 1998, as shown in Figure EV.8. Gloucester County is in the process of incorporating the 100-year floodplain into the existing Geographical Information System (GIS) maintained in the Department of Information Technology (DIT).


Gloucester County has a Floodplain Management Ordinance (§8.5 of the Gloucester County Code) that is "intended to ensure the health, safety and general welfare of the public by ensuring that inhabitants and property within a designated floodplain area are safe from damage to flooding and will not endanger others" (§8.5-3). This ordinance establishes performance requirements for development and redevelopment in floodplains.

The Subdivision Ordinance §15-13 indicates that "Land subject to flooding and land deemed to be topographically unsuitable shall not be platted if such uses may increase the danger of health, life, or property, or aggravate erosion or flood hazard. Such land within the subdivision shall be set aside for such uses as shall not be endangered by a periodic or occasional inundation or shall not produce conditions contrary to public welfare." This language provides the Planning Commission and the Subdivision Agent

Figure EV-8 – 100 Year Floodplains



Source: MPPDC GIS Data

	Figure EV.8 100-Year Floodplains
	Gloucester County Comprehensive Plan Update
	Gloucester County Planning Department - 2001
	Data is of a general nature – field verification is required.

discretion to prohibit residential development on steeply sloped or flood prone areas.

The above regulations may be sufficient to avoid development in floodplain areas however, comparison of the approximated floodplain areas with the current zoning, using the County's Geographical Information System (GIS) will enable the County to better evaluate the adequacy of its existing zoning relative to the location of floodplain areas.

In 1994, Gloucester County earned Class 9 status in the Community Rating System (CRS) of the National Flood Insurance Program (NFIP) administered by FEMA. The County achieved CRS status by implementing community activities and other actions to encourage the reduction of flood damage beyond the minimum NFIP requirements. For example, the County has provided education outreach materials on flooding, flood prevention and flood damage, and provided informative materials on flooding in the public library. As a result of these and other activities, Gloucester landowners who pay flood insurance receive a five (5) percent discount on their premiums.

Under the CRS, flood insurance premium rates are adjusted to reflect the reduced flood risk resulting from community activities that meet three goals of the CRS: (1) reduce flood losses; (2) facilitate accurate insurance rating; and (3) promote the awareness of flood insurance. CRS has ten (10) classes: class 1 requires the most credit points and class 10 receives no premium reduction. The CRS recognizes 18 activities for credit organized under four categories: Public Information, Mapping and Regulations, Flood Damage Reduction and Flood Preparedness. Class 1 communities need a least 4,500 credits to obtain as much as a forty-five (45) percent reduction in flood insurance premiums in Special Flood Hazard Areas. Involvement in the program requires significant staff time and effort. However, in view of the benefits to the public, the County should continue its involvement in the program.

WATERSHEDS AND DRAINAGE

A watershed is an area of land from which all water, sediments and dissolved materials drain into a common outlet. When precipitation occurs, water runs to the lowest point, usually a stream, river, or lake and eventually the Chesapeake Bay. These watersheds, or drainage units, cover the County's entire land surface and eventually contribute to the major rivers. Everything that happens to a watershed can affect what ends up in the water. Thus, effective flood control, conservation of fresh water, enhancement of water quality, and control of soil erosion and sedimentation make land use practices throughout the watershed almost as important as those located directly on the shorelines.

The land area occupied by Gloucester County is drained by the York, Piankatank, North, Ware, and Severn rivers and their tributaries. Major stream segments in the County that drain watersheds to the County's creeks and rivers are identified in Table EV.2. The County's major watersheds as cataloged by the United States Geological Survey (USGS) are shown in Figure EV-9.

Table EV-2 - Gloucester County Streams

Stream Name	Drainage Area (Sq. Miles)	Length (Miles)	Elevation At Source (Feet)	Elevation At Mouth (Feet)	Mouth in County
Sandy Creek	0.94	2.0	42	0	Gloucester
Jones Creek	4.37	3.9	93	0	Gloucester
Aberdeen Creek	3.26	3.4	84	0	Gloucester
Carter Creek	8.51	6.4	90	0	Gloucester
Cedarbush Creek	2.57	3.7	61	0	Gloucester
Timberneck Creek	3.83	4.1	62	0	Gloucester
Sarah Creek	5.22	0.3	0	0	Gloucester
Northwest Branch	2.96	2.5	11	0	Gloucester
Northeast Branch	2.16	2.3	7	0	Gloucester
Poropotank River	39.19	15.6	123	0	King&Queen & Gloucester
Unnamed Stream	2.44	3.3	135	0	King&Queen & Gloucester
Woods Mill Swamp	4.92	4.6	131	0	King&Queen & Gloucester
Poplar Spring Branch	6.26	4.6	107	0	King&Queen & Gloucester
Adams Creek	2.87	4.5	100	0	Gloucester
Purtan Creek	1.47	2.9	101	0	Gloucester
Leigh Creek	1.40	2.2	100	0	Gloucester
Bland Creek	5.74	4.7	102	0	Gloucester
Fox Creek	2.92	1.7	52	0	Gloucester

Source: Gloucester County Comprehensive Plan, 1980

Virginia's Tributary Strategy Program

A major multi-state incentive is currently underway aimed at reducing nutrient loads to the Chesapeake Bay and its Tributaries. According to the 2000 Annual Report on Status of Tributary Strategies, Chesapeake Bay Agreement and Water Quality for Virginia's Chesapeake Bay and Tributaries (page 3):

"Virginia's Tributary Strategy Program is a multi-agency cooperative effort to restore water quality and living resources in Chesapeake Bay tributaries. The program is operated under the statutory guidance of Virginia's 1996 Tributary Strategy Law and the 1997 Water Quality Improvement Act. The Tributary Strategy Law was amended in 1999 to require that all strategies address sediment as well as nutrient reductions in order to protect water quality.

Virginia's tributary strategy program is a voluntary and cooperative program based on scientific data and analysis and local determination. Farmers, local officials, businesses, citizen groups and other stakeholders are provided scientific information in nutrient and sediment loads in their watershed and water quality conditions in their rivers, creeks and streams. They then participate in developing strategies based on this information and their own experience. This process includes establishing goals for nutrient and sediment reductions,

identifying cost-effective practices for achieving these reductions, and implementing these practices.”

Gloucester County participated with the Hampton Roads Planning District Commission to develop Tributary Strategies for the Hampton Roads area. Gloucester’s existing programs such as implementation of its Chesapeake Bay Preservation Ordinance and other land use ordinances are part of the state’s strategy to reduce nutrient loads to the Chesapeake Bay and its tributaries.

The Tidewater Soil and Water Conservation District is an active participant in the York Tributary Strategy Program through the York Watershed Council. The York Watershed Council is an initiative by the Soil and Water Conservation District to reduce nutrients entering the Chesapeake Bay. The Tidewater Water and Soil Conservation District and the other six York watershed Soil and Water Conservation Districts (SWCDs) assist local governments and Planning District Commissions in raising public awareness throughout the watershed, and in identifying and informing key citizens and community activists and leaders to effectively review and comment on pending strategy recommendations that will come from the state.

Virginia Water Quality Improvement Act of 1997

In 1997, legislation was introduced to provide several funding sources for state initiated Chesapeake Bay-related nutrient reduction efforts. What ultimately resulted was the Virginia Water Quality Act of 1997 (§ 10.1-2117 through 2134). During the course of the legislative session, in consultation with stakeholders of all views and persuasions, the act took on statewide characteristics, and now funds water quality improvement activities in both tributaries with established strategies and in areas outside the Chesapeake Bay drainage area. Ultimately, the lower tributary strategies will also be funded through this act.

This act recognizes that the quality of state waters is a responsibility shared between state and local governments, as well as individuals. Therefore, it establishes cooperative programs related to nutrient reduction and other point and non-point sources of pollution.

The act directs Virginia’s Department of Environmental Quality (DEQ) to assist local governments, businesses and individuals in the control of point source pollution with technical and financial assistance made available through grants provided by the Water Quality Improvement Fund. Likewise, it directs the Department of Conservation and Recreation (DCR) to provide similar assistance to local governments, Soil and Water Conservation Districts, other groups, and individuals in efforts to control non-point source pollution.

The *2000 Annual Report on the Status of Tributary Strategies, Chesapeake Bay Agreement and Water Quality for Virginia’s Chesapeake Bay and Tributaries* describes the current funding levels:

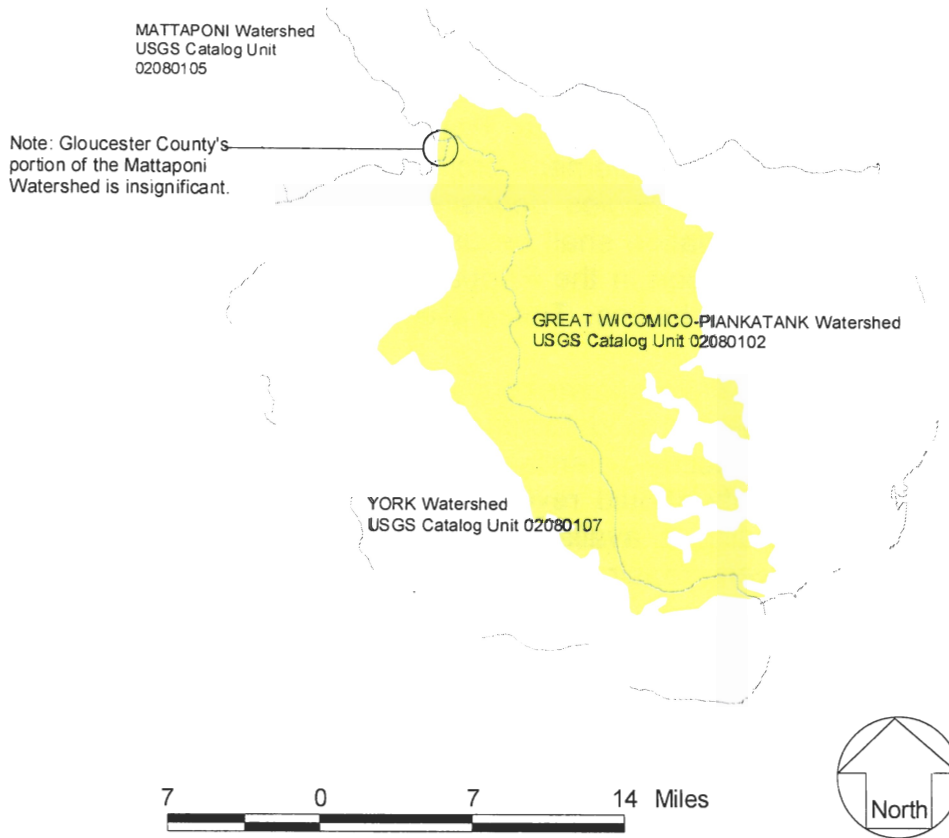
“The 1998 Virginia General Assembly provided funding for the 1998-2000 biennium through the general appropriation act for all three regions of the state. These include the Shenandoah-Potomac Basin, lower Bay tributaries, and Southern Rivers. Funds totaling \$3.5 million were appropriated for the lower Bay tributaries (York, James and Rappahannock Rivers) for the purpose of implementing the tributary strategies. The funds were divided between the Virginia Agricultural Best Management Practice Cost-Share Program (\$2.5 million) and water quality improvement projects (\$1.0 million). The General Assembly also directed that monies deposited in the Fund in excess of the \$16.75 million total appropriation shall be used by DCR to implement adopted strategies for nutrient reduction in the Rappahannock, York, and James Rivers and the eastern and western basins. These allocations have since increased.”

Competitive grants for water quality improvement projects are available for the lower Bay tributaries. Any such project should focus on implementing components of the tributary strategies. Nutrient reduction potential and cost effectiveness will continue to have priority. Gloucester County should review the criteria established in the grant application to determine if funding is available for some of the County’s established goals such as extension of sewers, repair and replacement of failing septic systems and possibly a regional stormwater management program (see discussion below).

On a local level, Gloucester County has delineated seven watershed areas within the County based on the Department of Conservation and Recreation’s (DCR) identification of sub-watersheds or hydrological units. These watersheds, shown in Figure EV-10, have been mapped by the County’s Department of Information Technology and incorporated into the County’s Geographical Information System (GIS).

In addition, these hydrological units may be used as a foundation for watershed management and planning both within the County and regionally. For example, Gloucester County’s Environmental Programs Division administered a grant that funded a natural heritage inventory of the Dragon Run watershed. This inventory is intended as a tool to identify those areas of the watershed where preservation and easement efforts should be focused. The Dragon Run watershed encompasses three different counties. The Natural Heritage Inventory can be used by these localities as well as other governmental and private agencies for the management and preservation of this valuable watershed.

Figure EV-9 – Gloucester County Watersheds (USGS Catalog System)




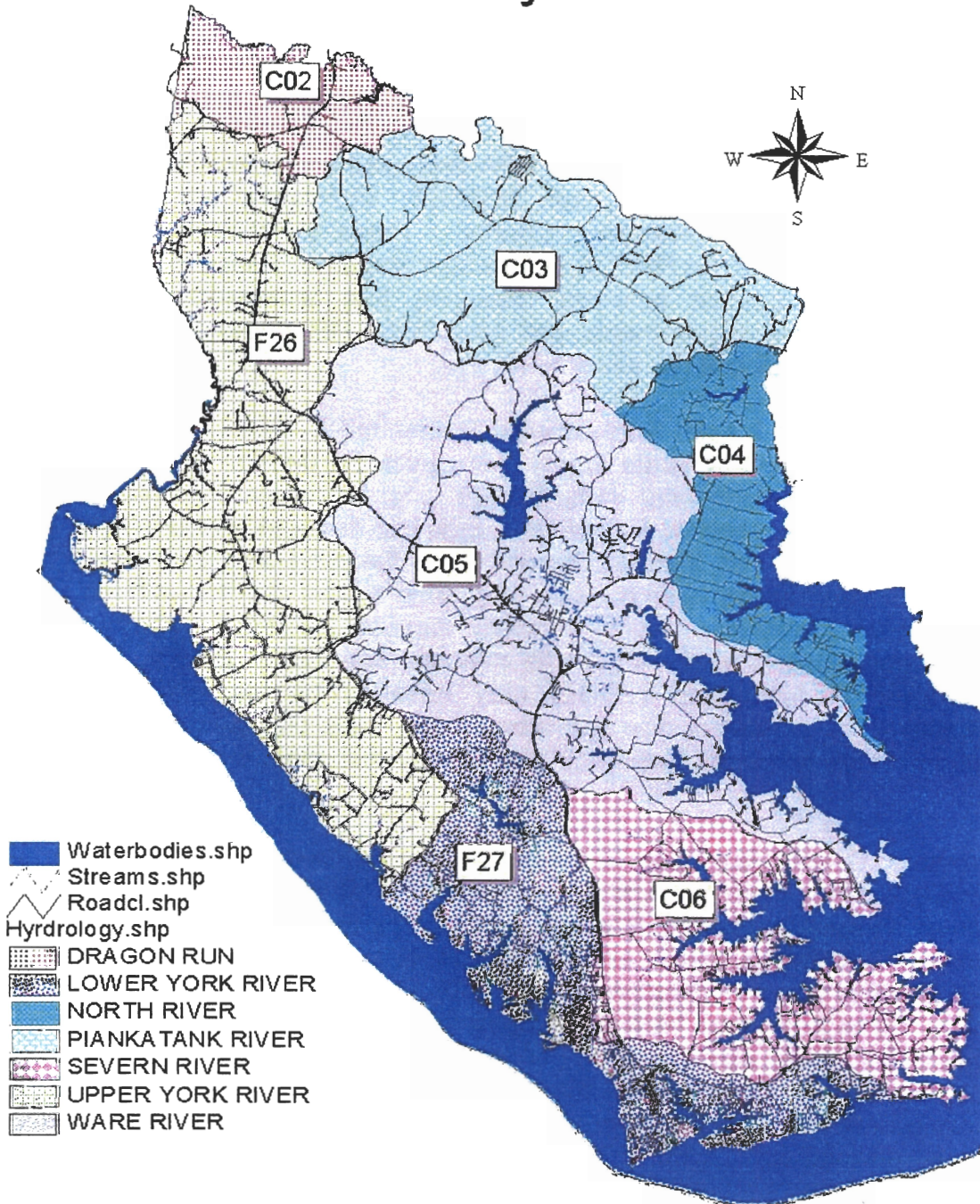
	Figure EV.9 Gloucester County Watersheds (USGS Catalog System)
	Gloucester County Comprehensive Plan Update
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Figure EV-10 – Gloucester County Watersheds – Hydrological Units

Gloucester County Watersheds



Hydrology provided by The Department of Conservation and Recreation
Map provided by The Gloucester County DIT/GIS office.

A long range goal to be considered by the County is the eventual inventory of each of the County's seven watersheds so that management and protection of unique and regionally significant natural features can be adequately planned and implemented. Such an inventory would also provide baseline data and a tool for open space and greenways planning, a goal discussed later on in this Section.

NPDES Regulations

In the January 9, 1998 Federal Register, EPA proposed a rule to expand the National Pollutant Discharge Elimination System (NPDES) stormwater program to include smaller municipalities like Gloucester County. These stormwater regulations are referred to as "Phase II" of the NPDES stormwater program. Phase I addressed larger municipalities and industrial activities, requiring that stormwater discharges be permitted. The permit requirements are now fairly well understood, having been addressed in larger municipalities since 1990.

The Stormwater Phase II Final Rule adopted December 8, 1999 requires operators of regulated small municipal separate storm sewer systems (MS4's) to obtain a NPDES permit and develop a stormwater management program designed to prevent harmful pollutants from being washed by stormwater runoff into the MS4 (or from being dumped directly into the MS4) and then discharged from the MS4 into local water bodies. Because Gloucester County does not own or operate a MS4, the Phase II requirements do not to apply. Gloucester County currently requires individual property owners or homeowner associations to construct and maintain stormwater BMP's. The Virginia Department of Transportation (VDOT) may have to comply with the Phase II requirements as its system of drainage along state roads may be considered a MS4. Individual business and industries within the County that meet the criteria will have to comply.

If Gloucester County were to develop and implement a regional stormwater management system, compliance with the Phase II NPDES Stormwater Program would be required. Program components would include, at a minimum, measures to address requirements concerning public education and outreach, public involvement, illicit discharge detection and elimination, construction site runoff control, post-construction stormwater management in new development and redevelopment, and pollution prevention and good housekeeping of municipal operations. These program components would be implemented through NPDES permits. The County would be required to submit to the NPDES permitting authority, either in its Notice of Intent (NOI) or individual permits application, the BMP's to be implemented, and the measurable goals for each of the minimum control measures listed above. Although there may be merits to the County's consideration of a regional approach to stormwater management, further study of the effectiveness of the existing program is needed to justify the expenditures involved.

Compliance with the NPDES Stormwater Phase II rule can be a costly undertaking. Phase II implementation would place certain requirements (and burdens) on Gloucester County, requiring staff and financial resources to achieve compliance with the expanded regulations. In recent years many Virginia municipalities have adopted a local stormwater utility structure to help offset the costs associated with creating and maintaining the type of stormwater management program mandated by the NPDES regulations. Several Tidewater municipalities—required to achieve compliance under Phase I of the NPDES stormwater program—have already spent over \$2,000,000 each to comply with NPDES regulations. While these localities are much larger in terms of population and storm sewer-shed size and complexity, it is clear that the County would incur significant expense under this program. In order to offset the costs associated with this program, most municipalities required to achieve compliance under Phase I of the program, implemented some form of revenue-generating mechanism—typically a stormwater utility.

EPA believes the NPDES existing stormwater program (Phase I) is resulting in significant improvement of surface water quality in the United States by reducing polluted runoff from a large number of priority sources. These sources include major industrial facilities, large and medium city storm sewers (MS4's), as well as construction sites that disturb five or more acres. The Phase II NPDES stormwater regulations expand this existing national program to smaller municipalities and construction sites that disturb 1 to 5 acres. The overall objective is to reduce negative environmental impact by stormwater discharges from these currently unregulated sources.

The "*National Water Quality Inventory, 1994 Report to Congress*" indicates that stormwater discharges from a variety of sources including separate storm sewers, construction, waste disposal, and resource extraction activities are major causes of water quality impairment. For example, roughly 46 percent of the identified cases of water quality impairment of estuarine square miles surveyed are attributable to storm sewer runoff. EPA believes that the implementation of the six minimum measures, which focus on a "best management practices" (BMP) approach, identified for the small municipalities in this proposal should significantly reduce pollutants in urban stormwater compared to existing levels, in a cost-effective manner. If after implementing the six minimum measures there is still a water quality problem, the municipality would expand or use better tailored BMP's in their minimum measures to result in water quality improvement. Similarly, EPA believes that implementation of BMP controls at small construction sites will also result in a significant reduction in pollutant discharges and an improvement in surface water quality.

