

THE COMPREHENSIVE PLAN FOR FAIRFAX COUNTY, VIRGINIA

AREA III

This document consists of the Area III Plan, adopted June 30, 1975, and all amendments adopted through October 27, 1986. Any subsequent amendments are available from Maps and Publications Sales, Massey Building, Fairfax, Virginia 691-2974.

The Board of Supervisors has established a regular Annual Plan Review and updating process to insure the continuing relevance of the Plan. For information regarding the Annual Plan Review, please call 691-2641.

This document, which is to be used in conjunction with the Area Plan maps, provides background information and planning policy guidelines for Fairfax County, as required by the Code of Virginia, as amended.

**1986 EDITION
(As Amended Through October 27th, 1986)**

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**THE COMPREHENSIVE PLAN
FOR FAIRFAX COUNTY, VIRGINIA**

Area III

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AREA PLANS

The plan has been developed in response to citizen preferences, public policy guidelines, economic realities, and legitimate private sector concerns and intersects. A broad, generalized, land use pattern does emerge which serves as the context for the more detailed land use and functional recommendations.

New compatible residential infill and the preservation of existing stable neighborhoods are the major planning policies for the eastern part of the County—Planning Areas I, II, and IV. In the less developed Area III, west of Difficult Run in the Upper Potomac Planning District and South Run in the Pohick Planning District, the residential pattern changes dramatically. Stable neighborhoods are still preserved, but in the western part of the County, apart from planned development centers, the dense residential and commercial development that characterizes the closer-in areas does not appear. Also, many western County stable areas such as Great Falls include large tracts of undeveloped land and areas of environmental conservation.

Growth centers, generally referred to as planned development centers, are strategically located throughout the County and are designed to house the increased population which is not absorbed by infill of stable areas. In the eastern part of the County, these planned development centers are large undeveloped areas usually enclosed by existing surrounding development, such as the Tysons Corner quadrangle. In the west, the land designated for planned development centers is by and large presently undeveloped with substantial areas nearby which are planned for environmental conservation and very low-density residential. Reston is already developing as a planned development center and by 1990 is expected to have a population of 75,000.

By 1990, roughly 100,000 more people will be employed in Fairfax County. Nonetheless, the region's core will continue to be the dominant employment location for Fairfax County residents. Major planned industrial development, especially in the western portions of the county, locates future basic employment activity where it will have less impact on the congested eastern parts of the County. This location will encourage reverse commuting in the opposite direction of existing rush-hour traffic and will tend to intercept and tap the labor force in the Routes 7, 50, I-66, and I-395/I-95 corridors. Major regional commercial centers are located near major transportation resources, planned development centers, and relatively high-density stable areas.

Mass transit improvements and new highway construction are recommended to serve the population increase. Radial roads, which are often planned to be widened and provided with new intersections and service roads, are supplemented by new and improved circumferential and cross-County roads such as Route 28. In the highly developed eastern part of Fairfax County, Areas II and IV, rapid rail stations are located and selectively accompanied by high densities in their immediate vicinities. Throughout the entire County, a heavy reliance has been placed upon the use of bus transit.

Land Use Planning Objectives

The growth and land use pattern planned for Fairfax County to 1990 is guided by six key objectives supplemented by major functional recommendations. The significance of each varies in different parts of the County, but taken together, they produce the broad development pattern described earlier. These concepts are:

- general land use classifications;
- preservation of existing neighborhoods;

- growth of planned development centers;
- implementation of environmental and heritage resource protection and preservation programs;
- development of economic growth areas; and
- creation of a responsive transportation network.

Subsequent amendments to the Comprehensive Plan will further address the achievement of these objectives through the time phasing of development.

General Land Use Classifications

The Comprehensive Plan, by incorporating the four area plans, contains detailed land use evaluations and recommendations. Identification of land areas into stable, complex, and option areas shapes the major policy framework of the plans.

All infill shall be of a type and density which is compatible with the affected area. All buffering measures between different uses and densities shall consist of preserving, maintaining, and utilizing natural vegetation, particularly trees, as buffers to the maximum extent physically possible and whatever other measures are necessary.

Stable Areas

Stable areas cover most of the County where existing residential and commercial development make infill with compatible land uses an appropriate planning solution. The recognition that an area is stable does not mean a policy of inaction. Actions such as infill density control, buffer requirements, and public facility provision must be taken to insure that this stability is maintained.

Complex Areas

Complex areas are those faced with many land use problems at once, where commercial or industrial development pushes against residential sections, or where pressure for high-density development threatens an environmentally sensitive area or would require major new public facilities. The Plan establishes policy guidelines and make significant recommendations. Decisions in most complex areas must be made soon, before it is too late for choosing. Complex area development must provide for effective and suitable traditional uses within the complex area as it relates to surrounding stable communities.

Option Areas

Option areas are those where relatively little development has taken place. A range of choices for future uses of the land is available but decisions are less urgent than in complex areas. Option areas make up the remainder of the developable land after stable and complex areas have been delineated. The Plan examines available alternatives and make specific land use policy recommendations in option areas.

Preservation of Existing Neighborhoods

The eastern part of Fairfax County, roughly the area east of Route 123 and Difficult Run, is largely developed, and a policy of protecting and enhancing existing stable neighborhoods is a prime objective in Area I, II, and IV plans. In these areas, infill development, which is usually residential, is normally of a compatible type and density. In Area III where most of the vacant and undeveloped land is located, stable neighborhoods include areas of much lower density and open space. This conservation land is classified as stable, with areas such as the western Pohick with its five- and ten-acre estates included in this classification. In stable areas, the Plan encourages buffering between potentially conflicting land uses, reduction of through-traffic on neighborhood streets, the con-

tainment of commercial expansion, and the protection of environmentally valued resources.

To further ensure compatible infill, special exception/special permit uses should be assessed on a case-by-case basis (except where otherwise noted in specific community sector text), and considered compatible with existing development if there are no adverse impacts on the transportation system, the environment, and the surrounding community.

Planned Development Centers

The planned development center, a concept that was successfully pioneered in Reston, is a means of clustering and concentrating growth in order to achieve a balance between new development and protection of the environment. It offers a mixture of housing types and densities, rather than the usual low-density sprawl, and encourages a coordinated mixture of land uses including open space, public facilities, and commercial development. The concept encourages the expansion of job opportunities and less reliance on the automobile for long-distance commuting, thus reducing noise and air pollution, and contributing to the quality of living.

Large undeveloped areas in the eastern part of the County, such as the Chiles and Lehigh tracts, the Fairfax Center Area and the area near Tysons Corner, are often treated as potential planned development centers with a mixture of land uses at relatively high densities. Development centers in the western part of the County consist of the major ones at Reston/Herndon and Centreville and less extensive developments at Chantilly and Burke. However, it is estimated that the residential stable infill in Area II outside of development centers will absorb much of the projected population growth prior to 1990, since the planned development centers, with the exception of Reston, will be in the early stages of development.

Planned Development Housing

Whereas a planned development center required hundreds and even thousands of acres, planned development housing (PDH) is a county goal that can be accomplished within a comparatively small area. In PDH zoning, just as in the larger planned development centers, construction is clustered so as to leave greater open space than is possible with conventional single-family development. Further, a mix of housing types is possible.

Environmental Preservation

Environmental protection and preservation is important throughout the County. In eastern Fairfax County, much of the significant land has already been developed. Stream valleys such as Cameron Run, Accotink Creek, Mason Neck, and Pimmit Run are to be preserved either through private conservation and/or public actions.

In the western part of Fairfax County, sensitive environmental areas such as the Potomac and Occoquan shorelines, the Difficult Run stream valley, and large parts of the Pohick Planning District are potentially threatened by inappropriate development.

The Plan uses the concept of environmental quality corridors (EQCs) as a way of coordinating some major objectives of environmental planning. The EQCs represent and relate areas which form a significant environmental pattern. Principally, the EQCs are lineal open space areas comprised of a number of natural and cultural resource features. Streams, their floodplains, wetlands, and public parks form the core of the system. Prime wildlife habitats, heritage resources, rights of way, and citizen-identified environmental resources are additional components which may not necessarily

coincide with the lineal, stream-based pattern. The EQCs are designed first and foremost to protect sensitive environmental features from harmful degradation, thus preserving these amenities, but the system of EQCs also functions in the overall land use plan as a network of natural buffer areas of limited development which serve to define and space more developed communities. Where appropriate, they may provide recreational opportunities, though care must be taken not to conflict with the main environmental protection function of the corridor system.

Management of Heritage Resources

The identification, study, and preservation of our heritage resources is one of the goals of the County's planning process. In our rapidly growing county, many important archaeological sites and historic structures are being lost. To create an optimum balance between the conflicting interests of economic growth and the preservation of our heritage resources, the Heritage Resources Management Plan sets forth general policies and guidelines to maximize preservation while simultaneously minimizing its impact on economic growth. The Heritage Resource Management Plan includes management strategies for each Planning Area and District. Summaries of these management strategies and recommendations are included in each Area and District Plan. Consultation with Heritage Resources Branch staff is

recommended early in the planning stages of development so that heritage resources can be evaluated and preservation alternatives can be examined.

Economic Growth Centers

Areas of employment growth are located throughout the County in areas with access to available labor and a good existing, or potential, transportation system. They are usually located near population centers like Reston and prime interchanges and transportation nodes as at Tysons Corner and Dulles. Rail and automobile corridors such as Burke and the I-95/I-395 corridor are also key areas for this kind of development. The I-95/I-395 corridor, Dulles Airport, and Reston vicinity will provide the areas of greatest potential economic growth, although to realize this potential, the transportation deficiencies of the Dulles area must be overcome. One of the key concepts in the location of these centers is to encourage work-trip movement away from the congested eastern parts of Fairfax and to reduce travel times and trip lengths for commuter work trips.

To provide for the needs of planned population growth and to complement existing regional commercial development, six new or expanded regional-scale centers are recommended for Fairfax County: Reston, Fairfax Center Area, Centreville, Springfield Mall, Tysons Corner, and possibly Hybla Valley. The last three are expansions of existing centers. The timing of these regional shop-

ping centers will depend on a number of factors such as the location and timing of new housing developments, transportation improvements, and the adequate provision of public facilities. All will have good accessibility to the market areas which they will primarily serve.

Transportation

The proposed transportation network is designed to improve existing roads and mass transit, and to provide acceptable service for stable infill development, planned development centers, and economic growth areas. Potential air pollution problems are a factor in assessing development density proposals, new highway alignments, and consideration of alternative transportation modes; e.g., rapid rail transit. The Plan moves to solve transportation needs generated by the population increase with four major approaches:

- Radial roads to Washington and the highly developed eastern part of the County; (e.g., Routes 7 and 50) are improved or widened for improved transit operations.
- Circumferential roads, in addition to I-495, are proposed to be constructed or improved. Principal primary circumferential routes shown on the Plan are I-495 and Routes 123 and 28. Complementing these are additional circumferential highway improvements, including the Springfield Bypass route.
- Secondary roads are improved to provide safety and a level of convenience to the population they serve, while preserving neighborhood, scenic, and environmental features.
- Mass transit as an alternative to the automobile is given strong emphasis in the plan. New bus, rapid rail, and commuter rail proposals are made with special attention given bus transit in the next 10 years. In the period 1975-1985, the provision of rapid rail transit will be limited to the more developed eastern portions of the County, although allowance has been made for possible extension after 1985 in the western part of Fairfax County to Reston and Centreville.

Population Forecasts

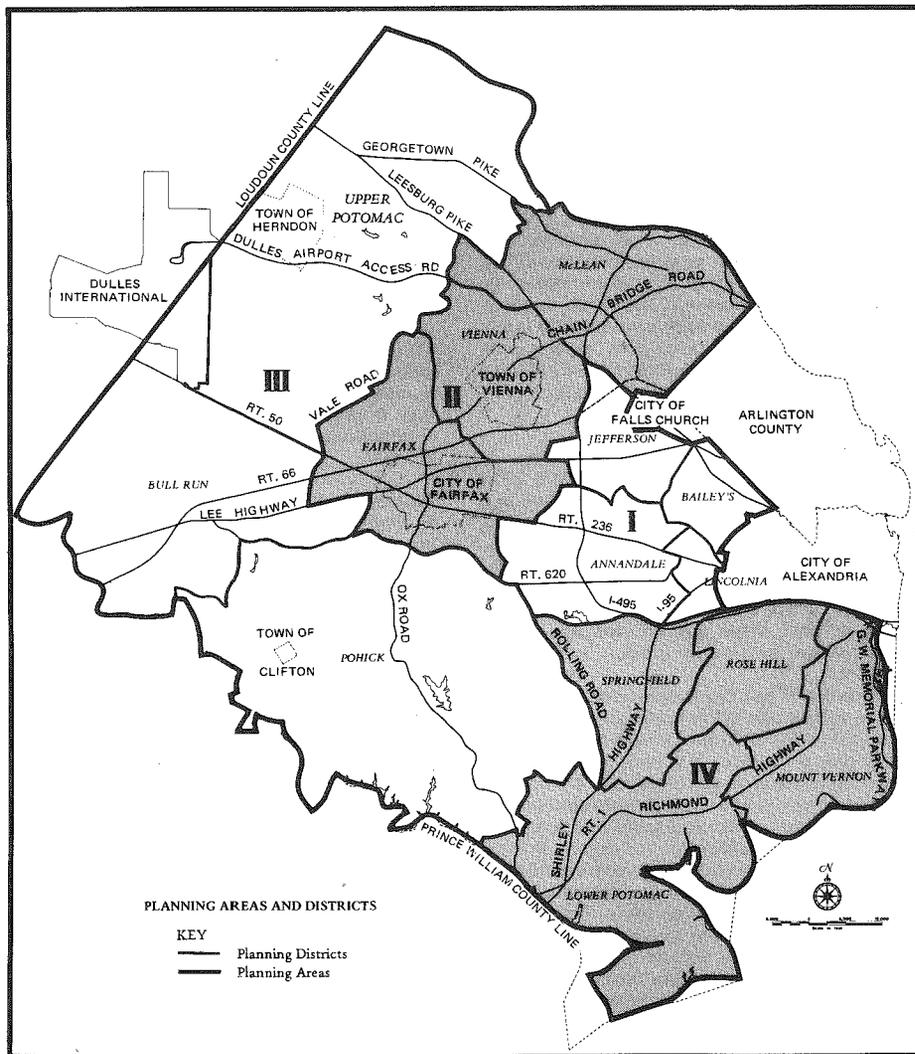
The Plan is based upon a forecasted population of 686,000 in 1990. This forecast will be revised on an annual basis as changing demographic factors affect the County's growth rate. More importantly, as the Metropolitan Growth Policy Program develops annual growth policy statements, the forecasts will be revised to reflect new policies. When the changes affect other aspects of the plan, such changes will be made in the course of the plan update.

Purpose of Area Plans

Area plans have a target year of 1990. The policies which guide them are consistent with the adopted interim development and redevelopment policies and with the policies and objectives developed under other components of the planning process, especially on the countywide level.

The countywide and area plans have been developed in tandem. Planning has proceeded from both the overall countywide and small-area perspectives simultaneously, thus resulting in a healthy tension as the general countywide concepts have pressed against the localized and detailed requirements of the area plans. The area plans were developed within the guidelines set by the *Countywide Alternative* document and were, in turn, used as the foundation for this countywide Plan document.

The area plans, which reflect existing conditions and address specific issues in each area, and which are responsive to the needs and desires articulated by the citizens of each area, generally present detailed recommendations. In some cases, however, the plans highlight alternative choices available to citizens and public officials. In



these situations, the plans generally discuss the alternatives and then point the way toward selection of the most desirable alternative.

The area plans do not fully specify, nor should they, the County's complete program of action for the next 15 years. They do present a 15-year picture of the desirable future, which provides a framework for thinking about the future as the decisions which shape it are made.

The area plans will be reviewed on an annual basis. As this occurs, the revised area plans will reflect the changes in the countywide, and other, plans made in response to changing conditions.

Geographical Organization of Area Plans

Prior to PLUS, the County was organized for planning purposes into fourteen planning districts. Most of these were covered by comprehensive plans. The plans, however, were out of date or were becoming so; and they addressed different issues in a variety of ways over a period of years without ever coming to grips in a coordinated manner with the problems facing the County's local areas.

The planning districts, usually, with only a slight modification to follow subcensus tract boundaries, were combined for the PLUS effort into four planning areas to limit the areas being replanned to a manageable number and to simplify the coordination of local area planning. Portions of the County in each of the planning areas are indicated in the accompanying planning districts and areas map.

AREA III

PLAN OVERVIEW

Key concepts embodied in this document include:

- interim development and redevelopment policies;
- planned development centers;
- environmental quality corridors.

Community planning sectors have been established to provide a framework for detailed recommendations. Population estimates have been made for a 10-15 year period. Stable areas have been designated for the purpose of reinforcing neighborhood stability by:

- encouraging infill with compatible land uses;
- insisting on adequate buffering between conflicting land uses;
- reducing through-traffic on neighborhood streets;
- containing commercial expansion;
- protecting environmentally valued resources; and
- acquiring land for recreation and open space purposes.

Complex areas have been designed where pressures for changes exist and the situation defies simple solutions. These areas require:

- plan guidelines and criteria for evaluating major public and private proposals;
- a system for conducting such an evaluation—project impact evaluation system (PIES);
- the use of medium-density development to contain commercial expansion; and
- improved access to major shopping facilities by trails, sidewalks, and small area transit.

Regional-scale planned development centers are proposed at Reston/Herndon and in Centreville.

Economic analysis has provided recommendations to increase job opportunities within the area by full utilization of potential job sites such as the Dulles area and Reston/Herndon.

Environmental protection and enhancement are recommended through:

- establishment of low-density development in environmentally sensitive areas such as Great Falls, the upper Difficult Run, and the western Pohick;
- reduced automobile use by encouraging greater mass and small area transit use;
- review of environmental constraints and prohibitions on a site-by-site basis to minimize development impacts, especially in the Occoquan Reservoir area;
- development of an air quality maintenance plan; and
- delineation and protection of environmental quality corridors.

Heritage resource identification and preservation are recommended through:

- consideration of heritage resources at the earliest planning stages of development, and as appropriate thereafter;
- application of appropriate preservation tools to significant sites, structures, and districts;
- continued monitoring protected resources.

Improvement of housing opportunities and neighborhood conditions for all income levels through:

- inclusion of low- and moderate-income units in planned development centers and conservation of existing moderate-income housing units;
- a neighborhood improvement program for the Lincoln-Lewis-Vannoy, Zion Drive, and

Chapel Acres areas; and

- monitoring neighborhood design and housing construction to promote open space and structural quality.

Transportation strategies and growth controls are linked by:

- promoting planned development centers to facilitate mass transit use;
- proposing better cross-County access on Route 123 and Route 28;
- encouraging radial movement on bus lanes, Metro, and by commuter rail; and
- proposing improvements to Route 7, the Dulles Airport Access Road, and construction of the Springfield Bypass.

Public facilities investment patterns are recommended which:

- phase timing of facilities to guide growth;
- reduce public facility costs by encouraging planned development; and
- promote increased public investment in neighborhood parks and needed school facilities.

Plan implementation is promoted by coordination of public and private actions, including:

- innovative programs such as the small-area transit systems or local commuter bus groups;
- public policy decisions (zoning, administrative rulings, etc.);
- public investment (Capital Improvement Program (CIP), park dedication and advance acquisition, highway programming, land banking, etc.);
- private input to public policy (citizen review of CIP, participation in PIES, neighborhood project activities); and
- new private-public investment mechanisms.

Background

The peaceful rolling farmland and the quiet crossroads towns of western Fairfax County are now feeling relentless growth pressures from Washington's suburban sprawl. The crescent-shaped outer edge of the County, stretching from the Potomac River on the north to the Occoquan River on the south, is now the magnet for a commuter-oriented society in search of open land and unspoiled natural resources. How well we plan for this growth and how wisely we act to control it will determine in large measure how long these resources will remain with us but also, in large measure, the chances for successful implementation of plans for the eastern part of the County.

The importance of Area III can be appreciated from the fact that in 1983 it contains an estimated 31 percent of the County's population and 60 percent of the land area. This represents room for both growth and conservation.

Area III, which includes the Upper Potomac, Bull Run, and Pohick Planning Districts, is now growing four times faster than the rest of the County. Its estimated January, 1983, population of 195,808 is more than triple that of ten years ago. The area is expected to increase its population by approximately 30 percent in the next decade, creating problems not only for itself, but for the closer-in parts of the County through which its Washington-bound commuters must travel. It is in an area rich with a history that preceded the beginnings of the Republic. But the evidence of history—the battlefield, the churches, the old towns, and the plantation homes—are threatened by the noise and the economic pressures of growth.

In spite of the growth, Area III still retains much of its essentially rural character. In 1983, just over 40 percent of its 121,735 acres had been given over to development—residential, commercial, indus-

trial, or open space. There are vast tracts of unimproved land, even in the most traffic and population pressure points. The need for the public to say how some of these tracts should be used—and for the government to act—is urgent. In others, there is less urgency but some would like to see the growth of the County stopped or retarded. But some growth as the result of the burgeoning population in the Washington metropolitan area is inevitable. What Fairfax can do is define the growth so that its effects on the quality of life, the health of the environment, and County costs are minimized.

Now that the inner-County areas like Annandale and Baileys have reached near capacity, the growth of the metropolitan area is spilling directly over into the outer reaches of the County. Area III absorbed fully 82 percent of the County's growth from 1970 to 1980. During that period, the average annual growth rate ranged from the barely perceptible 4.5 percent for Great Falls to the spectacular but planned 25 percent for Reston. Reston is expected to grow to about 70,000 when completed.

The greatest potential for industrial employment generally in the areas to the east and south of Dulles Airport and along the Dulles Airport Access Road from the airport to Hunter Mill Road.

The median family income of \$41,800 is approximately equal to County's median income.

SHORT TERM FORECASTS

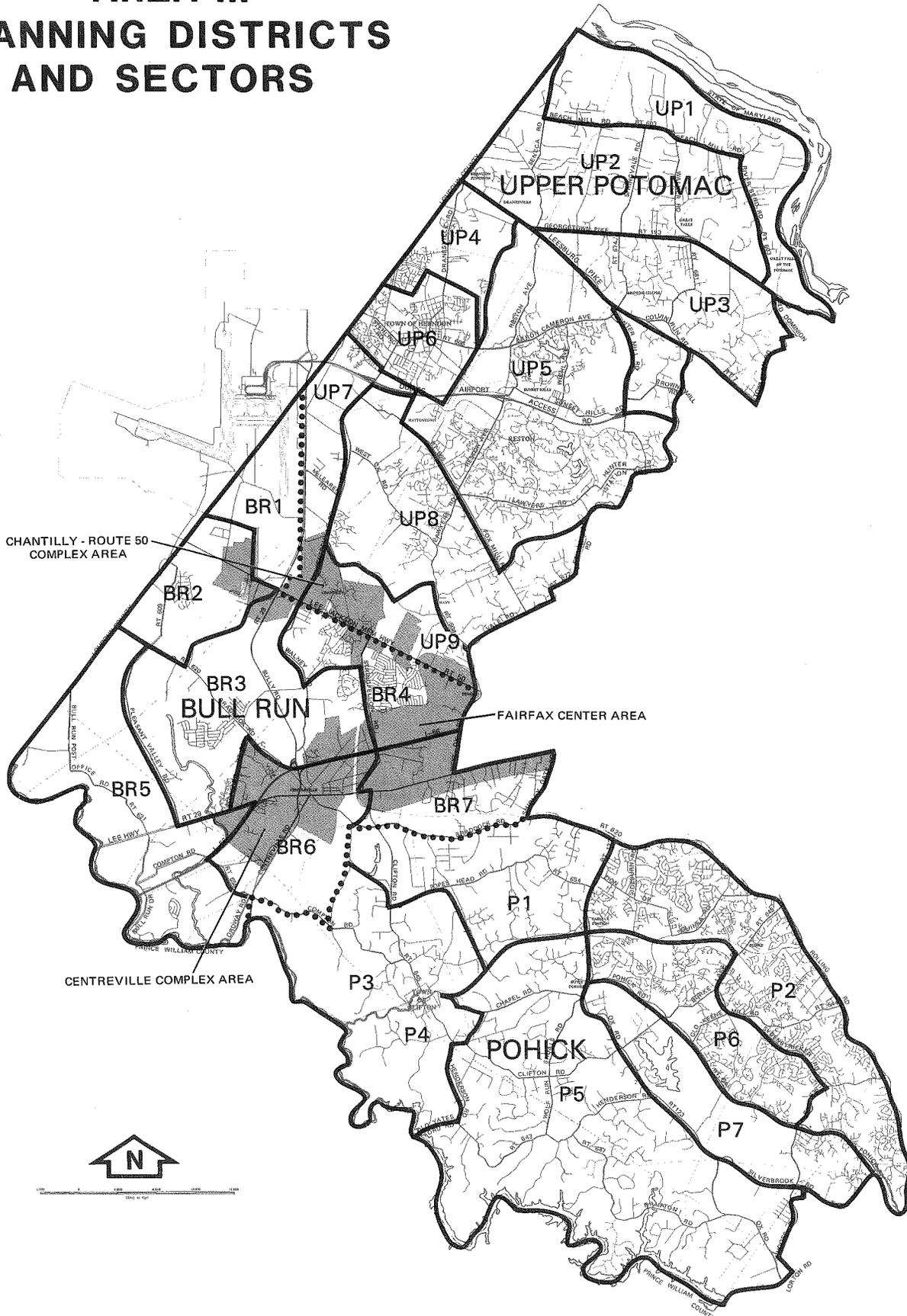
As has been discussed in the introduction section of the Plan, countywide forecasts of population to 1990 have been lowered to 686,000. This new forecast is based on demographic trends which were observed during 1976 and verified in more recent work done for the Metropolitan Washington Council of Governments Cooperative Forecasting Program.

The reduction in countywide population forecasts will impact on the timing of expected housing units in individual planning areas, districts and sectors. Detailed small area data reflecting these impacts are presented in 5-year increments up to the year 2000 in computer printouts which are available in the Fairfax County Office of Research and Statistics. In addition, plan buildout data by supervisor district, planning district and subcensus tract can be found in the 1983 edition of *Standard Reports*, published by the Office of Research and Statistics.

