

GOALS, OBJECTIVES AND POLICIES



The purpose of the Goals, Objectives and Policies of the Comprehensive Plan is to provide a clear framework for the future development of Henrico County with consistent principles and relationships that can apply to short and long range land use development. The Goals, Objectives and Policies of the Comprehensive Plan are to be used in the review of development and rezoning requests. They are intended to provide a clear statement of policy to facilitate understanding and participation in the planning process, to time development consistent with public facilities and revenues, and to promote the health, safety, morals, order, convenience, prosperity, and general welfare of all County residents.

The Goals, Objectives and Policies are separated into the following categories which correspond to the Land Use Plan Classifications as shown on the 2010 Land Use Plan Map (see pages):

- ◆ **GENERAL GOALS** are overall land use principles designed to guide development in all Land Use Plan Classifications.
- ◆ **RESIDENTIAL GOALS** are designed to guide development in all areas with Residential Land Use Plan Classifications.
- ◆ **ECONOMIC DEVELOPMENT GOALS** are designed to guide development in all areas with Office, Commercial or Industrial Land Use Plan Classifications.
- ◆ **GOVERNMENT AND SEMI-PUBLIC GOALS** are designed to guide development in all areas with Government or Semi-Public Land Use Plan Classifications
- ◆ **HISTORIC AND CULTURAL GOALS** are designed to generally protect the cultural integrity of the County and guide development in the vicinity of Historic Resources as shown on the Land Development Guide.

The specific Goals, Objectives and Policies for each of these categories follow.

GENERAL GOALS

Intent

The goals of the general element focus on overall land use principles to guide future development for the County. Emphasis is placed on balanced growth, orderly development and efficient land use.

GOALS

- I. To maintain balanced growth, with sufficient revenue from the non-residential sector to compensate for the costs of services for residential development.
- II. To promote orderly growth and development based on physical, social and economic needs, environmental considerations, and the ability of public facilities and services to support development.
- III. To encourage land uses throughout the County which provide for the most efficient and desirable arrangement based on land use trends and area needs.
- IV. To encourage land development in accordance with the provisions of the entire array of public facilities.
- V. To promote the protection of natural resources by respecting the physical limitations of the land.
- VI. To coordinate the elements of the Comprehensive Plan to provide a guide for an orderly development of the County.
- VII. To continue to encourage intergovernmental cooperation in all areas dealing with land use and development.
- VIII. To encourage large tract planned mixed use development which promotes economies of scale, energy conservation, and efficient use of infrastructure and revenues.
- IX. To design public facilities to set the best possible example for private development and to encourage community pride and identification.
- X. To promote the health, safety, morals, order, convenience, prosperity and general welfare of all residents.

OBJECTIVES

- A. Balance tax revenues through economic development incentives and examination of fiscal impacts of development.
- B. Coordinate the updated Open Space Plan and Major Thoroughfare Plan with the Land Use Plan.
- C. Coordinate development with existing and proposed public facilities and services.
- D. Allocate sufficient space for various land use and economic development purposes to meet the year 2010 needs.
- E. Promote development of vacant property to maximize use of existing and programmed community facilities, minimize public service costs and reduce the impact on the environment.
- F. Control the intensity of development in outlying areas to maximize the use of resources.
- G. Promote well planned controlled density developments which minimize public facility and service costs, preserve open space and environmentally critical areas, and utilize the best features of the natural environment.
- H. Encourage a continuing planning process with public and private agencies to ensure orderly future growth.

POLICIES

- a. Maintain a ratio of approximately 65% to 35%; residential to commercial balance.
- b. Create specific criteria for planned large tract development incorporating a mixture of uses.
- c. Discourage rezoning of property when adequate vacant similarly zoned land exists in the vicinity.
- d. Encourage good site design which minimizes land use impacts on adjacent properties.
- e. Discourage development which over intensifies the site.
- f. Provide for the logical arrangement of land uses which offer transitions from more intense to less intense uses.
- g. Encourage land uses in harmony with adjoining uses and which can function in a compatible fashion.
- h. Update the Open Space Plan and Major Thoroughfare Plan in accordance with the Land Use Plan.
- i. Revise the Zoning Ordinance, Subdivision Ordinance and related planning policies as needed to implement the Comprehensive Plan.

- j. Utilize innovative zoning, subdivision, and Plan of Development review techniques which will result in attractive, efficient, energy conserving and environmentally sensitive development.
- k. Review the Board of Zoning Appeals, Planning Commission and Board of Supervisors applications to determine their conformance with the Comprehensive Plan.
- l. Annually review and comment on the Capital Improvement Program for compliance with the County's Comprehensive Plan.
- m. Utilize the planning process to review public facilities not shown on the adopted Land Use Plan to determine if the general location, character and extent they are in keeping with the adopted Plan.
- n. Require traffic impact analysis, interchange impact analysis, fiscal impact analysis and/or an environmental impact analysis at the POD, subdivision, rezoning or Use Permit stage when deemed necessary.
- o. Promote the creation of a countywide geographic information system.
- p. Prepare land use studies for areas in transition and/or areas which may be in conflict with the Plan.
- q. Monitor the Land Use Plan on a bi-annual basis with particular emphasis on the Land Development Guide to determine the need for amendments.
- r. Review and make recommendations on requests for Land Use Plan amendments.
- s. Exercise the right of eminent domain when deemed necessary to implement the Comprehensive Plan.
- t. Prepare, maintain and coordinate planning efforts with adjacent municipalities and Regional, State and Federal agencies to implement the Comprehensive Plan.
- u. Emphasize the importance of compliance to the Land Use and Land Development Guide in order to manage growth efficiently.
- v. Encourage public/private cooperation for rehabilitation and redevelopment and to channel growth into infill areas.