WATER RESOURCES

SURFACE WATER SUPPLY

The Piankatank River on the north; the North, Ware, and Severn rivers spilling out into the Mobjack Bay to the east; and the York River to the south and Poropotank River to the west together establish some 296 miles of shoreline in Gloucester County. All of

these rivers are tidal and estuarine bodies of water, and are integral parts of the Chesapeake Bay estuarine system.

The quality of water in major and minor rivers, tidal and non-tidal wetlands, ponds and lakes has a great impact on surrounding vegetation, wildlife, groundwater supplies and human habitation. The ecosystem is a very integrated system whose balance can be upset for an indefinite period of time when one part of that system is damaged or destroyed (such as when a river becomes polluted through improper treatment of municipal wastewater discharges). Studies continue throughout the country on man's impact on the environment and the environment's ability to recover. It is still unknown if the environment can ever be so damaged that it can never recover, but there are documented cases where it took more than a decade for a polluted river to rejuvenate itself. In order for rivers in and around Gloucester County to support life, supply edible items such as fish and oysters, and be utilized for leisure activities such as swimming and boating, regulations must be enforced to control all types of pollution.

GROUNDWATER SUPPLY

(Portions of this section are taken from the U.S. Geological Survey, Hydrologic Atlas 730-L, Henry Trapp, Jr. and Marilee A. Horn, 1997, The USGS Water Resources Data, and from the City of Virginia Beach 1997 Comprehensive Plan.)

The County lies within the Coastal Plain physiographic province and has water-bearing unconsolidated sediments of Cretaceous, Tertiary, and Quaternary age over PreCretaceous bedrock. The unconsolidated sediments range from approximately 1,200-foot depths in the western section, to approximately 2,400-foot depths along the eastern edge of the County.

Aquifer System

The principal groundwater aquifer system in this area is a vertically stacked horizontally connected system known as the "Northern Atlantic Coastal Plain" aquifer system, as shown in Figure EV.11. In this type of aquifer, groundwater flows function in the same fashion, and a change in conditions in one of the aquifers affects the others. The Northern Atlantic Coastal Plain aquifer system consists mostly of semiconsolidated sand aquifers separated by clay confining units. Unconsolidated sands compose the surficial aquifer, which is the uppermost water-yielding part of the aquifer system. The Coastal Plain sediments are thin near their contact with the rocks of the Piedmont Province and, in places, might not yield as much water as the underlying igneous and metamorphic rocks that are an extension of Piedmont rocks.

The Northern Atlantic Coastal Plain aquifer system consists of six regional aquifers in sedimentary deposits that range in age from Early Cretaceous to Holocene. The aquifer system underlies an area of about 50,000 square miles and extends from the North Carolina-South Carolina State line northward to Raritan Bay, New Jersey. The western limit of the aquifer system is the landward edge of water-yielding Coastal Plain strata where they pinch out against crystalline rocks of the Piedmont physiographic province

at the Fall Line. Although the aquifers included in the aquifer system extend beneath the Atlantic Ocean and, in places, contain brackish water or freshwater under nearshore parts of the Continental Shelf, the eastern limit of the aquifer system is, for all practical purposes, the shoreline. The Northern Atlantic Coastal Plain aquifer system grades southward into the Southeastern Coastal Plain aquifer system.

Interbedding of fine- and coarse-grained Coastal Plain sediments is complex because of shifting deltaic and alluvial deposition sites and because of repeated transgressions and regressions of the sea. Sediment types and textures, accordingly, can change greatly within short horizontal or vertical distances. Bodies of sand, gravel, or limestone can change facies laterally and become clayey or silty and, thus, less permeable. Therefore, many local aquifers can be identified, but these local aquifers can be grouped on the basis of similar hydrologic characteristics and treated as regional aquifers. Six regional aquifers separated by four regional confining units make up the Northern Atlantic Coastal Plain aquifer system, as shown in Figure EV.11.

The Coastal Plain aquifers are, in descending order, the surficial aquifer, the Chesapeake aquifer, the Castle Hayne-Aquia aquifer, the Severn-Magothy aquifer in the northern part of the system, the Peedee-upper Cape Fear aquifer in the southern part, and the Potomac aquifer. The boundaries of the aquifers are irregular, as shown in Figure EV.11, and none of the aquifers extend over the whole Coastal Plain. The regional aquifers consist of various geologic formations and, in most places, are vertically separated by clayey or silty confining units that retard the vertical flow of groundwater. The aquifers contain saline water in places, especially near the modern coastline, but they are mapped wherever the sediments that compose them are permeable, regardless of the chemical quality of the water in the sediments. The Castle Hayne-Aquia aquifer is absent in part of the Delaware-Maryland-Virginia (Delmarva) Peninsula because the sand beds of the aquifer contain more clay and are less permeable toward the coast.

The State Water Control Board's Planning Bulletin # 305, prepared in January 1977, entitled "*Groundwater of the Middle Peninsula, Virginia*" page 31, more specifically describes the local groundwater situation:

"Groundwater of the Middle Peninsula occurs in three major aquifer systems. The uppermost aquifer system, the water-table aquifer, is found throughout the Peninsula. It consists of unconsolidated deposits of Tertiary and Quaternary Age (primarily the Columbia Group, the Yorktown Formations and the Calvert Formations) except in southwest Caroline County where consolidated bedrock of Pre-Cretaceous Age is found. This unconsolidated aquifer is a reliable source of domestic groundwater supply in most of the Study Area, but seasonal fluctuations and lack of sufficient storage make it impractical for major industrial or municipal supplies. The second aquifer system of the Middle Peninsula is the upper artesian aquifer system, formed from sediments of Miocene and Eocene Age (Nanjemoy and Lower Calvert Formations). The third aquifer system, the

Figure EV-11 – Northern Atlantic Coastal Plain Aquifer System

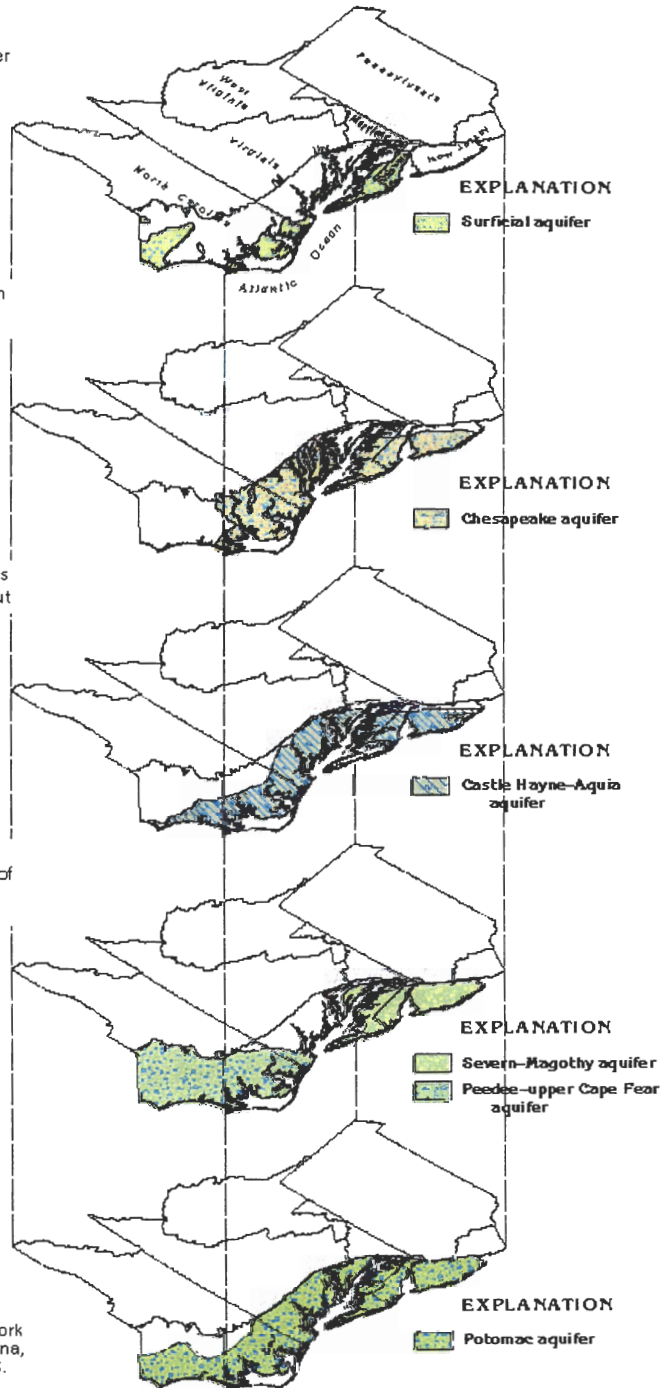
Figure 22. The surficial aquifer is the uppermost aquifer in the Northern Atlantic Coastal Plain aquifer system but is of limited extent.

Figure 23. Sands of the Chesapeake aquifer form an extensive water-yielding unit that extends from the Fall Line to the coastline in places.


Figure 24. The Castle Hayne–Aquia aquifer is not as widespread as the overlying Chesapeake aquifer, but yields large volumes of water in North Carolina where it consists of limestone. Elsewhere, the aquifer consists of sand that becomes clayey and almost impermeable on the Delmarva Peninsula.

Figure 25. The Severn–Magothy and the Peedee–upper Cape Fear aquifers are in sand beds of equivalent age, but are not known to be connected. Both aquifers are underlain and overlain by confining units that consist mostly of clay.

Figure 26. The Potomac aquifer is the lowermost and most widespread aquifer in the Northern Atlantic Coastal Plain aquifer system. The aquifer consists of a thick sequence of sand beds and lies directly on crystalline bedrock in most places but locally is underlain by a clayey confining unit.



Modified from Trapp, Henry, Jr., 1992, Hydrogeologic framework of the Northern Atlantic Coastal Plain in parts of North Carolina, Virginia, Maryland, Delaware, New Jersey, and New York: U. S. Geological Survey Professional Paper 1404-G, 59 p.

	Figure EV.11 Northern Atlantic Coastal Plain Aquifer System
	Gloucester County Comprehensive Plan Update
	Gloucester County Planning Department
	2001

principal aquifer system, comprised of Paleocene and Cretaceous Age (Patuxent and Mattaponi Formations) is found throughout the entire Peninsula.”

Within the past decade, the discovery of a meteor crater created approximately 35 million years ago has contributed to regional understanding of local groundwater and aquifers. Evidence of the Chesapeake Bay Impact Crater (CBIC) was discovered by geologists for the United States Geological Survey (USGS) and the Virginia Department of Environmental Quality (DEQ). In cooperation with the Hampton Roads Planning District Commission (HRPDC), these agencies are conducting a detailed study of the crater’s impact on local ground water system. According the HRPDC *Environmental Planning Special Report*, October 1999, the Chesapeake Bay Impact Crater is located in the Virginia Coastal Plan and extends across the Eastern Shore, the eastern portion of the lower and middle Peninsulas from Hampton through Gloucester and the northern edges of Norfolk and Virginia Beach. In areas near the CBIC, the physical properties of the aquifers that control ground water movement and ground water quality are significantly different than previously thought. The meteor appears to have disrupted the deeper aquifers and changed the physical make-up of the ground water flow system. The USGS, HRPDC and DEQ are working together to revise the regional groundwater model using the latest knowledge from the USGS CBIC study. Further study is needed to adequately assess the affects of the CBIC on ground water resources in southeastern Virginia.

Groundwater Quantity

There are no known major problems with the groundwater supply in Gloucester County. *Comprehensive Water Quality Management Plan for the Middle Peninsula: An Information Search and Review*, page 183, states that the Middle Peninsula Planning District, as a region, has large quantities of groundwater. The County is not located in a regulated Groundwater Management Area (as are municipalities south of the York River). Groundwater Management Areas are a result of the 1973 Groundwater Act which was amended in 1986 to allow the Water Control Board to regulate groundwater withdrawals in areas where there were conflicting groundwater uses and potential adverse impacts as a result of withdrawals of groundwater. This is not the case in Gloucester County and consequently, no areas in the County are affected by these regulations. Due to the increased use of small groundwater systems, the primary concerns have been focused on protecting the *quality* of the County’s aquifers.

POTABLE WATER

As indicated in the Community Facilities and Services Section, Gloucester County began delivering water services from the Beaverdam Reservoir and associated water treatment plant in July 1990. The treatment plant has the capacity to deliver 1.95 millions gallons per day and was designed and built to accommodate future expansion readily. As of June 2001, the Department of Public Utilities provided water service to approximately 4,000 accounts. Water usage ranged from approximately 1.0 million gallons per day in the winter months to about 1.2 million gallons per day in June.

The Beaverdam Reservoir is located north of the Gloucester Courthouse area and is primarily surrounded by low density zoning (RC-1 – Rural Countryside – 5 acre minimum lot area and SC-1 Suburban Countryside – 2 acre minimum lot area). The County owns an approximately 300-foot to 600-foot wide buffer surrounding the reservoir, which makes up Beaverdam Park. The Park is used for passive recreation activities such as fishing, boating, nature study, picnics, hiking, bicycling and horseback riding. Water quality is monitored weekly through algae counts. A survey is conducted every three years to evaluate development around the reservoir. Other than the various County ordinances affecting land use and development, there are no special requirements or overlay district around the reservoir to prevent pollution of the surface water. The existing buffer area and low density zoning have been sufficient to protect water quality. The County may consider additional requirements if deemed necessary as a result of routine water quality monitoring.

Currently, all public County water is provided by the reservoir. In anticipation of nearing the capacity of the reservoir's supply, a new deep water well has been drilled at the existing water treatment plant located at the south side of the reservoir. Completion of this well is anticipated for 2001 and is expected to produce 4 million gallons per day of water. Construction of a reverse osmosis system adjacent to the existing County water treatment plant is scheduled to begin in September 2001 and be completed by December 2002.

In emergency situations, such as after Hurricane Floyd, the County does have the potential to use an existing radial collector well. According to the Department of Public Utilities, no extra well-head protection is provided for this site. Tests on this well have shown that it is not surface water influenced. The well is tested for Nitrogen and Nitrates on a regular basis and bacteriological testing is done once a year if the well is being used.

An additional discussion of groundwater relative to its use and availability for housing, commercial and industrial activities, including a map showing groundwater zones, is found in the Community Facilities Section.

GROUNDWATER AND SURFACE WATER POLLUTION SOURCES

Although discussed separately above, it is important to note the connection between surface water and groundwater resources. *Comprehensive Water Quality Management Plan for the Middle Peninsula: An Information Search and Review*, prepared by the Middle Peninsula Planning District Commission in 1989, page 162, describes the relationship in this manner: "While most groundwater is replaced in the vicinity of its withdrawal, there is also some replacement as a result of the migration of groundwater. These migratory characteristics provide for a unique relationship between surface and ground water. Basically, the quality of groundwater is reflective of the surface water and vice versa. Groundwater rises to the ground's surface in the vicinity of rivers/streams

and essentially forms their base flow. Therefore, both the quality and quantity of groundwater is reflected in the surface water.” In addition, according to a June 1998 article in the *Bay Journal* published by the Alliance for the Chesapeake Bay, Inc., entitled, “Lag Time of Groundwater Dampens Hope for Fast Bay Cleanup”, about half of the water flowing into the Chesapeake Bay originates from groundwater, which carries about half of the nitrogen that enters the Bay. Studies found that most groundwater appears to take an average of 10 to 20 years to work through soils and aquifers and into waterways.

Point Source Pollution

Point sources of pollution include municipal and industrial dischargers and individual waste treatment systems. The Clean Water Act requires wastewater dischargers to have a permit establishing pollution limits and specifying monitoring and reporting requirements. National Pollutant Discharge Elimination System (NPDES) permits regulate household and industrial wastes that are collected in sewers and treated at municipal wastewater treatment plants. Permits also regulate industrial point sources and concentrated animal feeding operations that discharge into other wastewater collection systems or that discharge directly into receiving waters. The types of pollutants regulated include conventional pollutants (human wastes, food from sink disposals, laundry and bath waters), toxic pollutants (organics and metals), and nonconventional pollutants, (such as nitrogen and phosphorus), that may require regulation. In Virginia, NPDES permits are administered by the Virginia Department of Environmental Quality (DEQ) and are identified as Virginia Pollution Discharge Elimination System (VPDES) Permits.

The Toxic Release Inventory (TRI) contains information about more than 650 toxic chemicals that are being used, manufactured, treated, transported or released into the environment. Hazardous waste information is contained in the Resource Conservation and Recovery Information System (RCRIS), a national program management and inventory system about hazardous waste handlers. In general, all entities that generate, transport, treat, store, and dispose of hazardous waste are required to provide information about their activities to state environmental agencies.

According to 1997 EPA data, there were seven Virginia Pollution Discharge Elimination System (VPDES) permit holders, one toxic release inventory permit holder (TRI), and 13 solid and hazardous waste permit holders (Resource Conservation and Recovery Information System (RCRIS)) in Gloucester County. As shown in Table EV-3, there were four active VPDES permits on file with the State Department of Environmental Quality and 32 RCRIS permits listed on the EPA web site as of 2000. Gloucester Lumber Products remains as the only TRI permit holder in the County.

The release of hazardous materials at designated hazardous material facilities on major transportation routes within the County poses potential threat to both surface water and groundwater resources. Gloucester County has established a Local Emergency Planning Committee (LEPC) to 1) provide preplanned, coordinated emergency

response to protect the public and environment from the accidental release of any hazardous material at designated hazardous material facilities, or major transportation routes in the County; 2) prepare, maintain and update the Gloucester County Emergency Operations Plan for Hazardous Substances; 3) prepare, observe and critique Hazardous Materials training exercises; 4) provide education to the public about the risks from accidental releases of Hazardous Material into the environment and to work with designated facilities to minimize the risks from releases; and 5) establish procedures for receiving and processing requests from the public from information on Hazardous Materials in the County. The Committee consists of two representatives from law enforcement, civil defense, fire and rescue, hospital personnel, transportation personnel, two media representatives, two representatives from community organizations and two owners/operators of facilities subject to LEPC requirements. In addition to the benefits to public safety, LEPC's work reduces the threat of surface water and groundwater contamination through quick response to transportation accidents and release of hazardous materials.

Non-Point Source Pollution

Non-point sources, which have the most significant impact on surface water quality in Gloucester County, encompass all those inputs to surface water that cannot be identified as having originated from a distinct discharge point. These include stormwater runoff from agriculture, urban or forested land surfaces; atmospheric inputs; solid waste disposal; land application of sludge and wastewater; septic tanks; dredging; development/construction material spills and leaks; marinas, and shipyards, as well as impacts from the natural environment such as weathering of soils which provides metals, acids, etc. These types of pollution are not readily quantified, although a relationship does exist with the amount of precipitation. Basically, the greater the precipitation, the greater the runoff, therefore, the greater the non-point source impact. In Gloucester County, agricultural runoff, residential septic system overflows, stormwater runoff or marina discharges are generally linked to the condemnation of shellfish grounds. Generally, many of the same sources affecting surface water quality impacts also have the potential to impact groundwater resources.