To augment the data found in *Standard Reports*, detailed existing housing estimates as of January 1983, and newly developed data on plan capacities in housing units are presented in the following tables. The tables also include dwelling units as of January 1, 1975. This is approximately the time the original PLUS program plan was adopted. Thus, the data enable comparison of the level of residential development at the time of plan adoption with that of 1983 and with projected plan capacity. In addition, the data include existing dwelling units and plan capacity as of January 1983 in order to show the differences caused by plan changes in the previous annual plan review. The data in these tables supersede data presented in other tables of this Plan.

All of the data has been generated on a parcel-by-parcel basis. Existing units are from the January 1, 1983 Urban Development Information System parcel file. Additionally planned units are assumed to be built on undeveloped and underutilized land (adjusted for floodplains) at the midpoint of the planned density ranges. For example, an area planned for 1-2 dwelling units per acre is assumed to represent a density of 1.5 dwelling units per acre.

AREA III PLANNING DISTRICTS AND SECTORS



The plan definitions for residential unit types are as follows:

Planned Density Du/Ac	Unit Type Mid-Point Planning
.1-.2, .2-.5, .5-1, 1-2, 2-3, 4-5	100% SFD
5-8	50% SFD/50% TH
8-12	100% TH
12-16, 16-20	50% TH/50% GA
20 or more	100% GA
(e.g. 20-40 du/ac)	100% EA
	(30 du/ac)

SFD: single-family detached
TH: townhouse
GA: garden apartment
EA: elevator apartment

Existing and Projected Housing Units by Type
January 1983 — Plan Buildout

Area III						
Residential Unit Type	Jan. 1975 Dwelling Units	Jan. 1982 Dwelling Units	Jan. 1983 Dwelling Units	Additional Planned Units	Jan. 1983 At Plan Capacity	Jan. 1982 Previous Capacity
Bull Run Planning District						
Single Family Detached	4,416	5,546	5,733	17,374	23,107	23,327
Townhouse	1,394	1,953	2,186	7,026	9,212	10,076
Apartment	303	309	296	6,766	7,062	8,831
Mobile Home	510	501	500	500	500	501
Total	6,623	8,309	8,715	31,166	39,881	42,735
Pohick Planning District						
Single Family Detached	8,301	17,840	18,511	14,126	32,637	32,761
Townhouse	2,773	8,778	9,678	3,309	12,987	12,666
Apartment	3	323	439	522	961	776
Total	11,077	26,941	28,628	17,957	46,585	46,203
Upper Potomac Planning District						
Single Family Detached	5,991	13,634	14,358	18,920	33,278	32,984
Townhouse	4,055	7,021	7,186	4,540	11,726	11,670
Apartment	6,161	7,205	7,367	3,510	10,877	11,186
Total	16,207	27,860	28,911	26,970	55,881	55,840
Planning Area Total	33,907	63,110	66,254	76,093	142,347	144,778

Existing and Projected Housing Units by Type
January 1983 — Plan Buildout

Area III Bull Run Planning District						
Residential Unit Type	Jan. 1975 Dwelling Units	Jan. 1982 Dwelling Units	Jan. 1983 Dwelling Units	Additional Planned Units	Jan. 1983 At Plan Capacity	Jan. 1982 Previous Capacity
Sector BR1						
Single Family Detached	1	1	1		1	1
Total	1	1	1		1	1
Sector BR2						
Single Family Detached	38	191	215	669	884	888
Townhouse						127
Apartment						126
Mobile Home	500	500	500		500	500
Total	538	691	715	669	1,384	1,641
Sector BR3						
Single Family Detached	855	1,315	1,400	5,677	7,077	7,278
Townhouse	629	701	748	698	1,446	1,073
Apartment				580	580	360
Total	1,484	2,016	2,148	6,955	9,103	8,711
Sector BR4						
Single Family Detached	2,845	2,840	2,870	2,478	5,348	5,363
Townhouse	147	627	757	37	794	657
Apartment	151	151	151	389	540	629
Total	2,943	3,618	3,778	2,904	6,882	6,649
Sector BR5						
Single Family Detached	128	132	135	1,348	1,483	1,474
Townhouse				318	318	318
Apartment	1			309	309	309
Mobile Home		1				1
Total	129	133	135	1,975	2,110	2,102
Sector BR6						
Single Family Detached	305	376	403	4,266	4,669	4,599
Townhouse	618	623	609	5,973	6,652	7,899
Apartment	151	144	144	5,488	5,632	7,393
Total	1,074	1,143	1,226	15,727	16,953	19,891
Sector BR7						
Single Family Detached	444	691	709	2,936	3,645	3,724
Townhouse		2	2		2	2
Apartment		14	1		1	14
Mobile Home	10					
Total	454	707	712	2,936	3,648	3,740
Planning District Total	6,623	8,309	8,715	31,166	39,881	42,735

Existing and Projected Housing Units by Type
January 1983 — Plan Buildout

Area III Pohick Planning District						
Residential Unit Type	Jan. 1975 Dwelling Units	Jan. 1982 Dwelling Units	Jan. 1983 Dwelling Units	Additional Planned Units	Jan. 1983 At Plan Capacity	Jan. 1982 Previous Capacity
Sector P1						
Single Family Detached	411	809	832	2,086	2,918	2,924
Townhouse		2	2		2	2
Total	411	811	834	2,086	2,920	2,926
Sector P2						
Single Family Detached	5,943	9,435	9,663	3,734	13,397	13,371
Townhouse	2,618	5,686	6,116	1,920	8,036	7,733
Apartment		242	242	305	547	478
Total	8,561	15,363	16,021	5,959	21,980	21,582
Sector P3						
Single Family Detached	300	471	479	1,208	1,887	1,686
Apartment		4	4		4	4
Total	300	475	483	1,208	1,891	1,690
Sector P4						
Single Family Detached	67	69	68	99	167	170
Total	67	69	68	99	167	170
Sector P5						
Single Family Detached	654	1,511	1,608	2,801	4,409	4,381
Apartment		1	1		1	1
Total	654	1,512	1,609	2,801	4,410	4,382
Sector P6						
Single Family Detached	757	4,444	4,648	2,437	7,085	7,104
Townhouse	155	2,258	2,534	1,389	3,923	4,099
Apartment	3	76	192	217	409	293
Total	915	6,778	7,374	4,043	11,417	11,496
Sector P7						
Single Family Detached	169	1,101	1,213	1,761	2,974	3,125
Townhouse		832	1,026		1,026	832
Total	169	1,933	2,239	1,761	4,000	3,957
Planning District Total	11,077	26,941	28,628	17,957	46,585	46,203

Existing and Projected Housing Units by Type
January 1983 — Plan Buildout

Area III Upper Potomac Planning District						
Residential Unit Type	Jan. 1975 Dwelling Units	Jan. 1982 Dwelling Units	Jan. 1983 Dwelling Units	Additional Planned Units	Jan. 1983 At Plan Capacity	Jan. 1982 Previous Capacity
Sector UP1						
Single Family Detached	181	351	365	416	781	776
Apartment		2				
Total	181	353	365	416	781	776
Sector UP2						
Single Family Detached	584	1,192	1,223	1,410	2,633	2,614
Apartment		1				
Total	584	1,193	1,223	1,410	2,633	2,614
Sector UP3						
Single Family Detached	610	1,790	1,864	1,283	3,147	3,137
Total	610	1,790	1,864	1,283	3,147	3,137
Sector UP4						
Single Family Detached	230	1,175	1,280	1,824	3,104	3,114
Total	230	1,175	1,280	1,824	3,104	3,114
Sector UP5						
Single Family Detached	2,309	3,856	3,943	2,162	6,105	5,929
Townhouse	3,160	5,003	5,155	4,102	9,257	9,222
Apartment	4,728	5,713	5,875	2,294	8,169	8,444
Total	10,197	14,572	14,973	8,558	23,531	23,595
Sector UP6						
Single Family Detached	1,079	1,810	1,848	2,094	3,942	3,960
Townhouse	511	1,249	1,283	381	1,644	1,650
Apartment	1,429	1,492	1,492	1,216	2,706	2,742
Total	3,019	4,551	4,603	3,691	8,294	8,352
Sector UP7						
Single Family Detached	137	263	281	432	713	708
Townhouse	384	769	768	29	797	798
Apartment		1				
Total	522	1,032	1,049	461	1,510	1,506
Sector UP8						
Single Family Detached	667	2,893	3,127	5,827	8,954	9,082
Total	667	2,893	3,127	5,827	8,954	9,082
Sector UP9						
Single Family Detached	194	304	427	3,472	3,899	3,664
Townhouse				28	28	
Total	194	304	427	3,500	3,927	3,664
Planning District Total	16,207	27,860	28,911	26,970	55,881	55,840

PROTECTION OF THE OCCOQUAN BASIN AND THE PUBLIC WATER SUPPLY

The Occoquan Basin Study

The *Occoquan Basin Study*, upon which a variety of Plan recommendations are based, accomplished all of the following objectives:

- established a Fairfax County water quality goal which will protect the public health, safety and welfare at the most reasonable cost;
- determined the effects of planned development in the study area (see Map 1) on water quality;
- determined the most appropriate long-term noise exposure forecast (NEF) contours and the most appropriate policies for land use and noise compatibility in the Dulles Airport Noise Impact Area;
- determined the impact on water quality in the Occoquan of amendments to the Plan that incorporate the following land use objectives:
 - utilization of the I-66 corridor for economic development uses, particularly office use, townhouse and apartment use, as suggested in *Analysis of Economic Development in the I-66 Corridor of Fairfax County, Virginia*;
 - identification of the most appropriate NEF contours and the most appropriate policies for land use and noise compatibility in the Dulles Airport Noise Impact Area;
 - designation of a land use pattern that is in conformance with appropriate land use and noise compatibility criteria in the Dulles Airport Noise Impact Area;
- ascertained what best management practices (BMPs)² are most cost-effective to implement in the study area; and
- determined a combination of land use modifications and BMPs that protect water quality and help the County achieve its land use objectives.

Evaluation of the impacts of implementing these goals showed that it is possible to modify the Comprehensive Plan for the Occoquan Basin area so that an acceptable water quality goal can be met while the County continues to pursue and realize a variety of other planning and development objectives.

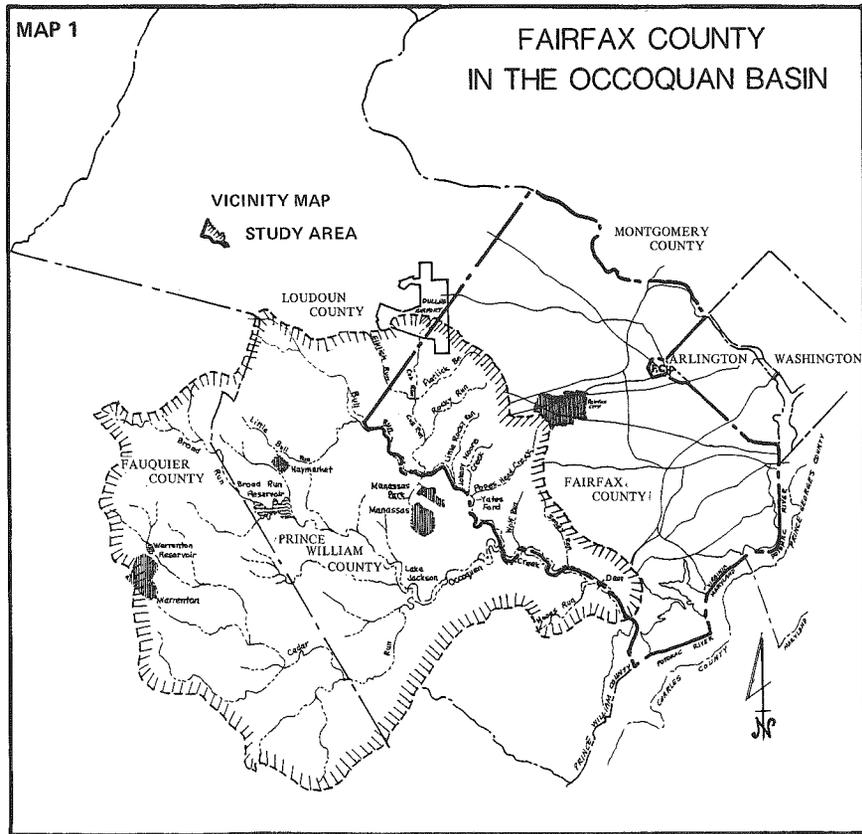
A Recommended Strategy to Control Runoff Pollution in the Occoquan Reservoir Watershed

The *Occoquan Basin Study* recommendations are designed in the interests of the public health, safety, and general welfare to prevent further degradation of the Occoquan Reservoir; the source of drinking water for more than 600,000 people in Northern Virginia.

It is anticipated that an Occoquan Nonpoint Pollution Control Committee will select BMPs that will supplement the BMPs which were required by the *Public Facilities Manual* as of March 1, 1982, the date the *Occoquan Basin Study* was completed. Some of these additional BMPs will prob-

¹ Noise Exposure Forecast (NEF): The NEF contour is a descriptor used by the Federal Aviation Administration to aid land use planning in areas impacted by airport noise. NEF is based on several factors, including types of aircraft, mix of aircraft types in daily operation and their noise characteristics, the number of aircraft operations and the time of day they occur, utilization of runways, and flight tracks (paths) used by arriving and departing aircraft. The contour is calculated by accumulating noise exposure from single operations over a 24-hour period and weighting nighttime exposures more highly than daytime exposures.

² Best Management Practice (BMP): An activity or physical entity that is used to prevent or reduce the amount of pollution generated by nonpoint sources, e.g., clustered development, infiltration trenches, detention ponds, porous pavement, vacuum sweeping of streets and parking lots, lawn fertilization management.



ably be stormwater control measures and will be incorporated into the *Public Facilities Manual*. There are several BMPs that relate more to site design and are best implemented through changes in the *Zoning Ordinance* or *Subdivision Ordinance*. Many of these BMPs which were evaluated for water quality modeling purposes will be considered for adoption. In 1982 and 1983 the findings from the Washington Metropolitan Area National Urban Runoff Program Demonstration Project (NURP) should become available. Research from this project included extensive field monitoring of most of the BMPs considered in the *Occoquan Basin Study*. When NURP data becomes available, the committee will have good information with which to recommend revisions to the measures required to meet the water quality goal.

In order to meet the water quality goal, land uses more intense than .2 dwelling unit per acre have been limited to an urban envelope that comprises only 33 percent of the Fairfax County portion of the Occoquan watershed. Within the urban envelope, land uses must employ the innovative site development designs and state of the art stormwater management techniques that are described in the *Occoquan Basin Study*.

In order to meet the water quality goal adopted pursuant to the *Occoquan Basin Study*, phosphorus runoff from the Fairfax County portion of the Occoquan watershed should not exceed 25,100 pounds per year in a year of average wetness. For the purpose of this strategy, phosphorus has been chosen to represent the overall antidegradation goal in order to have a single standard for land use impact assessments.

The analysis of BMP test alternatives in the *Occoquan Basin Study* indicated that if more effective BMPs or BMPs in series were applied to the more intense land uses, phosphorus runoff generation rates for all urban land uses would be comparable. The water quality analysis found that the two-thirds of the study area recommended for non-urban land uses and the one-third of the study area recommended for an urban envelope would

each generate about one-half of the 25,100 pound phosphorus runoff target for the 64,500 acre watershed area. Nonurban uses, such as .2 dwelling unit per acre residential, forest land and pasture, have very low runoff pollution generation rates and do not require additional water quality protection measures. In fact, the selection of these land uses for two-thirds of the study area is one of the major water quality protection measures developed in the study. Each development proposal should be expected to implement water quality control measures to achieve runoff pollution generation rates sufficient to meet the water quality goal for planned land uses in the urban envelope.

Determination of appropriate runoff pollutant loadings will be based on assessments of the best available control measures, site specific problems or opportunities and runoff pollution control projections assumed in the *Occoquan Basin Study*.

Individual land use proposals within the urban envelope will be evaluated against this guideline to assess the adequacy of their runoff pollution control measures. Land uses within the nonurban area will generate lesser amounts of runoff pollution.

Projections of the pollution (phosphorus) removal efficiency of site specific runoff control measures will be based on runoff pollutant removal efficiencies reported in NVPDC's *Guidebook for Screening Urban Nonpoint Pollution Management Strategies* as modified by findings reported from the Washington Metropolitan Area National Urban Runoff Demonstration Project.

**LAND USE PLANNING
WITHIN THE DULLES AIRPORT
NOISE IMPACT AREA**

A major issue which affects the development of a substantial portion of western Fairfax County is the degree of aircraft noise impact projected to result from operations at Dulles International Airport. Due to the location of runways, the type and frequency of various aircraft using the airport, as well as airport operating procedures, portions of Fairfax County in the vicinity of Dulles Airport are either currently, or are projected to be, subjected to levels of aircraft noise which may be incompatible with certain types of land use activity.

Background—Aircraft Noise as a Current and Future Problem in the Vicinity of Dulles International Airport

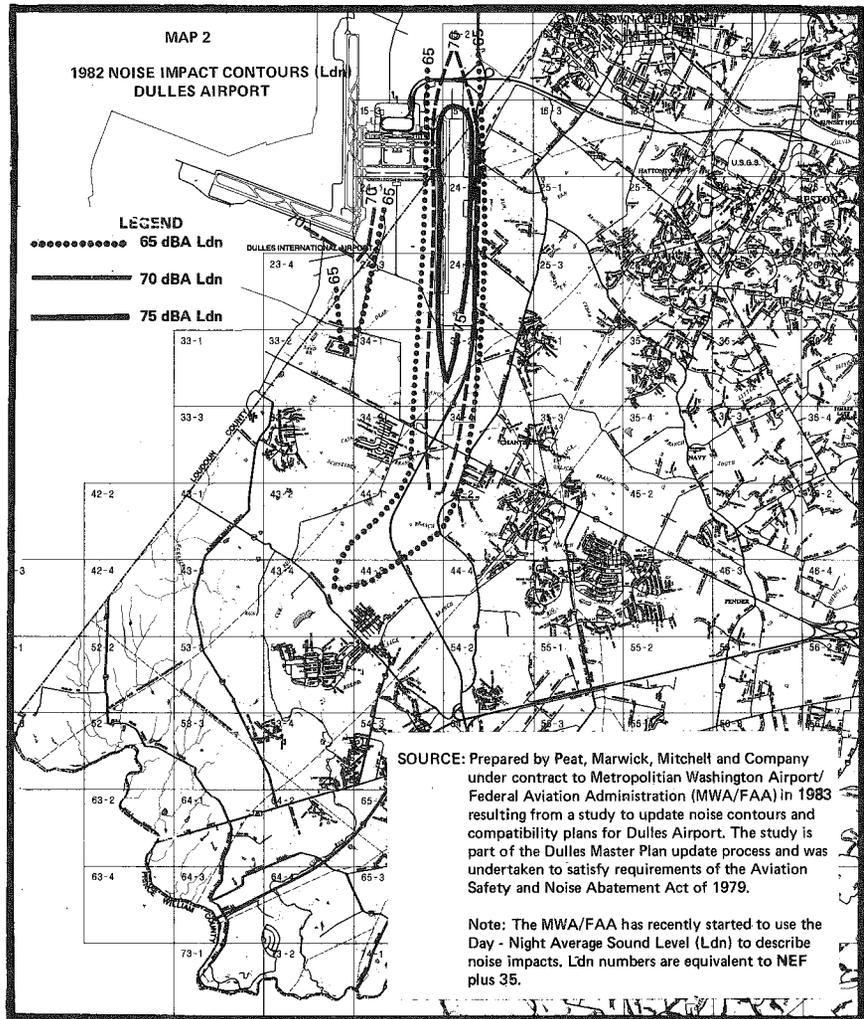
The Adverse Health and Welfare Effects of Aircraft Noise

The premise upon which the *Dulles Airport Noise Impact Study* has been established is the conviction that aircraft noise at certain high levels does adversely affect the health and particularly the welfare of exposed individuals. The World Health Organization's definition of 'health' is especially apt in this regard. Health is defined as "the complete state of physical, mental and social well-being of an individual." Clearly from empirical observation severe levels of aircraft noise are detrimental to the overall well-being of exposed individuals.

An individual's perception of noise is dependent upon several measurable characteristics of the sound. These are:

- Intensity. In general, a ten decibel increase in intensity may be considered a doubling of the perceived loudness or noisiness of a sound. Recently obtained psychoacoustic evidence suggested, however, that a greater than 10 decibel increase (over the ambient) in peak levels of aircraft flyover noise is required to produce a perceived doubling of the noisiness. In the rural areas of Fairfax County ambient levels can be found down to 45 decibels. A jet aircraft flyover can peak at 85 to 90 decibels in some of these areas. This would cause not only a doubling of the perceived loudness, but at times a tripling or quadrupling of the perceived loudness.
- Frequency Content. Sounds with a concentration of energy between 2,000 Hertz (cycles per second) and 8,000 Hertz are perceived to be more noisy than sounds of equal level outside this range. The characteristic whine of the turbojet concentrates its energy between 3,500 Hertz and 4,000 Hertz. This would definitely be perceived as more noisy than a sound pressure level of equal magnitude but at a very low or very high frequency (i.e., less than 2,000 Hertz or more than 8,000 Hertz).
- Changes in Sound Pressure Level. Sounds that are increasing in level (i.e., takeoff or reverse thrust noise) are judged to be somewhat louder than those decreasing in level.
- Rate of Increase of Sound Pressure Level. Impulsive sounds, ones reaching a high peak very abruptly are usually perceived to be very noisy.

The task of quantifying the environmental impact of noise associated with any noise source requires the application of statistics (i.e., community opinion surveys). This approach is necessary because individual human response to noise is subject to considerable natural variability. However, in the 1973, 1974, 1975, and 1976 editions of the *National Housing Survey* conducted by the U. S. Department of Housing and Urban Development in cooperation with the U. S. Bureau of Census, noise was the number one undesirable neighborhood characteristic among those individuals surveyed.



Knowledge of the existence of these individual variables helps to explain why it is not possible to state simply that a given noise level from a given noise source will elicit a particular community reaction or have a particular impact. Research in psychoacoustics has revealed that an individual's attitudes, beliefs and values may greatly influence the degree to which a person considers a given sound annoying. The aggregate response of an individual has been found to depend upon:

- feelings about the necessity or preventability of the noise;
- judgment of the importance of the value of the primary function of the activity which is producing the noise;
- activity at the time an individual hears a noise and the disturbance experienced as a result of the noise intrusion;
- attitudes about neighborhood environment. The existence of other undesirable features in a person's residential environment may influence the way in which he reacts to noise.
- general individual sensitivity to noise; and
- feelings of fear associated with the noise.

A number of physical factors have been identified as influencing the way in which an individual may react to a noise source. These factors include:

- type of neighborhood;
- time of day;
- season;
- control over the noise source;
- predictability of the noise;
- length of time an individual is exposed to a noise.

Methods of Measuring Noise

A number of cumulative noise exposure techniques, which consider the noise generated by all aircraft over a 24-hour period, have been developed for analyzing aircraft noise impact upon land use activity and its associated human activity. These indices are:

- Community Noise Equivalent Level (CNEL). This is a scale that takes into account all the A-weighted acoustic energy received at a point, from all noise events causing noise levels above some prescribed value. Weighting factors are then included which place greater importance upon noise events occurring during the evening hours—7:00 P.M. to 10:00 P.M. 5 decibels added to these sound levels—and even greater importance upon noise events occurring at night—10:00 P.M. to 6:00 A.M. 10 decibels added to these sound levels.
- Composite Noise Rating (CNR). This is a scale that takes into account the totality of aircraft operations at an airport in quantifying the total aircraft noise environment. It was the earliest method for evaluating compatibility of land use around airports and is still in use by the Department of Defense in predicting noise impacts around military airfields. Basically, to calculate a CNR value, one begins with a measure of the maximum noise magnitude from each aircraft flyover and adds weighting factors that sum the total effect of all flights. The scale used to describe individual noise events is perceived noise level (PNL) which is expressed in

PNdB (a quantity measured in decibels that provides a subjective assessment of the perceived noisiness of aircraft noise).

- Day-Night Average Sound Level (Ldn). This is the 24-hour average sound level expressed in A-weighted decibels, with a ten decibel penalty applied to noise events from 10:00 P.M. to 7:00 A.M.. The penalty for nighttime noise events accounts for the increased sensitivity of most people to noise in the quiet nighttime hours. Unlike the CNR scale and the NEF scale (explanation to follow) the Ldn can be used to express the noise impact of other noise sources in addition to aircraft noise. Therefore, by using the Ldn scale a common denominator can be obtained for expressing the acoustic impact of all segments of the noise environment.
- Noise Exposure Forecast (NEF). This is a scale used presently by the Federal Aviation Administration for land use planning in connection with airports. In the NEF scale, the basic measure of magnitude for individual noise events in the effective perceived noise level (EPNL) which is expressed in units of EPNdB (it is derived from the PNL [used for calculation of the CNR] by applying corrections for pure tones and the duration of the event).

There are equivalencies among the various cumulative noise indices. Any given NEF is equivalent to Ldn minus 35, plus or minus 3. Between NEF and CNR there is a nonlinear relationship and any given NEF is equivalent to CNEL minus 33, plus or minus 2.

The general equivalencies are shown below:
 NEF 20 = CNR 85 = Ldn 55 = CNEL 53
 NEF 30 = CNR 100 = Ldn 65 = CNEL 63
 NEF 40 = CNR 115 = Ldn 75 = CNEL 73

It is the noise exposure forecast (NEF) scale which is used at present for measurement of current and projected levels of aircraft noise at Dulles International Airport, and which will be discussed on the following pages in relation to land use planning for the western portion of Fairfax County.

Existing Noise Impacts for Dulles Airport and Vicinity

Map 2 contains existing noise impact contours for Dulles Airport and vicinity. These contours represent the best available description of current noise impacts resulting from existing aircraft operations at Dulles Airport. These contours were developed in 1983 by MWA as part of the Dulles Master Plan update process and to satisfy the requirements of the Aviation Safety and Noise Abatement Act of 1979.

A comparison of the existing contours with the various projected contours described below (also Maps 3 and 4) reveals that current noise impacts from aircraft operations at Dulles vary significantly from anticipated long-term impacts. This is mainly due to anticipated, planned increases in aircraft operations at Dulles, especially after the year 2000.

A further comparison of existing noise contours with projected noise contours indicates that while some residential communities are not currently subjected to unhealthy levels of aircraft noise impacts, future, planned operations at Dulles could have detrimental effects. Some communities such as Pleasant Valley, Friendly Village, and Country Club Manor are not currently significantly noise impacted. Most of these communities are not anticipated to become significantly impacted until after the year 2000 based upon recently developed, projected aircraft noise contours.