RESIDENTIAL GOALS

Intent

The residential goals focus on home ownership options, the impacts upon County services and facilities which result from the over concentration of high density development, the specialized housing needs of the elderly and handicapped, and the control of development pressures through phasing. Residential growth should be designed to take advantage of vacant land and existing public services. It is of critical importance to discourage rapid residential development in the Outlying phasing areas shown on the Land Development Guide.

GOALS

- I. To maintain balanced growth, with sufficient revenue from the non-residential sector to compensate for the cost for services of residential development.
- II. To provide further guidance in density ranges through the Land Use Plan map designations.
- III. To encourage planned large tract development where feasible.
- IV. To encourage continued home ownership.
- V. To provide residential opportunities which will accommodate a variety of housing types for all people.
- VI. To protect residential areas from encroachment by incompatible or inappropriate land uses.
- VII. To promote effective design standards which protect established residential areas through proper land use planning surrounding major transportation facilities and major roadway corridors.
- VIII. To address public safety through environmental design and enhanced public awareness of crime and crime prevention techniques.

OBJECTIVES

- A. Increase the percentage of home ownership and owner occupied homes at all income levels.
- B. Provide guidelines and incentives for planned mixed-use developments in Outlying Areas.

- C. Promote the maintenance, rehabilitation, replacement and, when necessary, the demolition of units which are unsafe.
- D. Increase the quantity of housing units near employment centers.
- E. Encourage safe and adequate housing for people of all economic levels.
- F. Discourage development in areas where the land's physical limitations may threaten the safety, health and welfare of residents.
- G. Encourage compatible land use adjoining other jurisdictional boundaries.
- H. Recognize the impact that major transportation uses (railroad, interstate highway, air) have on residential areas.
- I. Promote the improvement of design standards for the protection of residential areas.
- J. Encourage the public to take individual and collective actions to protect themselves and their property from crime.

POLICIES

- a. Maintain a ratio of approximately 65% to 35%; residential to commercial balance.
- b. Implement planned large tract development guidelines.
- c. Utilize the Special Strategy Area concept to guide development in residential areas with special needs.
- d. Use the Residential Land Use Plan Classifications to guide rezoning recommendations in terms of density of units.
- e. Use the Land Development Guide and Major Thoroughfare Plan to appropriately coordinate residential development with public facilities.
- f. Revise the Zoning Ordinance, Subdivision Ordinance and related planning policies as needed to implement to the Residential goals and objectives of the Comprehensive Plan.
- g. Encourage landscaped buffers on lots, in addition to the minimum required setbacks along any boundary which lies adjacent to collector or arterial streets.
- h. New development should provide stub roads to adjacent vacant property to facilitate the future extension of roads.
- i. Proposed development adjoining existing stub roads should be designed to provide through road connections.
- j. Consider the consolidation of existing codes in order to implement an effective enforcement program to improve and lengthen the life expectancy of existing real property in the county.

- k. Encourage programs which promote increased home ownership.
- l. Participate in housing programs which promote the residential viability of the community.
- m. Conduct surveys to determine the conditions of housing stock in the county.
- n. Consult the County's flood insurance program and update data and maps.
- o. Recommend the rezoning of flood plain areas to Conservation (C-1) during rezoning.
- p. Make specific recommendations that lessen the impact of development on existing and proposed residential areas.
- q. Utilize federal and state guidelines to determine appropriate land uses within noise impacted areas.
- r. Encourage the development of construction standards for residences in the noise impacted areas.
- s. Promote the provision in the County building code for noise abatement measures in residential areas.
- t. Monitor the effectiveness of design alternatives which are intended to improve the residential environment.
- u. Recommend modifications to the regulations to improve the effectiveness of design alternatives.
- v. Promote standards and specifications that assure quality residential development, while providing acceptable alternatives for minimizing development expense.
- w. Encourage design alternatives that reduce the crime problem in residential areas.
- x. Utilize effective buffers and screens to minimize potential residential use conflicts.
- y. Minimize disruption to established residential communities by requiring that proposed changes be in harmony with existing development and capable of being supported by the existing transportation network and public services.
- z. Encourage complementary multi-family residential areas that enhance overall land use development through their proximity to an arterial roadway, shopping areas, and primary service facilities.
- aa. Encourage residential growth in those areas where the physical conditions are conducive to development, i.e., soils, drainage and topography.
- bb. Encourage development of large tracts which provide space for a variety of housing types and services as opposed to small segmented growth.
- cc. Encourage the development of "Existing Areas" and "Developing Areas" thereby discourage "leap frog" type of growth (which often overburdens existing facilities and results in misallocation of capital expenditures).
- dd. Promote an adequate supply of well located housing for the elderly and the handicapped.

- ee. Defer inappropriate proposals for development until the time services are extended as a result of normal growth in adjacent areas. Proposals for segmented development in outlying areas should be considered as premature, because of burdensome costs incurred by allowing development beyond the limits of existing services.
- ff. Discourage the stripping of residential development along rural roadways which denies access to large vacant parcels of land to the rear.

ECONOMIC DEVELOPMENT GOALS

Intent

The Economic Development goals focus on achieving a diversified and balanced economy for the County by attracting new and expanding commercial and industrial development while maintaining existing economic activities. Emphasis is placed on the preservation of Prime Economic Development sites and promoting a better distribution of employment opportunities that increases accessibility to jobs for all citizens.