Table EV-3 - Gloucester County Potential Sources of Pollution - Permit Holders 2001

Permit Type	Facility	Location
RCRIS	7-11 #10848 - RT 17 & 641	GLOUCESTER POINT
RCRIS	7-11 #19634 – ROUTE 17 NORTH	GLOUCESTER
RCRIS	7-11 #20570	GLENNS
RCRIS	ABINGDON CLEANERS, INC.	GLOUCESTER POINT
RCRIS	ADVANCED FINISHING, INC.	HAYES
RCRIS	BORDEN CHEMICAL	GLOUCESTER
RCRIS	CLEO HUSKEYS BODY SHOP	HAYES
RCRIS	COLONY METALSMITHS, INC	WHITE MARSH
RCRIS	FAST FARE INC.	HAYES
RCRIS	GLASS MARINE, INC	HAYES
RCRIS	GLOUCESTER AUTOBODY REPAIR	HAYES

Permit Type	Facility	Location
RCRIS	GLOUCESTER COUNTY PUBLIC SCHOOLS	GLOUCESTER
RCRIS	GLOUCESTER LAUNDRY AND CLEANERS	GLOUCESTER
RCRIS	GLOUCESTER LUMBER PRODUCTS	GLOUCESTER
RCRIS	GUNNS BODY SHOP INC.	GLOUCESTER
RCRIS	HUDGINS BILL OLDS PONTIAC GMC	GLOUCESTER
RCRIS	INDUSTRIAL RESOURCE TECH	GLOUCESTER
RCRIS	JORDAN MARINE SERVICE INC	GLOUCESTER POINT
RCRIS	KEN HOUTZ CHEVROLET BUICK	GLOUCESTER
RCRIS	MEGA CONTRACTORS INC.	GLENNS
RCRIS	MERLIN AUTO MACHINE	HAYES
RCRIS	MIDDLE PENINSULA LANDFILL	GLENNS
RCRIS	QUINN MOTORS	GLOUCESTER
RCRIS	RAPPAHANNOCK COMMUNITY COLLEGE	GLENNS
RCRIS	RIVERSIDE WALTER REED HOSPITAL	GLOUCESTER
RCRIS	SOUTHERN STATES	GLOUCESTER
RCRIS	STAR METAL FINISHING, INC.	HAYES
RCRIS	TIDEWATER NEWSPAPER INCE	GLOUCESTER
RCRIS	VIMS	GLOUCESTER POINT
RCRIS	VEPCO	GLOUCESTER
RCRIS	WAL-MART	GLOUCESTER
RCRIS	YORK RIVER YACHT HAVEN	GLOUCESTER POINT
TRI	GLOUCESTER LUMBER PRODS. INC.	GLOUCESTER
VPDES	GLOUCESTER COUNTY WWTP	GLOUCESTER
VPDES	GLOUCESTER LUMBER PRODS. INC.	GLOUCESTER
VPDES	RAPPAHANNOCK COMMUNITY COLLEGE	GLENNS
VPDES	VIMS TOXICOLOGY LABORATORIES	GLOUCESTER POINT

Source: EPA Website and DEQ

According to a 1998 report prepared by staff of the Hampton Roads Planning District Commission entitled, *“Summary of Nutrient Management Measures for Chesapeake Bay Tributary Strategies Development – Gloucester County”*, the County’s Ordinances are valuable tools in maintaining the cap on nutrient loading in that development and redevelopment activities must abide by certain criteria which assist in reducing nutrient input into tributaries of the Chesapeake Bay or to the Bay itself. Gloucester County’s Chesapeake Bay Preservation Ordinance requires that post-development non-point source pollutant runoff load shall not exceed the pre-development load for new development sites. If no combination of Best Management Practices (BMP’s) can meet the pollutant removal requirement, consideration must be given to a different site design. BMP’s are structural, vegetative or other management measures which improve or control conditions that might adversely impact water quality. For redevelopment sites, the non-point source pollution load shall be reduced by at least ten (10) percent. The enforcement of the Gloucester County Chesapeake Bay Preservation Ordinance, Erosion and Sediment Control Ordinance, and Wetlands Zoning Ordinance in conjunction with the Zoning and Subdivision Ordinances, and in addition to state and federal regulations, help minimize the amount of non-point source pollution generated by new development and redevelopment. Unfortunately, much of the development that

occurred prior to implementation of these regulations may result in non-point source pollution that is difficult to mitigate.

Failing or Ineffective BMP's: Failing or ineffective stormwater BMP's may be a potential source of water pollution. Of particular concern is the use of infiltration trenches as BMP's due to the elevation of the groundwater in some areas of Gloucester County. Infiltration trenches would not currently be permitted in areas with high groundwater table, however, they may have been used prior to the implementation of the existing regulations. Site plan review of redevelopment proposals enables the County to correct failing or ineffective stormwater BMP's. Gloucester County's Department of Codes Compliance, Environmental Division, maintains a database of all BMP's within the County. This database tracks maintenance and includes the type of facility, percentage of impervious area, and total parcel size. The effectiveness of BMP's can be studied to determine whether they are functioning as intended and not contributing to pollution of water resources. The County requires stormwater management agreements to provide for the long-term maintenance of BMP's. However, staffing limitations preclude regular inspection of BMP's to sufficiently determine their continued effectiveness and enforce management agreements.

As a means of determining the effectiveness of stormwater BMP's, Gloucester County's Environmental Division of Codes Compliance is working with VIMS to collect baseline water quality data prior to planned development. The first study site will be in the Fox Mill Run watershed. A regional shopping center with a centralized BMP is planned for development within the watershed area. Continued monitoring of water quality as the project is developed and once it is under operation will enable assessment of the BMP's effectiveness in reducing nutrient loading both during and after construction. It is hoped that other study sites will be available to provide a larger data base from which to draw general conclusions about the continued use of individual stormwater BMP's.

Silvicultural and Agricultural Activities: Gloucester County's Chesapeake Bay Preservation Ordinance endeavors to achieve a forty (40) percent reduction in non-point source pollution from agricultural and silvicultural uses. Silvicultural compliance with the Chesapeake Bay Act is managed through the State Department of Forestry.

With regard to agricultural activities, the Tidewater Soil and Water Conservation District is the primary agency that oversees implementation of the local Bay program's agricultural requirements as well as provides information and incentives for farmers to minimize their impacts on water quality. However, the County provides enforcement of the Chesapeake Bay Preservation Ordinance. Lands upon which agricultural activities are being conducted are required to have a soil and water quality conservation plan approved by the Tidewater Soil and Water Conservation District. Gloucester County and Soil and Water Conservation District staff meet to cooperatively review the conservation plans as part of regular Technical Review Committee meetings. Buffers adjacent to Resource Protection Areas (RPA's) are required and must be managed to prevent concentrated flows of surface water from breaching the buffer and noxious

weeds from invading the buffer area. The agricultural buffer may be modified under specific criteria.

The *Comprehensive Water Quality Management Plan for the Middle Peninsula: An Information Search and Review*, prepared by the Middle Peninsula Planning District Commission in 1989, page 151, discusses agricultural activity in the following excerpt:

“Because the greatest pollutant loadings come from croplands and because of the potential adverse impact that could result from mismanaged agricultural activities, BMP’s are the management tools that have been determined to be most effective. Agricultural BMP’s cover various activities. Some of these management practices include conservation tillage, contour farming, crop rotation, ground covers, filter strips, mulching, waste storage and treatment, pesticide use, and numerous others. A well planned program is important to good agricultural, economic, and environmental management; and, with the incorporation of suitable BMP’s, the impacts to water quality from agriculture can be reduced. Much of the [Middle Peninsula Planning District] MPPD agricultural activities already include many of the suggested BMP’s. In addition, many MPPD farmers participate in various set-aside and conservation programs offered by state and local governments.”

The Soil and Water Conservation District provides several incentives for the implementation of Agricultural Best Management Practices through its cost-share program, tax-credit program, and Conservation Reserve Enhancement Program (CREP). Gloucester County and the Tidewater Soil and Water Conservation District work closely together in a cooperative affiliation to achieve the goals of the Chesapeake Bay Preservation Ordinance.

Condemned Shellfish Areas: One specific indicator of potential water quality deterioration is the State Bureau of Shellfish Sanitation listing and description of condemned shellfish (oyster) growing areas. Condemned areas are safety zones, established around known or potential sources of pollution, to allow for mixing and dilution of pollutants, dying off of bacteria, and the like. Condemnations are based, in part, on Bureau sanitary surveys and bacteriological monitoring. When assigned, they ban direct marketing of shellfish harvested in such areas.

The ratings of satisfactory or unsatisfactory are defined primarily in regard to the number of coliform bacteria. For a rating of satisfactory, the maximum limit for fecal coliform in an MPN (most probable number) of 14/100 ml. Usually any count above this limit results in an unsatisfactory rating, thus restricting the waters from the taking of shellfish for direct sale to the consumer.

According to Virginia’s Office of Water Program’s Shellfish Sanitation website (revised March 16, 1998), “The first step that the Division takes in determining the proper classification of shellfish waters is to conduct a shoreline survey. In order to correctly classify shellfish waters as to their suitability for the direct marketing of shellfish, the

watershed must be examined for the presence of actual and potential sources of pollution. This survey involves visiting all properties on the drainage basin of the area that are deemed capable of impacting shellfish waters. The primary concern is the presence of fresh fecal matter. All onsite sewage facilities are investigated to see if they are functioning properly, and all potential sources of other pollution including animal waste, toxic substances, industrial discharges, marinas, wastewater treatment facilities, etc. are inspected. Sewered areas are noted, but not investigated. The field data and other pertinent information is compiled into a report accompanied by a map of the area. The map shows which properties were inspected as well as those which had an actual or potential pollution source found onsite. These are indicated on the map with symbols that represent the type of pollution found. The final report and map is sent to the locality and the state agencies responsible for the various types of problems found. [The Division of Shellfish] investigates an average of over 13,000 properties per year and conducts new shoreline surveys every 6 to 8 years.” Results from these surveys enable Gloucester County and the Health Department to identify pollution sources and develop programs or policies to eliminate or mitigate them (see discussion below).

As of July 1, 2001, Gloucester County had a total of 2,130 acres of condemned waters which increased by 346 acres since 2000. This increase was primarily related to large increases in the Severn River and Sarah’s Creek and offset slightly by declines elsewhere (See table EV-4).

Table EV-4. Waters Condemned for Shellfish Harvesting by Department of Health (as reported in the *Gazette Journal*, July 19, 2001)

Water Body	Acreage	
	July 1, 2001	July 1, 2000
Elmington Creek	16	14
Back Creek	45	45
Davis Creek	20	0
Ferry Creek/Upper Piankatank	59	171
Ware River	347	583
Wilson Creek	151	151
Thornton Creek	58	58
Severn River, NW Branch	375	50
Heywood Creek	127	77
Sarah’s Creek	313	77
Perrin River	113	92
Timberneck Creek	139	139
Fox Creek	15	15
Aberdeen Creek	80	80
Carter Creek	117	187
Cedarbush Creek	44	44
Jones Creek	44	44
Sandy Creek	2	2
Free School Creek	42	0
Brown’s Bay – Munday Creek	23	0
Total	2,130	1,784

Inefficient or failing septic systems: On-site sewage disposal systems, if improperly designed, installed or poorly maintained, can pose threats to surface water and groundwater supplies. Pesticides, herbicides, household cleaning products, and septic tank cleaning products can enter groundwater systems through septic systems. Nutrients such as nitrogen and phosphorus dissolved in wastewater can also pose threats to both humans and adjacent surface waters. The County's Chesapeake Bay Preservation Area Ordinance requires that all conventional on-site sewage disposal systems be pumped-out at least once every five years. The County's Department of Codes Compliance coordinates monthly with local septic contractors to maintain a database of all septic systems that have been pumped out. Notices are sent to those that have not pumped out their systems within the five-year period from the start of the database. The County holds periodic workshops regarding septic tank maintenance and has included a section explaining the need to pump out septic tanks in its "Natural Resource Map and Assistance Guide" published in January 1999. The County also requires reserve drainfields areas outside the RPA on all new lots and on prior recorded lots where an acceptable perk site is available.

Problems of failing septic systems have been documented by the Virginia Department of Health (VDH) during shoreline surveys. Failing septic systems are of particular concern in the lower eastern quadrant of the County where hydric soils, tidal and non-tidal wetlands prevail on developed properties. The Three Rivers Health District of the VDH has committed additional personnel to address the problems of failing septic systems documented during the shoreline surveys. A database has been designed to track violations and VDH is actively involved in instituting corrective measures, either through enforcement or by facilitating septic repair through a cooperative effort with agencies offering financial assistance through grants or low interest loans.

One element not addressed in the shoreline surveys is the number of properties that lack indoor facilities. Homes that rely on "pit" or "vault" privies (outhouses) are not cited unless the privy is unusable or is expressing sewage onto the ground surface.

Gloucester County's Commissioner of Revenue office estimates there are approximately 13,700 homes on private septic systems. According to Gloucester County Health Department staff, the approximate failure rate of septic systems in the County is estimated at ten to fifteen percent (10-15%) with a replacement rate of approximately every twenty (20) years.

In July 2000, the state implemented new regulations governing the installation of sewage disposal systems (12 VAC 5-610-290 C.2). These regulations shift attention from merely disposal of household water effluent to treatment and protection of groundwater resources. One major change is that the repair of existing septic systems must comply to the greatest extent possible with the new regulations, not just merely replace what currently exists. Because of the soil types encountered in the southeast portion of the County, most all repairs will need engineered systems that provide secondary treatment of sewage effluent prior to disposal. Due to the economic level of many of the residents in the affected areas, the higher cost of the technology required is

not easily attainable. These regulations also may permit the use of pre-treatment systems where, under the previous regulations, they may not have been permitted. In addition to the economic issue, these engineered systems require continued maintenance in order to be effective. If properly installed and maintained, pre-treatment systems are very effective. However, without proper maintenance, these systems may result in the discharge of unacceptable effluent into surface and groundwater resources. Continued maintenance of pre-treatment systems is an important issue to be addressed.

Localities should encourage and collaborate with the state to develop and implement a strategy to protect ground and surface water quality from the failure of pre-treatment systems. An amendment to the Chesapeake Bay Preservation Ordinance, requiring pre-treatment units be regularly inspected and maintained by a bonded contractor might be appropriate. This requirement would be similar to the existing regulation requiring residents with on-site septic systems to have them pumped out every five years.

Gloucester County Department of Public Utilities provides sewer service to approximately 700 accounts as of December 2000. Approximately 500 of these are residential. Gloucester County's sewer system is connected to the Hampton Roads Sanitary District (HRSD) via a 30-inch force main under the York River and along U.S. Route 17 to the Courthouse Sanitary District. Gloucester County's participation in HRSD essentially provides for a limitless supply of sewage service capacity. The HRSD lines in the County have significant capacity; additional hook-ups would not pose any problems. If, at such time in the future, the number of hook-ups exceeded the capacity of the current system it would be the responsibility of HRSD to upgrade the system.

As a possible comprehensive approach, the Planning Department and Department of Utilities are considering funding mechanisms for the Capital Improvement Program to extend sewer lines, within the development district, to densely populated areas, areas with failing systems and/or areas having soils with poor septic suitability. Such a program may involve the expansion of the existing sewer districts. If implemented, all homes within the sewer district would be required to connect to sewers. The County could investigate and consider sources of financial assistance to lower income households in order to insure connection by all households.

Gloucester County currently pays HRSD the interest on the cost of the bonds used in construction of the force mains in the County. As an incentive to make as many connections as possible to public sewer in Gloucester, HRSD gives the County a deduction of 70% of the money they (HRSD) collect for monthly treatment charges to the customers connected to the County's sewer system against the interest that the County pays each quarter. The County benefits both from the reduction in the number of septic tanks within the sewer district and the fact that the sewer plant outfall is outside the County.

The County's revised subdivision regulations, Sections 15-14 and 15-15, adopted December 1999, promote the installation of public water and sewer. The above

referenced sections of the ordinance require that when a subdivision is proposed within the Development District and sewer and water are not immediately available, the developer must install both on-site water and septic, as well as the "dry-lines" necessary for eventual connection to water and sewer once available. In addition, the developer must pay its "pro-rata" share of the cost of connection to the public system.

The subdivision regulations have been implemented to encourage development within the Development District, as shown on the proposed Land Use plan, where adequate water and sewer facilities exist. In addition, the regulations discourage development within the Development District that does not take advantage of existing or proposed public facilities. The County maintains a Master Water and Sewer Plan which is reviewed by the Director of Public Utilities and the Planning Director on an annual basis for capital improvements to extend the existing water and sewer lines within the Development District.

Maintenance of the existing water and sewer infrastructure is the responsibility of the County's Department of Public Utilities. The County's existing water pipes are made of cast iron and according to the Department of Public Utilities, are in good working order. Identification and replacement of antiquated sewer lines requires continued attention, particularly within the Courthouse area where the original sewage treatment facility was located. These lines are periodically tested and viewed using a television camera. Sewer lines are slip-lined and manholes are repaired as necessary.

Leaks and spills of petroleum-based products and improper handling of hazardous materials: Leaking underground storage tanks and spills resulting from improper handling of hazardous materials may also contribute to surface water and groundwater contamination. *(Much of the following information is taken from the Department of Environmental Quality Web Site, Virginia Source Water Assessment Program, dated October 15, 1999.)* Regulation of Underground Storage Tanks is primarily the responsibility of the state with the County cooperating through the building permit process. The State Department of Environmental Quality (DEQ) currently maintains records on some 74,000 regulated Underground Storage Tanks (UST) at 25,000 facilities in Virginia. The DEQ UST program maintains a computer database of all UST information and tracks the reporting of installations, upgrades, repairs, and closures. According to DEQ records as of June 2001, there are 387 registered UST's at 121 facilities in Gloucester County (see Appendix A). The Gloucester County Department of Codes Compliance, Building Inspection office assists in this program by permitting UST activities in Gloucester using a statewide form provided by DEQ. Compliance monitoring is performed on a periodic basis by DEQ and includes computer searches, outreach through presentations and informational mailings, compliance mailings and random site inspections.

The State DEQ also oversees leaks from underground storage tanks as part of its Leaking Underground Storage Tank (LUST) Program. Statewide, leaking petroleum storage tanks have caused contamination in about 450 drinking water wells. The state's program involves investigation, remediation and reimbursement for certain corrective

actions. DEQ's database lists 49 Petroleum Release Clean-up sites in Gloucester County, as of August 2001 (see Appendix B). Fifteen of these release files are still "open". As may be expected, concentrations of leaking underground storage tanks are found in the Gloucester Courthouse and in the Gloucester Point area along Route 17 from Hayes to the Point. Smaller concentrations (three to four instances) were found in the White Marsh and Glens areas of the County.

Aboveground and underground petroleum storage tanks used for business purposes are now subject to regulatory requirements for preventive measures designed to reduce the likelihood that the tanks will leak. Gloucester County Department of Codes Compliance, Building Inspection office will continue to work with the state to implement its UST and LUST permitting, monitoring and inspection program for the removal and installation of underground storage tanks.

With regard to household "hazardous" wastes, Gloucester County's Clean Community Program sponsors a harmful household waste collection through Waste Management twice per year. Collection and proper disposal of hazardous household wastes such as pesticides, solvents, etc. reduces the potential for these wastes to be improperly discarded and potentially impact water resources.

Solid waste management facilities: Gloucester County has three state regulated solid waste management facilities. The Gloucester County landfill, located on the east side of Route 17 south of the Courthouse area, behind the Winn-Dixie shopping center was permitted in 1972 and closed in 1994. The landfill has been capped and meets all state and federal post-closure requirements. The Middle Peninsula Sanitary Landfill and Recycling Center located off of Route 17 in Adner is permitted under state regulations as an active landfill, transfer station and yard waste composting facility. Industrial Resources Technologies, located within the County's Industrial park is permitted as a materials recovery facility for a toner and recycling product. Virginia's Department of Environmental Quality lists this site in compliance with all procedural requirements. Virginia has no permitted hazardous waste sites within the state.

In addition to the landfill, Waste Management operates five convenience centers within the County:

- | | |
|---------------|---------------------------|
| • Adner-Glens | 3741 Waste Management Way |
| • Belroi | 5122 Hickory Fork Road |
| • Courthouse | 6550 Beehive Drive |
| • Dutton | 10430 Burkes Pond Road |
| • Hayes | 7599 Guinea Road |

These centers are available to County residents and businesses for waste disposal and recycling. Separate collections for harmful household chemicals are conducted annually through the Clean Community Program and Waste Management in the spring and fall.

Illegal dumping: The primary agencies involved with the regulation of illegal dumping and dumpsites within the County are the Department of Codes Compliance and the Clean Community Program. The Clean Community Program is coordinated through the Community Education Department by a part-time staff person, a Clean Community Committee and by community volunteers. Although dumping may occur along roads in the more remote areas of the County and at public boat landings, there are no specifically identified illegal “dumpsites” within the County. The County Department of Codes Compliance addresses illegal dumping on private property on a case-by-case basis through County property maintenance codes. Codes Compliance and Clean Community Program work with county and community organizations to routinely conduct community, roadside and waterway clean-ups. The Clean Community Program also sponsors “Gloucester County’s Clean Community Days.”

The County does not keep records on dumping within the County. The State Department of Environmental Quality, pollution response group, also does not maintain a database on reported dumpsites. Their County file on reported non-permitted dumpsites contains only five reports as of August 2001 – four on individual properties and one on a business property. Both County and state programs on illegal dumping are primarily complaint driven. Of course, staff observations of dumpsites are enforced in the same manner as those identified by citizens’ complaints.

According to the Clean Community Coordinator, litter is more of a problem within Gloucester County than illegal dumping. The existing system of complaint driven enforcement of property maintenance codes along with clean-up programs using volunteer efforts appears to be adequate to address the current level of dumping. It is hoped that continued community education through outreach at county and regional activities, community programs and presentations to civic groups and organizations as well as the availability of easily accessible convenience centers will dissuade the majority of residents from improperly disposing of wastes.