A discussion of the chronology of noise exposure forecast for Dulles Airport is provided below. Also provided is a discussion of the issues related to the selection of appropriate noise exposure forecast contours for long term planning purposes.

Chronology of Noise Exposure Forecast Contours Developed for Dulles International Airport

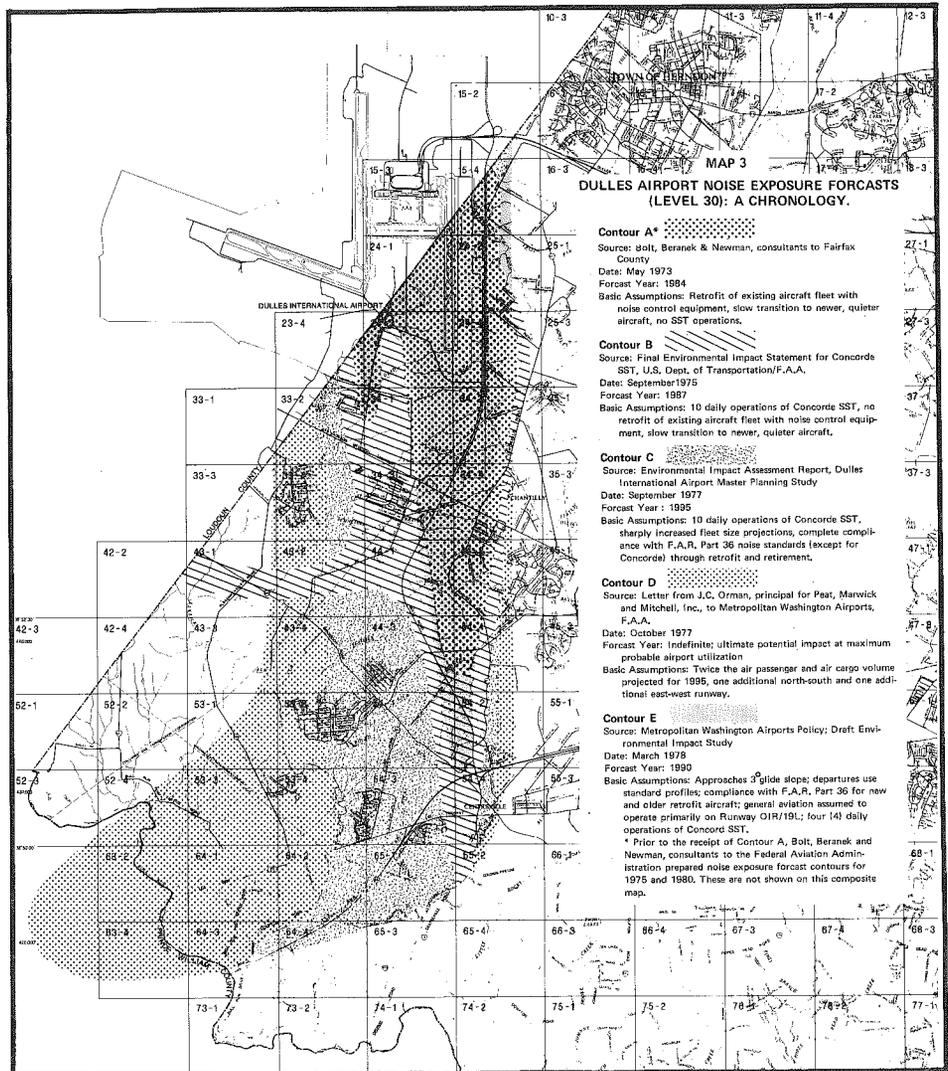
To date, a significant impediment to the development of a definitive comprehensive plan for the western portion of the County in the vicinity of Dulles Airport has been the existence of several sets of noise impact contours which have resulted in confusion over accurate boundaries of the aircraft noise impact from Dulles Airport. Several sets of NEF contours have been received by the County since 1973. All, except the most recent set, are illustrated in composite form in Map 3. The most recent contours are found in Map 4. The circumstances associated with these various sets of aircraft and contours are described below.

In 1973 the County received from Bolt, Beranek and Newman, a set of contours (identified as Contour A) which showed that approximately 3900 acres of land were impacted by noise exposure forecast (NEF) 30 or greater. In conjunction with this, the Board of Supervisors adopted a land use compatibility table which indicated the noise compatibility of various land use activities, according to four noise exposure forecast zones: 25-30; 30-35; 35-40; and 40+. In addition, the Comprehensive Plan for that portion of the County in these noise impact zones was amended in 1975 to plan for only noise-compatible land uses, as specified in the adopted land use compatibility table.

Later in 1975 the Federal Aviation Administration published noise contour maps (identified as

Contour B) for Dulles Airport which included the probable noise impact from ten operations of the Concorde supersonic transport. These contours were substantially larger than the previous contours and included acreage which had been planned for certain residential uses that were designated as incompatible with the new levels of aircraft noise projected from Contour B assumptions. With approximately 8575 acres added as a result of the newer NEF 30 contour, it became apparent that the total impact area was no longer addressed satisfactorily by the Area III Plan. Specifically, areas which had been identified as appropriate for low- to medium-density residential uses were, according to the newer contours, forecast to be adversely impacted by incompatibly high levels of aircraft noise. Included in this expanded area was the Centreville Complex Area.

In 1977, the FAA Office of Metropolitan Washington Airports published its update to the *Dulles Airport Master Plan*, prepared by the firm of Peat, Marwick, and Mitchell. This *Dulles Airport Master Plan* update included a revised forecast of aircraft noise impacts (identified as Contour C). These revised contours showed another substantial increase in the noise-impacted area to a total of 9950 acres. Later that year under separate cover, Metropolitan Washington Airports (FAA) presented Fairfax County with an aircraft noise contour map (Contour D) prepared by their consultant (Peat, Marwick, and Mitchell) and indicated that this represented the extent of aircraft noise impact from ultimate (post-1995) development of Dulles



Airport. This contour map showed an area impacted by NEF 30 or greater of approximately 16,000 acres.

A subsequent set of contours (identified as Contour E) was released in early 1978 by FAA as part of the *Draft Environmental Impact Statement for Metropolitan Washington Airport Policy*. According to the assumptions contained in this document, the area impacted by NEF 30 or greater was reduced to approximately 7000 acres.

In July of 1978, the County received a set of contours which appeared in the *Final Environmental Impact Statement Noise Regulation and Type Certification Alternatives for Civil Supersonic Aircraft, June 1978*.

In the fall of 1981, the Final Environmental Impact Statement for Metropolitan Washington Airports Policy (1980 and 1981 Supplement) was adopted. The environmental impact statement formalized policy objectives for the two local federally-operated airports, Dulles International and National. These policy objectives will serve to enhance the growth potential of airport operations at Dulles in the not so distant future.

Subsequent to the above-noted events, as part of the Dulles Master Plan update process and in order to satisfy the requirements of the Aviation Safety and Noise Abatement Act of 1979, MWA-FAA has undertaken a study to update noise contours and noise compatibility plans for Dulles Airport. The "potential" contours, which are based on the ultimate capacity of Dulles Airport and which were generated from this study, are contained in Map 4. The noise descriptor used for

these contours is Day-Night Average Sound Level (Ldn). To equate the NEF contours with the Ldn contours, use the following equivalency $NEF + 35 = Ldn$. (The MWA-FAA has recently determined that the Ldn will be their official descriptor of existing and predicted cumulative noise exposure that affects communities in airport environs.)

Based upon all of the background information presented above, four conclusions may be drawn which will serve as the foundation for the County's approach to land development in the designated Dulles Airport Noise Impact Area. They are:

- the extent to which a direct relationship may be established at the present time between certain levels of aircraft noise and discernable physiological effects upon exposed individuals;
- the determination of those levels at which aircraft noise, under given sets of conditions, appears to have a) a significant effect, and b) an intolerable effect upon certain activities;
- the determination of the noise exposure forecast presently available which most accurately reflects the extent of projected aircraft noise associated with the likely expansion of service at Dulles Airport; and
- the formulation of reasonable policies to govern actions which the County as well as others in authority can take to guide development appropriately according to items 1., 2., and 3. above within the Dulles noise area. These are discussed below.

Establishment of the Relationship Between Aircraft Noise and Discernable Physiological Effects Upon Exposed Individuals

Considerable research has been done and more is underway at the present time to determine whether and, if so, to what extent, a direct relationship may be established between periods of exposure to certain levels of noise (particularly aircraft noise) and identifiable, adverse physiological effects upon those so exposed. The effects of noise have been researched and while complete casual relationships have not been definitively established for nonauditory effects, empirical observation has documented that noise can affect exposed individuals indirectly by disturbing the general environment in which they live. Based upon scientific consensus, the Environmental Protection Agency has determined the levels of noise requisite to protect the public health and welfare.

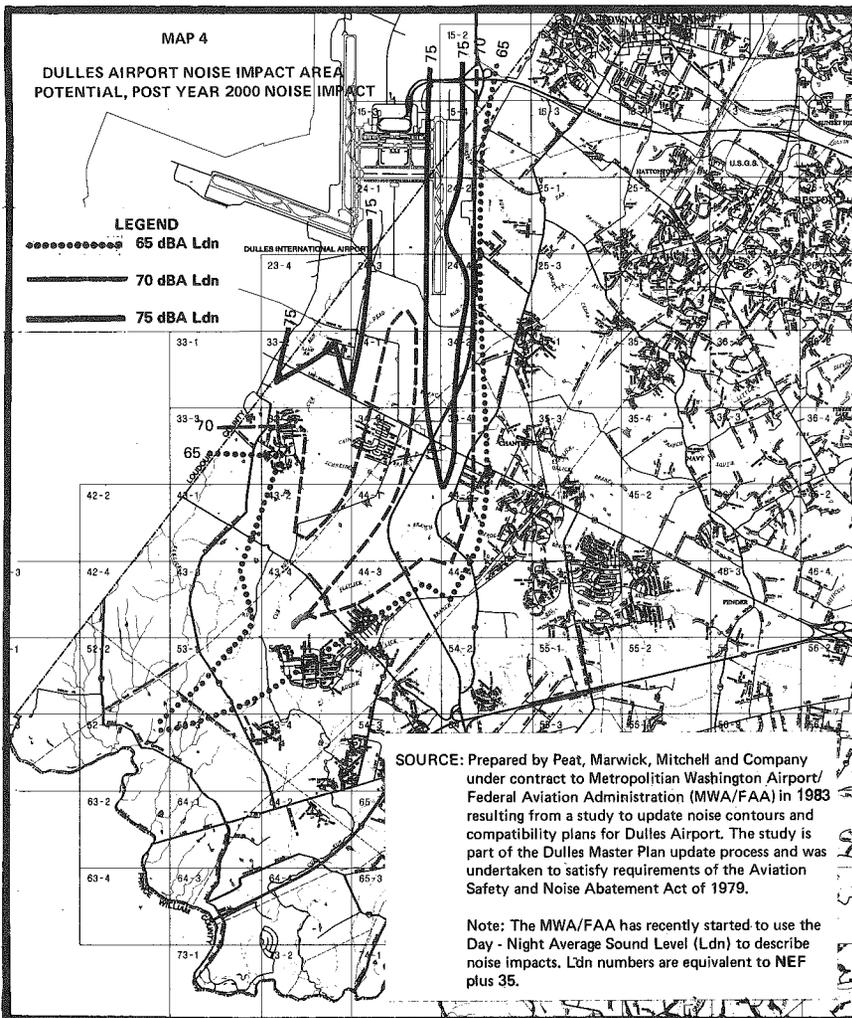
Determination of Levels at Which Aircraft Noise Appears to Have a) a Significant Effect and b) an Intolerable Effect Upon Certain Activities

While acknowledging the inherent variability in the reactions of individuals exposed to noise under different conditions, research into this subject has revealed that the point at which overall human perception of aircraft noise as an annoyance, or worse, as an interrupt or of activity is around the 30 NEF level, which corresponds to roughly Ldn 65. Although by no means a precise line itself the 30 NEF contour would appear to be the reasonable level for selection by the County in its review of proposed development to determine the extent of possible adverse aircraft noise impact. The selection is substantiated by all sets of noise forecast contours which Fairfax County has received since 1973, and acknowledged by the FAA.

Determination of the Noise Exposure Forecast Which Most Accurately Reflects the Extent of Aircraft Noise Impact Associated With the Likely Expansion of Dulles Airport

The chronology of noise contours presented above has resulted in considerable confusion as to the plan and related operational policies for Dulles International Airport. The position of the County to date has been to await a final determination by the FAA Office of Metropolitan Washington Airports regarding the update of the *Dulles Airport Master Plan*. In view of the circumstances associated with the development of each set of noise contours and particularly in view of the long time delay, it no longer appears reasonable for Fairfax County to postpone the full development of comprehensive land use plan policies for reducing the potential for adverse aircraft noise impact, pending FAA-MWA action. Such action may not be forthcoming in a reasonable time frame during which Fairfax County will be required to resolve numerous land development proposals. Fairfax County must initiate action now to establish a comprehensive plan for development of the western portion of the County that is compatible with anticipated levels of aircraft noise from an expanded Dulles Airport, employing the best available information at this time, while at the same time being sensitive to the other objectives of the Comprehensive Plan.

As the result of an examination of all relevant documents associated with the sets of noise exposure forecast contours produced to date, Fairfax County has based its aircraft noise abatement program relying upon the recent (1983) MWA-FAA study to update noise exposure contours and noise compatibility plans for Dulles. This study is a continuation of the Dulles Master Plan Update process and was undertaken to satisfy the requirements of the Aviation Safety and Noise



Abatement Act of 1979. There are several reasons for the selection of the noise exposure contours (Map 4) developed under this study:

1. MWA-FAA in August 1983, in a letter to the County confirmed that the "potential," post-2000 noise impact contours which are based on the ultimate capacity of Dulles Airport, developed under the 1983 update study, represent the latest, best available and most appropriate noise impact assessment contours for land use planning purposes. A previous MWA-FAA letter to the County stated that the noise data used to produce the Metropolitan Washington Airports Environmental Impact Statement, although valid, were prepared to provide a comparison of relative noise impact differences between policy alternatives and are not appropriate for land-use planning.

2. The baseline noise contours used in the 1983 update study appear to be the most accurate contours available and are based on actual flight track data and noise monitoring. Thus, the 1983 study builds its forecasts and plans upon the most accurate representation of the current situation, thereby reducing the degree of possible distortion in its longer-range noise exposure forecast planning.

3. The planned improvements, as set forth in the 1983 study most realistically reflect the Metropolitan Washington Airports' goals for Dulles Airport expansion. This permits a full examination of the implications of Dulles Airport expansion as envisioned by its proprietor, MWA-FAA, and does not prematurely place the County in the position of implicitly recommending the curtailment of the Dulles Airport expansion.

4. The 1983 update study represents the most current study exclusively prepared for the purpose of examining aviation activity forecasts, existing facilities and airport needs through the year 2000 and beyond. This time frame represents the longest planning period considered in the development of the set of contours presented. Land-use planning considerations based on the set of contours developed under this study will provide for the highest level of protection of the public health, safety and welfare based upon the most current, best available information.

Recognizing that the objective of the County is to minimize to the fullest extent the potential for adverse aircraft noise impact upon its citizens, the County has selected the ultimate "potential" noise contours which reflect the post-year 2000 Dulles Airport activity level as referenced in the update study. As new appropriate noise contours become available, this information will be brought before the Board of Supervisors so that appropriate modifications can be made, if necessary, to the Comprehensive Plan to reflect the most recent and most appropriate delineation of the Dulles Noise Impact Area to which land-use compatibility policies will be applied.

Map 4 illustrates the ultimate "potential" noise impact forecast contours for Dulles International Airport, and related to these contours are the land-use compatibility guidelines set forth in Figure 1. Figure 1 establishes the basis for land use decisions within the designated Dulles Airport Noise Impact Area.

The basis for the land-use compatibility guidelines outlined in Figure 1 can be found in existing federal regulations. The Department of Housing and Urban Development (HUD) in *Noise Abatement and Control Standards* (Circular 1390.2, August 4, 1971), and the Federal Interagency Committee on Urban Noise in *Guidelines for Considering Noise in Land Use Planning and Control* (1980) have published noise compatibility guidelines to encourage land utilization patterns for housing and other municipal needs in noise-impacted areas. These standards are intended to

Figure 1
Land Use Compatibility Guidelines
Within The Dulles Airport Noise Impact Area

Activities and/or Land Uses	Greater than 75 dBA Ldn	70-75 dBA Ldn	65-70 dBA Ldn	Less than 65 dBA Ldn
Residential (1)	Not Allowed	Not Normally Permitted	Conditionally Permitted (a)	Permitted
Residential (2), Educational and Institutional (3)	Not Allowed	Not Normally Permitted	Conditionally Permitted (a)	Permitted
Auditoriums, Concert Halls	Not Allowed	Not Allowed	Not Allowed	Permitted
Offices, Personal, Business and Professional Services, Retail Commercial Uses, Movie Theaters, Restaurants (4)	Conditionally Permitted (b)	Conditionally Permitted (a)	Permitted	Permitted
Transient Lodging (Hotels, Motels)	Not Allowed	Conditionally Permitted (b)	Conditionally Permitted (a)	Permitted
Sports Arenas, Outdoor Spectator Sports	Not Allowed	Not Allowed	Permitted	Permitted
Playgrounds, Neighborhood Parks	Not Allowed	Not Allowed	Permitted	Permitted
Golf Courses, Driving Ranges, Water-Recreation, Cemeteries (5)	Permitted	Permitted	Permitted	Permitted
Commercial-Wholesale and Selected Retail, Industrial/Manufacturing, Transportation Community-cation and Utilities (6)	Permitted	Permitted	Permitted	Permitted
Animal-related services (7)	Not Allowed	Permitted	Permitted	Permitted
Agricultural	Permitted	Permitted	Permitted	Permitted

* See accompanying notes for expanded list of activities and land uses.

** These noise impact forecast levels are illustrated on Map 4 and explained in the accompanying text.

(a) This use is permitted only if the requirements outlined in Appendix A are fulfilled.

(b) This use is permitted only if the requirements outlined in Appendix B are fulfilled.

NOTE: "PERMITTED" PRESUMES COMPLIANCE WITH THE DENSITY RANGE AND OTHER STIPULATIONS SPECIFIED IN THE ADOPTED COMPREHENSIVE PLAN

Footnotes to Activities and/or Land Uses:

- (1) Single-family detached, duplex, mobile home parks.
- (2) Townhouses, triplex and quadplex units, apartment houses, other multifamily dwellings, rooming houses, boarding houses, old persons homes, sorority and fraternity houses, dormitories, boarding schools, convalescent homes.
- (3) School classrooms, libraries, churches, hospitals.
- (4) Professional and financial offices, banks, savings and loan associations, mortgage bankers, insurance offices, real estate offices, architects, engineers, attorneys-at-law, decorators, medical and dental clinics and labs, funeral homes and mortuaries, retail stores, clothing stores, department stores, food and dairy markets, cafes, restaurants (enclosed and drive-in), cafeterias, barber shops, beauty shops, new and used car sales, country clubs.
- (5) Swimming pools, shooting ranges, miniature golf courses.
- (6) Auto salvage and wrecking yards, industrial metal and waste salvage yards, manufacturing facilities, gasoline service stations, ambulance services, automotive repair garages, public storage garages, taxi dispatch offices, automobile washing stations, lumber yards, warehousing, motor freight terminals, railway passenger and freight stations, airport services.
- (7) Animal grooming services, dog kennels, veterinarians and veterinarian hospitals.

In the event that the County is constrained to decide any rezoning applications within the designated 35 to 40 NEF area or the 40+ NEF area of the County prior to the completion of the Comprehensive Land Use Plan reevaluation currently underway as part of the Phase II of the Dulles Airport Noise Impact Study, it is recommended that the County plan and zone the area to a suitable noise compatible land use.

separate uncontrollable noise sources from residential and other noise-sensitive areas. The Department of Housing and Urban Development criteria for residential compatibility are presented below:

Rating	Recommendation of HUD
Less than NEF 30 or 65 dBA Ldn	Acceptable
NEF 30 to NEF 40 or 65 dBA Ldn to 75 dBA Ldn	Discretionary
Greater than NEF 40 or 75 dBA Ldn	Unacceptable

Recent correspondence with the Department of Housing and Urban Development indicates their belief that residential development in the 35 to 40 NEF area "should not occur as a general rule, and only if other less exposed sites are not available and mitigation measures will be undertaken. In aircraft noise situations attenuation that can be used does not provide for protection of outdoor living areas." As a result the Department of Housing and Community Development does not endorse development in the 35-40 NEF portion of the discretionary range "unless sites with less noise exposure are not available."

The policy of the Veterans Administration (VA) differs only slightly from the policy established by HUD. VA will approve financing for residential units within the designated 35 to 40 NEF as well

as within the designated 30 to 35 NEF on the condition that:

- the development can be considered as residential infill or as an extension of an existing subdivision;
- such units are constructed of materials of a sufficiently high sound transmission class (STC) to reduce interior noise levels under anticipated aircraft noise impact to a specified acceptable level; and
- a statement is received from each purchaser using VA financing that he/she is aware of the probable effect of aircraft noise upon that residential unit, but nonetheless desires to purchase the unit.

In November, 1979, the Federal Interagency Committee on Urban Noise was formed with representatives from five federal agencies—the Environmental Protection Agency, the Department of Transportation, the Department of Housing and Urban Development, the Veterans Administration and the Department of Defense. The committee was charged with the task of formulating a cohesive set of federal policies to guide state and local efforts to plan noise compatible land uses. The policies are contained in *Guidelines for Considering Noise in Land Use Planning and Control* (1980). These guidelines represent the most current, best available information for noise-compatible land use planning. These policies are compatible with the earlier HUD guidelines and the County guidelines set forth in Figure 1.

In consideration of the post-1995 noise exposure forecast contours (Contour D, Map 3) and the guidelines set forth in Figure 1, the Plan map was amended after the Occoquan Basin Study (OBS) to consider aircraft noise, in conjunction with other OBS study objectives, as a factor in land-use planning. Although the delineation of the boundaries and noise-impact contours have been updated as a result of the 1983 MWA-FAA study, the Plan developed subsequent to the Occoquan Basin Study is still applicable for the following reasons:

1. The Plan recommendations (See p. 245) were based upon accomplishing a number of objectives resulting in a Plan that was not solely based on noise compatibility. Noise compatibility was one factor considered in conjunction with other Plan objectives.

2. Under the current Plan, some lands, particularly in the more severely airport noise impact areas of the post-1995 contours, were replanned to noise compatible industrial uses. These lands, which lie generally south of the airport, also lie within the new "potential" post-2000 contours. Therefore, the industrially planned uses are still valid in terms of noise compatibility and other Plan objectives established subsequent to the Occoquan Basin Study.

The Plan map, as amended, indicates land uses that are generally noise compatible or can be made noise compatible through the application of mitigation measures as set forth in Figure 1 and in Appendix A or B as applicable.

Allowable Height of Structures in the Vicinity of Dulles Airport

The Federal Aviation Administration (FAA) has established criteria for formal notice to FAA of certain proposed constructions or alterations of structures near airports. It also has established standards in what are commonly known as the FAR Part 77 regulations, for determining what may be obstructions in navigable airspace. Once an obstruction has been identified, the FAA will undertake an aeronautical study to determine whether the structure will have a substantial adverse effect on the safe and efficient utilization of the airspace—i.e., whether the structure would be deemed a hazard to air navigation.

It is the policy of the Board of Supervisors not to permit the erection of structures which have been determined by FAA to pose a hazard to air navigation. It is further the policy of the Board of Supervisors to carefully evaluate all proposed structures which, if constructed, would constitute an obstruction (as defined by an application of FAR Part 77 obstruction standards to Dulles International Airport's facility configuration, technical characteristics, and surrounding terrain).

In order to implement these policies, the public is advised to undertake official notification of the FAA Regional Office of the proposed construction of any structure meeting any of the following criteria:

1. the construction or alteration will be more than 200 feet in height above ground level at its site;
2. the construction will be in an instrument approach area, available information indicates it might exceed an obstruction hazard standard, and the FAA makes a specific request for notice; or
3. The construction penetrates an imaginary surface that extends outward and upward from the nearest point of the runway at a 100:1 slope, for a distance of 20,000 feet.

In order to further implement the policies of the Board of Supervisors, the County will utilize FAA's obstruction standards, as applied to Dulles Airport and contiguous land, as guidance in making its own determinations as to the allowable height of structures. The three relevant obstruction standards are (i.e., an obstruction will be found if it is higher than any of the following):

1. A height of 500 feet above ground level at the site;
2. 200 feet above ground level or the "established airport elevation" (312 feet), whichever is higher, within three nautical miles of the "established reference point" (near the bottom of the westerly north-south runway, 19R-1L), with that height increasing 100 feet for each additional mile from the reference point up to a maximum of 500 feet; or,
3. An imaginary surface, 1,000 feet wide, extending from the end of the runway, at a slope of 50:1, for 10,000 horizontal feet, and at 40:1 for an additional 40,000 horizontal feet, with its outermost edge being 16,000 feet wide.

It should be noted that the standards presented here are simplified from FAA's Part 77 regulations. There are "imaginary" or geometric surfaces described in the regulations that apply in the analysis for the potential for obstruction, and the piercing of any of these surfaces by a structure will cause a finding that such is an obstruction. Whether an actual hazard is created will still remain within the purview of the FAA.

Appendix A

A. Acoustical Treatment Requirements for Residential Structures Within the 65-70 dBA-Ldn Range:

If the anticipated exterior noise levels resulting from aircraft flyovers fall into the 65-70 dBA-Ldn range and the development is in accordance with all other existing codes, ordinances and comprehensive plan provisions, the following requirements will apply:

1. In order to achieve a maximum interior noise level of 45 dBA in all units located within the 65-70 dBA-Ldn portion of the Dulles Airport Noise Impact Area, all units in this development shall have the following acoustical attributes:

- a. Roofs and exterior walls shall have a laboratory sound transmission class (STC) of at least 39; and
- b. Doors and windows shall have a laboratory sound transmission class (STC) of at least 28.

2. Construction drawings for all units shall be submitted to the County for review and certification that the proposed materials and construction techniques appear to be satisfactory for the desired acoustical treatment and in conformance with all applicable provisions of the state building code.