GOALS

- I. To preserve Prime Economic Development site locations.
- II. To maintain a strong and diversified economy that provides a full range of services and employment opportunities.
- III. To ensure minimal adverse environmental and fiscal impacts of development.
- IV. To attract new and expanding commercial and industrial activities that will increase the economic base.
- V. To maintain and revitalize older commercial areas to meet residential neighborhood needs for retail services and employment.
- VI. To strengthen local, regional and State efforts that promote economic development of the Richmond metropolitan area.
- VII. To coordinate the Capital Improvement Program, Land Use Plan, Major Thoroughfare Plan, and other elements of the Comprehensive Plan to provide an orderly guide for economic development.
- VIII. To promote mixed-use, planned large tract development to achieve economies of scale and to provide retail services and employment opportunities near residential concentrations.

OBJECTIVES

- A. Encourage the development of Prime Economic Development sites.
- B. Encourage economic development nodes which provide concentrated and interrelated economic development areas.

- C. Discourage residential rezonings on sites designated as Prime Economic Development sites.
- D. Create guidelines for planned mixed-use developments with opportunities for economic development.
- E. Mitigate the visual and traffic impacts of strip commercial development.
- F. Encourage the appropriate timing and location of commercial and industrial development consistent with the provision of public facilities
- G. Encourage a distribution of commercial development which is consistent with population projections and characteristics.
- H. Encourage planned large tract development that offers diversified employment and retail services in conjunction with housing opportunities.
- I. Promote industrial development as an integral part of the Comprehensive Plan.
- J. Maintain and promote joint planning and economic development relationships with adjacent municipalities, regional and State agencies.
- K. Minimize disruption and conflict among established residential, commercial and industrial uses and new uses.
- L. Provide design alternatives to help maintain and rehabilitate commercial activities that are less competitive than newer construction.
- M. Encourage master planning of land areas containing mineral deposits to ensure restoration of mined portions in keeping with future plans for development.
- N. Support State and Federal programs for improvement of environmental quality.
- O. Encourage the rehabilitation and reuse of industrial properties.
- P. Promote the development of planned office centers, business and industrial parks.
- Q. Protect the function of interchanges and connecting roadways through the proper location and design of adjacent land activities.

POLICIES

- a. Maintain a ratio of approximately 65% to 35%; residential to commercial balance.
- b. Consider nodal economic development favorably in planned development proposals.

- c. Implement planned mixed use development guidelines which provide opportunities for economic development.
- d. Utilize Special Strategy Area strategies to guide development for office, commercial and industrial areas with special needs.
- e. Create design guidelines for the Far West Broad Street Special Strategy Area.
- f. Use the Office, Commercial and Industrial Land Use Plan Classifications to guide rezoning recommendations in terms of intensity and scale.
- g. Encourage good site design which maximizes safe pedestrian movement to the site and within the site.
- h. Promote site features which enhance the overall appearance of a development such as uniform architecture, sign and lighting restrictions, street trees and open space.
- i. Minimize the number of access points onto public streets by encouraging shared access and interconnection of driveways.
- j. Use the Land Development Guide and Major Thoroughfare Plan to appropriately coordinate office, commercial and industrial development with public facilities.
- k. Revise the Zoning Ordinance, Subdivision Ordinance and related planning policies as needed to implement the Economic Development goals and objectives of the Comprehensive Plan.
- l. Protect residential areas from adjoining commercial, office and industrial areas through site design, buffering, landscaping and lighting restrictions.
- m. Require standards for landscaping within commercial and industrial areas that improve the environment.
- n. Require adequate screening for commercial, office and industrial development adjoins residential development.
- o. Monitor the effectiveness of visual screening and buffering alternatives and modify the regulations as technology and experience dictate.
- p. Encourage the upgrading of nuisance-producing industries and their relocation (if necessary) to designated areas where their impacts on the public health, safety and welfare will be minimized.
- q. Encourage regular review of engineering and development standards to eliminate duplication and incorporate proven technological changes.
- r. Develop guidelines to regulate new and expanded strip commercial development giving special attention to minimizing traffic problems.
- s. Establish criteria for the development of interchange areas to minimize traffic flow problems.
- t. Promote new and expanding growth at location where various modes of transportation (such as rail, air, highway and water) converge.

- u. Encourage the location of businesses and service industries near related support activities.
- v. Work directly with business leaders and encourage their business's continuance and growth in the County.
- w. Continue to work closely with public and private agencies to publicize the advantages of locating firms in Henrico and the Richmond metropolitan area.
- x. Provide a range of office, industrial and commercial zoning classifications to increase the choices for locations.
- y. Prohibit non-industrial activities in industrial developments with the exception of convenience uses for employees with the approval of a Conditional Use Permit.
- z. Promote the use of bonds available through the Industrial Development Authority, State Industrial Access Funds, Community Development Block Grants and other funding programs to attract economic developments.
- aa. Encourage appropriate "infill" growth while minimizing disruption to established residential areas and public facilities.
- bb. Encourage mixed use developments which maximize investments made by the public and private sectors.
- cc. Provide adequate safeguards to promote residential development near light industrial, office center, and commercial concentrations for energy conservation and convenience.
- dd. Monitor the programming of public and private improvements to maintain viable site alternatives to attract development.
- ee. Implement good development standards along major roadway frontages which ensure safe and efficient traffic movement.
- ff. Encourage, through innovative zoning and subdivision regulations, large tract industrial and commercial development which minimizes disruption to County facilities and services.
- gg. Require a feasibility study which addresses the health, safety and welfare of the community as a part of zoning applications for all shopping centers sites not shown on the adopted Land Use Plan.