Improper application of pesticides and fertilizers: While pesticide and fertilizer use has not been quantified within the County or the region, a 1992 estimate by the U.S. Environmental Protection Agency indicates that the average homeowner utilizes approximately ten times the amount of toxic chemicals per acre than the average farmer.

Gloucester County Department of Codes Compliance, Environmental Division has recently initiated a water quality monitoring program where residents living on or near water bodies monitor, on a voluntary basis, the quality of the water near their homes. This will enable residents to see on a first hand basis, the impacts of their actions on the water. Other County sponsored events such as Riverfest (held in 1997 and 2001) and various environmental workshops provide environmental education to a broader audience through displays, activities and entertainment focusing on the County’s water resources. Gloucester County Department of Codes Compliance, Environmental Division, along with a variety of other non-profit environmental groups, provide continued education and outreach programs to teach people about the Chesapeake

Bay and what each individual can do to protect it. Voluntary compliance through education is the best opportunity, without additional regulations, to reduce the amount pesticides and fertilizers generated by homeowners from affecting water resources.

Saltwater intrusion into freshwater aquifers: Increased groundwater withdrawals within the coastal plain may result in the intrusion of salt or brackish water into fresh water aquifers. Groundwater recharge areas within the coastal plain are difficult to delineate because they occur over large portions of the region. However, freshwater inflow to groundwater may be significantly impacted by increases in impervious cover, the piping of stormwater, and improperly functioning water-to-air heat pumps. The minimal use of impervious cover on newly developed or redevelopment sites and greater use of infiltration practices can preserve recharge-to-groundwater supplies. The *Comprehensive Water Quality Management Plan for the Middle Peninsula: An Information Search and Review*, 1989 concluded, "Although data is sketchy, there is no information currently available that would indicate any appreciable movement of [saltwater] as a result of large withdrawals anywhere in the [Middle Peninsula Planning District] MPPD. This statement is supported by the groundwater quality data observed at the Gloucester Courthouse pumpage area, which has experienced no increases in chloride levels since 1945." According to the U.S. Geological Survey Water Resources Investigations Report (92-4175) (1993), regional intrusion of saltwater has not been documented in the confined aquifers in Virginia. Groundwater withdrawal in Gloucester County is not of significant volume to result in saltwater intrusion. Isolated instances of salt found in some wells may be attributed to presence of limited saline deposits left by repeated transgressions and regressions of the sea.

PROTECTING SURFACE AND GROUNDWATER RESOURCES

Groundwater recharge in Southeastern Virginia primarily occurs through vertical leakage to the water table aquifer, rather than through discrete recharge zones. Therefore, the goal of protecting recharge areas cannot be accomplished by identifying and protecting specific areas. The County must approach the protection of groundwater quantity and quality and the continued provision of recharge through: stormwater management, the use of pervious surfacing materials where practical, the protection of open space, and reductions in impervious cover. As new development within the County continues to rely on groundwater as an alternative water supply, the County may consider additional measures to prevent potential adverse impacts on the quality and quantity of existing groundwater supplies.

The County's existing growth management strategy provides a basis for groundwater protection through low-density development in the zoning districts outside the Development District. The County has no designated Intensely Developed Areas (IDA) as defined in the Chesapeake Bay Preservation Act. Higher density residential development and commercial and industrial development are encouraged within the Development District, an area planned for water and sewer service.

The existing land use regulations based on this growth management strategy as well as existing environmental regulations go a long way to minimize impacts to groundwater quality from new development. The challenge is to rectify existing situations where development occurred prior to environmental and land use regulation. If sites are redeveloped, the County's Chesapeake Bay Preservation Ordinance requires a reduction of non-point source pollution load by 10 percent. Other redevelopment issues regarding landscaping, retention of existing vegetation and buffer requirements, reduction of impervious surfaces, and stormwater management are considered during site plan review.

Inter-agency Cooperation: As discussed above, the County is working with the State Health Department to repair or replace failing septic systems with pre-treatment systems. The County Planning Department and Department of Public Utilities are considering funding mechanisms for a Capital Improvement Plan to extend sewers into areas with failing septic systems within the Development District. The County should also consider working with the state Department of Health to address the potential environmental issues related to continued maintenance of pre-treatment or package treatment systems. These alternative methods may be permitted or required by the Department of Health where soils are unsuitable for a conventional septic system. Unfortunately, continued maintenance is essential to the functioning of these systems. Similar to the County's Chesapeake Bay Preservation Ordinance requirement to pump out conventional septic systems every five years, annual or bi-annual inspections of non-conventional systems may be required. Increased funding and staffing would be necessary to adequately enforce regulations mandating continued maintenance of pre-treatment systems. Until additional regulation is instituted, the Department of Health and the County should strive to educate owners about the importance of upkeep of these systems and encourage regular maintenance.

The County continues its cooperation with state and federal agencies to implement and enforce existing state and federal regulations regarding use, handling and storage of hazardous materials and application of pesticides and fertilizers, however, additional regulation, through local ordinances is not considered necessary at this time. In addition, the County cooperates with state and federal agencies on citizen complaints related to environmental and other issues. The County's Department of Codes Compliance, Environmental Division provides community outreach programs and information to educate the public about the environment, particularly the Chesapeake Bay. Public education and voluntary compliance is the County's current and proposed strategy for minimizing impacts to water resources from individual homeowners.

Open Space Preservation: Protection of regional groundwater resources through open space preservation is an area that could be furthered considered. Both the Comprehensive Plan and the County's 350 Strategic Plan encourage open space protection. The Zoning Ordinance, §5.4, has an optional cluster provision in the conservation, rural and suburban country-side and hamlet cluster zoning districts (C-1, RC-1, RC-2, SC-1 and HC-1). If the cluster option is used, a minimum and maximum lot area is designated for the site and the overall density is based on the net acreage

(area of lots excluding land area for rights-of-way, and property reserved for public ownership as well as area of ponds, lakes or other impounded water bodies, wetlands and slopes in excess of twenty (20) percent.) The Planned Unit Development District (PUD-1) requires that twenty (20) percent of the gross area of any PUD be retained in open space.

The subdivision ordinance, §15-22, provides for the reservation of land, including common open space, in major residential subdivisions. The Planning Commission may require subdividers to set aside land for open space, not to exceed ten (10) percent of the area of the subdivision, *consistent with the needs identified in the Comprehensive Plan* (emphasis added) as the Commission deems necessary to protect the safety, general welfare and the environmental amenity of the area. However, the previous Comprehensive Plan did not identify specific areas for open space preservation. With the exception of the Natural Heritage Inventory conducted for the Dragon Run Watershed, there are few sources of information for the Planning Commission to refer to in determining the need for the preservation of open space based on environmental sensitivity or development patterns, other than the established Chesapeake Bay requirements.

In order to provide baseline information for open space preservation in future development proposals, an open space plan containing an inventory of natural and historic resources should be investigated by the County. The document would be a collection and analysis of basic information and additional research as needed. Community input would provide essential local knowledge to determine areas in need of preservation for both passive and active recreational needs as well as protection of significant environmental resources. Having an open space inventory supported by the community and adopted by the governing body would provide a solid basis for applying for and receiving funding for acquisition or preservation of significant or threatened parcels. Taking the concept one step further, the County should consider creating a map of potential conservation plans as advocated by the Natural Lands Trust in their "Growing Greener" program (Randall Arendt, 1999 *"Growing Greener – Putting Conservation into Local Plans and Ordinances"*). Such a map is essential in order to effectively develop an interconnected network of open space through development proposals, dedication and acquisition.

In conjunction with a long term open space plan, the County might consider revisions to its subdivision ordinance, as recommended in the "Growing Greener" concept to allow the creation of conservation subdivisions that will help implement the open space plan. Conservation subdivisions promote open space development by incorporating smaller lot sizes to minimize the total impervious area, reduce total construction costs, conserve natural areas, provide community recreational space, and promote watershed protection. The initial step in Conservation Planning is getting the community involved and interested in achieving conservation development and preservation of open space. In addition to its benefits to preservation of wildlife habitat and creation of potential recreation areas, implementation of the techniques of open space planning and preservation can result in a reduction of the amount of non-point source pollution

entering groundwater and surface waters within the County as well as reduce sediments entering the Chesapeake Bay watershed.

Another potential incentive to open space preservation is to include open space in the County's land use tax assessment program. Gloucester County has adopted a program of special assessments for agricultural, horticultural, and forest lands pursuant to the Code of Virginia (§58-769.6). This program reduces the assessment on lands put in "land use" under specific criteria. The owner's taxes on the property are reduced while it is in the program, however, if some or all of the property is taken out of the land use program, "roll back" taxes are imposed (Gloucester County Code, §16-81-§16-87.) State law also permits land use special classification for "real estate devoted to open-space use" which includes land "to be provided or preserved for park or recreational purposes, conservation of land or other natural resources, floodways, historic or scenic purposes, or assisting in the shaping of the character direction and timing of community development or for the public interest and consistent with the local land-use plan, under uniform standard prescribed by the Director of the Department of Conservation and Historic Resources pursuant to the authority set out in Section 58.1-3240, and the local ordinance." As part of an open space plan, Gloucester County should consider including open space as a classification permitted under its land use taxation program.

Zoning Ordinance and Site Design: Changes to the zoning ordinance with regard to limitations of impervious surface area may also be examined. The County has implemented a Highway Corridor Overlay District along its major arterials: U.S. Route 17, and more recently Route 3/14 between its intersection of Business 17 and the Mathews County Line. The intent of the landscape requirements of this ordinance not only provides for the preservation and enhancement of visual quality of the roadways, but also is meant to reduce the volume, and improve the quality, of stormwater run-off. However, in order for implementation of the ordinance to realistically fulfill its potential for stormwater management, additional guidance and criteria are needed that specifically require incorporation of stormwater management into the landscape plan. Use of landscaped areas as bio-retention basins can serve to improve site aesthetics while providing areas for stormwater recharge. If curbing is required around a parking lot, inlets should be provided at regular intervals to allow stormwater to be distributed into landscaped areas. Larger areas of landscaping rather than small islands of landscaping should be encouraged or required by site design standards.

In addition to the Highway Corridor requirements, there are internal landscaping requirements for all parking lots and Chesapeake Bay Preservation Ordinance requirements limiting or reducing pollutant run-off load. In Chesapeake Bay Preservation areas, encompassing the entire County, the Chesapeake Bay Preservation Ordinance (§5.5-9) limits land disturbance to "the area necessary to provide for the desired use or development." Unfortunately, depending upon the desired use, interpretation of this section may be difficult. While these ordinances reduce the amount of impervious surfaces previously permitted on development proposals, the zoning ordinance could go even further in providing the opportunity for increased groundwater recharge areas.

More flexibility with respect to parking requirements could be introduced into the code. For example, to protect groundwater quality through the reduction of impervious surfaces the County could impose a maximum parking requirement or maximum lot coverage on site plans. Developers for some uses, like fast food restaurants, often prefer to have more than the required number of parking spaces. The current ordinance does not limit the number of parking spaces on a site plan.

Another method to reduce impervious areas is land banking parking spaces. In practice, land banking involves depicting the required amount of parking on a site plan, but if the applicant and zoning administrator determine that the total number of stalls may not be needed, based on the proposed use of the site, some of the parking could be incorporated as a landscaped area. If it is later determined that, based on actual, or alteration of, use of the site, land banked parking needs to be installed, the plan is already approved and can be implemented without additional review. Land banking typically works for larger office buildings or restaurants where general parking requirements are too extensive for certain specific uses.

Section 11- 2 of the Zoning Ordinance provides for a reduction in required parking when alternative modes of transportation techniques are used. Section 11-2(f) states: "Where off-street parking credit is given, a land area sufficient to construct fifty percent (50%) of the spaces for which credit is given shall be reserved in case the use or orientation changes and the spaces are required." This is similar to the land banking concept, but requires the developer to provide additional site amenities.

The zoning ordinance (§11-9) also allows joint use of parking spaces by non-residential uses when the hours of operation do not normally overlap provided that all other zoning requirements are met and a written agreement is filed with the zoning administrator. This type of arrangement should be encouraged when it would result in the reduction of impervious surfaces on a piece of property.

Public Awareness and Community Education: In addition to its grant-funded environmental education programs and workshops, the County may consider participation in the "*Businesses for The Bay*" program and encourage involvement by other businesses, industries and organizations. The *Businesses for the Bay* is a voluntary group of businesses, industries, government facilities and other organizations within the Chesapeake Bay watershed that are committed to implementation of pollution prevention in their daily operations and to the reduction of contaminants and other wastes into the Bay. The overall goal of *Businesses for the Bay* is "to contribute long-term improvement of the quality of the Bay and its rivers through widespread, voluntary implementation of pollution prevention practices throughout the Chesapeake Bay watershed." As a participating member or partner, the County would be demonstrating its commitment to preservation and protection of its waterways as well as setting an example for other businesses, industries and organizations to do the same. Participation in the program involves developing annual pollution prevention goals for the County and reporting pollution prevention activities on an annual basis.

As the County initiates actions designed to protect the long-term integrity of groundwater resources in terms of both quantity and quality, the continued protection of this vital resource must be coordinated with comprehensive land use planning. Areas where the provision of municipal infrastructure is either undesirable from a policy perspective or simply not feasible must receive the highest possible level of protection due to the reliance on groundwater for potable water supply. To this extent, efforts must continue in the areas of public education, septic tank maintenance, and the provision of reserve drainfields, stormwater management, and the protection of recharge areas.

TIDAL AND NON-TIDAL WETLANDS

There was a time, not too long ago, when wetlands (marshes, bogs, pocosins, and mucky soils) were viewed solely as sources of disease and pestilence. Early government involvement with wetlands were give-away programs with the condition that they be drained and filled for useful purposes such as farming. In the 20th century, well-intentioned public and private efforts to provide flood protection, mosquito control, greater agricultural productivity, better highways, and many other benefits to society have often resulted in filling or draining of wetlands for farming, forestry, industry, and development.

Research has subsequently concluded that wetlands play a vital role in the environment. Wetlands are valuable for the many physical, hydrological, biological, and cultural functions that they provide. These include: providing nutrients and feeding areas for marine organisms through detritus production; providing unique habitats for waterfowl and wildlife; reducing shoreline erosion; improving water quality through sediment trapping and filtering; flood buffering by absorbing flood waters and slowly releasing them; and providing important cultural, recreational and scenic areas for human enjoyment.

In light of their many benefits, wetland activities are increasingly being regulated. In Virginia, tidal wetlands are protected by the 1972 Wetlands Protection Act, as amended. This law established the joint permit process for construction, dredging, or filling in a tidal wetland and serves as the source of authority for actions taken on permits by the Gloucester County Wetlands Board. The Virginia Marine Resources Commission (VMRC) coordinates the joint permit with all appropriate agencies for review. The VMRC also administers the Wetlands Protection Act and reviews all decisions handed down by the County boards.

Non-tidal wetlands are currently federally regulated by Section 404 of the 1977 Clean Water Act, as amended, which prohibits disposal of dredged or fill material into "waters of the United States" and adjacent wetlands. This has been broadly interpreted by the EPA to include virtually all surface waters in the nation, regardless of size. A permit from the Army Corps of Engineers is required. Virginia's State Water Control Board adopted regulations (9 VAC 25-210) regarding non-tidal wetlands (the basic regulation and the general permit regulations) on June 12, 2001, effective on October 1, 2001.

Similar to the federal statute, these regulations establish the general procedures for the issuance of a Virginia Water Protection permit for activities in navigable waters of the state. Procedures for implementation of these regulations are being developed.

The Virginia Institute of Marine Science (VIMS) published a shoreline situation report for Gloucester County that is descriptive of the Tidal Wetlands characteristics in the County:

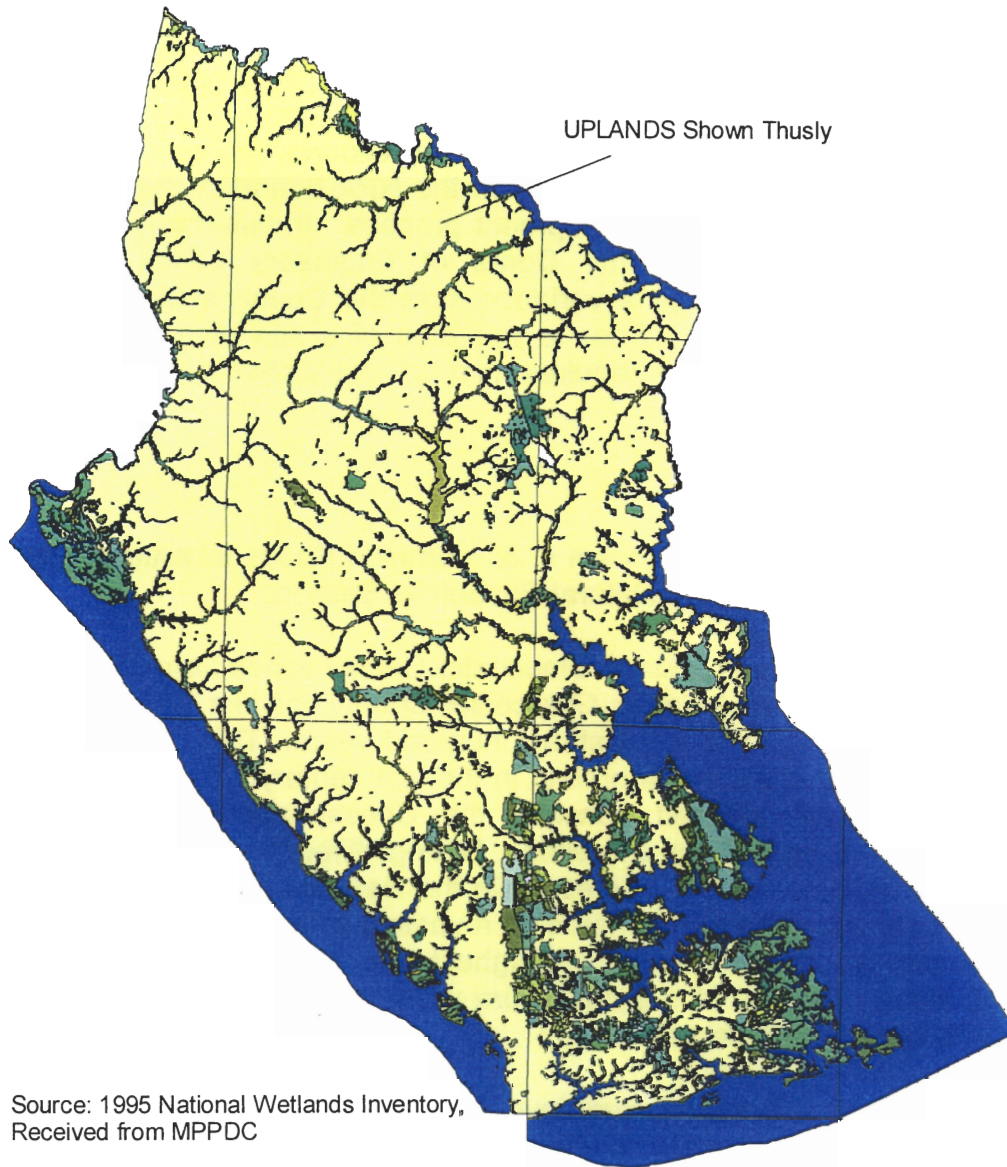
Gloucester County, comprising [225] square miles, is the southernmost of the three Chesapeake Bay fronting counties of the Middle Peninsula. Its York River, Piankatank River, and Chesapeake Bay shorelands are incised by numerous tidal rivers and creeks. Altogether, there are 296.4 miles of shoreline in the County. The major portion of the shore zone, 87 percent, is comprised of wetlands including fringe, embayed, and extensive marsh. The only segments of the shore not considered low shore are those along the York River from the Poropotank River to Sarah Creek. Along this area much of the fastland is classified as moderately low shore with bluffs ranging in height from 20 to 40 feet. The rest of the shore zone is composed of beaches. There are only three beaches that have the potential for medium- to high-density recreational purposes. These are found just southeast of Fox Creek, around Gloucester Point, and on lower Jenkins Neck around Sandy Point." (VIMS)

The marsh and wetland acreage of Gloucester County makes a valuable contribution to the economy of Tidewater Virginia. Of all the political jurisdictions in the Commonwealth, Gloucester County ranks fifth in wetland acreage; only Accomack, Northampton and the cities of Virginia Beach and Chesapeake exceed it.