3. Within 30 working days of receipt of appropriate construction drawings, the County shall approve or reject the drawings based upon the ability of the proposed construction materials and techniques to adequately insulate the interior of all structures as set forth in number 1 above. In the event that the drawings are rejected, the reasons for this action shall be submitted to the builder/developer in writing. No construction of units shall occur prior to the approval of appropriate construction drawings.

4. No occupancy permit shall be granted for any unit in this development until the unit has been officially inspected by the County and it has been determined that the unit has been constructed in accordance with all specifications of the approved construction drawings referenced in numbers 2 and 3 above.

5. The County shall have the right to inspect all residential units in this development at any time prior to occupancy.

B. Full Disclosure Requirements to Prospective Purchasers of Residential Units Within the Dulles Noise Impact Area of the Circumstances of the Aircraft Noise Impact

In the event that, pursuant to adopted Fairfax County policy existing at the time of subdivision, any portion of the property to be subdivided lies within the 65-70 dBA Ldn range according to the Dulles Airport Noise Impact contours for the post-year 2000 period, the following statement shall be included in the subdivision deed of dedication under the caption "Disclosure":

"This property is located near the Dulles International Airport and the projection of aircraft noise is in the 65-70 dBA Ldn range according to the Dulles Airport Noise Impact contours for the post-year 2000 period. If the noise level projection continues at this level, certain acoustical treatment which is designed to insure normal livability within the house will be installed by the builder but no such measures have been or can be accomplished with regard to the exterior."

In the event that, pursuant to adopted Fairfax County policy existing at time of house construction, any lot lies within the 30-35 NEF range according to the Dulles Airport Noise Impact contours for the post-year 2000 period, to insure full disclosure to prospective buyers of said lot(s) in any house sale contract of this fact, a statement shall be obtained by the developer from each purchaser and submitted to the County stating that:

1. full disclosure has been made to the prospective purchaser that the subdivision in which the dwelling is located is near the Dulles International Airport and the projected level of aircraft noise is in the 65-70 dBA Ldn range according to the Dulles Airport Noise Impact contours for the post-year 2000 period; and that
2. certain acoustical treatment of the house has been installed by the builder to insure normal livability within the house but that no such

* These acoustical treatment requirements are also applicable to "offices, personal, business, and professional services, commercial retail uses, movie theatres and restaurants" in the 70-75 dBA Ldn range, as well as "hotels and motels" and "educational and institutional uses" in the 65-70 dBA-Ldn range.

measures have been or can be accomplished with regard to the exterior of the house.

Appendix B

A. Acoustical Treatment Requirements for Structures Within the 70-75 dBA Ldn Range:*

If the anticipated exterior noise levels resulting from aircraft flyovers falls into the 70-75 dBA Ldn range, and the development is in accordance with all other existing codes, ordinances, and Comprehensive Plan provisions, the following requirements shall apply:

1. In order to achieve a maximum interior noise level of 45 dBA in all units located within the 70-75 dBA Ldn portion of the Dulles Airport Noise Impact Area, all units in this development shall have the following acoustical attributes:

- a. Roofs and exterior walls shall have a laboratory sound transmission class (STC) of at least 45; and
- b. Doors and windows shall have a laboratory sound transmission class (STC) of at least 37.

2. Construction drawings for all units shall be submitted to the County for review and certification that the proposed materials and construction techniques appear to be satisfactory for the desired acoustical treatment and in conformance with all applicable provisions of the state building code.

3. Within 30 working days of receipt of appropriate construction drawings, the County shall approve or reject the drawings based upon the ability of the proposed construction materials and techniques to adequately insulate the interior of all structures as set forth in number 1 above. In the event that the drawings are rejected, the reasons for this action shall be submitted to the builder/developer in writing. No construction of units shall occur prior to the approval of appropriate construction drawings.

4. No occupancy permit shall be granted for any unit in this development until the unit has been officially inspected by the County and it has been determined that the unit has been constructed in accordance with all specifications of the approved construction drawings referenced in numbers 2 and 3 above.

5. The County shall have the right to inspect all units in this development at any time prior to occupancy.

B. Full Disclosure Requirements to Prospective Purchasers of Residential Units Within the Dulles Noise Impact Area of the Circumstances of the Aircraft Noise Impact

In the event that, pursuant to adopted Fairfax County policy existing at the time of subdivision, any portion of the property to be subdivided lies within the 70-75 dBA Ldn range according to the Dulles Airport Noise Impact contours for the post-year 2000 period, the following statement shall be included in the subdivision deed of dedication under the caption "Disclosure":

"This property is located near the Dulles International Airport and the projection of aircraft noise is in the 70-75 dBA Ldn range according to the Dulles Airport Noise Impact contours for the post-year 2000 period. If the estimated noise level projection continues at this level, certain acoustical treatment which is designed to insure normal livability within the house will be installed by the builder but no such measures have been or can be accomplished with regard to the exterior."

In the event that, pursuant to adopted Fairfax County policy existing at time of house construction, any lot lies within the 70-75 dBA Ldn range according to the Dulles Airport Noise Impact contours for the post-year 2000 period, to ensure full disclosure to prospective buyers of said lot(s) in any house sale contract of this fact, a statement shall be obtained by the developer from each purchaser and submitted to the County stating that:

- 1. full disclosure has been made to the prospective purchaser that the subdivision in which the dwelling is located is near the Dulles International Airport and the projected level of aircraft noise is in the 70-75 dBA Ldn range according to the Dulles Airport Noise Impact contours for the post-year 2000 period; and that
- 2. certain acoustical treatment of the house has been installed by the builder to insure measures have been or can be accomplished with regard to the exterior of the house.

* These acoustical treatment requirements are also applicable to "offices, personal, business and professional services, retail commercial uses, movie theatres, restaurants" in the 75 dBA Ldn, "educational and institutional uses" as well as "hotels and motels" in the 70-75 dBA Ldn range.

**ENVIRONMENTAL QUALITY CORRIDORS
WITHIN THE OCCOQUAN BASIN**

The preservation of environmental quality corridors is an important contribution to the goal of protecting the water quality of the Occoquan Reservoir as well as to other goals discussed in the general description of the County environmental quality corridor system presented in Section I: Background and Analysis, Environment subsection, under Open Space and Environmental Quality Corridors.

As part of the *Occoquan Basin Study*, environmental quality corridors were identified and mapped as shown in Map 5. Environmental quality corridors (EQCs) include two components: Sensitive lands EQCs and resource protection EQCs. These components are mapped together in Map 4. Sensitive Lands EQCs were mapped using the definition in Section II: Recommendations, Environment subsection, Open Space Recommendation 2a. Resource protection EQCs were mapped using the definition in the same subsection, Open Space Recommendation 1b. Since the latter definition is very general, a special study of the environmental resources of the Occoquan Basin was made to determine more accurately the extent of the resource protection EQCs.

**RECOMMENDATIONS FOR SPECIAL AREAS
OF AREA III**

**Recommendations Applying to Lands in the
Occoquan Basin**

Protection of Occoquan Water Quality

A. Apply the following water quality protection measure:

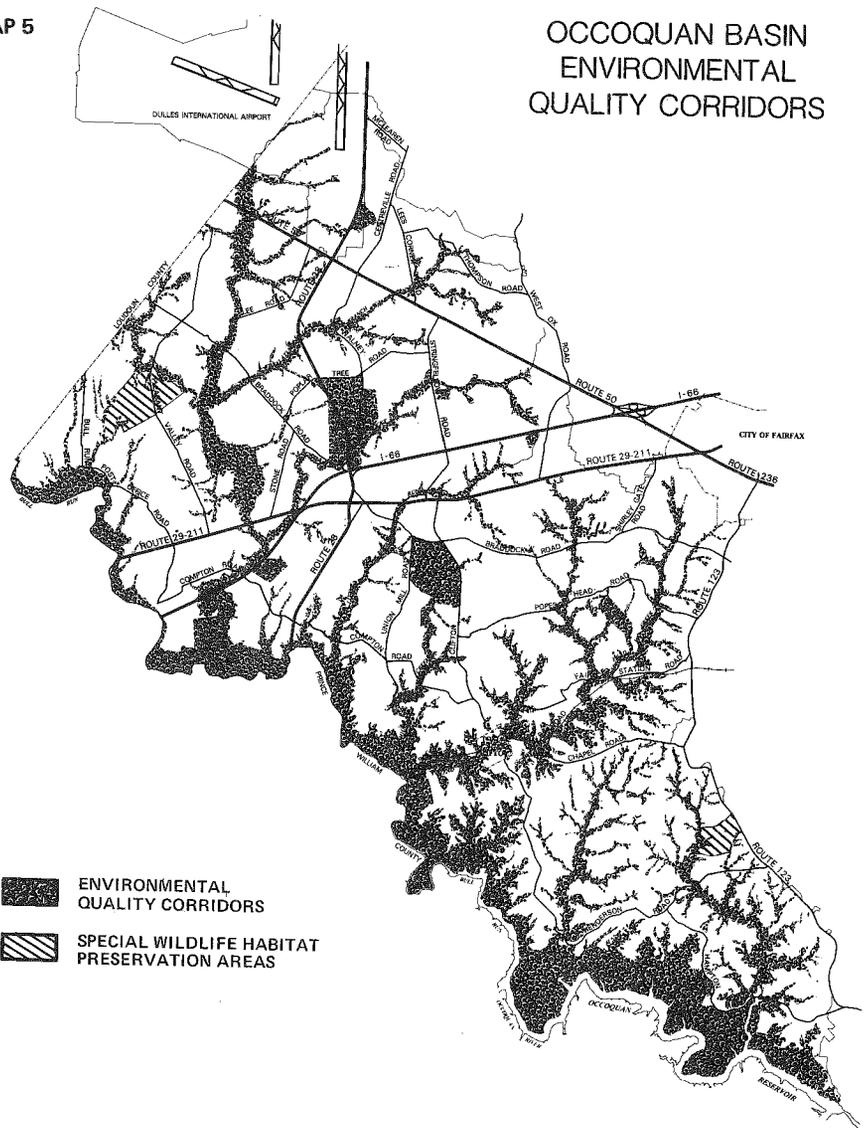
1. New urban (more intense than .2 dwelling unit per acre) development in the Occoquan Basin should employ sufficient water quality control measures to reduce projected runoff pollution to the level required to meet the water quality goal. Each development proposal should be examined individually and based upon total acreage, site constraints, available pollution control technology, and runoff pollution projections used in the *Occoquan Basin Study*, a determination should be made as to the sufficiency of the proposed water quality control measures to meet this goal. Land use runoff pollution relationships and BMP pollutant removal efficiency rates may be determined from NVPDC's *Guidelines for Screening Urban Nonpoint Pollution Management Strategies* as modified by findings reported from the Washington Metropolitan Area National Urban Runoff Demonstration Project. Nonurban land uses such as forest land, pasture land and .2 dwelling unit per acre residential would meet the standard without additional controls. This recommendation will remain in effect until the Occoquan Nonpoint Pollution Control Committee selects and the County enacts different water quality control measures which have been determined to be sufficient to meet the Occoquan water quality goal.

Protection of Environmental Quality Corridors

A. Define the environmental quality corridors of the Occoquan Basin as described below. Map 4 should be used as a guide for the preservation of environmental quality corridors in the Occoquan Basin in conjunction with the following definitions of the two components of the EQC system:

1. Sensitive Lands EQCs of the Occoquan Basin. All presently mapped 100-year floodplains and all 100-year floodplains subsequently mapped during the development process; all floodplain soils and soils adjacent to streams which exhibit a high water table and poor bearing strength, or other severe development constraint (these include Fairfax County soils numbers 1-6, 11-13, 47, 52, 80, 84-85, 92, 118);

MAP 5



**OCCOQUAN BASIN
ENVIRONMENTAL
QUALITY CORRIDORS**

■ ENVIRONMENTAL QUALITY CORRIDORS
▨ SPECIAL WILDLIFE HABITAT PRESERVATION AREAS

fresh water wetlands adjacent to streams; steep slopes (greater than 15 percent) adjacent to the above floodplains, soils and wetlands; and at a minimum, where the above floodplains, soils, and wetlands cover only a narrow area, a buffer on each side of the stream or water body calculated from the following formula:

$$\text{Buffer width} = 50 + (4 \times \text{percent slope}) \text{ in feet}$$

2. Resource Protection EQCs of the Occoquan Basin. Publicly owned parks; private conservation areas; county-designated heritage resources; and the following wildlife habitat areas—600 foot wide open space corridors (300 feet on either side of the stream) at a minimum along Occoquan River, Occoquan Lake, Bull Run, Cub Run, Big Rocky Run downstream of Eleanor C. Lawrence Park, Little Rocky Run downstream of Twin Lakes Park, Johnny Moore Creek downstream of Twin Lake Park, Popes Head Creek downstream of Popes Head Nike Park, Wolf Run downstream of Clifton Road, and Sandy Run downstream of Ox Road, and also two special wildlife habitat preservation areas as identified on Map 4, an upland hardwood forest along Pleasant Valley Road and a mixed forest area along Route 123

across from Burke Lake Park. Other resources protection EQCs, such as agricultural lands, may later be identified as a result of other studies such as *Preserving Agriculture and Open Space in Fairfax County*, April 1981.

B. Protect the environmental quality corridors of the Occoquan Basin as described below:

1. Sensitive Lands EQCs of the Occoquan Basin. These lands are to be protected in undisturbed open space, except provisions may be made for the installation of recreational trails, necessary road and utility crossings, and stormwater management structures, and for some development on steep slopes and marine clay (soil number 118) soils, subject to the following conditions. The number of road and utility crossings should be minimized. Alternatives to the installation of utilities parallel to streams should be actively pursued. When trails, road and utility crossings and stormwater management structures are placed in EQCs, efforts should be made to mitigate adverse impacts on streams, wetlands, vegetation, and slopes, impacts such as sedimentation, excessive clearing of vegetation, and erosion. Generally sensitive lands EQCs should not be developed with buildings or parking lots.

However, in cases where steep slopes cover an extensive area, some buildings may be allowed on the steep slopes furthest away from the stream if grading is minimized, if care is taken to remove as little vegetation as possible, and if the floodplain soils, wetlands, and minimum buffer width remain undisturbed. Marine clay soils may be built upon, subject to design and construction standards set by the County Geotechnical Review Board. Otherwise, the sensitive lands EQCs are defined in Recommendation 1 represent the limit of clearing of natural vegetation along the County streams.

2. Resource Protection EQCs of the Occoquan Basin. Parks and private conservation areas should be maintained primarily in undisturbed open space and low-intensity recreational use. Heritage resources should be protected from development within EQCs, but efforts should be made to incorporate them into interpretive park and/or trail systems, as appropriate. The preservation of wildlife habitat areas in undisturbed open space is encouraged. Maintenance in agricultural use or development in residential use at a density of one unit per five acres or larger lot development is acceptable as long as tree removal is minimized.

3. Where a Sensitive Lands EQC overlaps with a Resource Protection EQC, the policy for protection of the Sensitive Lands EQC should apply.

C. Pursue a variety of implementation tools for the preservation of EQCs including, for example, new zoning categories, additional performance standards, open space dedication at rezoning and site and subdivision plan review, fee simple and easement acquisition, tax incentives, and agricultural and forestal districts. To the extent possible, Sensitive Lands EQCs should be protected through implementation methods which provide public ownership or control, such as the stream valley park acquisition program, so that adverse impacts on these ecologically sensitive areas can be minimized.

A portion of the stream valley and adjacent land within this Planning District/Planning Sector is within the dam failure impact area for a proposed or existing dam. The extent of development within these impact areas should be minimized in the interest of public welfare and safety. For details on the extent of this area, refer to the section on potential dam failure impact areas, in the Environmental Chapter.

Recommendations Applying to Lands in the Dulles Airport Noise Impact Area

A. Apply the land use compatibility guidelines presented in Figure 1 (located at the beginning of the Area III Plan under the heading Land Use Planning Within the Dulles Airport Noise Impact Area) to all lands within the Dulles Airport Noise Impact Area as well as applicable acoustical treatment measures in Appendix A and Appendix B which follow Figure 1 in the text.

STABLE AREAS

Stable areas containing both open and developed land of established character predominate in all three planning districts of Area III.

Protection and enhancement of these stable areas throughout the planning area is a primary objective of the Plan's strategy and recommendations. This section designates the majority of Area III, with the exception of two complex areas and four option areas, as stable, analyzes local area problems and opportunities, and makes recommendations for stable area infill development, preservation, and enhancement.

Framework for Analysis

The land classification system described in the preceding section was applied to Area III to provide a framework for analysis and Plan recommendations. Geographic delineation of stable, option and complex areas was made for each of 23 small areas which together constitute Area III. These 23 local sectors were created to facilitate staff analysis and development of recommendations, and to provide a vehicle for citizen review of local information, assets, problems, and Plan recommendations. These local sectors are referred to as community planning sectors to highlight their use in focusing planning consideration at the local level in addition to the more inclusive levels of the planning district, planning area, and the overall County.

Boundaries for the community planning sectors in Area III have been drawn so as to allow the use of existing small area data sources and they generally follow principal roadways and natural barriers. The sectors divide each planning district into several parts and are identified by a letter/number code. The letters are a planning district reference (UP-Upper Potomac, BR-Bull Run, P-Pohick)—and the number is simply a sequential designation. The sectors are also identified by community names for easy reference. The map at the beginning of the Area III section of the Plan shows the community planning sectors for all of Area III. It should be emphasized that the identified community planning sectors are not meant necessarily to delineate neighborhoods, however defined, and may have only limited utility for other purposes, such as neighborhood housing improvement programming or variable service-area public facilities programming. No one system of small area designation can meet all needs. The community planning sectors offer a useful way to present information for small areas within planning districts.

What is a Stable Area?

A variety of land use characteristics exist within the stable areas of Area III. That most of Area III has been designated as stable indicates that these land use characteristics should be protected and enhanced. Preservation of stable areas, therefore, is a major objective of the Area III Plan. But what actually is a stable area in Fairfax County? What are its characteristics and what is its condition? What does it need now and what will it need in the future?

The key to the definition of a stable area in Area III is the present state of development and its potential for future development. A given area may be entirely large-lot residential and farmland, single-family homes, or a mixture of housing densities; it may contain significant amounts of commercial or industrial development, or mostly large undeveloped tracts of land. But the main feature is a definite, distinctive character which should be respected by future development.

Protection and enhancement thus involve taking actions necessary to reinforce the existing character of the area and preventing actions that

would compromise or degrade this character.

Stable areas within Area III are almost exclusively residential, ranging from very low- to moderate-densities, often containing large amounts of open space with strong environmental amenities and constraints. The physical condition of the homes and public and private structures is generally good to excellent; with minor maintenance these structures should remain sound for at least 10 to 15 years.

Establishing Policies for Neighborhood Protection

The first step in developing a plan for Area III neighborhoods was to divide the three planning districts into local (community planning) sectors and then analyze each sector, identifying its strengths and weaknesses. Information from these small sectors was then assembled to formulate the eight general policies listed below. These cover recommendations for improving the specific conditions which are identified thereafter.

Compatible Infill

Evaluate proposed development in stable areas and provide guidance to ensure compatibility with surrounding neighborhoods and the environment.

Housing

Provide housing for residents of all income ranges and varied life styles. Encourage maintenance and improvement of the existing housing stock.

Road and Trail Network

Provide a road and trail network which will satisfy:

- commuting to and from the metropolitan core, including bus lanes;
- adequate cross-County movement;
- adequate and safe collectors and minor arterials;
- nonautomotive access to local-serving facilities such as shopping, schools, and parks.

Public Transit

Support and encourage public transit including commuter rail.

Public Facility Improvement

Provide balanced public facilities to existing residents and future development as guided by this Plan.

Environmental Protection

Establish and protect environmental quality corridors. Discourage development in other environmentally sensitive areas and conservation zones. Insure consideration of environmental factors in infill development.

Community Service Programs

Develop programs and facilities which serve the special needs of residents.

Community Organizations

Encourage community organizations to participate in evaluation of development proposals and to identify community problems and seek solutions through County government and local action.

Characteristic Problems and Recommended Solutions for Stable Areas

The following are characteristic problems identified from the evaluation of stable areas in Area III, with recommended approaches for their solu-

tion. It is emphasized that these characteristic problems do not cover all problems in stable areas, nor is treatment of those listed exhaustive.

Development Potential and Compatibility

Unlike stable areas in some other sections of the County, many of those in Area III contain much vacant land and thus have a significant remaining potential for development. In suburbanized areas such as the inner Pohick and Reston/Herndon, in semirural areas such as Great Falls and Dominion Valley, great care must be taken to ensure compatible infill. In rural areas such as the western and southern reaches of the Area, environmental and aesthetic considerations suggest that they be treated so as to ensure area conservation.

Different solutions are required for each of the three situations above. In the suburban areas, additional development should preserve environmental amenities and be subject to the constraints of factors such as flooding, erosion, and siltation. Compatible infill is not necessarily identical to that in surrounding neighborhoods. To ensure compatibility, however, such devices as planned development, density gradation, screening, and buffering must be used. Planned development provides the best opportunity to ensure that the physical design of the site is sensitive to environmental concerns and neighborhood compatibility. The PDH approach also provides the citizen opportunity to influence project design through discussion and negotiation.

In areas where large-lot residential use predominates, additional use should follow the same pattern. In some areas, clustering will be appropriate in order to minimize impact on the landscape and preserve as much open space as possible.

In conservation zones, parkland, farms, and other open space should predominate, with minimal development on five, ten, and greater acreages.

Imbalance in Housing Stock; Deterioration of Modest Homes

The housing stock in Area III as of January 1983 is 58 percent single-family detached, 26 percent townhouse, and 16 percent apartments. The price of most of this housing, and especially new construction, is expensive and beyond the reach of a large segment of the County's population. There are several communities in the area, such as Chapel Acres and Lorfax Heights, where the lack of basic public facilities such as water and sewer has contributed to unsafe conditions and deterioration of the neighborhoods.

The goal of a wider variety and mix of housing types and costs can be achieved through a combination of available tools. Encouraging imaginative use of the planned development approach along with County actions to improve the review and approval process, land banking, density credits, etc., may all be used to attain this goal. Community development programs should also be initiated to revitalize aging and deteriorating communities.

Inadequacy of Major Arterial Roads and Commuter Use of Rural Roads

Major arterials through Area III are currently handling large volumes of commuter traffic generated from both within and outside the area. Severe congestion occurs particularly at major intersections. As alternative routes, commuters are using rural roads not built to handle large volumes of traffic, and are experiencing severe safety hazards due to poor horizontal and vertical alignment, narrow road width, and narrow rural-type bridges. High volumes of traffic on such roads impact adjacent communities and hinder the roads' primary

function of providing internal circulation. In other sections of Area III, two-lane roads must function as arterials where no primary high capacity roads yet exist.

While existing arterials serve transportation demands to and from the metropolitan core, adequate cross-county access within Area III does not exist, placing additional burden on rural roads.

Representative required improvements to the road system include:

- improvement of major arterials to limited access highways;
- access to the Dulles Airport Access Road or the construction of parallel lanes for commuter use;
- improvement of Route 28 to a limited access facility to provide north-south access;
- construction of a major arterial in the Pohick to provide adequate east-west access;
- construction of a north-south arterial from Route 7 in the vicinity of Dranesville Road through Reston to the Dulles Airport Access Road with possible extension to Route 50/ I-66;
- improvement of the intersections of major arterials through grade separations;
- improvement of rural-type roads, especially in the Pohick watershed, to two lanes with shoulders, improvement of their intersections and widening of one-lane bridges.

Poor Internal Circulation and an Overdependence on the Automobile for Short Local Trips

While streets within subdivisions generally meet current design standards, collector roads onto which traffic from these subdivisions must be directed are often inadequate in meeting current demands and present severe safety hazards in alignment and at intersections. Access to neighborhood commercial areas and public facilities is almost exclusively by way of auto, with little provision for paths and bike trails.

A partial solution would be the development of a well-coordinated series of paths alongside roadways and through subdivisions, parks, open space, and stream valleys that link with access points to recreation and commercial activities which are in those locations desired by local residents. While caution would have to be exercised in the location of these walkways and access points to minimize destabilizing effects on residences abutting commercial activity areas, nevertheless, the positive feature of such an integrated trail and walkway system would be the provision of a real option to the automobile.

Low Level of Public Transit

Reston/Herndon, Greenbriar, and part of the inner Pohick are the only areas served by regular and/or commuter bus service. The low density of much of the area coupled with the inadequacy of many collector and arterial roadways inhibit public transportation in the area.

Several measures should be taken to increase the availability and use of public transit:

- improvement of collectors and arterials;
- provision of bus lanes on major arterials;
- provision of fringe parking lots;
- encouragement of and assistance to communities where viable commuter bus service could be initiated;
- provision of feeder bus systems to provide access to Metro stations;
- continuing investigations leading to establishment of commuter rail service on the Southern Railway tracks.

Adequate Public Facilities

Problems involving public facilities can be characterized by an imbalance in supply and demand which exists through much of Area III. It is particularly evident in growth concentrations such as Reston/Herndon and the eastern Pohick. Incon-

venient community parks and a lack of active recreation facilities, many schools above program capacity, and a lack of conveniently located police, fire, and health services are representative problems. Moreover, there are voids in such services as water and sewer in several older communities such as Upper Clifton Road, Chapel Acres, and Lorfax Heights.

Expected growth added to the existing population both requires and makes possible a better distribution and more comprehensive provision of public facilities. As infill takes place in the stable areas, the population distribution will become more concentrated and better defined, making it possible to provide more conveniently located facilities. Population growth, on the other hand, and concomitant increases in demand, will make it possible to further decentralize many government services now remote from the western portion of the County.

The ten-year Water, Sewage and Drainage Plan, the five-year Capital Improvement Program, and this Plan provide the means to redress these imbalances and to maintain a balance of services in the future.

Continuing Process

Two policies of particular importance in Area III are that growth should be in harmony with the environment and should be consistent with availability, and Fairfax County's ability to pay for public facilities and public service. The planning and land use system (PLUS) implies a continuing process of monitoring and analysis during every phase of implementation. Whatever our guidelines, we must continue to be aware of changing circumstances and growth trends as we see a better future.

Time-Phasing of Development

The time-phasing of development in accordance with the provision of adequate public facilities is a particularly critical issue in Area III, much of which lacks such facilities now in terms of existing and committed development. The problem is particularly acute in terms of transportation facilities. The Comprehensive Plan should provide a time-phasing schedule for planned development in Area III where public facility deficiencies currently exist or will exist as a result of already committed development.