GOVERNMENT AND SEMI-PUBLIC GOALS

Intent

The Government and Semi-Public goals focus on the need for effective planning for Government and Semi-Public facilities. Emphasis is placed on shifts in growth patterns and increasing transportation cost that combine to create complex problems for facilities planning and financing and the acquisition of public facility sites in advance of growth.

GOALS

- I. To coordinate land development with the provision of public facilities and services.
- II. To maintain an attractive living environment whereby noise levels and other adverse impacts of government and semi-public facilities are minimized.
- III. To select sites for government facilities which are deemed substantially in accord with the Land Use Plan.
- IV. To plan and design development in a manner that minimizes strain on existing facilities and service areas.
- V. To select sites for County facilities which maximize opportunities for service to all residents.

OBJECTIVES

- A. Plan and utilize public facility sites for multi-purposes.
- B. Minimize disruption to established land uses.
- C. Encourage the development of State resource management policies.
- D. Establish and maintain joint-planning relationships with adjacent municipalities.
- E. Participate in the education and planning programs of the Federal, State, regional and local agencies.
- F. Encourage "infilling" of vacant parcels in "developed" phasing areas to more efficiently utilize existing facilities.
- G. Participate in the Capital Improvement Program process to coordinate the elements of the Comprehensive Plan.

POLICIES

- a. Utilize Special Strategy Area strategies to guide development for Government and Semi-Public areas with special needs.
- b. Use the Land Development Guide and Major Thoroughfare Plan to appropriately coordinate Government and Semi-Public development with appropriate infrastructure.
- c. Evaluate County owned property that is unused to determine if it can be used for current or future public needs.
- d. Update the Major Thoroughfare and Open Space Plans.
- e. Coordinate development with affected municipalities when necessary.
- f. Review development proposals in adjacent municipalities when they border Henrico County.
- g. Require, where appropriate, developers of large residential developments to provide recreational facilities for the use of the residents and other public facilities where the need is generated by a major development.
- h. Require proper attention be given to the provision of adequate buffers, screens, lighting design, and access points to protect residences from the impacts of new development.
- i. Where public water and sewer are available, development should be required to connect.
- j. Participate in regional forums that promote the planning, funding and development of facilities to serve regional needs.
- k. Obtain State and Federal funds whenever practical to assist in public facility sites acquisition and development.
- l. Establish a procedure for evaluating gifts of land, easements or funds for development of public facilities. Donations should only be accepted if they are in the best interest of the County.
- m. Work through the legislature to establish water conservation programs.
- n. Review the comprehensive plans and large development proposals of adjacent municipalities and participate in the exchange of planning data.
- o. Ensure proper attention is given to site design through the Plan of Development process, thereby minimizing the adverse effects of development on existing uses.
- p. Implement a development schedule that recognizes that development should be phased in keeping with the availability of public facilities.
- q. Encourage the utilization of existing public facility sites for satellite offices that provide high accessibility to meet the daily needs of all residents.

- r. Consider in the selection of public facility sites, the locations of population concentration and access to major transportation networks.
- s. Encourage the development of standards that minimize the number of curb cuts on major roadways to improve safety.
- t. Recommend modification of existing public facilities where necessary to accommodate the development of intense uses in infill areas.
- u. Plan the development and expansion of public facilities to insure that their impact upgrades the overall quality of life.
- v. Consider the reuse and/or expansion of existing public facility buildings to reduce the public expense of relocation.
- w. Plan future school sites and other public facility sites to incorporate space for recreational activities for the entire community.
- x. Select and acquire sites for public facilities in growth areas in advance of development pressures.
- y. Avoid extension of residential zoning beyond the limits of existing services.
- z. Discourage the stripping of residential uses along existing roadways.

HISTORIC AND CULTURAL GOALS

Intent

The Historic and Cultural goals focus on the need to coordinate the planning for land use, transportation and public facilities with historic preservation, while minimizing conflicts between historic/archaeological preservation and economic development desires. Emphasis is placed on those sites and/or structures listed on or eligible for the National or Virginia Registers of Historic Places.

GOALS

- I. To recognize the natural, historic and cultural resources.
- II. To maintain a sense of historical continuity through the identification of those sites, buildings, structures and objects important to our heritage.

OBJECTIVES

- A. Consider design guidelines along Virginia Byways.
- B. Protect from objectional land uses, when possible, valuable historical and archaeological sites and/or structures.
- C. Promote public awareness of those sites/structures of historic or cultural importance.
- D. Promote comprehensive historical and archaeological site identification in coordination with public facilities, land use, transportation and private development efforts.
- E. Protect, when possible, those sites, buildings, structures, and objects eligible for, nominated to, or presently listed on the National or State Registers of Historic Places.

POLICIES

- a. Apply design guidelines for all development that occurs along Virginia Byways.
- b. Recognize and take into consideration Historic Sites shown on the Land Development Guide during the land development process.
- c. Encourage the continued residential use of historic structures and consider imaginative adaptation only where circumstances warrant.
- d. Monitor Federal and State legislation related to historic and cultural preservation and development.

- e. Support efforts to develop cultural facilities incorporating historical or archaeological sites and/or structures.
- f. Support efforts to promote heritage tourism.
- g. Encourage the placement, by property owners, of noteworthy sites and/or structures on the Virginia Landmarks Registry and/or the National Register of Historic Places.
- h. Acquire preserve and rehabilitate, as appropriate, historically and archaeologically significant sites and/or structures when compatible with open space and recreational development.
- i. Maintain and update the *Inventory of Early Architecture and Historic Sites* and *Update of the Inventory Report*.
- j. Support property owners in seeking Federal and State funds to facilitate preservation.
- k. Support property owners in efforts to maintain historic and cultural resources.
- l. Encourage private development to incorporate public access to historic sites and structures.
- m. Utilize the *Inventory of Early Architecture and Historic Sites* and the *Update of the Inventories* in the review of all projects receiving State and/or Federal assistance.
- n. Encourage private owners or developers to recognize the significance of historic areas, structures and sites through the application of the County of Henrico Historic Building Plaque or Roadside Marker Program.