Gloucester County's more than 12,000 acres of wetlands are comprised of high and low marshes, creeks, ponds, wooded areas or "hammocks" and tidal flats. At least 5,000 acres are in marsh. Some 3,500 acres are in creeks, including both those draining marshes and those bordered by high ground. Tidal flats comprise another 1,800 acres, and swamp land below the five-foot contour line covers nearly 600 acres. Wooded islands or "hammocks," areas elevated above the surrounding marsh and usually dominated by pines, cedars, and wax myrtle, add another 1,000 acres to the County's wetlands. Gloucester County has about 40 percent of the State's hammock-type physiography, more than in any other County.

The Chesapeake Bay Preservation Act and Chesapeake Bay Preservation Area Designation and Management Regulations established mandatory provisions for local Tidewater jurisdictions to protect wetlands and water quality. The County's progress in complying with these regulations is described under the "Local Program Elements" in the beginning of this section. Figure EV.12 depicts Gloucester's wetlands as mapped by the Middle Peninsula Planning District Commission in 1998.

Figure EV-12 – Wetlands



Source: 1995 National Wetlands Inventory,
Received from MPPDC

	Figure EV.12 Wetlands
	Gloucester County Comprehensive Plan Update
	Gloucester County Planning Department - 2001
	Data is of a general nature – field verification is required.

Obviously, it is important to identify wetlands concerns and issues early in the development process. Gloucester County has taken several steps to improve policies such that wetlands are identified as early as possible in the development process. The County requires wetland delineation for all commercial and subdivision projects, with the delineations to be confirmed by the Corps of Engineers.

For residential projects, if the property is located in a resource protection area (RPA), County staff will inspect the property and confirm the RPA boundary. If wetlands are found, they must be avoided in the development process. If disturbance to non-tidal wetlands cannot be avoided an Army Corps of Engineers permit is required. Disturbance within the RPA requires a variance from the County's Chesapeake Bay Preservation Administrative Board. Prior to approval of a site plan or Erosion and Sediment Control Plan, the County requires that all applicable permits from other agencies be in place.

SHORELINE EROSION

Shoreline erosion has long been a concern in all Hampton Roads localities. According to VIMS documents cited in the 1991 Natural Resources Section,

“the magnitude of shore erosion in Gloucester County varies from slight or no change to severe. Historically, Gloucester County has lost 1,153 acres of land from its shoreline in the last one hundred years. This indicates a loss of four acres per mile of shoreline in the last century. This loss has been almost equally divided between the Chesapeake Bay fronting shoreline and the York River shoreline. During different but equal time spans, the York River lost 442 acres while the Bay shore lost 437 acres. However, a review of the rates of erosion reveals a difference in the range of erosion rate for the two areas. The highest rate, 4.4 feet per year, was recorded along a portion of the Bay shore while the maximum along the York shore was 1.9 feet per year.”

The County has received a shore structure inventory from VIMS in ArcView GIS format. The inventory shows extensive unstable shoreline and marsh land all along the County shoreline, and categorizes shore structures and conditions.

A sample of the shore structure inventory near Gloucester Point is shown in Figure EV.13. The numbers in the figure represent the numbers indicated on the structures and shoreline conditions listed below. The entire shore structure inventory is too large to print in this report. The *Gloucester County Shoreline and Tidal Marsh Inventory* prepared by VIMS was completed in February 1999 and is available for use by the County Staff in developing policy and reviewing applications. The *Piankatank River Shoreline Situation Report* was completed by the Comprehensive Coastal Inventory Program of VIMS (Special Report SRAMSOE No. 361) in April 2000 and is also available for use by the County in reviewing applications.

- 1 - Riprap
- 2 - Bulkhead
- 3 - Jetty
- 4 - Groinfields (all types)
- 7 - Breakwaters
- 8 - Bulkhead, breakwater and groin
- 9 - Groinfield and bulkhead
- 10 - Groinfield and riprap
- 11 - Groinfield, bulkhead and riprap
- 13 - Bulkhead and riprap
- 18 - No structures-shoreline unstable, erosional
- 20 - Miscellaneous-sills, tires, concrete, old failed structures, etc.
- 22 - No structures-shoreline stable or accreting
- 23 - No aerial coverage
- 24 - Marsh unstable
- 25 - Marsh stable

Regulatory Approaches To Shoreline Erosion

Shoreline and streambank erosion are caused by natural forces such as wave action, wind and flooding as well as land development activities such as clearing and grading. Natural shorelines reduce the threat of erosion and the potential loss of property due to erosion. They also reduce the flow of sediments into streams and rivers. Through its various environmental land use ordinances, the County regulates land disturbing activities adjacent to the shoreline.

County Land Use Ordinances: The County's Chesapeake Bay Preservation Ordinance requires a 100 foot wide natural vegetated buffer adjacent to tidal wetlands, nontidal wetlands connected to tidal wetlands by surface flow and tidal shores and perennial streams.

Proposed activities within tidal wetlands require a public hearing and approval from the County's Wetlands Board prior to commencement of the project. Project drawings are required as part of the application and become a part of the wetland permit against which project compliance is measured. Authorization from the U.S. Army Corps of Engineers, Virginia Marine Resources Commission, Virginia Department of Environmental Quality, Gloucester County Wetlands Board and Gloucester County Department Codes Compliance, Building and Zoning Divisions must be obtained prior to conducting work within wetlands.

Shoreline Erosion Advisory Service: County staff encourages applicants to seek advice from the Shoreline Erosion Advisory Service (SEAS) when they are designing and implementing shore erosion control projects. According to its website, the Department of Conservation and Recreation's Shoreline Erosion Advisory Service "promotes

environmentally acceptable shoreline and riverbank erosion control measures to protect private property and reduce sediment and nutrient loads to the Chesapeake Bay and other waters of the Commonwealth. In addition, the program promotes research for improved shoreline management techniques to protect and enhance Virginia's shoreline resources."

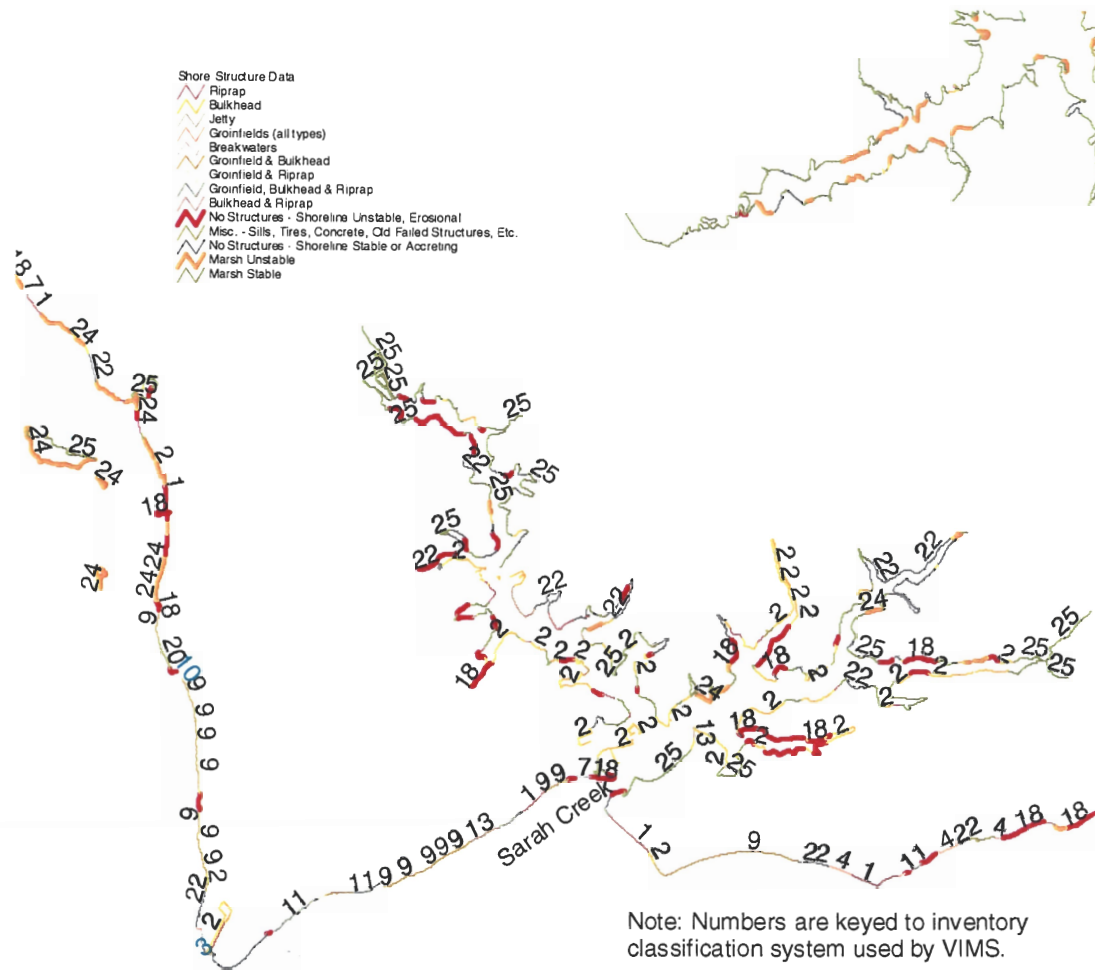
Zoning: In addition to the above ordinances, the County's zoning ordinance serves to limit development along highly eroding shorelines and reduce the amount of threatened property by requiring low density development (C-2, RC-1, and RC-2) and conservation land (C-1) along much of the undeveloped areas along the County's shorelines. Requiring larger lot sizes near the shoreline will reduce the number of dwelling units placed at risk and reduce the amount of runoff entering a waterway, which may contribute to shoreline erosion. However, this must be balanced with the fact that such density requirements may encourage sprawling and inefficient development patterns. Other management options, such as clustering and open space acquisition, may achieve the same goal without this undesirable effect. Much of the land along Gloucester's shoreline is zoned rural or residential with incentives for clustering. The majority of the districts along the shoreline have a minimum lot area requirement of five acres for conventional subdivisions (RC-1, RC-2, C-2) with the remainder having a two (2) acre requirement (SC-1). Areas unsuitable for any development due to the preponderance of wetlands are zoned C-1, Conservation. The subdivision ordinance requires residential zoning for major subdivisions. Therefore, properties within RC-1 and RC-2 districts would require a rezoning in order to be developed into four or more residential lots or any subdivision requiring a new road. The exception to this lower density zoning is in areas, such as Gloucester Point and Cappahosic, where higher density development occurred prior to zoning and the SF-1 zoning was established to fit the development that was already located in these areas (see zoning map, Fig. 1).

Erosion Impact Areas: Gloucester County Code, §7.5-10, does allow the County to designate "erosion impact areas" under the Erosion and Sediment Control Ordinance:

"The governing body may designate areas in the County which shall be classified as erosion impact areas. Any such designation and classification shall be deemed to be a component of the local control program.


Consistent with this chapter, and in order to prevent further erosion, the administrator may require the approval of a conservation plan for any erosion impact area. Such plan shall be subject to all review, bonding, inspection and enforcement provisions of this chapter which apply to approved land-disturbing permits. The property owner must submit the plan. "

Figure EV-13 – Shoreline Structure Inventory Sample



Note: Numbers are keyed to inventory classification system used by VIMS.

Gloucester Point

	Figure EV.13 Shore Structure Inventory Sample Near Gloucester Point (VIMS, 1996)
	Gloucester County Comprehensive Plan Update
	Gloucester County Planning Department
	2001

Currently, the County has not determined a need to designate any areas as “erosion impact areas.” It appears that most of the areas with erosion problems are areas that have already been developed. Where new development is considered, the County’s existing regulations provide for protection of shorelines through avoidance (buffers), and mitigation. In areas where erosion affects already developed land, it is up to the property owner to provide erosion control measures. Input from the above referenced agencies and organizations provide for mitigation through the permit process.

Subdivision Ordinance: Other than the optional clustering provision in the Zoning Ordinance and restriction of uses in land subject to flooding, Gloucester County’s *Subdivision Ordinance* does not specifically address eroding shoreline. On major subdivisions and consistent with the Comprehensive Plan, the Planning Commission may require a ten (10) percent area of the subdivision to be held in common ownership as “necessary to protect the safety, general welfare and environmental amenity of the area (§15-22).” Using the Shoreline and Tidal Marsh Inventory as a guide, staff may recommend that the common area include a particularly unstable section of shoreline. In addition, the County’s Chesapeake Bay Preservation Ordinance applies to the entire County. Identification of the RPA is required on all plats and there must be sufficient buildable area outside the RPA for each lot in a subdivision or division of land by family transfer. Natural buffers as provided by the RPA play an important role protection of banks from erosion.

No Wake Zones: Along shorelines where erosion is largely a result of boat traffic, a slow, no-wake zone may be established to reduce the speed at which vessels pass the shore. To do this, the state allows a local government to establish a no-wake zone by ordinance, as long as notice is given to the Virginia Department of Game and Inland Fisheries (VDGIF) prior to adoption. If a property owner desires to place no-wake buoy(s), he/she must approach the local governing body which must approve the no-wake application through a formal resolution. Once the application is approved locally, it must be forwarded to the VDGIF. The VDGIF will usually approve a no-wake zone application that has received local approval.

Non-Regulatory Approaches To Shoreline Erosion

Education: Through various media, homebuyers and homeowners can be made aware of the location of severely eroding shorelines, how to recognize where severe erosion is occurring, how to safely site a home, and appropriate forms of shoreline erosion control. Such information allows homebuyers and homeowners to make better decisions. Gloucester County’s Department of Codes Compliance, Environmental Division has been highly proactive in providing environmental educational programs for both the residential and development community. These programs are funded primarily through grants and have focused on a variety of topics one of which is shoreline erosion. In addition, as part of their review of wetland permits, the County Wetland’s Board encourages residents to seek advice from the Shoreline Erosion Advisory Service (SEAS) in order to make informed decisions regarding erosion control measures.

Land Acquisition: Land along severely eroding shorelines may simply be purchased from a property owner and maintained as open space. Severely eroding shorelines can be identified in the natural resources inventory prepared as part of a Countywide open space plan discussed earlier. Through this plan, priorities for preservation and/or acquisition of open space would be determined based on criteria established by the community. Waterfront properties, however, can be very expensive. Some communities in New England have funded land acquisition through real estate transfer taxes. This and other funding options could be further examined as part of an open space plan.

When land acquisition is not possible, an alternative is to encourage property owners to limit development by attaching a restrictive covenant, also known as a conservation easement, to the property. A conservation easement may be obtained along the shoreline to prevent hazardous development and protect environmentally sensitive areas. However, it is only a matter of time before shoreline erosion will erode away the conservation easement. A better alternative might be to obtain a "rolling easement" which moves back as the shoreline erodes. A property owner may also be encouraged to voluntarily donate a conservation easement or rolling easement or the easement.

Regional Efforts: A major regional effort to address shoreline erosion in comprehensive plan format was undertaken by the Hampton Roads Planning District Commission (HRPDC) using scientific data collected from 1993 to 1996. Due to a lack of available funds, the Gloucester County portion of the study has not been completed as of June 2001 and based on discussions with HRPDC is not anticipated to be completed in the near future. The HRPDC document provides several regulatory and non-regulatory approaches to control shoreline erosion, however many of them are for severe cases of development along highly eroding shorelines and are not applicable to Gloucester County. In addition, some of the approaches, such as transfer of development rights, have not been legislated by the State of Virginia. Approaches that have been considered and implemented by Gloucester County are included above.

FOREST RESOURCES

The patterns of ownership and management of forest resources are important when considering forested areas as biological habitat or for their value in protecting water quality. Forested areas provide habitat for numerous plant and wildlife species and also are a filter area for groundwater recharge. Forests form an excellent windbreak in agricultural areas and serve to prevent windblown soil erosion. In addition, forested areas serve as an effective visual and noise buffer between land uses. Best management practices for the timber industry as administered by the Virginia Department of Forestry ensure the conservation of the County's extensive forest resources.

Although much of the land in the southeast portion of the County (which is the most suitable for growing loblolly and Virginia pine) has been lost to residential development, there are still large undeveloped portions of Gloucester devoted to forestry uses. Good

to fair soils occur throughout most of the north and western portions of the County. Most of the forested acres in this area include loblolly and Virginia pine, although other species that are harvested as sawtimber in Gloucester commonly include yellow poplar, red oak, white oak, sweet and black gum, sycamore, ash, and some red maple. About 800 to 1,000 acres are planted by the Virginia Department of Forestry each year in Gloucester County. Almost all reforestation involves loblolly pine seedlings planted at 450 to 500 trees per acre. Even with reforestation at this level, it is doubtful that the present production of forest products in Gloucester can be maintained in the future due to the large scale conversion of forest land to other uses.

The latest available forest surveys indicated that, in 1991, total forested acres in the county included 94,613 acres of productive forest land with the bulk of this land in private ownership (66,052); farm (10,162); forest industry (7,886); private corporate (10,162); and the rest in County or State ownership.

In 1997, the Census of Agriculture reported that Gloucester County had 4,487 acres of farmland being used as woodland – a 1,059 acre reduction from the 5,546 acres reported in 1987*. This figure includes acreage of “natural or planted woodlots or timber tract, cutover and deforested land with young growth which has or will have value for wood products, and woodland pastured”. Many more acres are currently being utilized by the forest industry or fall under private ownership. Figures are continually changing due to trends in absentee ownership and corporate land holdings.

WILDLIFE

The numbers and diversity of wildlife species present in an area is determined in part by the quantity and quality of wildlife habitat that is available, especially food availability and cover. The major threat to indigenous species in developing areas is the fracturing and fragmenting of habitat areas. When habitat is cleared for development or agriculture, not only is the cleared habitat area lost, but the habitat area is also degenerated at the development edge. This results in disturbance to interior habitat areas as well. Certain species of wildlife require large, unfragmented habitat areas in order to survive.

The Virginia Department of Conservation and Recreation Division of Natural Heritage (DCR-DNH), and the Department of Game and Inland Fisheries' Fish and Wildlife Information System maintain inventories of wildlife resources and habitats for the County. The Virginia Fish and Wildlife Information Service Website currently lists 446 different species found in Gloucester County. These include quail, dove, rabbit, wild turkey, hawks and owls, songbirds, turtles and amphibians, raccoon, beaver, opossum, muskrat, skunk, squirrel, woodchuck and white-tailed deer. Bald Eagles have nest sites established in the County. Tidal marshlands attract sore and clapper rail, and numerous varieties of wild ducks and other waterfowl. Freshwater fish include large

* The 1987 figure for the acreage of farmland being used as woodland was indicated incorrectly as 1,309 acres in the 1991 Natural Resources Section of the Comprehensive Plan.

and small-mouth bass and bream. Saltwater fish include shad, blue crabs, croaker, spot, bluefish, channel and black sea bass, menhaden, mackerel, eel, white and silver perch, and a variety of other saltwater species.

Fishing, hunting and wildlife observation are important recreational activities within the County. Protection of wildlife habitat in order to maintain species abundance and diversity is an important element in quality of life for Gloucester residents and visitors.

In 1986, the Natural Heritage Program was established in cooperation with the Nature Conservancy to identify elements of natural biological diversity which are of rare or special concern in Virginia. The program focuses on rare plants, animals, geological landmarks, natural ecological communities, and other natural features. Locations and characteristics of these natural features are entered into a computerized database. Sites are rated and superior habitats are targeted for acquisition using the State's Natural Area Preservation Fund. The Natural Heritage Program also makes information on acquiring environmental easements available to property owners. The January 2001 listing had 15 records for Gloucester County (see table EV-5). General mapped habitats may be obtained for planning and/or preservation purposes, but locations of specific sites are closely guarded in order to protect the habitat.

DCR-DNH provides assistance to local governments for various planning efforts including open space and greenway planning. DCR can recommend priority natural heritage resource areas that would benefit from habitat protection and preservation. Gloucester County's Department of Codes Compliance, Environmental Division administered a grant for *A Natural Heritage Inventory of the Dragon Run Watershed* which was prepared by DCR-DNH. The intent of the project was to use the inventory as a tool to identify areas of the watershed where preservation and easement efforts should be focused. The Dragon Run watershed was initially chosen due to its status as a Critical Environmental Area. The County would like to continue inventories of other watershed areas in order to develop a County-wide tool to target and prioritize areas for preservation and/or protection.