Environmental Factors

Attention to environmental concerns is a major policy for Area III. Since stable areas encompass much of the undeveloped and environmentally important land in the area, much of the implementation of this policy falls here. In light of extensive treatment of environmental issues elsewhere, suffice it to say here that the extent to which this policy is successfully pursued in the stable areas will largely determine its overall effectiveness.

Social Factors

The pressures of rapid growth intensify needs for special segments of the population. Large numbers of younger, urban-oriented residents arriving in an established rural-oriented community such as Herndon; large increases in the number of young children and youth, such as in Reston and Pohick; elderly, fixed-income residents in established neighborhoods, some impacted by new development; are representative of specific segments of the population which require specific attention. Programs, facilities, and activities to fill these needs should be defined and pursued.

Citizen Action

Much of the framework for citizen concern for and participation in County activities already exists in such organizations as citizen associations, professional groups, and volunteer organizations. A more recent addition are the citizen task forces and special groups associated with the current planning effort. As the evaluation and implementation mechanisms associated with the ongoing planning process come into being, this participation will be enlarged and of increasing importance. Involvement in the project impact evaluation system and in formulation of the Capital Improvement Program are specific examples of the role anticipated for citizen action.

UPPER POTOMAC PLANNING DISTRICT

The Upper Potomac Planning District is located in the northwest portion of Fairfax County. It is bounded on the west by Loudoun County, on the north by the Potomac River, on the east generally by the Difficult Run stream valley and on the south by Route 50 and Dulles Airport.

Land Use

The Upper Potomac Planning District contains a wide variety of land use within its 44,600 total acres. As of January 1983, 41 percent or 18,500 acres are in residential use. While 95 percent of the total acres in residential use are single-family, the actual number of units are split between single-family (50 percent), townhouses (25 percent), and apartments (25 percent). These figures reflect the impact of the new town of Reston and the Town of Herndon in providing a wide variety of housing types within the Upper Potomac Planning District.

The community of Reston, approximately one-half complete, has 7,100 acres and will ultimately include a population in the neighborhood of 70,000. It contains a wide range of housing including low-density, large single-family homes; townhouses; garden and high-rise apartments. There are three major commercial centers in Reston. Residential subdivisions of detached and cluster townhouse homes are located in Reston's peripheral areas. Substantial urban development has occurred in Reston in recent years which has spurred growth in adjacent county acres.

Reston also contains a significant industrial park, oriented largely to office and research type operations. The headquarters of the United States Geological Survey is also located in Reston. Some light industrial activity is located in the area be-

tween Centreville Road and Dulles Airport. Both the Reston and Dulles areas have large potential for expansion of industrial uses.

The area north of Leesburg Pike and Crowells Corner to the south are semirural in nature. Housing here includes scattered, older residential dwellings and new, high-income dwellings on large lots. There are still active farms in these areas.

If all currently committed residential development takes place, the district's housing stock will increase by nearly one-third, an increase of approximately 15,000 units with a concurrent population increase of approximately 43,000 people.

Due to the growth of Reston and Herndon, population within the district has increased rapidly over the past ten years. In 1969, the population was estimated at 16,304. 1983 estimates set the population of the Upper Potomac Planning District at 82,250, an increase of over 400 percent since 1969. Including the additional population to be added under Plan buildout, the district's population will increase to approximately 111,000.

Transportation

Route 7, Route 50 and Route 28 are the major arterials serving the district. The former two also carry a large volume of traffic transiting the district between Loudoun County and the metropolitan core. The alignment for the previously planned outer beltway transits the district from north to south. The district is poorly served by public transit, except for excellent commuter service to and from Reston via the Dulles Airport Access Road.

With the adoption of the *Occoquan Basin Study* recommendations for changes in various County land uses, a reevaluation of the Fairfax

County transportation plan will be needed in the areas affected by these changes, especially in the Centreville area and Route 50 corridor, to adequately address the future transportation needs of the County.

Public Facilities

Existing public facilities located within the Upper Potomac Planning District are listed in the accompanying table.

The existing population and the influx expected for the area create a substantial need for active recreation facilities in public parks located in close proximity to concentrations of population. Acquisition of additional parks, expansion of existing parks, and development of these parks must occur to complement existing resources and take advantage of what are now good opportunities to provide additional facilities.

Working, owner-occupied farms and orchards and individually owned forests and open space should be preserved if possible through agricultural zoning, easements, and/or established tax incentives to provide open space and buffers in appropriate areas.

Environment

The Upper Potomac Planning District lies within the Triassic lowlands and Piedmont geologic provinces and contains the Pond Branch, Nichol Branch, Sugarland Run, Horsepen Creek and Difficult Run watersheds. The entire planning

Route 7 Corridor Between DAAR and Loudoun County

Industrial, office, research and development (R&D) and retail commercial uses are not appropriate in the Route 7 corridor.

EXISTING PUBLIC FACILITIES June 1983

Sector	Schools			Parks, Recreation and Open Space	Other Public Facilities
	Elementary	Intermediate	High School		
UP1				Riverbend, Great Falls (National Park Service), Upper Potomac (Northern Virginia Regional Park Authority)	
UP2	Great Falls			Windermere, Great Falls Grange	Great Falls Fire Station, Great Falls Mini Library
UP3	Forestville			Great Falls Nike, Lockmeade, Lexington Estates, Colvin Run and Difficult Run Stream Valleys	Elementary School Site
UP4	Clearview		Herndon	Dranesville Tavern, Sugarland Run and Folly Lick Run Stream Valleys	FCWA Potomac River Treatment Plant
UP5	Lake Anne, Forest Edge, Sunrise Valley, Dogwood, Terraset, Hunters Woods	South Lakes	South Lakes	Northern County Governmental Center; Baron Cameron, Lake Fairfax, South Lakes Drive, Fox Mill District, Difficult Run Stream Valley, W&OD Railroad Regional Park	Reston Police, Access, North County Government Site, Carter Glass and Hunters Wood Libraries, Health and Social Services, Reston Fire Station, Reston Community Center
UP6	Herndon	Herndon		Stanton, Chandon, Bruin, Alabama Drive, W&OD Railroad Regional Park	Herndon Fire Station, Herndon Library, Town of Herndon Government, Herndon Community Center
UP7	Hutchison, Floris			Sully	Intermediate School Site
UP8	Fox Mill, Franklin Park			Frying Pan, Garnchayne, Horsepen Run and Difficult Run Stream Valleys, Clarke's Landing	Navy-Vale Fire Station, Fox Mill Fire Station
UP9	Navy				Franklin Intermediate Site, Pender Police/Fire Station Site

district contains vast environmental resources which merit protection.

Factors serving to constrain development of this area in general include the Dulles Airport Noise Impact Area, an extensive environmental quality corridor which contains floodplains noted for severe periodic flooding, steep slopes flanking many stream valleys and the Potomac shoreline, and highly erodible soils in the eastern two-thirds of the district. In addition, the western portion is in a regional aquifer recharge area. This area is a potential source of groundwater for Leesburg and Manassas.

This area is noted for its rolling topography, well-defined ridge tops and high quality vegetation. These physical attributes coexist with many other features, a large wildlife preserve, several parks and numerous historic sites.

A portion of the stream valley and adjacent land within this Planning District/Planning Sector is within the dam failure impact area for a proposed or existing dam. The extent of development within these impact areas should be minimized in the interest of public welfare and safety. For details on the extent of this area, refer to the section on potential dam failure impact areas, in the Environmental Chapter.

History and Archaeology

Numerous known and potential heritage resources exist in the Upper Potomac Planning District. Important prehistoric and historic archaeological sites are present in and adjacent to the Potomac River floodplain. Other important sites are located along the valleys and adjacent uplands of small streams entering the Potomac, in the Difficult and Sugarland Run watersheds, and along Horsepen Run, Frying Pan Branch, Cain Branch, and Flatlick Branch. Since much of the District remains relatively undeveloped, there is high potential for other important historic resources, and some as-yet-unidentified sites and structures may still exist within developed areas, particularly in Herndon, Reston, and Chantilly. Some of the known historic resources include Dranesville Tavern, Sully Plantation, and Colvin Run Mill, which are operated by the Fairfax County Park Authority for public enjoyment.

Recommendations. The major heritage resource preservation guidelines for the Upper Potomac Planning District are:

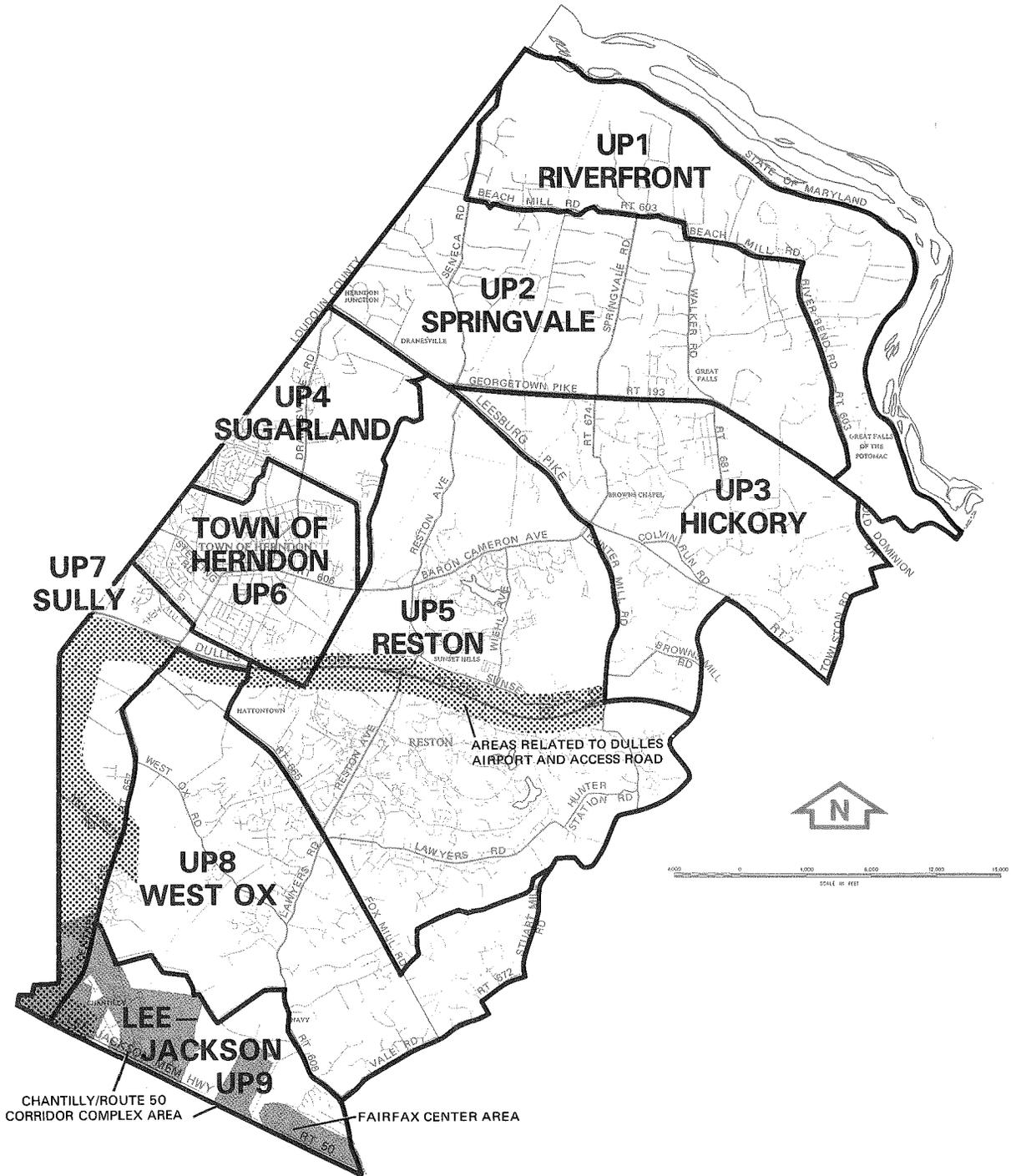
- consideration of heritage resources at the earliest planning stages of development;
- the investigation of open space and sensitive areas for heritage resources.

PLANNED RESIDENTIAL INFILL—UPPER POTOMAC PLANNING DISTRICT

Unit Type	Existing (1983)		Estimated Additional		At Buildout	
	Number	Percent	Number	Percent	Number	Percent
Single-family	14,358	49.7	18,920	70.2	33,278	59.5
Townhouse	7,186	24.8	4,540	16.8	11,726	21.0
Apartment	7,367	25.5	3,510	13.0	10,877	19.5
Total	28,911	100.0	26,970	100.0	55,881	100.0

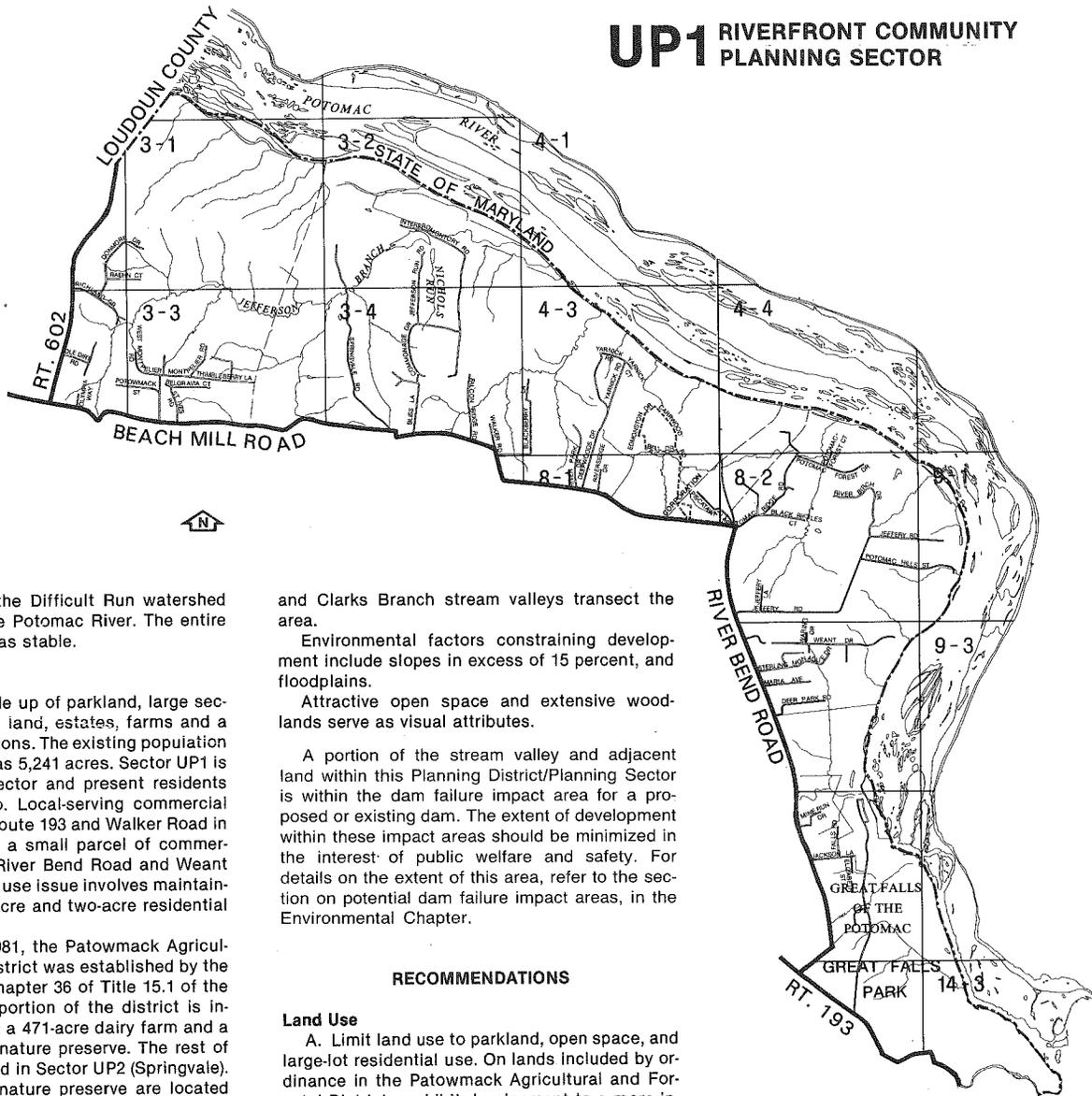
Source: Office of Research and Statistics, January 1983.

AREA III



UPPER POTOMAC PLANNING DISTRICT

UP1 RIVERFRONT COMMUNITY PLANNING SECTOR



This sector is in the Difficult Run watershed and is located on the Potomac River. The entire sector is designated as stable.

Land Use

This sector is made up of parkland, large sections of undeveloped land, estates, farms and a few large lot subdivisions. The existing population is 1231. The sector has 5,241 acres. Sector UP1 is essentially a rural sector and present residents wish it to remain so. Local-serving commercial uses are located at Route 193 and Walker Road in Sector UP2. There is a small parcel of commercially-zoned land at River Bend Road and Weant Drive. The major land use issue involves maintaining the present five-acre and two-acre residential density.

On January 26, 1981, the Patowmack Agricultural and Forestal District was established by the Board pursuant to Chapter 36 of Title 15.1 of the Code of Virginia. A portion of the district is included in this sector: a 471-acre dairy farm and a 36-acre portion of a nature preserve. The rest of the district is included in Sector UP2 (Springvale). The dairy farm and nature preserve are located east of Seneca Road, south of parkland owned by the Northern Virginia Regional Park Authority, north of residential developments along Beach Mill Road, and northeast of Springvale Road.

Transportation

Major access roads to Sector UP1 are Seneca Road, River Bend Road, Springvale Road, Utterback Store Road and Walker Road. All roads in Sector UP1 are two-lane rural roads. The major transportation issue in this sector is the impact of road improvements needed for access to new development and regional park areas.

Public Facilities

Parks, Recreation and Open Space

The Riverbend, Upper Potomac Regional (Northern Virginia Regional Park Authority), and Great Falls (National Park Service) Parks are located within the sector.

Given the existing and planned low-density development in the sector, no other park or recreation facilities except for Nichols Run stream valley will be needed in this sector.

Environment

This sector is located in the Triassic geologic province and in the Nichols Run and Pond Branch watersheds. Most of the sector, comprised of Great Falls Park, is in the Potomac River Environmental Quality Corridor and the Northern County Wildlife Preserve. Jefferson Branch, Nichols Run

and Clarks Branch stream valleys transect the area.

Environmental factors constraining development include slopes in excess of 15 percent, and floodplains.

Attractive open space and extensive woodlands serve as visual attributes.

A portion of the stream valley and adjacent land within this Planning District/Planning Sector is within the dam failure impact area for a proposed or existing dam. The extent of development within these impact areas should be minimized in the interest of public welfare and safety. For details on the extent of this area, refer to the section on potential dam failure impact areas, in the Environmental Chapter.

RECOMMENDATIONS

Land Use

A. Limit land use to parkland, open space, and large-lot residential use. On lands included by ordinance in the Patowmack Agricultural and Forestal District, prohibit development to a more intense use than the existing use as of January 26, 1981 (but do not prohibit farm-related structures). Limit density to no greater than one dwelling unit per five acres to protect the Potomac River Environmental Quality Corridor and Wildlife Preserve.

B. No cluster subdivision development should be allowed in this sector as the present pattern of development is predominantly on two acre or larger noncluster lots. This sector is currently zoned to permit two-acre per unit residential development and is planned for 5-10 acres per unit. The intent of the Plan for this area is to preserve and provide the two-acre or larger home-site character of the area.

C. Additional commercial uses should be located only on land currently zoned for commercial uses near Walker Road and Route 193 and at Walker Road and Colvin Run Road.

D. Provide sufficient access to public parkland in Sector UP1.

Public Facilities

Parks, Recreation and Open Space

A. Support federal, state and regional expansion of existing parkland along the Potomac River through public acquisition.

B. Conserve the Potomac shoreline by establishing a preservation overlay district with restriction against incompatible development.

C. Preserve stream valleys by acquisition and scenic easement.

D. Complete development of Riverbend Park.

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Other Public Facilities

A. Ensure adequate facilities, manpower, equipment and water supply for adequate fire and emergency protection.

Environment

A. Protect the Potomac River Environmental Quality Corridor and wildlife preserve through scenic, open space and trail conservation easements.

Transportation

A. Vehicular access to proposed development in Loudoun County will cause negative impact upon Fairfax County communities. The primary objective in selecting an alignment for this access road will be to minimize the impacts on existing and planned residential communities in the County.

B. Additional transportation recommendations for this sector are contained in the Transportation section of the Plan.

The entire sector is designated as stable.

Land Use

This sector is similar to Sector UP1 because it is semirural and consists of undeveloped land, farms, large-lot subdivisions, estates and scattered single-family development. Residents wish to maintain the existing character. Most of the committed and anticipated development in the sector is for 5-acre and 2-acre residential development. Housing ranges from older, moderate-income dwellings to recent high-income dwellings. There are small parcels of commercially-zoned land at Beach Mill and Springvale Roads and local-service commercial uses are located on Route 7 at Georgetown Pike and at the village of Great Falls. The major land use goal of the residents is to maintain large-lot densities (one dwelling per five- and two-acre lots) in spite of pressure to develop one-acre residential lots on land zoned for one-acre development. There is also pressure for commercial use in the Route 7 corridor. Currently committed dwelling units on large lots are in conformance with existing land use.

On January 26, 1981, the Patowmack Agricultural and Forestal District was established by the Board pursuant to Chapter 36 of Title 15.1 of the Code of Virginia. A portion of the district is included in this sector, a 132-acre dairy farm located south of Brockman Lane and west of Seneca Road. The rest of the district is located in the Sector UP1 (Riverfront).

Environment

This sector is located in the Triassic geologic province and the Sugarland Run, Nichols Branch, Pond Branch and Difficult Run watersheds. It is transected by the Jefferson Run and Nichols Run stream valleys and by the Atlantic Seaboard Corporation utility easement.

Steep slopes (over 15 percent) and extensive stream networks in some areas pose constraints to development, while various plant and wildlife resources serve as unique attributes in this sector.

A portion of the stream valley and adjacent land within this Planning District/Planning Sector is within the dam failure impact area for a proposed or existing dam. The extent of development within these impact areas should be minimized in the interest of public welfare and safety. For details on the extent of this area, refer to the section on potential dam failure impact areas, in the Environmental Chapter.

Transportation

Access and circulation are adequate for existing conditions. Major access roads are Route 193, Springvale Road, Walker Road, Beach Mill Road, Old Dominion Drive, and Seneca Road. There is public transportation service on Route 7. Infrequent service is provided on Old Dominion Drive and Great Falls Road. Road 193 should maintain its rural character. It has been designated a

scenic byway by the Commonwealth of Virginia. Safety improvements should be made where they are appropriate.

Public Facilities

Schools

Great Falls Elementary School is located within the sector.

Parks, Recreation and Open Space

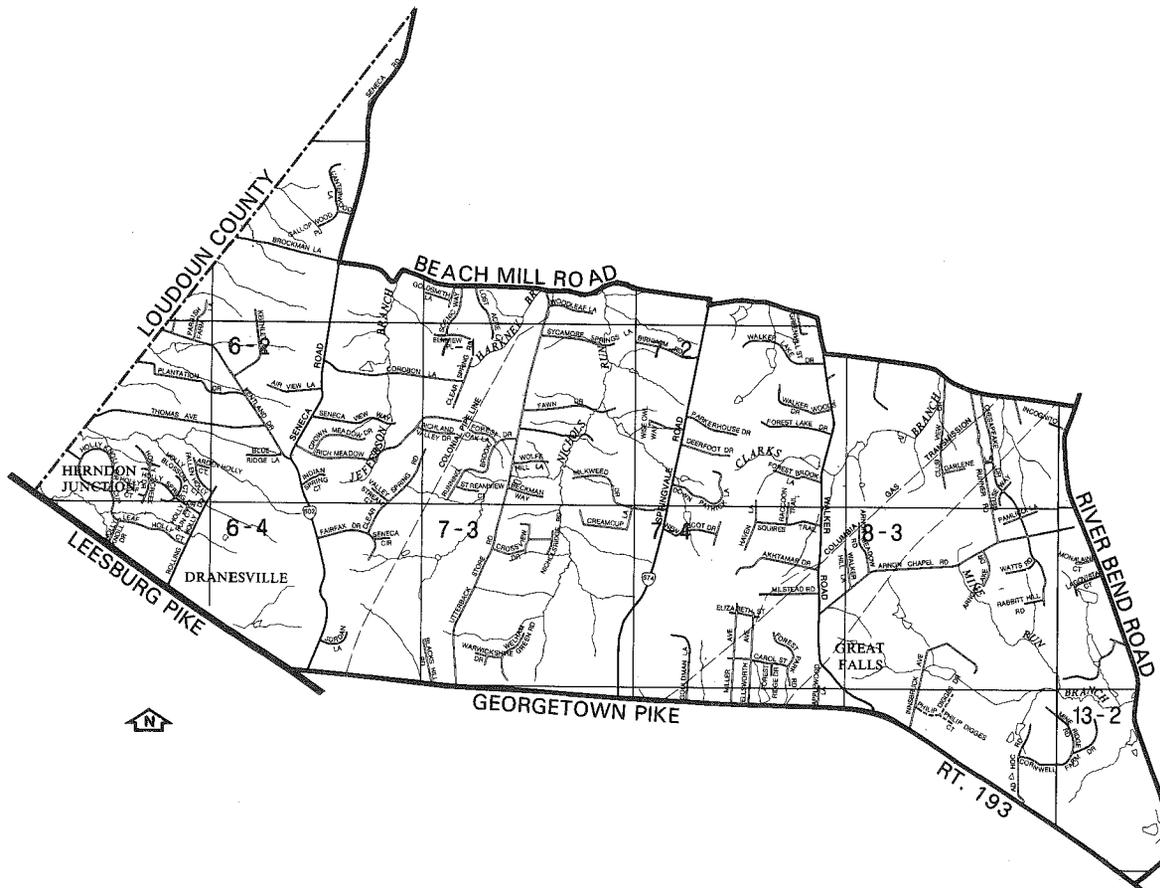
The Great Falls Grange, Holly Knoll, and Windermer Parks are located within the sector. Continued development in this sector will create a need for community parks with active recreation facilities.

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Other Public Facilities

Other public facilities located within the sector are the Great Falls Fire Station and Great Falls Mini Library.