GOALS, OBJECTIVES AND POLICIES

The goals, objectives and policies of the Environmental Element of the Comprehensive Plan are designed to balance resource conservation with strong and sustained economic growth. Toward this end, the environmental element focuses on:

- (1) the physical characteristics of the land and their relationship to development and design;
- (2) the interrelationship between physical features/resources and biological communities and the effect urbanization has upon each;
- (3) the limitations imposed by natural drainage, topography, wetlands, and flood prone areas;
- (4) the need to prohibit development in areas where slope and soil characteristics may pose hazards to life and property, and the quality of State waters;
- (5) the care and management of groundwater resources including aquifer recharge areas;
- (6) the importance of impoundment sites for stormwater management, water reservoirs, recreation and aesthetic amenities;
- (7) the establishment of Chesapeake Bay Preservation Areas and other land use controls to improve water quality in the Chesapeake Bay and its tributaries;
- (8) the protection of State water quality;
- (9) the importance of air quality as a factor in evaluating growth potential; and
- (10) the impacts of noise generation in land use planning.

The County encourages proper land uses and development which do not have a substantial adverse impact on environmental quality.

GOALS

- I. To protect the natural and cultural resources while providing for necessary development areas which respect their limitations.
- II. To promote environmental management as an integral part of the comprehensive planning process.
- III. To minimize environmental degradation.
- IV. To balance the concerns for protection of physical resources and natural habitats for wildlife with the pressures for growth, necessary development, and economic growth.
- V. To encourage conservation and protect physical resources.
- VI. To preserve the scenic, historic and resource importance of the James River and the Chickahominy River corridors.

- VII. To identify and protect certain lands, called Chesapeake Bay Preservation Areas which, if improperly developed, may result in substantial damage to the water quality of the Chesapeake Bay and its tributaries.

OBJECTIVES

- A. Recommend land uses which are compatible with existing and proposed noise levels.
- B. Protect unique and/or critically endangered resources by controlling the effects of development.
- C. Identify and promote conservation and management alternatives which minimize environmental degradation and the mismanagement of natural resources.
- D. Encourage the study, delineation management, and regulation of environmentally sensitive areas, including Chesapeake Bay Preservation Areas.
- E. Recommend land uses which respect the physical resources while providing adequate areas to accommodate growth.
- F. Regulate and manage development to minimize disruption to life and property resulting from erosion and flooding.
- G. Encourage development which can lessen the adverse impact to air and water quality.
- H. Recognize and preserve the scenic, historic, and economic assets of the James River and the Chickahominy River corridors.

POLICIES

Physical Constraints to Development

- 1. Manage the development of flood prone and wetland areas through ordinances such as erosion and sediment control, zoning, subdivision, and other regulations.
- 2. Discourage land disturbance which is more than necessary to provide for the desired use or development. Land development activities should comply with the requirements of the Henrico County Erosion and Sediment Control ordinance. Where best management practices are utilized, regular or periodic maintenance should be required in order to insure their continued functions.
- 3. Enforce soil erosion and sediment control ordinances with frequent inspection of construction sites.
- 4. Delineate through on-site assessment, survey, and map environmentally sensitive lands such as floodplains, aquifer recharge areas, wetlands, steep slopes, woodlands, and natural habitat areas which should be protected from disruption.
- 5. Encourage better landscaping of highway rights-of-way by public and private agencies, and citizen groups.

6. Utilize the County's Comprehensive Drainage Study, on-site environmental assessment studies, and data concerning tributary streams and wetlands for determining refinements to the delineation of Environmental Protection Areas (EPA) and Chesapeake Bay Preservation Areas.
7. Encourage developers to protect ecologically sensitive areas.
8. Encourage land development practices which minimize impervious cover consistent with the use allowed.
9. Continue to cooperate with local, State and Federal agencies in dealing with environmental issues.
10. Require conspicuous statements on all subdivision plats to alert prospective purchasers of pre-existing conditions which may be hazardous or affect the use and enjoyment of the property (i.e., noise, mined areas, flood plains, wetlands, Chesapeake Bay Preservation Areas, etc.).
11. Enhance the environment by requiring site design, tree preservation, best management practices, landscaping and buffering as part of development. Indigenous vegetation should be preserved to the maximum extent possible consistent with the use allowed.
12. Participate in all environmental resource studies affecting the County.
13. Encourage protection and maintenance of environmental quality and the consideration of development credits to this end.
14. Encourage owners of property located within the 100 year flood plain to seek C-1 Conservation District zoning in order to protect these environmentally sensitive areas and to minimize stormwater control problems.

Protection of Potable Water

1. Protect the quality of surface and groundwater consistent with guidelines established by the Department of Environmental Quality, the Chesapeake Bay Local Assistance Board and the Department of Health.
2. Identify and protect, by proper management, aquifer recharge areas.
3. Manage and control environmentally hazardous technologies through zoning regulations and other County ordinances, contracts and permits.
4. Discourage the use of on-site sewage treatment which may adversely impact the water quality of State waters.
5. Review all applications for extraction of mineral resources to prevent irreversible damage to the environment and to ensure reclamation for future development.
6. Encourage recycling of renewable resources.
7. Encourage five-year pump out of septic systems.
8. Encourage large lot developments in areas of potential groundwater contamination.
9. Ensure that the level of development in areas where no public utilities are planned is balanced with the environment's ability to support sewage treatment systems.
10. Protect the quality of the Camp Holly Springs and Diamond Spring recharge area to the extent reasonably practicable.