A 1972 list of Virginia's Critical Environmental Areas included two major areas encompassing parts of Gloucester County. These were respectively: the Dragon Run bottomlands due to critical fish and wildlife habitats, valuable non-tidal wetland and flood plains, and poor suitability for development; and the York River due to the critical natural area of the watershed, scenic and recreational value, important wetlands below West Point and on Mobjack Bay, Poropotank marshes, and an important historic site, Rosewell Plantation.

Table EV-5 - Gloucester County Natural Heritage Resources

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK	STATE RANK
II. Amphibians			
<i>Ambystoma mabeei</i>	Maybee's Salamander	G4	S1/S2
III. Birds			
<i>Falco peregrinus</i>	Peregrine Falcon	G4	S1
<i>Haliaeetus leucocephalus</i>	Bald Eagle	G4	S2
<i>Nyctanassa violacea</i>	Yellow-crowned Night Heron	G5	S2
IV. Communities			
	Tidal Baldcypress Woodland/Savanna		
	Baldcypress – Tupelo Swamp		
	Tidal Oligohaline Marsh		
V. Vascular Plants			
<i>Bolboschoenus fluviatilis</i>	River Bulrush	G5	S1
<i>Chelone oblique</i>	Red Turtlehead	G4	S1
<i>Cuscuta cephalanthi</i>	Button-bush Dodder	G5	S1
<i>Eriocaulon Parkeri</i>	Parker's Pipewort	G3	S2
<i>Hotonia inflata</i>	Featherfoil	G4	S2/S3
<i>Isotria medeoloides</i>	Small Whorled Pogonia	G2	S2
<i>Mitrella petiolata</i>	Lax hornpod	G5	S1
<i>Trillium pusillum</i> var. <i>virginianum</i>	Virginia Least Trillium	G3/T2	S2

State Ranking:

- S1** – Extremely rare; usually 5 or fewer populations or occurrences in the state; or may be a few remaining individuals; often especially vulnerable to extirpation.
- S2** - Very rare; usually between 5 and 20 populations or occurrences; or with many individuals in fewer occurrences; often susceptible to becoming extirpated.
- S3** – Rare to uncommon; usually between 20 to 100 populations or occurrences; may have fewer occurrences, but with a large number of individuals in some populations; may be susceptible to large scale disturbances.
- SH** – Historically known from the state, but not verified for an extended period, usually > 15 years; this rank is used primarily when inventory has been attempted recently.

Global Ranking:

- G2** - Very rare; usually between 5 and 20 populations or occurrences; or with many individuals in fewer occurrences; often susceptible to becoming extirpated.
- G3** – Rare to uncommon; usually between 20 to 100 populations or occurrences; may have fewer occurrences, but with a large number of individuals in some populations; may be susceptible to large scale disturbances.
- G4**- Common; usually greater than 100 populations or occurrences, but may be fewer with many large populations; may be restricted to only a portion of the world; usually not susceptible to immediate threats.
- G5**- Very common; demonstrably secure under present conditions.

Ranks for subspecies are noted with a "T"

WATERFRONT ACCESS AND BOATING FACILITIES

(This section is taken largely from a report prepared by the Middle Peninsula Planning District Commission, revised in July 1998, which was funded in part by a grant from the Chesapeake Bay Local Assistance Department in order to fulfill their requirements for comprehensive plan consistency under the guidelines of the Chesapeake Bay Local Assistance Board.)

The boating industry is a vital foundation in the economy of Gloucester County. Just as the quality of life here depends on the quality of the water, the marina industry also depends on the unpolluted waters for its clientele's recreational enjoyment. It follows that operators of boating facilities have a personal and financial interest in improving the water quality of the area's rivers and bays. Gloucester County recognizes the importance of marinas and other boating facilities in the economy and character of the area. The proper location of future marinas and the operating procedures of existing facilities are the keystones to assuring a good economy and water quality.

Potential Water Quality Impacts of Marina/Boating Facilities

Gloucester County has approximately 1,100 boat slips (including dry storage) at marinas and 142 slips at community piers and other mooring places. The greatest concentration of marinas is in lower Gloucester along Sarah Creek (510 slips) and Perrin River (340 slips), tributaries to the York River. Other boating facilities are located along the Severn, Ware, North, and Piankatank Rivers, and in smaller creeks of the York River upriver from Gloucester Point.

Marinas, communal piers, and public landings have the potential to contribute several pollutants to the ground and surrounding waters. Individual boats can impact the waters through the discharge of untreated sewage from onboard facilities. Boats can also leak oil, fuel, and antifreeze into the waters and boaters can contribute trash and refuse overboard, adding to unsightly and harmful materials in the estuarine habitat. Marina operations have several potential pollutant sources, including disposal of holding tank septage, waste oil disposal, fueling facility leaks, hull cleaning and painting wastes, improper chemical storage, and stormwater runoff. The Commonwealth of Virginia operates a number of programs to inspect marinas and enforce applicable pollution regulations to protect state waters. The locality's primary marina regulatory mechanism is through zoning and land use planning, wetlands board review, and acting on complaints. In addition, the County may work with other regulatory agencies, such as the Coast Guard, and its own Departments such as Codes Compliance and Clean Community Program to clean up public areas and abandoned boats.

Existing Boating Facilities

As water dependent uses, marinas interface with a number of environmental features characteristic to shoreline areas. These include wetlands, flood plains, and soils with development limitations. In the areas of Gloucester County with high concentrations of marinas, several of these factors exist. In the Sarah Creek area, surrounding soils are

highly permeable and generally unsuited for onsite septic disposal. The soils, however, are not highly erodible. The 100-year flood plain is relatively limited in the area. The wetlands located in Sarah Creek are generally small fringe marshes. At the Perrin River marinas, again the soils are highly permeable and generally unsuited for onsite septic disposal. In addition, the flood plain and wetlands are more extensive than at Sarah Creek. For the areas east of Route 17 south of Gloucester Courthouse, and east of Route 3, wetlands, soils limitations, and floodplains characterize the land areas. These limitations are less in areas along the Piankatank River and the York River west of Gloucester Point.

Most of the marinas and seafood processing plants (where boats are moored) have existed for decades and, if not recently renovated, could be candidates for redevelopment. With development comes the opportunity for greater water quality protection measures. Some of the areas between Gloucester Point and Achilles, such as along Guinea Road (Route 216), Terrapin Cove Road, Tidemill Road, and Yacht Club Road have a Hampton Roads Sanitation District sewer force main, and the opportunity exists for marinas to connect for disposal of sanitary sewer wastes.

Future Development Areas

The Gloucester County Land Use Plan shows the areas of Gloucester Courthouse and Gloucester Point as "Village" development areas. In addition, Tourism/Recreation Amenity areas are shown in these areas. Since these areas are served with central water and sewer lines, they may be preferable for marina development or expansion. Water depths in Sarah Creek are suitable, but the upper reaches of Perrin River are shallow. Other areas of the County are less suited to boating facilities development due to soils, wetlands, and floodplain features. The exception might be where residential subdivision boating facilities at a single community facility may be preferable to numerous single-lot piers.

Water depths from the National Oceanic and Atmospheric Administration (NOAA) charts show good upper reaches depths in the southwestern branch of the Severn River, the Ware River, and the North River.

Marina Siting

The location of a marina, boat repair facility, or boating pier depends on the physical characteristics of both the land and the water body. Road access, parking availability, soil suitability, vegetation, water depth, presence of marsh or submerged vegetation, tidal and flushing characteristics of the water are all considerations in the location of a boating facility. Specifically, boating facilities should be located only where: there is sufficient water depth, without frequent dredging; there are no public or private shellfishing grounds which would be impacted; there is adequate tidal flushing; there are suitable soils for sanitary facilities or connection to a municipal sewer system; there is limited harm to fish and wildlife habitat; and there are compatible existing land and water uses nearby.

Section 62.1-3 of the Code of Virginia states that it shall be unlawful for anyone to build, dump, or otherwise trespass upon or over or encroach upon or take or use any materials from the beds of the bays and ocean, rivers, streams, creeks, which are the property of the Commonwealth, unless such act is pursuant to statutory authority or a permit by the Marine Resources Commission (VMRC). The placement of open-pile private piers for non-commercial purposes by owners of riparian lands in the riparian waters opposite such lands requires review by VMRC, Army Corps of Engineers and Gloucester County. Piers for commercial purposes, including dock facilities associated with a housing development, do require a permit from VMRC.

VMRC has developed a set of criteria by which to evaluate projects to assure consistency of decisions and inform applicants regarding the degree of acceptability of project proposals. These criteria are contained in the "Subaqueous Guidelines" booklet issued by VMRC on June 26, 1976 and revised March 1986. Adherence to these guidelines by all agencies involved in review of proposed marinas and community piers assures protection of existing natural resources from the potential impacts associated with these types of facilities.

Marinas and boatyards are defined in the County's zoning ordinance as follows: "A boating establishment located on a navigable waterway, which may provide covered or uncovered boat slips or dock space, dry boat storage, boat repairs and/or construction, marine fuel and lubricants, marine supplies, restaurants or refreshment facilities, boat and boat motor sales or rental." A minimum 100-foot setback from all property lines is required for both accessory and principal structures. Marinas are permitted only by special exception in the C-2, Bayside Conservation District and the RC-2, Rural Conservation Districts, and are required to have a minimum of five (5) acres and minimum lot width of 250 feet. In the SC-1, Suburban Countryside District, specific, additional special criteria apply to the special exception review.

Operational Procedures

The manner in which boating facilities carry on their operations is equally as important as their location. A marina characteristically handles numerous wastes and chemicals that can potentially harm adjacent water. These potential pollutants include human sewage wastes, fuel, oil, toxic paints and solvents, and solid wastes. Marinas and boat repair facilities should adopt operational procedures employing Best Management Practices (BMP's). When existing marinas remodel or expand their facilities, structural BMP's should also be constructed. For proposed boating facilities, BMP's should be encouraged or required as a condition of development. Gloucester County participates in regulation of the location and expansion of marina facilities through review of the special exception application, the site plan review process and implementation of its local land use regulations described earlier.

Best Management Practices for Boating Facilities

The use of Best Management Practices (BMP's) at water-dependent facilities can lessen the harmful impacts such facilities can have on water quality. Operators should be encouraged to install suitable BMP's at boating facilities to be constructed or renovated. Some of the applicable practices are listed below.

1. Waste oil shall be collected for recycling.
2. Waste oil shall not be used to control dust.
3. The use of hazardous wastes, volumes and practices, shall be identified. (These are State regulated.)
4. Boat hull cleaning and painting procedures shall prevent sand blast material, paint chips, and solvents from entering the waterway:
 - Cleanup shall consist of sweeping and collecting debris and proper disposal of same;
 - There shall be an impervious work surface for hull maintenance work, with a suitable catchment system for runoff and the cleanup of the surface.
5. Stormwater drainage system sediment traps shall be inspected monthly and cleaned as necessary.
6. All solid and liquid chemicals shall be stored in a manner to prevent inadvertent entry into surface or ground water.
7. All bulk liquid chemicals shall be stored on impervious surfaces and surrounded by berms or impoundments sufficient to contain 110 percent of the volume of the containers.
8. Waste chemicals shall be stored in closed drums until they can be properly disposed.
9. Incompatible or reactive chemicals shall be physically segregated.
10. The marina shall develop a contingency plan for the cleanup of any fuel for chemical spills into the water or onto the ground surface. A contract for spill cleanup shall be maintained with a reputable firm.
11. In the event of accidental discharge of oil or other chemicals into state waters or onto land adjacent to state waters, the marina or boating facility operator or manager shall immediately notify the State Pollution Remediation Program, PReP, at 1-800-468-8892 or (804) 367-0080.
12. Where septic tank/drainfield systems are used to treat pump-out wastes at marinas, the septic tank shall be sized larger, or a second tank used in tandem, to provide proper solids treatment prior to waste entering the drainfield.
13. Stormwater runoff BMP's shall be incorporated at all marinas. These include vegetated buffer strips along the shoreline, dry or wet ponds, and other standard practices suitable for the particular site and conditions.
14. Noise shall be abated by vegetative or physical barriers. Operation of heavy machinery shall be limited or restricted in the early morning or late evening hours when residential areas are located nearby.
15. The higher density areas of Gloucester County are served by a centralized force main sewer. When marinas and seafood processors can connect to this line, the

sewage effluent from the marina bathhouses, restaurants, and stores, as well as the boat holding tank pumpout effluent, can be treated off site by a larger, more sophisticated facility.

The Virginia Department of Environmental Quality (DEQ) as part of the Virginia Coastal Non-point Pollution Control Program initiated its “Virginia Clean Marina Program” on January 12, 2001. The Virginia Clean Marina Program is designed as a voluntary program to address a broad range of issues related to the potential environmental impacts of marina operations. As part of the program, a Marina Technical and Environmental Advisory Committee has been formed. The committee is made up of representatives from state agencies, the marine trade industry and the recreation and boating environmental communities, including some individuals from Gloucester County. The committee will assist the program in providing information and technical assistance to marinas, local governments and recreational boaters in Virginia’s coastal areas.

According to DEQ’s website, approximately 1,000 marinas in Virginia are eligible to compete for recognition as a “Virginia Clean Marina”. Those receiving the designation will be recognized with “Environmental Enterprise” status in the Virginia Environmental Excellence Program, which offers incentives to encourage the adoption of environmental best management systems and pollution prevention efforts. York River Yacht Haven, in Gloucester Point was one of the charter marinas that pledged to work for clean marina status. Although not directly involved with this program, the County supports it and other outside agency programs as part of its ongoing public education strategy of providing sources of environmental information and opportunities to County residents and businesses.

Sewage Pump-Out Capability

Perhaps one of the most contentious issues among regulators, the marina industry, and the boating population is that of boat holding tank pump-out requirements. The key to pump-out use is availability, affordability, and convenience of the pump-out facility. A service that is free to the user has the greatest likelihood of success. In addition, proper disposal and treatment of wastes are necessary elements in the resolution of the present problems. Several efforts can be forwarded to realize these goals. These include:

- Providing State- and local-government-operated pump-out facilities at convenient locations in the Middle Peninsula;
- Using public-private partnerships (government incentives to private marinas);
- Enacting local requirements that rented boat slips capable of mooring boats with installed toilets provide pump-out service to those boats—expenses could be included in the rental fees;

- Providing State-sponsored "pump-out barges" to be stationed in the major rivers on weekends and holidays during the boating season;
- Using a regional "pump and haul" service to transport sewage from marina holding tanks or sludge from marina treatment systems—strategies could include a regional government contract with a private operator or the formation of a public service authority to perform this and other wastewater treatment services; and
- Offering State- and regionally- sponsored educational programs to the boating community.

It is evident that these and other efforts will be necessary to address the issues of pump-out use and availability.

Gloucester County has pump out facilities at Cooks Landing Marina, Gloucester Point Marina, Holiday Marina, Jordan Marine Service, Inc. and York River Yacht Haven Marina. Most of these Marinas are located at the southern end of the County.

The state's "Virginia Clean Marina" program compliments the County's efforts at environmental education and voluntary participation in activities and actions that will benefit the Chesapeake Bay and the natural environment. In addition to other environmental details, the County's "Natural Resource Map and Assistance Guide" includes a section regarding boating and the location of pump-out facilities in Gloucester County. This map is readily available from the County and can be used as a tool for continually educating the public about their environmental responsibilities as boat operators.

Residential Subdivision Boating Facilities

The subdivision of lands to accommodate residential development impacts a number of the services and facilities of the Middle Peninsula localities. In recent years, developers of subdivision properties have accepted a greater role in cooperation with the local government for the services and facilities in the subdivision community. One example is the development of recreational facilities for residents of the subdivision, including boating facilities in waterfront communities.

Community boating facilities within major residential waterfront subdivisions may be an alternative to the use of individual waterfront lot piers. By developing community boating facilities, maintenance and control can be facilitated by utilizing homeowners associations (HOA's). The HOA should be responsible for assuring that only members or bona fide guests are allowed to use the slips or moorings at such a facility. In no case should overnight occupancy of boats be allowed, unless the facility maintains adequate provisions for toilets, showers, and holding tank pump-out.

When a communal pier is implemented, the zoning or subdivision ordinances or the subdivision agreement should contain provisions for HOA liability in violations of

member/guest policies at community boating facilities, as well as adequate safeguards for the continued maintenance of the communal pier and common areas.

Other specific limits concerning the size of boats allowed, on-shore boat storage, fuel, and pump-out facilities may be considered based on the constraints of the particular site and body of water.

PLAN FOR WATERFRONT ACCESS AND BOATING FACILITIES

Issues

The tidal waters and flowing streams of Gloucester County are resources belonging to the citizens of Virginia. The use of these waters for recreation and commerce are traditional and acceptable as the tourist and seafood industries contribute greatly to the economic base of the area. With the subdivision of large tracts of waterfront property into numerous smaller lots, each under private ownership, comes the competing interests of those owners seeking privacy and the upland residents and tourists seeking use of the waters. The increasing use of our waterways leads to concern of environmental damage due to improper or reckless activities causing pollution or habitat destruction. This concern leads to the need of greater management capability over waterfront access and uses.

There are two broad uses for waterfront areas. First, the use of the waterfront for boating access, whether it be a marina, boat dock, ramp, pier, or boat landing. Second is the utilization of the shoreline and near-shore areas for recreational activities such as swimming, bank fishing, nature studying, and picnicking. Either public or private facilities can provide these activities. Both boating and shore recreation are allowed exemption as "water-dependent facilities" under the requirements of the Chesapeake Bay Preservation Area Ordinance, provided that non-water dependent components are located outside of the RPA.

Boating access to the tidal waters of Gloucester County is provided at several public docks and ramps, several private marinas, and by individual or community piers. The public boat ramps and other recreation facilities are depicted on a map included in the Recreational Inventory map in the Parks and Recreation Section of the Comprehensive Plan. Private marina facilities are growing in demand due to an increase in the boating community in the region.

With the demand and subsequent subdivision of waterfront property comes the increase in piers and docks associated with waterfront housing construction. In some areas, individual private piers have proliferated. Some subdivision developments have provided a community docking facility to serve the needs of all residents including both waterfront and landlocked homeowners. This option eliminates the numerous private piers and consolidates all boating activity to one area and under a single management structure; however, there may need to be limits and controls on the size and operation of such a facility.

Waterfront recreation areas are also provided through public and private avenues. Public beaches and parks are options for recreation and nature study. Private recreation areas can also be found in some residential developments, usually in conjunction with a community boating facility.

Alternatives

Gloucester County has considered the following mechanisms for addressing waterfront issues:

1. There could be a study to identify areas suitable for marina and other water-dependent facilities.
2. Zoning ordinances could contain provisions requiring BMP's for marina and other boating facility development.
3. Public access development must be balanced with environmental disturbance and benefits.
4. Subdivision developments along shoreline areas may provide for waterfront recreational opportunities for the residents of that development
5. Gloucester County should explore waterfront public access together with State, federal, and private agencies through the development of parks, docks, piers, and nature areas.

ENVIRONMENTAL DATA MANAGEMENT

The County's Department of Information Technology (DIT) has developed a Geographical Information System (GIS) based on the planimetric data collected for the Enhanced 911 system (E911). Additional information in the form of digital layers is added as the digital data becomes available. DIT is working to incorporate as much information as possible into its GIS system so that it can be used as a multi-purpose system serving the needs of all County departments as well as the County's citizens. The Planning Department and the Department of Codes Compliance have been working closely with DIT to establish a GIS that will facilitate land use and environmental planning processes and make review of development proposals or ordinance changes more comprehensive and effective.

GOALS, OBJECTIVES, AND STRATEGIES

Part III of the Comprehensive Plan defines specific goals and objectives to implement the Growth Management Program outlined in the Plan. The specific goals and objectives associated with Natural Resources are reiterated below. These goals and objectives were developed as part of the comprehensive planning process and continue to guide the County's land use decisions. Implementation strategies to achieve the County's goals and objectives with regard to environmental issues have been discussed throughout this section and are summarized below.

Goal: To conserve and manage Gloucester County's natural resources and community assets.

Objective 1. To protect Gloucester County's groundwater, rivers, streams and bays (surface waters), and ultimately the Chesapeake Bay from pollution, nutrients, sedimentation, or depletion.

Implementation Strategies

- Continue to work with Tidewater Soil and Water Conservation District and extension agents to educate farmers about agricultural best management practices, nutrient management planning and available state and federal cost share programs.
- Continue to work with Tidewater Soil and Water Conservation District and extension agents, and other state agencies to educate farmers and homeowners about proper fertilizer and pesticide use and efficient irrigation and watering practices to protect surface and groundwater resources.
- Continue to implement the County's growth management strategy to protect open space and groundwater recharge areas through low-density zoning outside the development district and containment of the majority of development where water and sewer facilities are existing or planned.
- Continue to work with the State Health Department to address concerns regarding failing septic systems and their replacement through alternative designs or connection to sewer.
- Work with the State Health Department to educate residents about the importance of maintenance of septic systems, particularly pre-treatment systems.
- Protect open space resources and groundwater recharge areas through use of existing ordinances, development and implementation of an open space

plan, consideration of conservation subdivisions and incentives for open space preservation through the land use tax assessment program.