RECOMMENDATIONS

Land Use

A. Land use in this sector should continue to reflect and support the established low-density character of the sector. Open space uses and low-density residential uses at .2-5 dwelling unit per acre and .1-2 dwelling unit per acre are planned as shown on the Plan map. Some existing residential use at higher density and some local-serving commercial use at Walker Road is planned as shown on the Plan map. Development to a more intense use than the existing use as of January 26, 1981 should not be allowed on lands within the Patowmack Agricultural and Forestal District while such lands are by ordinance included in the district (farm-related structures excepted).

B. No cluster subdivision development should be allowed in this sector as the present pattern of development is predominantly on two acre or larger noncluster lots. This sector is currently zoned to permit two acre per unit residential development and is planned for 2-5 acres per unit and 5-10 acres per unit. The intent of the Plan for this area is to preserve and provide the two acre or larger homesite character of the area.

C. Additional commercial uses should be located only on land currently zoned for commercial uses near Walker Road and Route 193 and at Walker Road and Colvin Run Road.

D. Policies for industrial/office and retail commercial uses in the Route 7 corridor are contained in the Upper Potomac Planning District introduction, above.

Public Facilities

Parks, Recreation and Open Space

A. Acquire and develop a community park in the area north of Dranesville Tavern.

B. Develop Windermere Park.

C. Acquire and develop land associated with the Great Falls Grange for community park use.

Other Public Facilities

A. Ensure adequate facilities, manpower, and equipment and water supply for adequate fire and emergency protection.

Environment

A. Preserve the semirural character of the sector. Preserve the various wildlife and plant resources and the stream valleys.

B. Include Route 193, which has been designated as an historic highway by the Commonwealth of Virginia, in an environmental quality corridor for protection of its natural and scenic amenities.

Housing

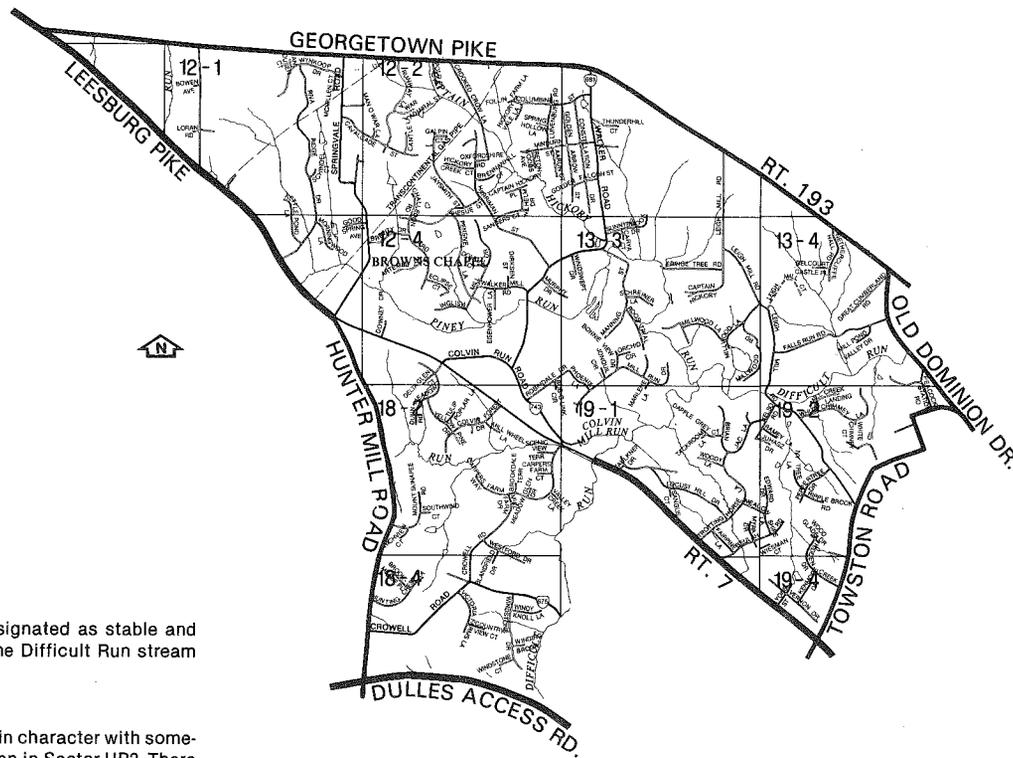
A. In order to provide some low- and moderate-income housing in a semirural environment, it is recommended that land be reserved for low- and moderate-subsidized housing in the vicinity of land zoned for commercial use at Walker Road and Route 193. The amount of land and density needed are not now recommended.

Transportation

A. Vehicular access to proposed development in Loudoun County will cause negative impact upon Fairfax County communities. The primary objective in selecting an alignment for this access road will be to minimize the impacts on existing and planned residential communities in the County.

B. Additional transportation recommendations for this sector are contained in the Transportation section of the Plan.

UP3 HICKORY COMMUNITY PLANNING SECTOR



The entire sector is designated as stable and includes a major part of the Difficult Run stream valley.

Land Use

This sector is semirural in character with somewhat more development than in Sector UP2. There are large-lot subdivisions and some in half-and-one-acre development. The existing population is 6,293. The sector has 5,626 acres. There are several operating farms in the sector. Housing ranges from older, moderate- and low-income dwellings to recent, high-income subdivisions and estate dwellings. It is the goal of residents to maintain large-lot development despite pressure to develop at higher densities, in the Crowells Corner area and on vacant land fronting on Route 7 east of Difficult Run.

Local-serving commercial uses are located at Great Falls village (Sector UP2) and Colvin Run Road, and outside the sector in Herndon, Tysons, and Vienna. Scattered commercial uses are located on Route 7.

The Colvin Run Mill Historic District extends up to one-quarter of a mile from the restored mill. The Alfred Leigh house is a historic site at Walker Road and Colvin Run Road.

Transportation

Major access to the sector is by Route 7, Leesburg Pike, and Route 193, Georgetown Pike. Leesburg Pike is experiencing increased congestion especially at Tysons Corner. The facility will need upgrading to a full freeway with controlled access, service roads and grade separations to serve future growth in Fairfax County and Loudoun County. Secondary roads generally need upgrading but should remain basically at two lanes. Regular bus service is available on Old Dominion Drive. As tourism and local traffic increase on Colvin Run Road, the intersection at Route 7 will become more deficient. Improvements will be needed in the form of signalization or redesign.

Public Facilities

Schools

Forestville Elementary School and a future elementary school site are located within the sector.

Parks, Recreation and Open Space

The Colvin Run Mill, Great Falls Nike, Lexington Estates, Lockmeade, Colvin Run Stream Valley, and Difficult Run Stream Valley Parks are located within the sector.

The rural character of much of the sector and access to the Potomac shoreline parks and Lake Fairfax Park provide open space and numerous passive and active recreation opportunities. Active recreation facilities, such as ballfields, do not exist and will be needed to serve new residents.

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Environment

This sector is located in the Difficult Run watershed, which is classified by the State of Virginia as a critical environmental area. Captain Hickory Run, Colvin Run, Difficult Run, and the Transcontinental gas pipeline transect the sector.

Steep slopes associated with stream valleys pose constraints to development, however, this sector contains many features which serve as physical attributes—open fields, small ponds, good soils and thick overburden.

A portion of the stream valley and adjacent land within this Planning District/Planning Sector is within the dam failure impact area for a proposed or existing dam. The extent of development within these impact areas should be minimized in the interest of public welfare and safety. For details on the extent of this area, refer to the section on potential dam failure impact areas, in the Environmental Chapter.

RECOMMENDATIONS

Land Use

A. Most land should be developed for residential use at one dwelling unit per two acres and one dwelling unit per five acres in order to preserve the existing character and support the low-density buffer concept for land in the Reston environs. The buffer zone concept should be extended to the eastern portion of UP5 along Hunter Mill Road.

The area bounded by Route 7, Georgetown Pike, Walker Road and Piney Run to be .5-1 dwelling unit per acre to reflect existing and committed development. New development should provide for ample landscaping, buffering and substantial building setbacks to ensure that much of the present relatively low-density character of the area will be preserved when viewed from the collector and arterial roadways serving the sector.

B. Residential use at a density not to exceed one dwelling per acre is recommended for the area generally between Difficult Run, Towston Road,

Leigh Mill Road and Route 7, excluding properties fronting on Towlston Road and Leigh Mill Road.

The northwest quadrant of the intersection of Route 7 and Towlston Road, bounded by the Glen Haven Farms subdivision to the north and Kenmore subdivision to the west, should be .5-1 dwelling unit per acre to be compatible with the planned density in this vicinity along Route 7. Substantial buffering, adequate landscaping and a substantial setback of buildings along the west side of Towlston Road in the area south of Glen Haven Farms subdivision are appropriate to preserve the low-density, rural character of Towlston Road.

C. No cluster subdivision development should be allowed in this sector on land which is currently zoned to permit two acre per unit residential development and is planned for 2-5 acres per unit, as the present pattern of development in these portions of the sector is predominantly on two acres or larger noncluster lots. The intent of the Plan for this area is to preserve and promote the two acres or larger homesite character of the area.

D. Additional commercial uses should be located only on land currently zoned for commercial uses near Walker Road and Route 193 and at Walker Road and Colvin Run Road. It would, however, be appropriate for some required commercial parking to be located on the residentially zoned portion of Tax map 12-4 ((1)) 15A, provided that the Alfred Lehigh House is rehabilitated and maintained as defined in "The Secretary of the Interior's Standards for Historic Preservation Projects". The Fairfax County Architectural Review Board will provide guidance. The parking should be buffered from surrounding residential development. Such parking should only be granted in conjunction with the rehabilitation and maintenance of the Lehigh House. Should the Lehigh House be demolished, use of the residentially zoned parking shall cease and the land be restored to its original condition.

E. Policies of industrial/office and retail commercial uses in the Route 7 corridor are contained in the Upper Potomac Planning District introduction, above.

F. Because the Route 7/Route 606 intersection is the main gateway to what will be a Herndon/Reston population of more than 100,000, any development at that intersection should be such that it would not foreclose the possible future construction of a multi-level interchange.

G. The northwest and northeast quadrants of the intersection of Route 7 and Springvale Road are planned for residential use at .5-1 dwelling unit per acre. No direct access to Route 7 should be permitted. Consolidation of parcels and a coordinated access point to Springvale Road should be required.

Public Facilities

Parks, Recreation and Open Space

A. Expand and develop the Great Falls Nike Park with active recreation facilities to serve the Great Falls area.

B. Develop Lexington Estates Park.

Other Public Facilities

A. Ensure adequate facilities, manpower, equipment and water supply for adequate fire and emergency protection.

Environment

A. Preserve the Difficult Run and Colvin Run stream valleys and environmental quality corridors by dedication and/or acquisition.

History and Archaeology

Colvin Run Mill Historic District

A. The regulations of the Colvin Run Mill Historic District (Appendix 1, A1-600 of the *Zoning Ordinance*) limit development to residential uses with the exception of commercial uses appropriate to the mill site itself. Residential density should not exceed one dwelling unit per acre. Public facilities should be permitted only after Architectural Review Board and Board of Supervisors approval. Such facilities, if approved, should be concealed underground or obstructed from view by design or designed and located with consideration to the historic site and its environs. Freestanding signs should not exceed ten feet in height.

B. Preservation of the environment of the Colvin Run Mill depends in part on retaining the present character of roads in the vicinity. Access roads from property adjacent to Route 7 should be kept to a minimum. Further, Walker Road-Colvin Run Road should not be improved to an arterial highway.

C. All improvements, including structures, signs, fences, street furniture, and outdoor graphics should be designed, located and installed to be compatible with the historic site in terms of mass, scale, height, color, type of material and visual impact. All development within the historic district will be reviewed by the Architectural Review Board.

Transportation

A. The transportation recommendations for this sector are included in the Transportation section of the Plan.

UP4 SUGARLAND COMMUNITY PLANNING SECTOR

This sector is north of the Town of Herndon south of Route 7 and immediately east of the Loudoun County line.

Land Use

The area is relatively flat and heavily treed. A large part of the area is dominated by the Sugarland Run stream valley and its flood plain. Existing housing, such as that in the proximity of Sugarland Road, is primarily older, single-family development which is structurally sound. Recent single-family residential development has occurred in the southern and western portion of the sector including Kingston Chase and Stuart Ridge. Herndon High School is located on Route 228 on the Herndon Boundary. A small portion of the sector is in Reston.

Local-serving commercial uses are located in Herndon and Reston on Route 7 across the Loudoun County line. Regional commercial uses are at Tysons Corner.

Transportation

Major roads serving this sector include Route 7 and Route 288 (Dranesville Road). Interior circulation is adequate within recent subdivisions, Stuart Road, providing access to Stuart Ridge is marginally adequate. New development will have to be served by improved interior roads.

The Springfield Bypass is planned to provide north-south access in this area.

Public Facilities

Schools

Clearview Elementary and Herndon High Schools as well as a partial elementary school site are located within the sector.

Parks, Recreation and Open Space

The Dranesville Tavern, Folly Lick Run Stream Valley and Sugarland Run Stream Valley Parks are located within the sector.

Existing gas line rights-of-way provide potential recreational areas and the proposal to build 230 kV transmission lines running parallel to the Colonial pipeline has stimulated strong local opposition.

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

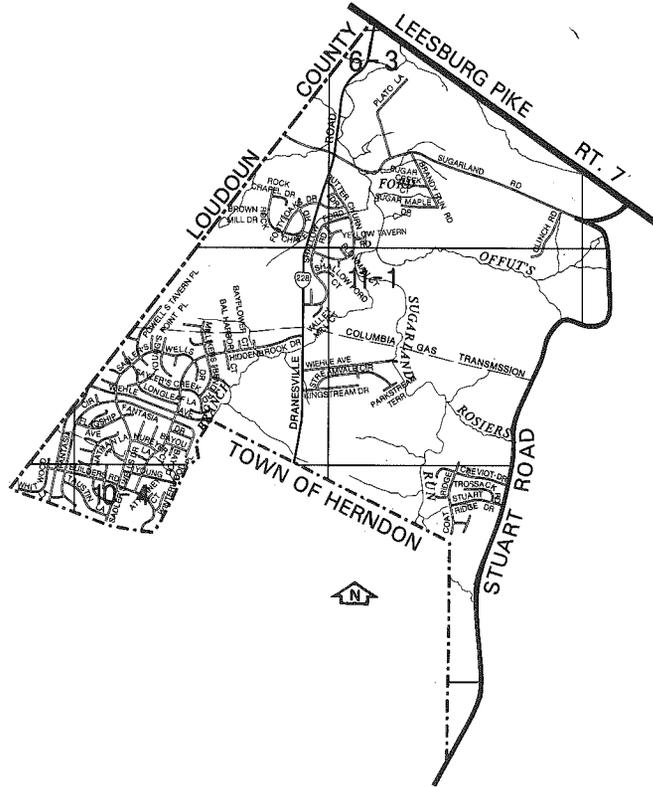
Other Public Facilities

The Fairfax County Water Authority's Potomac River water treatment plant is located within the sector.

Environment

The Sugarland Run stream valley system is the major visual feature in this area, but it also contains extensive flood plains. This, together with the severe soil erodibility and soils only marginally suitable for septic systems, places constraints on housing types and density. Preliminary geologic evaluation indicates the presence of crushed rock mineral resources. In addition, this area is located in the Triassic zone ground water recharge area.

Also present are commercial farmland, the



Herndon/Reston wildlife area, and several historic features such as Dranesville Tavern, Dranesville Methodist Church, Mayfield and Ivy Chimney which should be preserved. The Sugarland Run Environmental Quality Corridor encompasses most of these amenities.

RECOMMENDATIONS

Land Use

A. It is desirable to maintain a qualitative difference in development in this small section between Loudoun County, the Town of Herndon and Reston for visual relief and the environmental protection of the Sugarland Run stream valley and Dranesville Tavern Historic District. Although preservation of the Sugarland Run stream valley is feasible through dedication and acquisition of district parkland, preservation of open space through low-density development is not entirely practical west of Sugarland Run because of the Allman court decision granting 2-3 dwelling units per acre.

Low density residential development similar to that existing near Herndon (2-3 dwelling units per acre) and that granted for the Allman tract is recommended west of Sugarland Run, with low-density residential development (.5-1 dwelling unit per acre) planned between Sugarland Run and Reston and north of the northern boundary of the Kingstream subdivision between Sugarland Run

and Stuart Road. This provides compatible density west of Sugarland and a low-density buffer-type area adjacent to the Sugarland Run stream valley. The area in Reston should conform to the Reston Master Plan.

B. Density within the Dranesville Tavern Historic District should be .2-.5 dwelling unit per acre.

C. Cluster residential development to preserve open space.

D. Policies for industrial/office and retail commercial uses in the Route 7 corridor are contained in the Upper Potomac Planning District introduction, above.

E. Prohibit strip commercial uses on Route 7.

F. The land west of Stuart Road, south of Reston (Parcels 17-1 ((4)) B, 15-19, 38-41) is planned for low-rise office use with the following conditions:

1. Consolidated access and internal circulation is required with access to Stuart Road limited to one location at the northern end of the property.

2. Parcel consolidation for the purpose of coordinated development is encouraged.

3. Land for an interchange of the Springfield Bypass and Baron Cameron Avenue shall be provided.

4. A landscaped open space buffer to the west and to the north shall be provided.

Public Facilities

Parks, Recreation and Open Space.

A. The Fairfax County Park Authority should acquire adequate acreage near Stuart Road for the development of a community park to serve the residential development in this area. A site should be selected which will allow the development of active recreation facilities and which will be accessible from the existing and/or planned trail network as well as by automobile.

B. Ensure the preservation of Sugarland Run ford.

Other Public Facilities

A. An adequate water supply and water distribution system should be provided for fire protection services.

Environment

A. Stream valley land in Sugarland Run should be preserved where development occurs and all efforts be made to preserve other portions in their natural state. This stream valley includes Folly Lock Branch and Offuts Branch.

B. Include Dranesville Tavern Historic District in the Sugarland Run Environmental Quality Corridor.

C. Acquire parkland along the Captain Hickory Run stream valley in accordance with the Fairfax County stream valley policy.

History and Archaeology

A. The Dranesville Tavern Historic District (Appendix 1, A1-700 of the Zoning Ordinance) regulations specify residential development with the exception of commercial development appropriate to the tavern itself. Residential development may not exceed one dwelling unit per acre. The maximum building height is 35 feet and the limit for free-standing signs is 10 feet. Public facilities should be permitted only after Architectural Review Board and Board of Supervisors approval. It is further recommended that major transportation improvements be prohibited. All improvements, including public facilities, structures, signs, fences, street furniture and outdoor graphics should be designed, located and installed to be compatible with the historic site in terms of mass, scale, height, color, type of material and visual impact. All development within the historic district will be reviewed by the Architectural Review Board.

B. Dranesville Methodist Church and Mayfield should be protected from destruction or adverse environmental impacts without including them in a historic district. Ivy Chimney should be considered for inclusion in the Dranesville Tavern Historic District.

Transportation

A. The transportation recommendations for this sector are included in the Transportation section of the Plan.

UP5 RESTON COMMUNITY PLANNING SECTOR

This sector includes Reston and contains both stable and option areas.

Land Use

The majority of land in this 7,825-acre sector is in the planned community of Reston, which consists of 7100 acres. The population of Reston is planned to reach 70,000 by 1995. Reston is planned with a variety of land uses including extensive areas of residential development. A high-density cluster is located at Lake Anne which also includes a village commercial center. Four village centers exist and a fifth is planned within Reston. High-density areas are oriented to the interior and low-density residential is located on Reston's periphery. Reston's Center for Business and Industry parallels, on both sides, the Dulles Access Road. The land use of Reston is established through the zoning development plan process residential planned community (RPC), which is roughly two-thirds complete. The largest unzoned areas are the future high-density Town Center west of Reston Avenue and the entire northern sector between Baron Cameron Avenue and Leesburg Pike.

Reston offers a wide range of housing from moderately priced rental and purchase units to high income, detached dwellings. There is a variety of structure types such as high-rise apartments, garden apartments, townhouses, and single-family detached and semidetached homes. The majority of dwellings in this sector are less than 15

years old and in excellent condition. There are approximately 1,300 low- and moderate-income units in Reston. This housing includes units for the elderly.

The A. Smith Bowman Distillery is operational and is designated as a historic landmark in Reston.

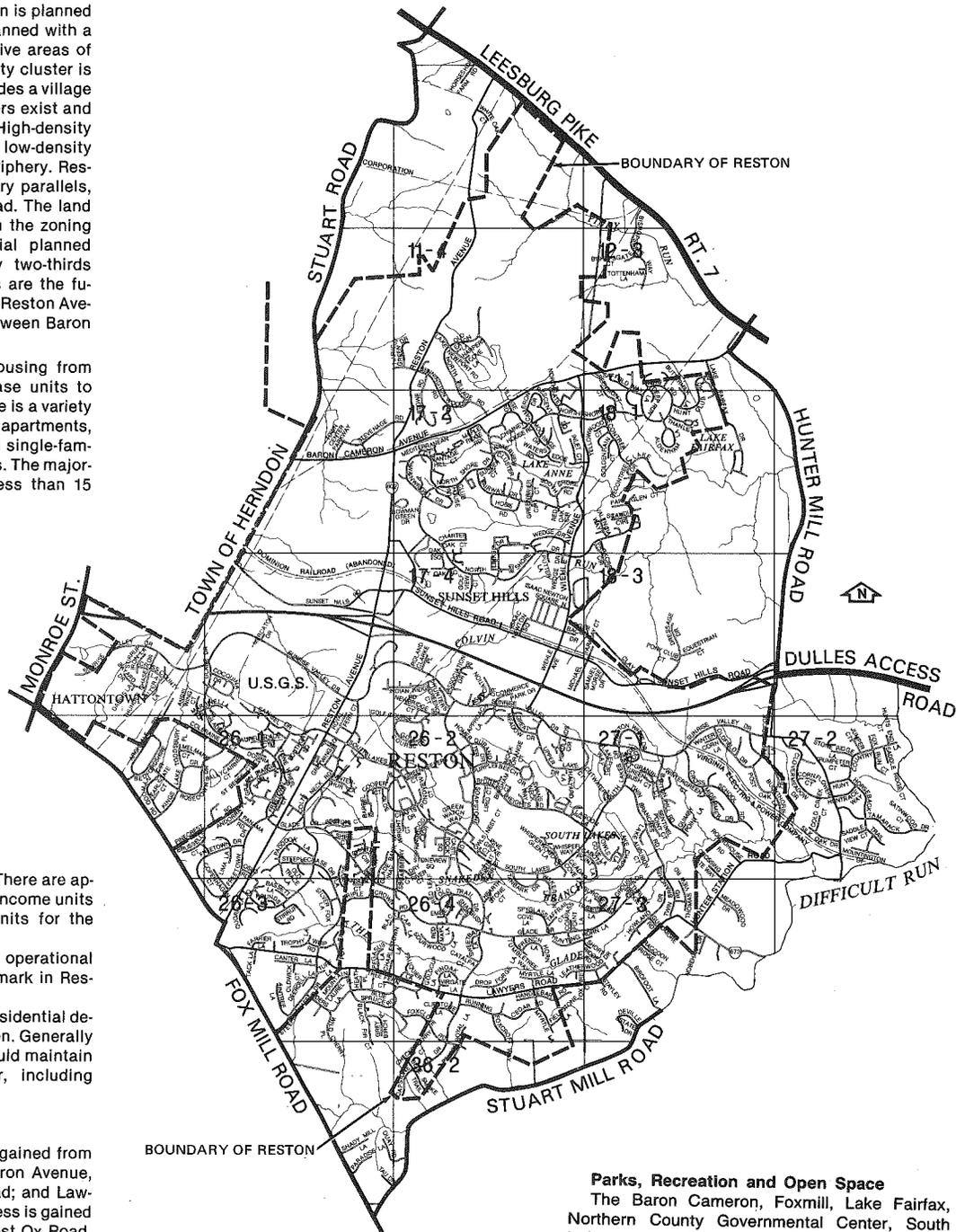
There is scattered new and older residential development in the sector outside Reston. Generally these areas are undeveloped and should maintain a low-density residential character, including areas along Route 7.

Transportation

East-west access to this sector is gained from Leesburg Pike, Route 7; Baron Cameron Avenue, Route 606; Dulles Airport Access Road; and Lawyers Road, Route 673. North-south access is gained from Hunter Mill Road, Route 674; West Ox Road, Lawyers Road; and Reston Avenue.

Metrobus service operates during the morning and evening to draw significant vehicle trips during peak travel times from the roads service this sector. The Reston commuter buses use special ramps constructed on the Dulles Airport Access Road which further removes traffic from the arterials serving this sector. Major improvements needed to serve Reston include but are not limited to the following:

- upgrading Reston Avenue to four lanes between Baron Cameron Avenue and Sunrise Hills Lane and improving the bridge at the Dulles Airport Access Road,



Parks, Recreation and Open Space

The Baron Cameron, Foxmill, Lake Fairfax, Northern County Governmental Center, South Lakes Drive and Difficult Run Stream Valley Parks are located within the sector.

Other Public Facilities

Other public facilities located within the sector are as follows: ACCESS medical facility, Reston Police District Station, Carter Glass Library, Hunters Wood Regional Library, Health and Social Services, Reston Fire Station and the Reston Community Center.

Public Facilities

Schools

The Dogwood, Forest Edge, Hunters Woods, Lake Anne, Sunrise Valley and Terraset Elementary Schools; South Lakes Intermediate School and South Lakes High School schools are located within the sector.

New school facilities will be needed to meet demands generated by future development. To meet these demands, two elementary school sites have been committed by the developers.

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing

Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Environment

Reston is located in the Sugarland Run, Horsepen Run and Difficult Run watersheds. Reston includes many environmental features such as Lake Anne, South Lakes, Lake Fairfax Park, and several tributaries to the Difficult Run Environmental Quality Corridor.

The portion of this sector within the Difficult Run watershed was the subject of an environmental and land use study. (See the *Difficult Run Headwaters Land Use Study*, April 1978 prepared by the Office of Comprehensive Planning.) The study area was analyzed for its ability to accept various density categories and simultaneously maintain high quality environmental standards. The primary environmental objectives concerning this area relate directly to the impacts created by urbanization such as increased stormwater runoff values; increased nonpoint source pollution loadings; stream channel enlargement; loss of high quality forested vegetation; loss of high quality wildlife habitats; increased number of septic fields; and possible soil, overburden and groundwater contamination from septic effluent. The study area was reviewed for its sensitivity to these impacts.