Shoreline/Streambank Erosion

1. Ensure that proposed land uses are appropriate for shoreline conditions considering the erosion potential which exists.
2. Ensure that development along the shoreline is managed to avoid or reduce reliance on structural erosion controls.
3. Encourage property owners to coordinate protection strategies and utilize the most appropriate measures.

Public and Private Access to Waterfronts

1. Encourage public and private cooperation in the preservation of environmentally sensitive areas for public open space, park, and recreation activities having minimal impact on the site.
2. Encourage development of potential sites, where appropriate, to provide public access to the James River and the Chickahominy River.

Redevelopment of Intensely Developed Areas

1. Preserve through best management practices the scenic, historic, natural resource, and open space qualities of the James River and the Chickahominy River corridors.
2. Require, where appropriate, impoundment sites as a means of stormwater management.
3. Encourage stormwater management practices which accomplish the goals and objectives of the Chesapeake Bay Preservation Act and implementing regulations.
4. Prepare and encourage the use of a Best Management Practices (BMP) guide for land disturbing activities.
5. Require stormwater quality management for all new and redevelopment sites with an impervious area greater than 16%.
6. Review existing BMPs for such things as retrofit potential, possible illegal connections to storm sewer, oil/water separator and trash racks.

Air Quality

1. Protect the air quality consistent with guidelines established by the Department of Environmental Quality.
2. Require that all County-owned operations meet all applicable emission standards.
3. Promote effective mass transportation alternatives to reduce air pollution.

Noise

1. Encourage the incorporation of noise control features in building design, particularly for those areas within the 65 DNL to 75 DNL noise impact areas of Richmond International Airport.
2. Locate land uses where their tolerance is compatible with existing or proposed noise levels.

3. Regulate building heights in airport approach zones in accordance with Federal Aviation Administration (FAA) standards.
4. Promote effective mass transportation alternatives to reduce noise pollution.
5. Utilize noise rating contours and other technologies as a planning tool in the siting and designation of land uses.
6. Update noise contours on the zoning maps and suggest abatement measures to developers on a continual basis.
7. Work with the Virginia General Assembly to improve building construction standards which attenuate impacts of noise.
8. Discourage the location of proposed County facilities whose use may be impacted by noise within the Airport noise contours.
9. Discourage the location of residential uses within areas that project a 70 DNL and more intense noise level.

IMPLEMENTATION MEASURES

This section of the Environmental Element identifies specific measures to carry out adopted goals, objectives and policies. This includes revisions to existing procedures and ordinances (e.g., zoning and subdivision ordinances, the site plan review process, and the capital improvements program). These ordinances and processes reflect and implement the Plan's recommendations.

A. Amendments to Local Ordinances

ZONING ORDINANCE

In June 1990, the Zoning Ordinance was amended by adoption of Section 22-106.2, the Landscape Ordinance. This ordinance was amended in November 1991 as part of the coordinated amendments required to reflect the Chesapeake Bay Regulations. The Landscape Manual is included as part of the Landscape Ordinance, to provide the necessary guidelines to assist meeting the landscape requirements. The sections of the manual include tree protection plans, tree canopy requirements, and requirements for transitional buffers and parking lot landscaping. The Landscape Manual was developed through the cooperative efforts of interested individuals, agencies, businesses and other localities.

In November 1991, the Zoning Ordinance was amended to incorporate Section 22-106, the Chesapeake Bay Preservation Areas Ordinance. The purpose of this section is to: (1) protect Chesapeake Bay Preservation Areas which, if improperly developed, may result in a substantial adverse impact to the waters of the Chesapeake Bay and its tributaries; (2) reduce non-point source pollution to State waters; and (3) promote and restore the high quality of State waters in order to provide for the health, safety and welfare of the present and future residents of the County and the Commonwealth of Virginia (see previous discussion of the Chesapeake Bay Preservation Act).

On November 13, 1991, the Board of Supervisors amended and reordained Subsection (q) of Section 22-95 of the Zoning Ordinance pertaining to controlled density development. Part of the purpose of controlled density development is to further environmental, scenic and historic preservation purposes through protection of flood plains, protection and improvement of water quality (particularly within Chesapeake Bay Preservation Areas), and tree preservation and appropriate landscaping.

SUBDIVISION ORDINANCE

The purpose of this ordinance is to ensure appropriate site analysis prior to development. The Subdivision Ordinance was amended in November 1991 to incorporate provisions for a tree protection plan; provision for the landscape plan; delineation of Chesapeake Bay Preservation Areas; provision for protection of Chesapeake Bay Preservation Areas; and buffer requirements for these areas.

EROSION AND SEDIMENT CONTROL ORDINANCE

In November 1991, the Board of Supervisors approved an amendment to Chapter 9 of the County Code pertaining to erosion and sediment control. The purpose and objective of this Chapter is to control erosion and sedimentation during and after development. This is to reduce or eliminate erosion and sedimentation and thereby protect water quality. This Chapter also establishes procedures for administration and enforcement of such controls.

The Department of Public Works is in the process of developing a Best Management Practices Manual. It is designed to provide guidance for stormwater quality management. The manual is scheduled to be completed in 1996.