- Consider minor revisions to the zoning ordinances that provide more pervious areas for groundwater recharge on commercial site plans.
- Continue existing program of identification and enforcement of illegal dumping.
- Continue to monitor the existing County-owned landfill for compliance with post-closure requirements.
- Continue to work with the state to register existing and proposed Underground Storage Tanks and identify leaking tanks through the building permit process to protect groundwater resources.
- Prepare plans using watersheds as management areas. Consider impacts to watershed areas when reviewing development proposals.
- Utilize the *Gloucester County Shoreline and Tidal Marsh Inventory* completed by VIMS in February 1999 as a tool to evaluate development proposals and permit requests adjacent to the shoreline.
- Continue to implement runoff controls allowing no net change in runoff at development sites. Drainage techniques normally channel stormwater runoff away from the structure and off the site. The volume and velocity of stormwater runoff leaving a developed site should be no greater than predevelopment levels, primarily for adjacent property protection and non-source point pollution control. This is currently required on newly developed sites.
- Continue grant funded education programs and efforts to educate the public about preservation and protection the County's natural resources.
- Set an example of stewardship through participation in the State's "*Businesses for the Bay*" program and encourage local business to do the same.
- Continue public awareness and community participation programs that promote the County's natural environment and link community pride with preservation of these resources (i.e. Riverfest, annual community, roadside and waterway clean-up programs, public water quality monitoring).
- Continue to work with the Department of Health to facilitate septic repair or provide alternative methods of sewage disposal for existing development in areas outside the Development District that have failing septic systems

Objective 2. To protect our wetlands and natural resources from unnecessary destruction due to increased drainage, filling, or construction that would hamper vegetation, water storage, erosion control, or support of plant and wildlife habitats.

Implementation Strategies

- Continue to effectively and consistently enforce and implement the County's Zoning Ordinance, Subdivision Ordinance, Erosion and Sediment Control Ordinance, Wetlands Zoning Ordinance, Floodplain Ordinance and Chesapeake Bay Preservation Ordinance.
- Continue to cooperate with other enforcement agencies on citizen-generated complaints.
- Continue to process development applications such that the early identification of wetlands in the development process is ensured.
- Work with the Virginia Department of Conservation and Recreation, Division of Natural Heritage to conduct additional natural heritage and habitat planning studies of the County's natural resources. Use the Natural Heritage study prepared for the Dragon Run as an example.
- Use existing land use regulations and incentives to protect existing habitat for wildlife and preserve potential habitat areas for future use to preserve biodiversity in the county and protect the County's recreational opportunities for hunting, fishing and wildlife observation.
- Prepare a Countywide open space inventory and evaluation as baseline for an open space plan. The concept of the plan would be to evaluate existing open space resources and provide the basis for to develop future County goals for preservation of environmentally sensitive lands and planning for the sustainable development and use of the County's existing land resources consistent with the County's growth management goals. Preserve and protect open space resources as groundwater recharge areas and to reduce non-point source pollution.

Objective 3. To conserve prime agricultural and forested lands and guide residential, commercial, and industrial development to areas suitable for urban growth.

Implementation Strategies

- Continue to implement the County's growth management strategies discussed in the Comprehensive Plan.
- Explore funding mechanisms to implement a Capital Improvement Program (CIP) to extend sewer and water lines within the Development District particularly to areas with existing failing septic systems.
- Encourage development in areas where public facilities are provided.
- Encourage cluster-type development, particularly in areas outside the development district, to preserve agricultural, forestry and open space resources.
- Work with the development community to establish a livable community in the form of a cluster/conservation subdivision that incorporates such amenities as greenspace, scenic vistas and alternative transportation options (bikeways/pedestrian pathways) which will serve as a benchmark for future development in the County.

Objective 4. To cooperate and actively work with local, regional, state, and federal environmental agencies to implement safe and effective programs and policies to protect Gloucester's natural resources.

Implementation Strategies

- Implement an environmental GIS within the Departments of Codes Compliance and Planning in cooperation with the Department of Information Technology, using existing digital maps available to the county and making use of the latest information available in the public domain.
- Require all future environmental, planning, zoning, tax information, planimetric, infrastructure inventory, and land management mapping to be prepared in electronic formats that can be read using ArcView GIS software. These formats include AutoCad .DWG and .DXF files, and Intergraph .DGN files, as well as ESRI .E00 and .SHP files.
- Link the ArcView GIS software to existing graphical data sets prepared and maintained by the County's Department of Information Technology. Use data to do analysis of existing zoning, land use and environmental features to

document patterns and recommend appropriate actions. The County is still developing its GIS system and is working towards having as much of the County's data linked to the GIS in some usable format for viewing and comparisons

- Update the GIS on a consistent basis as new information becomes available. Monitor the Chesapeake Bay, EPA, USGS, DCR, and DEQ websites, and ask for updated information from HRPDC, MPPDC, VIMS, and VMRC regularly.
- Continue existing cooperative programs to identify and mitigate sources of pollution such as identification of LUST during Building Permit and Demolition Permit applications and identification of failing septic systems and other sources of pollution during county staff site inspections and state shoreline surveys.
- Identify funding sources to address existing development in areas with poor soils and failing septic systems. In order to address the problem of failing septic systems, the County should continue to work with the State Department of Health to identify areas with failing septic systems and privies and cooperatively seek funding sources to replace or repair these systems in areas with low income levels.
- Within the Development District, identify funding sources to implement a Capital Improvement Plan to extend public sewers to areas in greatest need due to poor soils, high population density, and failing septic systems.
- Encourage the state to adopt regulations providing for the maintenance of engineered pre-treatment sewage disposal systems. Similar to the requirement for pump out of conventional septic systems every five years, the County should work with the State Department of Health to consider requiring the annual or biannual maintenance of pre-treatment systems in order to insure their long term effectiveness to protect water quality. Until such regulations are adopted, the County and state should strive to educate homeowners with engineered systems about the importance of continued maintenance.
- Continue and expand programs and staffing to monitor the effectiveness of stormwater BMP's. The County should continue to work with VIMS to evaluate the effectiveness of the current system of stormwater management by tracking the location and effectiveness of existing systems as well as studying the before and after impacts on new development sites.
- Work with HRPDC to complete the Gloucester County portion of the Comprehensive Regional Shoreline Study

- Follow up and coordinate with VIMS. Provide VIMS with the County's shoreline CAD data as the data is updated, and continue to incorporate VIMS periodic shore structure GIS inventory into the environmental GIS system maintained by the County in order to track trends and identify areas in need of priority treatment.
- Continue the County's participation in the National Flood Insurance Program's community rating system providing there are sufficient funds and adequate staffing levels.
- Support strict adherence to the Virginia Marine Resources Commission's Siting Criteria Checklist, VR 450-01-0047, related to the location of boating and water-dependent facilities in VMRC's *Subaqueous Guidelines* booklet.
- Utilize the public access studies prepared by the Virginia Department of Conservation and Recreation and other agencies to target the development of public waterfront access and boating facility sites.
- Continue to support and encourage participation in Virginia's Clean Marina Program, Businesses for the Bay and other state, regional and federal programs promoting sound environmental practices at marina's and elsewhere.
- Continue and expand County's involvement with private groups and land trusts such as the Friends for Dragon Run, Middle Peninsula Land Trust, the Nature Conservancy, Trust for Public Lands, etc. to work preserve protect environmentally important lands.

Objective 5. To update and revise local ordinances as needed in order to protect and enhance the County's natural resources.

Implementation Strategies

- Update the County's Erosion & Sediment Control Ordinance to comply with changes to the Virginia Administrative Code, as identified by the Virginia Department of Conservation and Recreation in September 1996. These changes are primarily administrative in nature but are required in order to achieve compliance with State regulations.
- Identify existing and potential sources of adverse impacts on the quality and quantity of existing groundwater supplies and evaluate the adequacy of existing regulations with regard to protection of groundwater resources.
- Consider the benefit of minor changes to the zoning ordinance to further reduce the area of impervious surfaces currently required on site development plans.

- Review HRPDC recommendations for shoreline erosion. As materials are completed and provided through HRPDC, conduct a comprehensive review of County ordinances, policies, and procedures to incorporate appropriate recommendations to mitigate shoreline erosion problems in the County to the maximum extent practicable.
- Consider penalties for non-compliance. Review the County's current policies for enforcement of non-compliance with County ordinances to determine if they are sufficient to deter the majority of non-compliance.
- Evaluate the advantages and disadvantages of establishing a regional storm water system. Under the Final Rule for Phase II of the NPDES storm water program, Gloucester is not subject to the NPDES requirements. If the County developed and implemented a regional storm water management system or operated a MS4, the NPDES regulations would apply. The County should evaluate the effectiveness of its current system storm water management – the use of privately owned and maintained BMP's – to determine whether a regional program would be warranted.
- Inform citizens of what may be required of the County under Phase II of the NPDES stormwater program, citing anticipated costs and outlining potential means by which the County may achieve compliance. Focus attention on the problem of illicit discharges to stormwater systems and receiving streams.
- Consider the Adoption a Stormwater Management Ordinance The County should evaluate the benefits of adopting a storm water management ordinance pursuant to the current Virginia Administrative Code. Such an ordinance would include an illicit discharge provision to prevent non-stormwater discharges into storm sewer systems which would help significantly with NPDES requirements.
- Consider the possibility of a Regional Stormwater Program and Stormwater Utility. Conduct a study to evaluate the need for a regional storm water program and utility, and the means by which such a utility could be implemented. Identify staffing and resource needs, and the basis for collection. The following implementation recommendations should be considered as part of the above.

SUMMARY

This chapter of the Comprehensive Plan discusses the characteristics of environmentally sensitive County lands and waters. It describes some of the important reasons for protecting the various natural features that comprise and contribute to the quality of the Gloucester environment. Recommended actions are stated which should

achieve the County's goals and objectives that are listed in Part III of the Comprehensive Plan Update. Focus is accorded to new and pending environmental regulations that may affect the County in the present and near-term future.

In summary, the environmental attributes of Gloucester County strongly influence quality of life. The condition of the environment must be evaluated in terms of the potential impact upon the daily activities and the standard of living of the community. Environmental resources should be protected on behalf of the economic well-being of the general public with regard to both individual property interests and collective taxpayer investments. The quality of Gloucester's environment is one of the factors that makes the County such a desirable place to live and work. The intent of County environmental protection measures is not to stop development, but rather to ensure the compatibility of development with the continued productivity and value of environmentally sensitive land and water areas.

Appendix A: DEQ Registered Petroleum Storage Facilities in Gloucester County

HAMLET		ACHILLES			
TYPE	FAC ID	NAME	ADDRESS	ZIP	CEDS FAC ID
COMMERCIAL	4008572	BENNIE BELVINS SEAFOOD	RT 216	23001	200000173407
COMMERCIAL	4008313	HOLIDAY MARINA	3143 HOLIDAY MARINA ROAD	23001	200000072340
GAS STATION	4012786	ASHES GENERAL MERCHANDISE	2513 KINGS CREEK RD-RT 649&653	23001	200000158901
UNKNOWN	4020014	ACHILLES SHOPPING CENTER	HWY 216	23001	200000159588
HAMLET		ADNER			
TYPE	FAC ID	NAME	ADDRESS	ZIP	CEDS FAC ID
COMMERCIAL	4015283	J C BROWN OIL COMPANY	ROUTE 17	23061	200000175649
GAS STATION	4000497	ADNER MARKET	RT 17	23061	200000175539
HAMLET		ARK			
TYPE	FAC ID	NAME	ADDRESS	ZIP	CEDS FAC ID
COMMERCIAL	5013234	W.J. FARY BROTHERS COMPANY		23003	200000161843
COMMERCIAL	4013234	W.J. FARY BROTHERS LUMBER COMP		23003	200000161843
GAS STATION	4006201	HAYNES MOBIL SERVICE STATION	RT 17	23003	200000156131
GAS STATION	4012866	ARK TEXACO	9502 GEORGE WASHINGTON HWY	23003	200000158705
GAS STATION	4013873	MY STORE	RT 17	23003	200000155432
GAS STATION	4008875	MORRIS BROTHERS SUPER SERVICE	RT 17	23003	200000172329

HAMLET		BELLAMY		
TYPE	FAC_ID	NAME	ADDRESS	CEDS_FAC_ID
COMMERCIAL	4012983	CLEMENTS M F & SON	RT 616	200000158293
HAMLET		Bena		
TYPE	FAC_ID	NAME	ADDRESS	CEDS_FAC_ID
LOCAL	4037814	Abingdon Vol Fire Co Inc	P O Box 9	200000200612
RESIDENTIAL	4024927	HEDGECOCK RESIDENCE	BOX 333	200000168468
HAMLET		DUTTON		
TYPE	FAC_ID	NAME	ADDRESS	CEDS_FAC_ID
COMMERCIAL	4023284	E C SUTTON & SON		200000162992
COMMERCIAL	4019013	SUTTON & SON	ROUTE 198	200000162992
GAS STATION	4008567	SIMS CHEVRON	RT 198	200000173432
GAS STATION	4021423	TOMS SEPTIC SERVICE	RT 198	200000155090
HAMLET		GLENNS		
TYPE	FAC_ID	NAME	ADDRESS	CEDS_FAC_ID
COMMERCIAL	4016277	DUKE & SON	RT 17	200000172424
GAS STATION	4012602	FRIDAYS MARINE ENGINES	RT 7 & 33	200000159572
GAS STATION	4004916	7-ELEVEN STORE 20570	RT 17 @ 33	200000160479
GAS STATION	4008475	GET & ZIP	RT 17 & 33	200000173641
INDUSTRIAL	4011123	WILLIAM H. MILBY LUMBER CO	14671 GEORGE WASHINGTON HWY - RT 17	200000164678
STATE	4020590	RAPPANNOCK COMMUNITY COLLE	RT 33	200000157501

HAMLET GLOUCESTER

TYPE	FAC_ID	NAME	ADDRESS	ZIP	CEDS_FAC_ID
AUTO DEALER	4017007	KEN HOUTZ CHEVROLET BUICK; INC	6632 MAIN STREET	23061	200000170153
AUTO DEALER	4016405	BILL FARY FORD-MERCURY INC	7084 GEORGE WASHINGTON MEM PKWAY-RT 1	23061	200000171869
COMMERCIAL	4002889	HERBERT CLEMENTS & SONS, INC	6562 BELROI ROAD - RT 616 W	23061	200000158293
COMMERCIAL	4027433	GLOUCESTER BANK & ANNEX	6548 MAIN STREET	23061	200000159583
COMMERCIAL	4013875	HOLLOMAN CLEANERS	MAIN STREET	23062	200000155435
COMMERCIAL	4005828	GLOUCESTER COUNTRY CLUB		23061	200000157218
COMMERCIAL	4016557	GLOUCESTER LAUNDRY & CLEANERS		23061	200000171505
COMMERCIAL	4008260	EDGEHILL SHOPPING CENTER	GLOUCESTER COURT HOUSE	23061	200000174299
COMMERCIAL	4002053	RAPPAHANNOCK CONCRETE CORP	RT 17	23061	200000072780
COMMERCIAL	4037829	Main Street Properties LC	6288 Main Street		200000201339
COMMERCIAL	4001089	MID ATLANTIC COCA COLA BOTTLING	MAIN ST.	23061	200000173589
COMMERCIAL	4024937	GLOUCESTER SEAFOOD CO	RT 3	23061	200000072245
COMMERCIAL	4002844	ANDREWS FUNERAL HOME	7192 MAIN STREET	23061	200000167970
COMMERCIAL	4002896	WARE ACADEMY	7936 JOHN CALYTON MEMORIAL HIGHWAY - RT	23061	200000167669
COMMERCIAL	4018151	GLOUCESTER POMOCO		23062	200000166169
COMMERCIAL	4003596	WALTER REED MEMORIAL HOSPITAL	RT 17	23061	200000165139
COMMERCIAL	4011310	GLOUCESTER AIRPORT	6432 GOLF CLUB ROAD	23061	200000164101
COMMERCIAL	4004000	OTIS HOGGE INC	RT 216	23061	200000163615
COMMERCIAL	4011996	EXCELL ERECTION INC	RT 14	23061	200000161651
COMMERCIAL	4005071	APPLIED SONICS CORP	RT 4 BOX 224B	23061	200000159884

COMMERCIAL	4036734	FREEPORT MARINA INC	12050 FREEPORT RD	23061	200000180881
COMMERCIAL	4020724	THOUSAND TRAILS RESORTS INC	ROUTE 198	23061	200000156986
COMMERCIAL	4007970	SOUTHERN STATES	EDGEHILL SHOPPING CENTER	23061	200000175346
COMMERCIAL	4027449	MOTON CONFERENCE CENTER	ALMONDSVILLE RD	23061	200000159509
FARM	4024962	FIDDLERS GREEN FARM	RT 619 (1 MI W OF RT 17)	23061	200000168353
FARM	4016307	ELMINGTON FARM	RT 4 BOX 216	23061	200000172260
GAS STATION	4022055	BELROI MARKETPLACE INC	4059 HICKORY FORK RD	23061	200000179074
GAS STATION	4010940	ZOOMS #8	6994 GEORGE WASHINGTON MEMORIAL HWY	23061	200000165462
GAS STATION	4004835	7-ELEVEN STORE 19834	8343 GEORGE WASHINGTON HWY	23061	200000160807
GAS STATION	4012865	EDGE HILL TEXACO	RT 17 & 14	23061	200000158718
GAS STATION	4002200	VILLAGE EXXON	RT 17	23061	200000170110
GAS STATION	4036923	GLOUCESTER PIT STOP	7077 GEORGE WASHINGTON MEMORIAL HWY	23061	200000181036
GAS STATION	4007908	GLOUCESTER COURTHOUSE LITTLE S	RT 605 & 14	23061	200000175553
GAS STATION	4014759	AMOCO	ROUTE 17	23061	200000179604
GAS STATION	4013142	NORTH OF YORK	1429 WASHINGTON MEMORIAL HWY	23062	200000157676
LOCAL	4028030	GLOUCESTER COUNTY WTP	8214 RESERVOIR ROAD	23061	200000157408
LOCAL	4016554	GLOUCESTER INTERMEDIATE SCHOO	RT 17	23061	200000171493
LOCAL	4016555	GLOUCESTER MIDDLE SCHOOL	RT 629	23061	200000171497
LOCAL	4007318	BUILDINGS & GROUNDS SHOP	JUSTICE DR	23061	200000179505
LOCAL	4007317	GLOUCESTER COUNTY JAIL	JUSTICE DR	23061	200000179503
LOCAL	4016556	GLOUCESTER SCHOOL BUS GARAGE	RT 17	23061	200000171501
LOCAL	4036357	GLOUCESTER COUNTY PUBLIC SCHL	5644 GEORGE WASHINGTON HIGHWAY	23061	200000180359

LOCAL	FAC ID	FAC ID NAME	ADDRESS	ZIP	CEDS FAC ID
LOCAL	4032109	MIDDLE PENINSULA LANDFILL	3714 WASTE MANAGEMENT WAY	23061	200000072576
STATE	4019595	COLEMAN BRIDGE ADMIN BLDG	RT 17	23061	200000161098
STATE	4019747	VDOT - GLOUCESTER AREA HEADQUA	RT 621 & 17	23061	200000160505
TRUCKING/TRA	4006951	M&G TRANSPORTATION CO INC	RT 4 BOX 234	23061	200000178051
UNKNOWN	4004634	JAMES C. HANES	LEWIS STREET	23061	200000161481
UNKNOWN	4005185	FRED CARINO	RT 1; BOX 173	23061	200000159574
UNKNOWN	4012197	VILLAGE AMOCO	6743 MAIN STREET	23061	200000161035
UNKNOWN	4025000	GARDNER PROPERTY	STUBEN ROAD	23061	200000168242
UNKNOWN	4025560	RICKS COUNTRY STORE	RT 7 BOX 8585	23061	200000166196
UTILITY	4012672	VA POWER GLOUCESTER DIST OFFIC	HWY 17 N & 619	23061	200000159351
HAMLET GLOUCESTER POINT					
TYPE	FAC ID	NAME	ADDRESS	ZIP	CEDS FAC ID
COMMERCIAL	4001827	GLOUCESTER POINT MARINA	7871 MARINA WAY	23062	200000171251
COMMERCIAL	4018167	J.B. POLAND & SONS; INC	RT 17	23062	200000166077
COMMERCIAL	4014644	YORK RIVER YACHT HAVEN	8109 YACHT HAVEN RD - RT 642	23062	200000179107
GAS STATION	4006200	GLOUCESTER POINT MOBIL	1657 GEORGE WASHINGTON MEM HWY - RT 17	23062	200000156156
GAS STATION	4012601	EXXON	ROUTE 17	23062	200000189293
GAS STATION	4004830	7-ELEVEN STORE 10848	RT 17 @ 641	23061	200000160822
GAS STATION	4013874	SADIE COATES		23062	200000155434
GAS STATION	4012180	MILLER MART #18	1505 GEORGE WASHINGTON HIGHWAY - RT 17	23062	200000161103
LOCAL	4020433	ABINGDON VOLUNTEER RESCUE SQU	P.O. BOX 247	23062	200000158173
STATE	4009508	VIRGINIA INSTITUTE OF MARINE SCIE	RT 1208	23062	200000170409