A detailed environmental inventory was compiled that identified geologic, topographic, hydrologic, vegetative soil, wildlife, air quality, noise and open space factors. This information was then used to prepare an overall land use design that would minimize the impacts from development in a region that is not planned for sanitary sewer service. The result is an environmentally sensitive plan that takes topographic forms for boundaries.

An environmental quality corridor (EQC) was outlined. It is determined by use of a U.S. Forest Services water quality filter strip equation, areas of steep slopes, U.S. Geological Survey designated 100-year floodplain, and existing parkland. Plant nutrient uptake capabilities of the filter strip will slow and filter overland stormwater runoff prior to its introduction to the streams.

A portion of the stream valley and adjacent land within this Planning District/Planning Sector is within the dam failure impact area for a proposed or existing dam. The extent of development within these impact areas should be minimized in the interest of public welfare and safety. For details on the extent of this area, refer to the section on potential dam failure impact areas, in the Environmental Chapter.

RECOMMENDATIONS

Land Use

A. Incorporate the Reston Master Plan*, adopted on July 18, 1962, and amended through July 25, 1983 by reference in the Area III Plan and on the composite map. On the periphery where development is not committed by zoning, land should be developed at a density no greater than one dwelling unit per acre. Density should be tiered so that it decreases from the center toward the boundary (within Reston).

B. The Reston Town Center should develop as planned. To assure this, it is recommended that VDH&T include in its 6-10 year program a major north-south link connecting Route 7, the Town Center, Dulles Airport Access Road and Route 50.

Without this facility the level of activity of the Town Center would have to be modified.

To provide a viable residential and commercial mix, there should be a minimum of 1,400 units in close proximity to the retail-hotel-office core. The actual number of units should range from this minimum to a potential of 2,100 units. A mixture of housing types ranging from high-rise to mid-rise to garden apartments at the further edges of the core area is recommended for this area. It would be appropriate to locate a hospital use in a nonresidential portion of the Reston Town Center.

1. **NORTH RESTON.** The parcel of high density residential land at the corner of Reston Avenue and Center Harbor Road be turned slightly so as to orient more directly towards Reston Avenue. The isolated parcel of high density residential land adjacent to the proposed village center be incorporated within the PRC village center area in order to allow for a more flexible design of the center's residential component.

The proposed church/day care site be moved from the southeast corner of Reston Avenue and Wiehle Avenue, further south on Wiehle Avenue to a more attractive location adjacent to community open space.

2. **TOWN CENTER AREA.** Three industrial parcels—sections 935, 937 and 93 blocks 1, 2 and 3—along Sunset Hills Road be designated as PRC Town Center in order to permit a more flexible front yard angle of bulk plane for office development. This flexibility would provide for a more attractive streetscape along Sunset Hills Road by encouraging landscaping rather than parking between the road and buildings, whereas the net effect of a 45 degree angle of bulk plane (as mandated by an I-4 or I-5 district) would be to generate strips of parking between the road and buildings.

Land on the periphery of Reston is recommended as follows:

C. Land between Piney Branch, Route 7, Stuart Road and Reston should be planned for residential use at .5-1 du/ac, except map 12-3(1)lot 28, which can be developed at 1-2 du/ac if sole access is to and through Reston and the land is developed as a functionally integral part of Reston.

D. .5-1 dwelling units per acre between Reston and Stuart Road.

E. The area between Reston, Baron Cameron Avenue, Route 7, Difficult Run, and the Dulles Airport Access Road is recommended for .2-.5 dwelling units per acre.

F. The area between Reston, Baron Cameron Avenue, Hunter Mill Road and Colvin Run is recommended for .2-.5 dwelling unit per acre;

G. The westerly portion of the approximately 120-acre tract of land, north of Sunset Hills Road immediately east of the Reston boundary may be considered for industrial use provided that:

1. the industrial portion of the 120-acre tract, which is approximately 55 acres in area and located on the western portion of the tract, is to be used for I-4 uses;

2. the residential area of the tract of approximately 65 acres will remain in the planned residential density of .2-.5 dwelling unit per acre. This residential area shall be the first section of the project and the industrial development only begun after the development of residential portion has commenced. This will ensure that low-density residential buffer will be constructed between the industrial and the planned .2-.5 dwelling unit per acre residential use to the east;

3. the dividing line between the industrial and residential uses shall accommodate and follow the swale commencing on the northerly side of the property at its boundary with Lake Fairfax Park and running southerly towards Sunset Hills Road, following the tree line as it approaches the Bladen property and continuing towards Sunset Hills Road to the north-

westerly corner of the Bladen property. At least one-half of the Kidwell property shall be retained as the low-density residential buffer. The above line of demarcation will regularize the boundary between industrial and residential by relating the transition and land use to physical features of the land, i.e., the tree line and swale;

4. the applicant shall install approved plantings to close the gap, which is approximately fifty feet wide, between the tree line running north from Sunset Hills to where it most closely approaches the existing trees and tying into the treed swale running south from Lake Fairfax Park. In the event that such plantings are inconsistent with good site planning and land use as determined in the final site planning of the property, the Reston Community Association and the applicant should work out a suitable compromise;

5. separate access points shall be provided for the residential use on the easterly portion of the site and for the industrial use on the westerly portion of the site;

6. stringent environmental controls must be applied to the industrial portion of the tract. These include extensive landscaping on Sunset Hills Road, buffering for residentially planned area to the east, and sedimentation control measures to assure the environmental integrity of Lake Fairfax;

7. the Best Company shall adopt, proffer and record covenants and restrictions on the I-4 which will parallel closely the "Declaration of Protective Covenants and Restrictions" for the Reston Center for Industry and Government;

8. copies of the generalized development plan shall be furnished to the Crowell Corners Civic Association and to the Reston Community Association at least fourteen days before the public hearing on the zoning application;

9. such additions to the zoning application as are necessary will be made to reflect the above items.

H. The property at the intersection of Old Reston Avenue and New Reston Avenue, known as the Poston Property, is well suited for low rise office use at a FAR not to exceed .5 and with a maximum three story building height along Reston Avenue that achieves architectural harmonious development with the adjacent residential houses known as Jonathan's Keepe. The FAR and height limit should only be achievable with substantial preservation of tree cover and excellence in site planning.

I. The 5.2 acres of land not included in the Reston PRC located on the northwest quadrant of the intersection of Reston Avenue and the W&OD Railroad right-of-way should be planned for commercial uses, similar to those permitted in the Reston PRC Town Center designation. These uses should be compatible in use and architectural style with surrounding Reston's PRC planned and existing development. If development necessitates the need for road dedication or improvements, this should be done to the satisfaction of the County.

J. The Smith Bowman house should be preserved; its present exterior retained and new buildings should be sensitively sited in relationship to the house. Other scenic assets and natural features such as the pond and gazebo should be preserved as much as possible. Because of the Smith Bowman house and the need for development compatible with the adjacent PRC uses, a preliminary site plan should be submitted for approval in the same way as Reston PRC applications. The development and architectural plans must be reviewed by the Reston Architectural Review Board and be in conformance with their recommendations.

K. The area between the Dulles Airport Access Road, Difficult Run and the eastern edge of Reston (with Hunter Station Road being the ap-

*The Reston Master Plan has its own program of time-phased development, which shall be the guide for development in Reston.

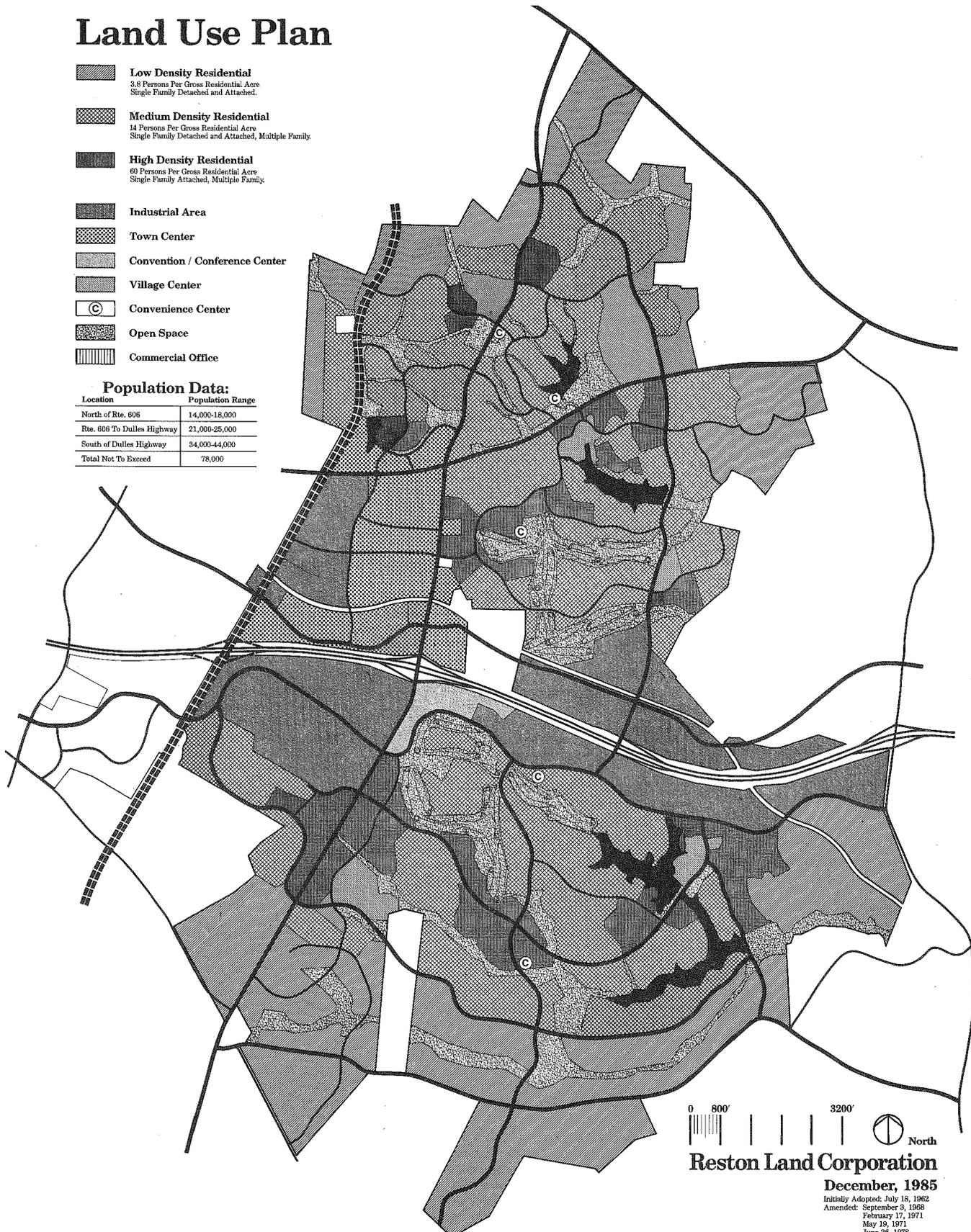
Reston Master Plan

Land Use Plan

-  **Low Density Residential**
3.8 Persons Per Gross Residential Acre
Single Family Detached and Attached.
-  **Medium Density Residential**
14 Persons Per Gross Residential Acre
Single Family Detached and Attached, Multiple Family.
-  **High Density Residential**
60 Persons Per Gross Residential Acre
Single Family Attached, Multiple Family.
-  **Industrial Area**
-  **Town Center**
-  **Convention / Conference Center**
-  **Village Center**
-  **Convenience Center**
-  **Open Space**
-  **Commercial Office**

Population Data:

Location	Population Range
North of Rte. 606	14,000-18,000
Rte. 606 To Dulles Highway	21,000-25,000
South of Dulles Highway	34,000-44,000
Total Not To Exceed	78,000



Reston Land Corporation

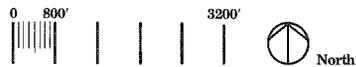
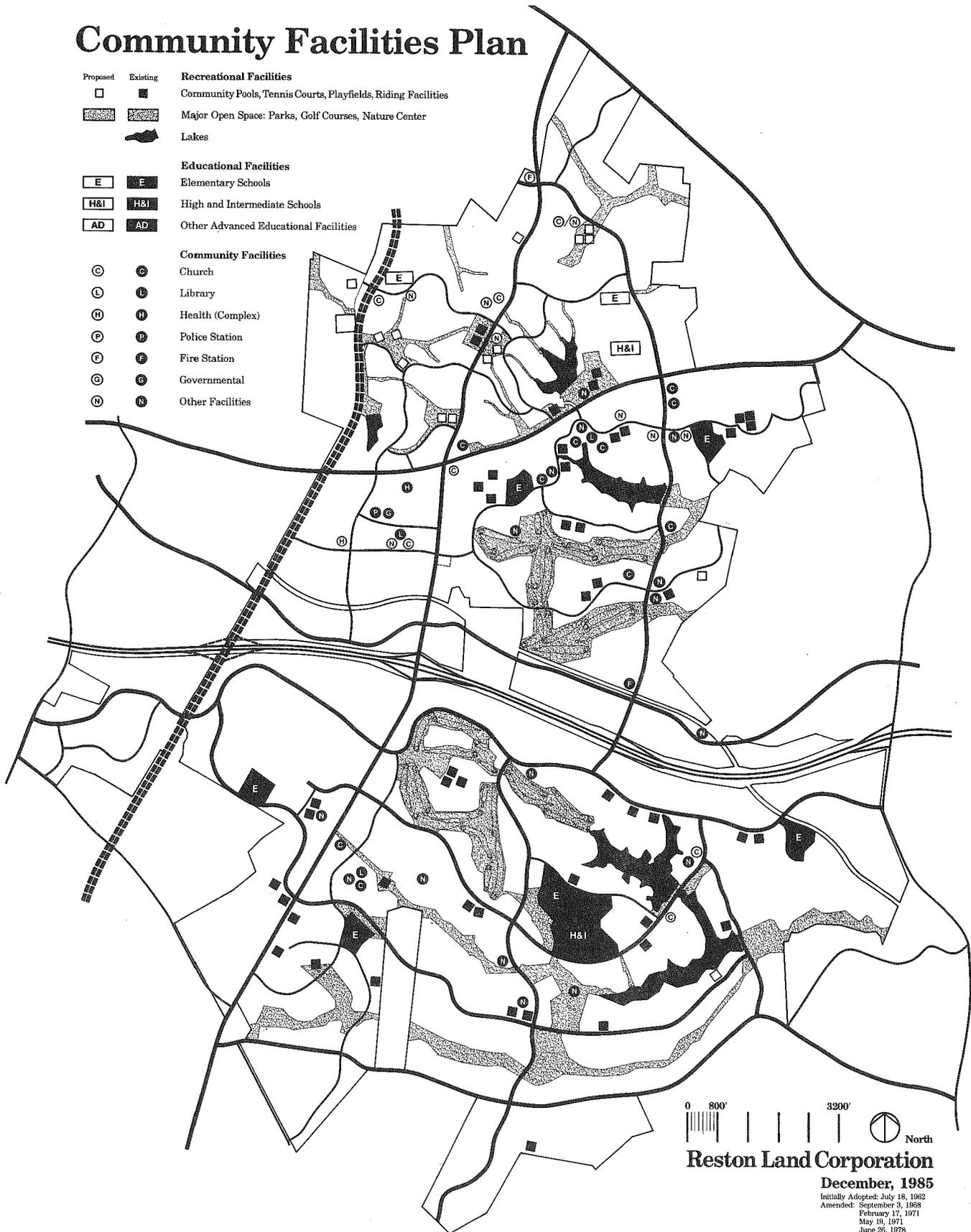
December, 1985

Initially Adopted: July 18, 1982
 Amended: September 3, 1983
 February 17, 1971
 May 19, 1971
 June 26, 1978
 July 20, 1981
 July 25, 1983
 July 23, 1984
 July 22, 1985
 July 21, 1986

Reston Master Plan

Community Facilities Plan

- | | | |
|-------------------------------|----------|---|
| Proposed | Existing | Recreational Facilities |
| □ | ■ | Community Pools, Tennis Courts, Playfields, Riding Facilities |
| ▨ | ▩ | Major Open Space: Parks, Golf Courses, Nature Center |
| | ☞ | Lakes |
| Educational Facilities | | |
| E | E | Elementary Schools |
| H&I | H&I | High and Intermediate Schools |
| AD | AD | Other Advanced Educational Facilities |
| Community Facilities | | |
| C | C | Church |
| L | L | Library |
| H | H | Health (Complex) |
| P | P | Police Station |
| F | F | Fire Station |
| G | G | Governmental |
| N | N | Other Facilities |



Reston Land Corporation

December, 1985

Initially Adopted: July 18, 1962
 Amended: September 3, 1968
 February 17, 1971
 May 19, 1971
 June 26, 1978
 July 29, 1981
 July 25, 1983
 July 23, 1984
 July 22, 1985
 July 21, 1986

propriate southern boundary) is recommended for .5-1 dwelling unit per acre.

L. An area adjacent to the western edge of Lake Fairfax Park on Colvin Run is recommended for 4-5 dwelling units per acre.

M. A special study has been completed that details an environmentally sensitive land use plan for the headwaters region of the Difficult Run watershed. The results of this study, together with other factors such as existing and committed development in the area and site and road design controls, are reflected on the land use map for this area which designates the recommended land uses and densities.

1. Long narrow ridge lines with thin overburden, highly erosive soils, steep topography, high quality vegetation and poor access are proposed for low-density (5 acre or larger) uses. Two to five acre lots (.2-5 dwelling unit per acre) are proposed for areas adjacent to streams where topography is relatively steep, overburden moderately thick (10-50 feet) and soils moderately erosive. Areas on plateaus or ridge lines where thick overburden (50 feet \pm), gently sloping topography, good septic suitability soils, mixed vegetation and varied access points are present combine to form areas preferable for somewhat higher density development (.5-1 dwelling unit per acre).

2. Factors other than environmental considerations were also evaluated before arriving at the land use recommendations shown on the Plan map. Since adoption of the Plan recommendations for Sectors UP5 and UP8, there has been substantial development, primarily 1-2 acre per unit cluster subdivisions, which limit the options for planning totally this sensitive headwaters area only for very low densities. Existing and committed development is used in Plan recommendations in many areas of the Difficult Run headwaters in terms of compatible density. New development should also be compatible with the established development pattern in its vicinity with similar lot sizes, provided such would not be detrimental to environmental amenities.

3. Design controls for the site and road system are key factors in arriving at the land uses shown on the Plan map. The controls listed in Environmental Recommendation B should be incorporated into any site and road system design prior to development approval.

4. Additional environmental analysis and recommendations, supportive of the Plan map, are given in the environment discussion and recommendations sections for Sectors UP5 and UP8.

N. The area between Fox Mill District Park, Reston, Lawyers Road and Fox Mill Road is recommended for 1-2 dwelling units per acre.

O. The area between Lawyers Road and Deepwood is recommended for .1-2 dwelling unit per acre.

P. The area between Reston, the Springfield Bypass right-of-way and Fox Mill Road is recommended for 1-2 dwelling units per acre.

Q. Additional local-serving and regional commercial uses should be located in village centers and the Town Center. Commercial needs in the northern sector should be limited to one village center. Any additional demand for retail space should be provided in the Town Center.

R. For the Sector UP5 area outside Reston, ample local-serving commercial facilities are either available or planned within Reston, at the village and town centers, leaving no need for commercial development along either Route 606 or Hunter Mill Road.

S. Policies for industrial/office and retail commercial uses in the Route 7 corridor are contained in the Upper Potomac Planning District introduction, above.

Public Facilities

Schools

A. Schools should be provided as planned demand occurs and as proposed in the Capital Improvement Program.

Parks, Recreation and Open Space

A. Develop Fox Mill District Park for active recreation to serve the committed growth in the area.

B. Develop Lake Fairfax Park with additional or improved facilities.

C. Continue development of Baron Cameron Park.

D. Develop South Lakes Drive Park.

E. Develop Tamarack Park.

F. Acquire and develop Reston North Park on Stevenage Road.

G. Continue development of the Northern County Governmental Center Park.

Other Public Facilities

A. Construct the North Reston Fire Station (north of Baron Cameron Avenue).

B. Provide an adequate water supply and water distribution system for fire protection services.

C. Construct a governmental center. Services included would be: police, assessments, violations bureau, inspections, voter registration, and the district supervisor's office.

D. Provide permanent space for human resource services such as mental health and retardation facilities, drug, alcohol, and vocational rehabilitation and cooperative extension services and consumer protection plus tenant-landlord services and other services.

E. Construct a regional library in Reston and retain the Carter Glass and Hunters Woods branch facilities if usage warrants.

Environment

A. Require that any development in the headwaters of Difficult Run valley be sensitive to water quality issues. Such sensitivity includes minimal impervious surface, stringent sediment control during construction, and stormwater management designed to protect water quality.

B. Design controls for the Difficult Run headwaters include the following:

1. All major collector and subdivision roads should be oriented to uplands and ridge lines.

2. Small subdivision streets or access roads should not cross streams or major swales as this interrupts and disregards the EQC network, promotes nonpoint source pollution loadings and excessive cut and fill.

3. The Difficult Run Environmental Quality Corridor should be protected by dedication or acquisition.

4. Tract consolidation may be appropriate prior to development.

5. Developers are encouraged to design with varying lot sizes corresponding to the planned land use densities, even if the area to be developed involves more than one land use density category.

6. The use of adequate buffers, landscaping and substantial building setbacks should be provided to preserve the present character of this area when viewed from collector and minor arterial roads.

C. Support land use and design proposals, especially clustering, which preserve open space and integrate natural features with development.

History and Archaeology

Lake Anne Village Center Historic District

A. The Lake Anne Village Center Historic District regulations are found in Appendix I, AI-1100

of the Zoning Ordinance. The intent is that the original mixture of residential and commercial space be maintained and that the pattern of commercial frontage on the lake and restrictions to pedestrian access be strictly followed. All improvements and alterations will be reviewed by the Architectural Review Board.

Transportation

A. The transportation recommendations for this sector are included in the Transportation section of the Plan.

UP6 HERNDON COMMUNITY PLANNING SECTOR

Herndon is a town within Fairfax County which has jurisdiction over its own planning. Fairfax County supplies many public facilities for the town, including schools, parks, health facilities, libraries, social services, fire services and sewer service. Although Herndon will remain a growth center in the future, it has been classified as stable in this analysis because Fairfax County planning cannot directly control population and land use.

Land Use

Herndon has an area of four square miles and a 1983 population of 12,530 people. This represents more than a 191 percent increase over the 1970 population of 4,300. Herndon projects that its future growth which may reach 14,119 people by 1995.

Recent growth has taken place generally in the single-family home and townhouse categories. Population generated per unit in Herndon has been slightly above the Fairfax County averages, which means the land absorption rate is less than Fairfax County.

Present Herndon planning goals are to provide a variety of housing types as well as a variety of townhouse sizes. The town intends to preserve the environmental and aesthetic quality of the town, which may be reflected in different land use and density patterns than have evolved recently. Future growth in Herndon also depends on employment development both within the corporate limits and in the Dulles Airport vicinity.

Industrial land use is planned for the southeast part of Herndon, adjacent to land in Reston planned for the same use.

Coordination between land use and density planning in Herndon and adjacent portions of Fairfax County, including Reston, is necessary to evaluate the impact of and control future growth in the area.

Transportation

Major access is provided by Route 228, Dranesville Road, which extends south from Route 7 into Herndon. Centreville Road extends north from Route 50 to Herndon and Route 228. Baron Cameron Avenue is a minor arterial which extends from Route 7 through Reston and becomes Elden Street in Herndon. Spring Street extends east from Herndon and becomes Sunset Hills Road in Reston. Monroe Street extends south from the town into the growing area of Horsepen Creek in Fairfax County.

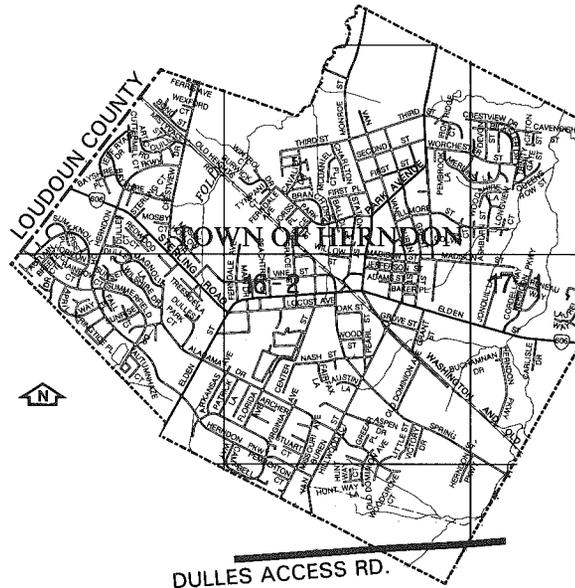
A major transportation issue is the construction of a major north-south link from Route 7 to connect with the Dulles Airport Access Road parallel lanes, Route 50, I-66, and Route 123. This facility is planned east of Herndon within the right-of-way acquired along the Reston-Herndon boundary. Herndon favors the new facility because it removes through-traffic from the residentially-oriented center of the town and allows indirect local distribution of traffic to and from the town.

Right-of-way has been reserved north of Herndon for the future extension of Wiehle Avenue in Reston into Loudoun County. This facility is planned to serve as a minor arterial linking the residential communities north and west of Herndon.

Public Facilities

Schools

The Herndon Elementary School and Herndon High School are located within the town.



Parks, Recreation and Open Space

The following parks are located within Herndon: Stanton Park, Chandon Park, Bruin Park, Brady Park, Trailside Park, and Alabama Drive Park.

Additional parks are needed for the current population as well as the future residents. Implementation of the town's adopted hike and bike trail plan is a high-priority recreation objective.

Other Public Facilities

The Herndon Community Center provides a comprehensive program of recreational activities and social services. The Center was constructed through the County's community development block grant program. The sale of municipal bonds were used to acquire land for and construct an 18-hole municipal golf course.

Other public services are currently available in Herndon, including the Herndon Fortnightly leased library, the Herndon Fire Station, a public health clinic and Herndon government offices. The emergency and outpatient health care facility (ACCESS) at the North County Governmental Center complex in Reston (see Sector UP5) serves the Herndon community.

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Environment

A branch of Sugarland Run which is part of the Potomac River system is located in this sector. The Northern Virginia soils survey identifies a potential reservoir site on Sugarland Run. Soils are generally poor for septic. Herndon is in the Triassic zone which means the following factors should be evaluated in terms of new development: mineral resources (gravel, stone); high water table, depth to bedrock; aquifer recharge system; and run-off factor.