BUILDING CODE ORDINANCE

Residential Soil Testing Requirements

To reduce the risk to homes from problem soils, the Building Inspections Department requires soils investigations prior to issuing permits in those areas identified as having high shrink/swell soils. Shrink/swell soils are indicated by the USDA/VA TECH Soil Survey of Henrico County, or identified by other information as being located on fill and/or old mine sites.

All homes in locations with soils determined to have a moderate or high shrink/swell potential are required to have a roof drainage system to collect all water from the roof and discharge it at least 5 feet from the foundation walls. For sites outside of these areas, no special soils testing is required, unless unusual conditions are found during site work or the footing inspection.

The plans for all homes requiring non-standard engineered foundations are to be identified on the approved foundation plan. The requirement for controlled roof drainage is to be marked on the approved plans. This marking is required to be on plans issued after November 25, 1991.

Water Conservation Fixtures

The use of water conservation fixtures is specified by the Building Officials and Code Administrators (BOCA, 1993, 1990) standards that were adopted by Virginia as part of the Uniform Statewide Building Code (USBC). The USBC applies to all new construction and some remodeling of existing structures. To comply with these standards, the County Building Code was amended to require installation of low-flow fixtures to conserve water. Included in the standards are low-flush toilets which reduce the amount of water used to 1.6 gallons per flush. Low-flow showerheads save substantial amounts of water with a flow rate of 2.5 gallons per minute. While conservation-type showerheads are not mandated in the BOCA code, the maximum limit of 2.5 gpm precludes the use of most conventional showerheads, which have a flow rate of 7.0 gpm (County of Henrico James River Water Supply Intake, Final Environmental Impact Statement, Main Report).

SEPTIC AND DRAINAGE REGULATIONS

These regulations have been amended to include provisions to protect and improve the water quality of the Chesapeake Bay and its tributaries. In all Chesapeake Bay Preservation Areas septic tanks must be pumped out every five years. A reserve drainfield must be provided for septic tanks, which equals the waste treatment capacity of the primary drainfield. After the effective date of this program, to record a lot or build a house, a reserve drainfield must be provided on the site.

B. Enhanced Review Procedures

Site plan review requirements have been expanded to ensure that all factors affecting water quality are taken into consideration prior to development. In addition, as part of the County's site review process, steps are taken to protect unique and/or critically endangered resources wherever it appears that there is a potential for them to be negatively affected by proposed development.

C. Capital Improvement Program

The Capital Improvement Program is used to implement water quality protection measures. Funds are allocated for drainage projects and replacement of antiquated sewer lines.

D. NPDES Program

The Department of Public Works uses a checklist to inspect business sites for violations of permit requirements (pollution into the County's storm sewer system). Redevelopment areas are reviewed for potential improvements to existing basins, possible illegal connections to the storm sewer system, location of dumpsters, covering of operations which will generate pollutants, etc. Also, the County Code provides a mechanism where violators can be fined \$1,000 per day per occurrence.

Through matching funds from the Chesapeake Bay Local Assistance Department, the Department of Public Works has designed a computerized tracking and monitoring system for implementing the Chesapeake Bay Act, including information related to BMP maintenance and stormwater management. The system also tracks projects under construction in Chesapeake Bay Areas which will provide a more consistent review of flagged buffers and other site development requirements.

E. Parks, Recreation and Open Space Plan

The 2005 Parks, Recreation and Open Space Plan, adopted in 1989, provides essential long-range guidance to assist in the planning and programming for park acquisition, development and renovation. It provides information relative to the natural environment, expresses recreational and leisure needs and lists existing facilities. The Plan will be updated beginning in 1996.

F. Farm Conservation Planning

The Chesapeake Bay Preservation Act provides guidance for landowners in designated Chesapeake Bay Preservation Areas. These Resource Protection and Resource Management Areas require soil and water quality conservation plans and grass filter strips that provide a buffering effect from agricultural activity and soil erosion.

Effectuated landowners are required to have either a conservation plan approved by the Henricopolis Soil and Water Conservation District or install approved grass filter strips. Components of a conservation plan address erosion control and nutrient and pest management. The installation of one or more Best Management Practices (BMPs) allows flexibility in buffer and plan requirements. There are State and Federal assistance programs available for producers and landowners. This cost-share assistance provides up to 75% of the cost of installation of BMPs.

The Department of Forestry assists owners of silvicultural land tracts with forest management planning. The Food Security Act requires producers and owners of highly erodible land in agricultural production to develop a conservation plan for erosion control. These plans will qualify eligible landowners for participation in USDA farm assistance programs.

G. Curbside Recycling Program

The Commonwealth of Virginia requires localities to recycle a percentage of solid waste to reduce the amount going into landfills. This program was implemented in increments, beginning in 1991, with 10% being recycled and increasing to 25% by 1995. As of 1993, the Central Virginia Waste Management Authority reported an attainment of 34.7% recycled as of 1993. This was accomplished without curbside recycling.

In September 1994, the Board of Supervisors authorized the development and implementation of curbside recycling service in the County. This enabled the Central Virginia Waste Management Authority to work with the Department of Public Utilities to develop this service, beginning in January 1995. The program started by providing this service to 55,000 homes. This program is expected to greatly increase the percentage of recycled materials.

H. Wellhead Protection Program

Henrico County completed a Wellhead Protection Pilot Study in 1993. The goal was to investigate the potential for contamination of public water supply wells in the County. In this study, wellhead protection areas were delineated for surface wells. The data from this study is a useful resource for future County land use planning.