UNKNOWN	4007913	LITTLE SUE #147	ROUTES 1208 & 17	23062	200000175537
UNKNOWN	4018520	MINI MART (FORMER)	RT 17	23062	200000164751
UNKNOWN	4006199	L.F. PHILLIPS & SONS, INC	7526 GEORGE WASHINGTON MEM HWY	23062	200000156152
UNKNOWN	4023454	EAST COAST #54	ROUTE 17	23062	200000173219
HAMLET HARCUM					
TYPE	FAC ID	NAME	ADDRESS	ZIP	CEDS FAC ID
GAS STATION	4037288	HAZELS COUNTRY STORE	7485 DUTTON RD	23061	200000196691

HAMLET HAYES					
TYPE	FAC ID	NAME	ADDRESS	ZIP	CEDS FAC ID
COMMERCIAL	4027769	OLD COUNTRY STORE	2612 HUDGINS ROAD	23072	200000158495
COMMERCIAL	4009120	C&G INC	RT 1252	23072	200000171559
COMMERCIAL	4006905	KINGS CRABHOUSE	RT 2 BOX 891	23072	200000177841
COMMERCIAL	4011730	YORK RIVER SEAFOOD CO INC	RT 2	23072	200000162504
COMMERCIAL	4023330	HAYES PLAZA SHOPPING CENTER	GEORGE WASHINGTON MEMORIAL HWY	23072	200000173602
COMMERCIAL	4010276	COOKS LANDING MARINA	RT 2 BOX 194	23072	200000167861
CONTRACTOR	4007030	POINT CONSTRUCTION COMPANY	OLD ROUTE 17	23072	200000178349
GAS STATION	4012864	HAYES TEXACO	2852 GEORGE WASHINGTON MEMORIAL HIGH	23072	200000158717
GAS STATION	4002349	CROWN VA-515 / FORMER JET #46058	RT 17 N	23072	200000169635
GAS STATION	4008566	HARTS DECORATIVE SERVICE		23072	200000173455
GAS STATION	4007925	LITTLE SUE #146	RT 1304 & 17	23072	200000175492
UNKNOWN	4026234	GLOUCESTER POINT CP	RT 4 BOX 199	23072	200000163695

HAMLET JAMES STORE

TYPE	FAC ID	NAME	ADDRESS	ZIP	CEDS FAC ID
GAS STATION	4014455	W.F. COX GENERAL MERCHANDISE	10290 JOHN CLAYTOR HWY - RT 14	23080	200000178369

HAMLET ORDINARY

TYPE	FAC ID	NAME	ADDRESS	ZIP	CEDS FAC ID
COMMERCIAL	4021264	MIKES TIRE & RECAPPING INC	ROUTE 11	23131	200000155520
GAS STATION	4007906	LITTLE SUE #145	RT 17 & 636	23131	200000175572

HAMLET SALUDA

TYPE	FAC ID	NAME	ADDRESS	ZIP	CEDS FAC ID
COMMERCIAL	4014446	SALUDA CONCRETE	RT 17	23149	200000159574
INDUSTRIAL	4011120	RAPPAHANNOCK LUMBER CORP	RT 17	23149	200000181143
UNKNOWN	4021541	WALTAN ALVIN D	P O BOX 321	23149	200000154782

HAMLET SCHLEY

TYPE	FAC ID	NAME	ADDRESS	ZIP	CEDS FAC ID
COMMERCIAL	4026612	BROWN OIL BULK PLANT	ROUTE 702	23154	200000162362

HAMLET SIGNPINE

TYPE	FAC ID	NAME	ADDRESS	ZIP	CEDS FAC ID
COMMERCIAL	4008565	NOLDES BROTHERS, INC	RT 610	23061	200000173453
COMMERCIAL	4022823	SIGNPINE SAWMILL SITE		23061	200000175263

HAMLET WARE NECK

TYPE	FAC ID	NAME	ADDRESS	ZIP	CEDS FAC ID
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COMMERCIAL 4018041 NUTTALL & CO RT 623 23178 200000166521
 CONTRACTOR 4015282 E B BROWN & SON 6484 WARE NECK RD - RT 623 23178 200000175647

HAMLET WHITE MARSH

TYPE	FAC ID	NAME	ADDRESS	ZIP	CEDS FAC ID
GAS STATION	4012887	WHITE MARSH TEXACO	RT 17 & 614	23183	200000158696
GAS STATION	4002194	DALTONS RADIATOR SERVICE	RT 17 & Rt 614	23183	200000170111
GAS STATION	4007917	WHITE MARSH LITTLE SUE #144	5166 GEORGE WASHINGTON MEMORIAL HWY	23183	200000175523
GAS STATION	4012192	MILLER MART #8	RT 17	23183	200000161066

HAMLET WICOMICO

TYPE	FAC ID	NAME	ADDRESS	ZIP	CEDS FAC ID
COMMERCIAL	4006874	HOGG FUNERAL HOME	BOX 990	23184	200000177768
GAS STATION	4018519	BROCKS GROCERY	RT 1303	23184	200000164774
UNKNOWN	4020753	JOHN & BILL CATLETT		23184	200000156872

Appendix B: Reported Leaking Underground Storage Tanks in Gloucester County

<i>Hamlet</i>	<i>Achilles</i>				
<i>Status</i>	<i>PC Number</i>	<i>Site Name</i>	<i>Address</i>	<i>Zip</i>	<i>Reported</i>
Open	19940914	Achilles Shopping Center	Highway 216	23001	6/2/94
Open	19984098	Ashes General Store	2513 Kings Creek Rd	23001	11/4/97
<i>Hamlet</i>	<i>Ark</i>				
<i>Status</i>	<i>PC Number</i>	<i>Site Name</i>	<i>Address</i>	<i>Zip</i>	<i>Reported</i>
Closed	19953236	Ark Texaco	9502 George Washington Hwy	23003	4/26/95
<i>Hamlet</i>	<i>Bellamy</i>				
<i>Status</i>	<i>PC Number</i>	<i>Site Name</i>	<i>Address</i>	<i>Zip</i>	<i>Reported</i>
Open	19994388	Clements Herbert & Sons	Route 616	23017	4/12/99
<i>Hamlet</i>	<i>Bena</i>				
<i>Status</i>	<i>PC Number</i>	<i>Site Name</i>	<i>Address</i>	<i>Zip</i>	<i>Reported</i>
Closed	20018164	Sawyer Residence	1644 York Rest Ln	23018	5/16/01
Closed	19880614	Hedgecock Residence	Box 333	23018	2/1/88
<i>Hamlet</i>	<i>Glenns</i>				
<i>Status</i>	<i>PC Number</i>	<i>Site Name</i>	<i>Address</i>	<i>Zip</i>	<i>Reported</i>
Closed	19900373	Fridays Marine Engines	Route 7 and 33	23149	9/22/89
Closed	20004078	Milby Lumber Co	14671 George Washington Hwy	23149	8/13/99
Open	19921577	7 Eleven Store 20570	Route 17 and 33	23149	3/10/92

Open 19910450 Rappahannock Community College 12745 College Drive 23149 9/25/90

Hamlet Gloucester

<i>Status</i>	<i>PC Number</i>	<i>Site Name</i>	<i>Address</i>	<i>Zip</i>	<i>Reported</i>
Closed	19953209	Moton Conference Center	Almondsville Rd	23061	4/27/95
Closed	19901455	Gardner Property	Stuben Rd	23061	4/27/90
Closed	19900728	Saluda Concrete	Route 1 Box 173	23061	12/12/89
Closed	19964068	Gloucester Bank and Annex	6548 Main St	23061	10/23/95
Closed	19953186	Gloucester Bank and Annex	6548 Main St	23061	3/31/95
Closed	19994172	7 Eleven Store 19634	8343 George Washington Hwy	23061	11/18/98
Closed	19900305	Fiddlers Green Farm	Route 619	23061	9/8/89
Closed	19994420	Bullfant Residence	8761 Glass Rd	23072	4/21/99
Closed	19900061	Little Sue 143	Route 605 and 14	23061	7/13/89
Closed	19860558	Little Sue 143	Route 605 and 14	23061	3/6/86
Closed	20024002	Gloucester Pit Stop	7077 George Washington Memorial H	23061	7/3/01
Closed	19984227	Hammer Residence	WAVERLY LN	23061	2/17/98
Closed	19984258	York River Crossing Shopping Cent	ROUTE 17	23061	3/6/98
Closed	19890164	Southern States Gloucester	Edgehill Shopping Center	23061	8/10/88
Closed	19953249	Gloucester School Bus Garage	Route 17	23061	6/26/95
Open	20004558	Village Texaco	6750 Main St	23061	4/5/00
Open	19900319	VDOT Gloucester Area Hq	Route 621 and 17	23061	9/13/89
Open	20014114	Virginia Power Gloucester Office	Highway 17 and Route 619	23061	8/23/00
Open	20004385	Virginia Power Gloucester Courtho	Highway 17 and Route 619	23061	2/7/00

Open	19953175	Courthouse Pawn Shop	6743 Main St	23061	3/29/95
Open	19890919	Gloucester Seafood Inc	3923 Aberdeen Creek Rd	23061	2/13/89
Open	19974223	Gloucester County WWTP	8214 Reservoir Ridge Road	23061	4/11/97

Hamlet Gloucester Point

<i>Status</i>	<i>PC Number</i>	<i>Site Name</i>	<i>Address</i>	<i>Zip</i>	<i>Reported</i>
Closed	19940223	L F Phillips and Sons Inc	7526 George Washington Memorial H	23062	8/5/93
Closed	19994317	Mobil Station Former	1657 George Washington Memorial H	23062	1/20/99
Closed	19931314	7 Eleven Store 10848	Route 17 and 641	23061	1/11/93
Closed	19891640	7 Eleven Store 10848	Route 17 and 641	23061	6/5/89
Closed	19931642	Mini Mart (former)	Route 17	23062	2/22/93
Closed	19932561	York River Yacht Haven	Route 642	23062	10/8/93
Open	19994039	Goodwin Residence	1621 Greate Rd	23062	7/31/98
Open	20004060	Gloucester Point Exxon	1483 George Washington Hwy	23062	11/30/98

Hamlet Hayes

<i>Status</i>	<i>PC Number</i>	<i>Site Name</i>	<i>Address</i>	<i>Zip</i>	<i>Reported</i>
Closed	19994067	Crown S/S VA 515	Route 17 N	23072	8/18/98
Closed	19900057	Little Sue 146	Route 1304 and 17	23072	7/13/89
Closed	19974023	Old Country Store	2612 Hudgins Rd	23072	8/1/96
Open	20004426	Hayes Texaco Former	2852 George Washington Memorial H	23072	10/20/99

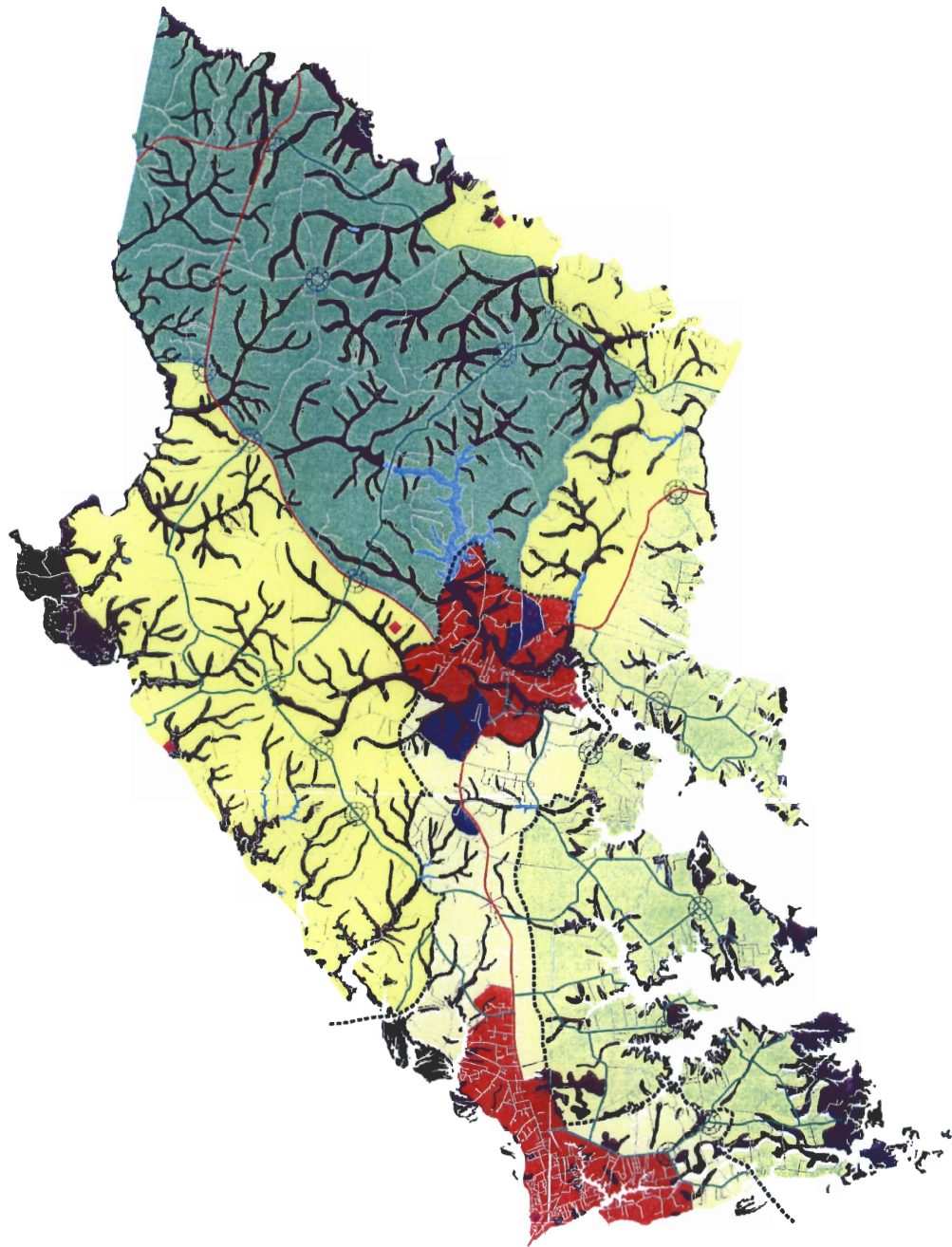
Hamlet Schley

<i>Status</i>	<i>PC Number</i>	<i>Site Name</i>	<i>Address</i>	<i>Zip</i>	<i>Reported</i>
Closed	19931255	Brown Oil Bulk Plant	Route 702	23154	12/29/92

Hamlet White Marsh

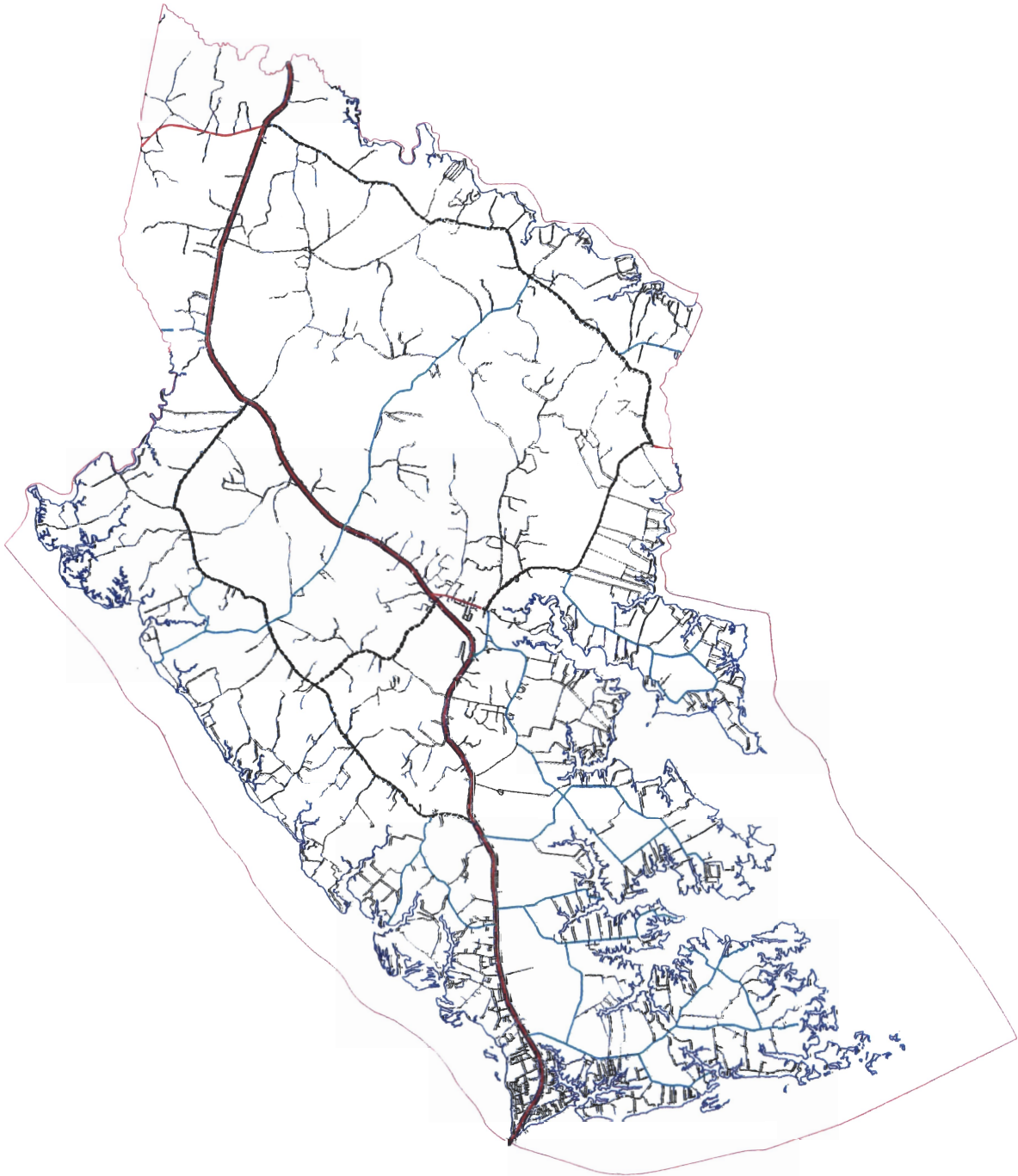
<i>Status</i>	<i>PC Number</i>	<i>Site Name</i>	<i>Address</i>	<i>Zip</i>	<i>Reported</i>
Closed	19984306	Miller Mart 8	Route 17	23183	4/3/98
Closed	19901174	Little Sue 144	5166 George Washington Memorial H	23183	3/15/90
Closed	19900059	Little Sue 144	5166 George Washington Memorial H	23183	7/13/89
Open	20014929	Wawa Store Proposed	Route 17	23183	3/28/01

Gloucester County, Virginia Land Use Plan



- | | |
|---|--|
| ■ Village | |
| ■ Suburban Residential District | |
| ■ Suburban Countryside District | |
| ■ Bayside District | |
| ■ Rural Countryside District | |
| ■ Business/Commercial Parks District | Development District |
| ■ Employment/Industrial Parks District | ⊙ Rural Service Center |
| ■ Resource Conservation District | ◆ Tourism/Recreational Amenity District |
| ■ Water | ✱ Potential New Village Center |

Gloucester County, Virginia Land Use Plan Corridor Overlay District



- Highway Corridor
- Greenway Corridor
- Shoreline