A sizeable amount of acreage designated as wellhead and aquifer protection areas coincide with Chesapeake Bay Preservation Areas. Currently, the wellhead maps are used similar to the DRASTIC maps, to evaluate proposals for development.

I. Stormwater Management Plan

Determining which watersheds require storm water detention is based on the County's Stormwater Management Plan. This Plan was developed in 1990 as part of Henrico County's ongoing drainage and stormwater management program. The purpose of the Plan was to develop an overall stormwater management framework to address existing and future drainage problems. The Plan recommends a mix of regional detention basins, channel improvements, improved stream crossings, nonstructural measures and on-site detention facilities.

The Henrico County Storm Water Management Plan is reported in five separate volumes. Stormwater management master plans were developed for 23 watersheds within the County. The description of these watersheds includes information on drainage area and percent of impervious surface for existing and future land uses.

J. Large Tract Developments

Large tract mixed use developments, also generally known as planned unit developments, bring together conventional land use activities in complimentary arrangements. This design concept can enhance resource protection, add value to projects, and become an economic development catalyst in the community.

Large tract development is a logical development pattern for eastern Henrico. The majority of this area is not served by public water and sewer nor is expansion to this area currently planned. In areas dependent upon septic systems, lot size requirements are directly related to the ability of septic systems to properly function. Particularly in areas of sandy and sandy loam soils, larger lot sizes or open space requirements prevent groundwater supplies from becoming contaminated with bacteria and improperly treated effluent. See the section on Large Tract Development Guidelines for a detailed discussion on this element.

K. Water Conservation and Water Quality Programs

There are many programs available for improving water quality in Henrico County:

- (1) At the Federal government level, the USDA Natural Resources Conservation Service oversees the Food Security Act. This program provides conservation planning for landowners with highly erodible land. There are many farmers in Henrico County who participate in this program. The USDA Consolidated Farm Service Agency also has crop protection programs for landowners.
- (2) The US Army Corps of Engineers oversees wetlands protection and permitting. The Corps works with developers and County staff to ensure the protection of these important areas.
- (3) Other agencies at the State level also have programs for landowners to assist with water quality protection. The Department of Forestry provides technical assistance and forest management planning for landowners who

own forest land. The Virginia Department of Conservation and Recreation (DCR) works with the County on erosion and sediment control. DCR also reviews erosion and sediment control plans for State projects within the County. The Virginia Department of Environmental Quality also assists with review of wetlands permitting and water withdrawals.

- (4) The Henricopolis Soil and Water Conservation District provides the following programs to County user groups:
- (a) Teacher training - conservation and environmental education tours and training sessions for Henrico County teachers.
 - (b) Conservation materials - thousands of educational materials are distributed within the County school system. These materials are used at all levels of primary and secondary education.
 - (c) Presentations - programs are provided for students in the schools and for after school enrichment.
 - (d) Youth Conservation Camp & Forestry Camp
 - (e) Chesapeake Bay Act - The District is active in writing conservation plans that include components that address nutrient management, pesticide management and soil erosion control.
 - (f) Virginia Agricultural Cost Share Program - provides cost share funds for 22 different Best Management Practices to landowners who are eligible.
 - (g) NPDES - the County administers the National Pollutant Discharge Elimination System program. This program monitors streams and outfall pipes for evidence of polluting contaminants.
 - (h) Seminars and presentations - several water quality improvement programs are provided throughout the year to train environmental engineers, contractors and developers.
 - (i) Assistance is given routinely to homeowners with water quality problems.
 - (j) The District also provides assistance on a day-to-day basis, such as aerial photography to engineers who are conducting environmental site assessments and to homeowners with shrink-swell or drainage problems.

Many of these initiatives are not quantifiable but have a collective effect on the improvement of water quality in Henrico County. In addition to the on-going efforts listed above, the County has committed to several new initiatives related to its future, planned water treatment facility.

Summarized below are the water conservation programs that will be implemented by Henrico County pursuant to the "County of Henrico, James River Water Supply Intake, Final Environmental Impact Statement, Main Report." These conservation programs are divided into two categories:

- Long-term conservation planning efforts are designed to significantly reduce water consumption in the future, concentrating on efforts to reduce future demands from new construction and through physical modifications driven by new plumbing standards. Long-term efforts also endeavor to reduce existing water demand through public education programs.

The Federal Energy Policy Act, enacted in 1992, established national water efficiency requirements for plumbing products. These requirements apply to plumbing products maintained after January 1994. The standards have the same basic requirements as recent amendments to the Virginia Statewide Building Code, which as of 1994 makes the use of these standards mandatory for Virginia localities (See Implementation Measures-Building Code Ordinance-Water Conservation Fixtures for more details).

- Drought Conservation planning efforts are designed to reduce existing demands during periods of dry weather, primarily through public education and, when necessary, through the regulation of "discretionary" water uses such as lawn watering.

The City of Richmond and Henrico County have developed a "Regional Flow Management Plan (RMP) for the James River in the Falls of the James Area" (September 1994). The RMP specifies rules for canal diversions and water supply withdrawals for different seasons and streamflow thresholds in the James River upstream of the proposed Henrico County intake and the existing Richmond intakes. These water withdrawal rules include provisions for regional "voluntary" and "mandatory" drought conservation programs which would be applicable to all users of the James River water supply withdrawn from the study area.

L. Regional Cooperation

Henrico County participated in the development and adoption of the Richmond Regional Environmental Goals, Objectives and Policies that were adopted in April, 1993. The intent of these statements is to provide the Planning District Commission with an overall set of guidelines to direct its environmental planning activities and a framework to offer to the Commission's member governments for dealing with their environmental issues.