RECOMMENDATIONS

Land Use

The land use and density plans for the Town of Herndon apply to this sector. Fairfax County should lower residential densities in areas adjacent to Herndon to be compatible with the character of development in Herndon.

Public Facilities

Schools

A. Schools should be provided as planned demand occurs.

Parks, Recreation and Open Space

A. Continue development of Chandon and Stanton Parks.

B. Expand the community center in Herndon with federal housing and community development funds.

Other Public Facilities

A. Several new facilities are recommended for the North County Governmental Center complex (see Sector UP5, Reston) on Baron Cameron Avenue just east of Herndon. Services include outpatient and emergency medical care, mental health and retardation, a regional library facility, police and other government services.

B. Fire facilities and equipment at the Herndon Fire Station should be kept adequate to meet increasing demand for fire and emergency protection. Water supply should be adequate to ensure fire protection for new development.

C. An adequate water supply and water distribution system should be provided for fire protection services.

Environment

A. Acquire portions of the Sugarland Run stream valley, including Folly Lick Branch.

B. Protect the Sugarland Run Environmental Quality Corridor.

Transportation

A. The transportation recommendations for this sector are included in the Transportation section of the Plan.

UP7 SULLY COMMUNITY PLANNING SECTOR

This sector is adjacent to Dulles Airport and contains stable, and complex areas.

Land Use

Airport-oriented commercial and industrial uses are appropriate for the majority of undeveloped land in the sector, which is largely undeveloped. A stable residential community is located at Floris, which is bounded by Horsepen Run and Frying Pan Branch near Centreville Road. Frying Pan Park is in Floris. Another stable residential area is Reflection Lake, a townhouse and single-family development between Herndon and the Dulles Airport Access Road on Centreville Road. Sully Plantation Park is located on Route 28 next to the Chantilly-Route 50 Complex Area. The major problem in the sector is protection of residential communities from the impact of future commercial/industrial development related to Dulles Airport. Airport-oriented development has not occurred in this sector, although planned, because of inadequate sanitary sewer and road systems.

Local-serving commercial uses are located at Herndon and Chantilly at either end of the sector. Regional commercial centers are at Fairfax, Vienna and Tysons Corner.

Some of the land in this area is in the Dulles Airport Noise Impact Area and should be planned in conformance with the policies that apply to this area as described at the beginning of the Area III section of the Plan.

Transportation

The area is bordered by Route 28 to the west and the Dulles Airport Access Road to the north. Limited access on these facilities is a constraint to development. Major access roads in the sector are Centreville Road and McLearen Road. Growing through-traffic on Centreville Road impacts residential areas, especially Floris. Internal circulation is generally adequate for existing development but any substantial new development will require considerable road improvements.

Public Facilities

Schools

Floris and Hutchison Elementary Schools and an Intermediate school site are located within the sector.

Parks, Recreation and Open Space

The Sully Plantation Park is a special regional park and cultural facility located within the sector. Frying Pan Stream Valley Park is also located within the sector.

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Environment

The major environmental features in the sector are the Horsepen Run and Frying Pan Branch stream valleys. This sector is affected by the Dulles Noise Impact Area as well as by highway noise. Located in the Triassic zone groundwater recharge area, preliminary geologic evaluation indicates the presence of crushed rock mineral resources. Soils are not suitable for septic tank construction. Views to the north are particularly spectacular and should be preserved. All of these factors will constrain the type and pattern of development that may occur.

RECOMMENDATIONS

Part of this Sector is within the watershed of the Occoquan Reservoir. Special recommendations resulting from the Occoquan Basin Study are presented at the beginning of the Area III section of the Plan. These apply to affected lands in this sector in addition to the option area recommendations listed below.

It is desirable to provide adequate access for the basic employment and related uses which are appropriate in areas adjacent to the airport. Route 28 is best suited for this purpose. Centreville Road, because it serves the Floris community and other settlements, should not be used as a major industrial/employment access road. Therefore, airport-oriented uses are most appropriate west of Centreville Road with a Route 28 orientation. Protection of the stream valley areas can be accomplished by dedication.

Land Use

A. This sector is largely influenced by Dulles Airport to the west. Airport-oriented uses (basic employment and related uses) are recommended in the majority of the area south of the Dulles Airport Access Road.

1. Major employment uses should be confined to areas fronting on the Dulles Airport Access Road and the area west of Centreville Road, except land currently used or zoned for industrial use on the east side of Centreville Road south of Floris. Because of the topography, there are interesting vistas of the Dulles terminal (listed on the Fairfax County inventory of historic sites as an architectural landmark) and the mountains to the west. Multistory, well-sited R&D employment uses and airport-oriented uses could be attracted to this area, supported by motel and restaurant uses.

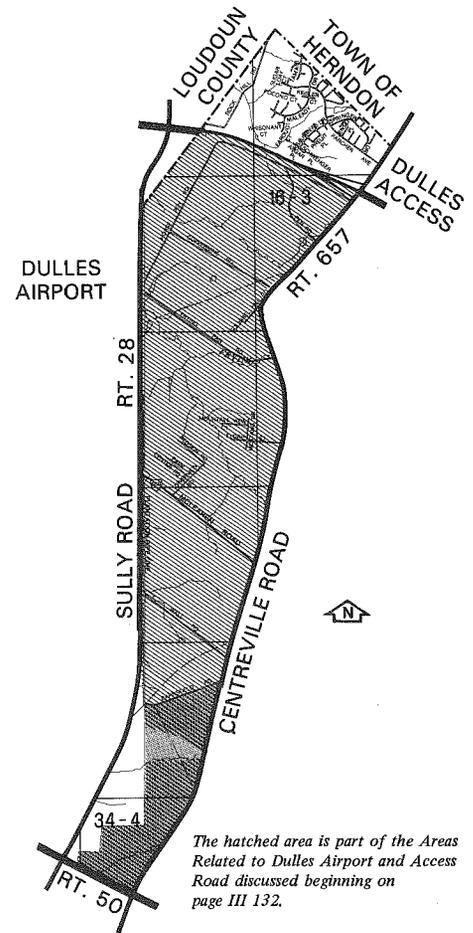
2. Low-intensity industrial uses should be located south of Frying Pan Road. Because of its environmental significance, the industrial area between Sully and Centreville Roads should be planned to include major open space recreation areas. The Floris community should be buffered from the employment centers to preserve its identity.

3. It is desirable that the area in general be developed as a series of well-planned industrial parks, which are related to each other to make optimum use of roads and other public facilities. Ideally, it would be advantageous to form a committee of all land owners in the Sully Road/Centreville Road corridor to oversee development in cooperation with the County.

4. Proposed road improvements to the north (parallel lanes on Dulles Airport Access Road) and an improved Route 28, make this area potentially very accessible. Because Centreville Road serves the Floris Community and other settlements, it should not be used as a major industrial/employment access road.

5. A recreation center should be planned for this area and should be oriented toward employment uses in the area and attracting businesses into the area. These could be served by a golf course possibly located in the Sully area. Such recreational uses would greatly enhance the attractiveness of the Dulles area for private industry as well as for nearby residents as well as preserve the landscape around Sully.

B. Agriculture may be considered an appropriate interim use in those areas planned for airport-oriented uses west of Centreville Road. Farms should be preserved if possible, through



The hatched area is part of the Areas Related to Dulles Airport and Access Road discussed beginning on page III 132.

The shaded area is part of the Chantilly-Route 50 Complex Area discussed beginning on page III 83.

agricultural easements (R-A zoning district) or established tax incentives to provide open space and buffers between employment uses and residential uses.

C. The area between Reflection Lake, Loudoun County and the Dulles Airport Access Road is appropriate for residential development at 2-3 dwelling units per acre as a continuation of the type of development in the immediate vicinity. To minimize the potential for non local traffic using residential streets, no through connections from Rock Hill Road to the Reflection Lake community should be allowed. Buffering and safety barriers should be provided between dwellings and the Dulles Airport Access Road for the protection of the residents.

D. Development in Floris should be limited to residential use at one dwelling unit per acre.

E. Buffering should be provided between existing residential areas and future airport-oriented development by open space with natural tree cover or planted screening.

F. Additional commercial uses should be limited to the area in which commercial uses presently exist; further commercial zoning in Floris should not take place.

G. Land in this sector which is in the Dulles Airport Noise Impact Area should be planned to conform with the policies that apply to this area as described at the beginning of the Area III section of the Plan.

Public Facilities

Parks, Recreation and Open space

- A. Complete development of Sully Plantation Park.
- B. Develop active park recreation facilities at Floris Park.
- C. Community parkland should be acquired. The stream valleys of Horsepen Run and Frying Pan Branch should be preserved. Open space park and recreation facilities should be acquired to serve employment uses that develop near Dulles Airport.

Other Public Facilities

- A. Provide a fire station to serve the planned industrial development in this sector, to be phased with the development of the area.
- B. An adequate water supply and water distribution system should be provided for fire protection services.

Environment

- A. Preserve the Horsepen Run and Frying Pan Branch stream valleys partly by dedication.
- B. Water quality recommendations presented at the beginning of the Area III section of the Plan should be applied to those lands within the Occoquan Basin.
- C. The clustering of development, where compatible, is strongly advised because it increases open space and has a beneficial effect on water quality in the Occoquan Basin.
- D. Aircraft noise mitigation recommendations presented at the beginning of the Area III section of the Plan should be applied to those lands within the Dulles Airport Noise Impact Area.
- E. Highway noise mitigation should be provided for noise-sensitive land uses so as to ensure a healthful living and working environment in which speech and activity interference is minimized in both interior and exterior areas.

History and Archaeology

A. Sully Historic District

1. Zoning within the historic district (Appendix 1, A1-300 of the Zoning Ordinance) is a mixture of residential and industrial areas. Residential dwellings are limited to single-family detached units. Industrial uses are limited to those permitted by right, special permit or special exception in the I-4 District. The height of freestanding signs should not exceed 10 feet.

2. All improvements, to include structures, signs, fences, street furniture, outdoor graphics, public and private utilities, should be designed and installed to be compatible with the Sully complex in terms of mass, scale, color and visual impact. A planted buffer having a 200-foot minimum width should be provided along all lot lines which are contiguous to the Sully property. All development within the historic district shall be reviewed by the Architectural Review Board.

B. A historic district should be studied for the area around Frying Pan Church, so that development in the immediate environs of the site will be subject to special provisions and review of the Architectural Review Board.

Transportation

A. To ensure adequate access, an improved two-lane section of Rock Hill Road should be constructed by developers from Route 606. This will meet County standards up to 5500 vehicles per day (and possibly up to 8000 vehicles per day with VDH&T approval).

It is essential that Loudoun County continue to limit development with Rock Hill Road access to 100,000 square feet of office space. It is also essential that Loudoun County continue to pursue significant construction and upgrading of Route 636 and Rock Hill Road in Loudoun County in order to assure adequate access for all proposed office/industrial development in Loudoun County. Should any future traffic be allowed to use Rock Hill Road to access development in Loudoun County, future study will be needed to assure adequate access to this area through both counties.

B. Additional transportation recommendations for this sector are included in the Transportation section of the Plan.

UP8 WEST OX COMMUNITY PLANNING SECTOR

This sector is south of Reston (Sector UP5) generally between Centreville Road and Vale Road.

Land Use

A pattern of moderate-density residential use has been established in southern and eastern portions of the sector including one acre and one-half acre and one-quarter acre development. There is a mixture of older dwellings and new subdivision development, ranging from high to moderate-income dwellings. Much of the land on the east side of the Centreville Road corridor is undeveloped. The major land use problem is stabilization of uses at lower densities. It is important to maintain a medium and low-density residential development pattern this sector to preserve the existing development and to prevent encroachment of higher density development from Reston and Chantilly. Frying Pan Park is a model farm in this vicinity, which may be the only practical preservation of the working farm possible under present County policies.

Local-serving commercial uses are located outside the sector in Chantilly, Fairfax, Reston, and at the intersection of Fox Mill Road, Lawyers Road and Reston Avenue.

Transportation

Roads have become inadequate in the sector because development in the area, particularly in Reston, has increased rapidly in recent years. Transportation is completely automobile dependent. There is no bus service in the sector. Although Route 50 is still at level of service A/B (not over capacity), the secondary roads are over capacity. Centreville, Fox Mill, West Ox, and Lawyers Roads are either congested or over capacity. Internal circulation is adversely affected by congestion. New development in the sector and in surrounding areas will further impact this situation. West Ox Road is extremely congested and operating at failing levels of service, especially in the Route 50 vicinity. Horizontal alignment improvements are needed on several sections of this roadway to improve safety and reduce accidents. Future traffic volumes are projected to warrant the widening of this road to four lanes, even with alternative routes in existence. Therefore, right-of-way necessary to accommodate four lanes should be obtained as development occurs in the West Ox corridor.

Public Facilities

Schools

Fox Mill and Franklin Park Elementary Schools are located within the sector.

Parks, Recreation and Open Space

The following parks are located within the sector: Clarke's Landing, Floris, Frying Pan, Garnchayne, Horsepen Run Stream Valley and Difficult Run Stream Valley.

Other Public Facilities

Fox Mill and Navy/Vale Fire Stations are located within the sector.

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Environment

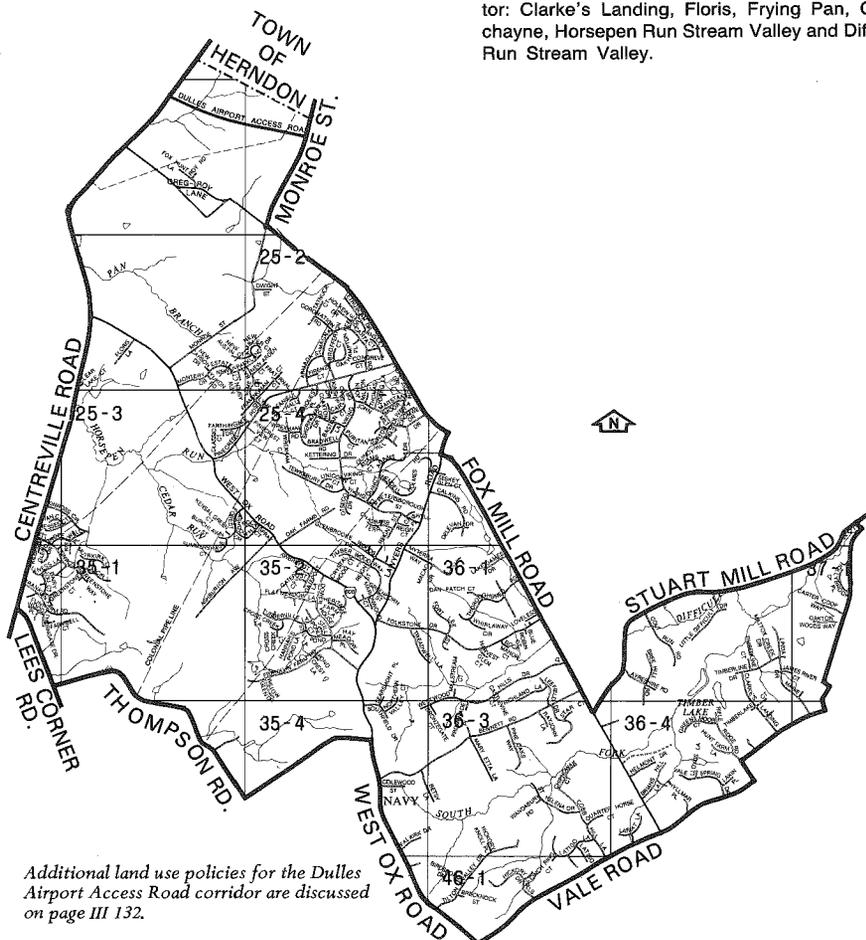
This sector is located in the Horsepen Run, Cub Run and Difficult Run watersheds. It is located at the Piedmont and Triassic geological contact. The sector is transected by the Atlantic Seaboard Corporation utility easement, Frying Pan Branch, South Fork and Difficult Run stream valleys. Several tributaries of Flatlick Branch and Cain Branch originate within this sector. They are part of the upper watershed of the Occoquan Reservoir. The Difficult Run Environmental Quality Corridor has been classified as a critical environmental area by the State of Virginia. Floodplains and associated shallow bedrock depth pose some constraints to development. The area contains soils with relatively good bearing capacity but severe erodibility.

The portion of this sector within the Difficult Run watershed was the subject of an environmental and land use study. (See the Difficult Run Headwaters Land Use Study, April 1978 prepared by the Office of Comprehensive Planning.) The study area was analyzed for its ability to accept various density categories and simultaneously maintain high-quality environmental standards. The primary environmental objectives concerning this area relate directly to the impacts created by urbanization such as increased stormwater runoff values; increased nonpoint source pollution loadings; stream channel enlargement; loss of high-quality wildlife habitats; increased number of septic fields and possible soil, overburden and groundwater contamination from septic effluent. The study area was reviewed for its sensitivity to these impacts.

A detailed environmental inventory was compiled that identified geologic, topographic, hydrologic, vegetative, soil, wildlife, air quality, noise and open space factors. This information was then used to prepare an overall land use design that would minimize the impacts from development in a region that is not planned for sanitary sewer service. The result is an environmentally sensitive plan that takes topographic forms for boundaries.

An environmental quality corridor (EQC) was outlined. It was determined by use of a U.S. Forest Services water quality filter strip equation, areas of steep slopes, U.S. Geological Survey designated 100-year floodplain, and existing parkland. Plant nutrient uptake capabilities of the filter strip will slow and filter overland stormwater runoff prior to its introduction to the streams.

A portion of the stream valley and adjacent land within this Planning District/Planning Sector is within the dam failure impact area for a proposed or existing dam. The extent of development within these impact areas should be minimized in the interest of public welfare and safety. For details on the extent of this area, refer to the section on potential dam failure impact areas, in the Environmental Chapter.



Additional land use policies for the Dulles Airport Access Road corridor are discussed on page III 132.

RECOMMENDATIONS

Part of this sector is within the watershed of the Occoquan Reservoir. Special recommendations, resulting from the 1982 Occoquan Basin Study, are presented at the beginning of the Area III Plan. These apply to affected lands in this sector in addition to the sector recommendations listed below.

Land Use

Eastern Portion of Sector

The following land use and densities are appropriate to prevent the encroachment of higher densities from Reston and Chantilly:

A. The area generally between Fox Mill Road, Lawyers Road, West Ox Road and the Springfield Bypass is recommended for 1-2 dwelling units per acre.

B. The area bounded by Fox Mill Road, Bennett Road, West Ox Road, Thompson Road, and Lawyers Road is planned for residential use at .5-1 dwelling units per acre. As an option, up to 2 dwelling units per acre may be appropriate for the portion south and southeast of the Franklin Farms community and west of West Ox Road (map 35-2((1)) lots 46, 47, 51, 52, 53, and 54, 54A; map 35-4((1)) lots 4, 4A, 4B, 4C, 4D, and 10) provided that:

- substantial parcel consolidation is achieved to ensure that the property is developed under the planned development concept;
- the property is developed within a planned development concept, with substantial open space and with lots abutting Willow Glen similar in size to foster compatibility. The higher density single family lots should be concentrated internally to the development. Large lots should be located along the peripheries to provide the transition between densities. It is anticipated that this option area be developed in single family detached dwelling units;
- access to the northern portion of the option area (35-2((1))46, pt. 52) is provided by Pond Crest and Willow Glen Drive to Franklin Farms Road; access to the southern portion of the option area is provided from West Ox Road and Oxon Road; and
- a more detailed transportation analysis is performed in conjunction with a rezoning application, and the developer agrees to provide the road improvements found to be needed as a result of that analysis.

C. A special study has been completed that details an environmentally sensitive land use plan for the headwaters regions of the Difficult Run watershed. The results of this study, together with other factors such as existing and committed development in the area and site and road design controls, are reflected on the land use map for this area which designates the recommended land uses and densities.

Owners of very large tracts should be encouraged to plan and develop these tracts as an entity. Also owners of small parcels adjacent to large parcels should endeavor to consolidate with larger tracts in order to create a more integrated development. Such development could result in a more imaginative design; greater preservation of environmental and scenic amenities; more realistic road alignments and a greater variety of open spaces, recreational facilities and housing types. The development should generally adhere to the overall densities recommended in the adopted Plan and map with the lower densities located in the eastern portion of the area, acting as a transitional area between the higher densities and the environmentally sensitive headwaters of the Difficult Run. If the area is developed as a low-density planned unit development with significant environmental, recreational amenities and public facilities provided, some flexibility would be appropriate as regards the density distribution,

although lower density should still be located in the eastern portion of the area. Also, the perimeter of the development, adjacent to lower density residential communities, should be low-density residential so as to be compatible with existing and planned adjacent residential areas.

Long narrow ridge lines with thin overburden, highly erosive soils, steep topography, high quality vegetation and poor access are proposed for low density (5 acre or larger) uses. Two to five acre lots (.2-5 dwelling unit per acre) are proposed for areas adjacent to streams where topography is relatively steep, overburden moderately thick (10-50 feet) and soils moderately erosive. Areas on plateaus or ridge lines where thick overburden (50 feet *), gently sloping topography, good septic suitability soils, mixed vegetation and varied access points are present combine to form areas preferable for somewhat higher density development (.5-1 dwelling unit per acre). Factors other than environmental considerations were also evaluated before arriving at the land use recommendations shown on the Plan map. Since adoption of the Plan recommendations for Sectors UP5 and UP8, there has been substantial development, primarily 1-2 acres per unit cluster subdivisions, which limit the options for planning totally this sensitive headwaters area only for very low densities. Existing and committed development is used in Plan recommendations in many areas of the Difficult Run headwaters in terms of compatible density. New development should also be compatible with the established development pattern in its vicinity with similar lot sizes, provided such would not be detrimental to environmental amenities.

Design controls for the site and road system are key factors in arriving at the land uses shown on the Plan map. The controls listed in Environment Recommendation B should be incorporated into any site and road system prior to development approval.

D. While clustering of residential development is an appropriate method of preserving open space and benefiting water quality in the Occoquan Basin (part of which is in this sector), it should be controlled so that the existing character of development is maintained. In this area, no subdivision lot should be smaller than 15,000 square feet.

In addition, the clustering of residential lots shall not be approved for subdivisions in which any residential lot would have direct vehicular access onto Fox Mill Road, Stuart Mill Road, Vale Road, West Ox Road, Bennett Road, Lawyers Road, or Pincrest Road. A natural buffer strip, not less than 25 feet in width, shall be provided between all cluster lots and the right-of-way for the roads listed above with no direct vehicular access permitted.

E. Local-serving commercial use in the Fox Mill Road/Lawyers Road/Reston Avenue/Pincrest Road vicinity should be confined to the planned Fox Mill Shopping Center. Future local-serving commercial activity, if needed, should be near or along Centreville Road and developed in conjunction with planned residential development. Isolated commercial uses should not be permitted.

F. With the completion of the Police and Fire Station north of Route 50 and west of West Ox Road, the site of the Navy-Vale Fire Station will not be a functional facility and consideration should be given for the provision of an appropriate community-serving use on the property such as a public library. If such a use cannot be designated for the property in a reasonable length of time, it should be planned for residential use at .5-1 dwelling unit per acre to be compatible with adjacent properties.

G. The area bounded by Stuart Mill Road on the east, private open space and Oakton Woods on the north, Linda Marie Drive on the west and Clarks Land-

ing Park on the south be developed at a density of .2-5 dwelling units per acre preferably at the lower density level.

Western Portion of Sector

A. In order to establish a clearly defined employment/ commercial focus for the southern sector of the Dulles Airport employment corridor, it is recommended that parcel 25-3 ((1)) 15 be comprehensively developed in a mix of employment, commercial, recreational and residential uses. Planned use of this parcel would include office/light industrial employment activity, related local-serving retail activity and recreation and residential uses. There should be adequate open space to provide a buffered transition to residential uses. Residential use should be at an overall density of 2-3 dwelling units per acre.

Development of this property should be phased so that the construction of residential units, development of recreational areas and the provision of landscaped open space buffers precede commercial and/or office/light industrial development.

B. Density should generally be between 2-3 dwelling units per acre east of Centreville Road except for that area west of Ashburton Avenue extended, south of the land presently zoned for residential development at a density of 2-3 dwelling units per acre, and east of the land shown for 2-3 dwelling units per acre on the Plan map, which should be 1-2 dwelling units per acre. The land east of Ashburton Avenue and Ashburton Avenue extended is planned for .5-1 dwelling unit per acre.

To assure a viable transition between the 1-2 dwelling units per acre and the .5-1 dwelling unit per acre density ranges, the eastern portion of the 1-2 dwelling units per acre area which lies along Ashburton Avenue extended should not exceed 1 dwelling unit per acre. Such development should be of sufficient depth to establish a one-acre or more lot size character in this area.

Portions of the residential area north of Horsepen Run, south of the Dulles Airport Access Road industrial area, west of the Colonial pipeline and Fox Mill Estates and east of Centreville Road containing desirable environmental features, such as woodlands, streams and rolling topography, should be left undeveloped or developed at very low-density with other areas accommodating a larger share of the planned overall density in a variety of housing types and arrangements. Land consolidation should be accomplished prior to development where possible. Overall densities should not exceed the planned 2-3 dwelling units per acre.

C. The area generally bounded by Centreville Road, West Ox Road, Borneham Woods and Cedar Lake Estates West is recommended for residential use at 1-2 dwelling units per acre. Density at the upper end of the 1-2 designation is appropriate and should be achieved. Access to the site should be from West Ox Road.

D. Some neighborhood commercial facilities should be provided for this residential development although Reston and Chantilly will be the prime location.

E. Farms, such as that at Frying Pan, should be preserved, if possible, through agricultural easements (R-A zoning district) or established tax incentives, to provide open space and buffers between employment uses and residential areas.

Public Facilities

Parks, Recreation and Open Space

A. Develop Frying Pan Park as a model farm and show area for livestock.

B. Acquire community parkland in areas of future residential development (e.g., off southern portion of Bennett Road). Dedication of land abutting the existing Board of Supervisors-owned land

could provide an expanded park should development occur around this former right-of-way.

C. Acquire portions of the Difficult Run, Horsepen, and Frying Pan stream valleys through dedication as development occurs, and preserve other portions in their natural state.

D. Acquire and develop a community park in the northern portion of the sector which serves the Greg Roy community.

E. Develop Clarks Landing Park (formerly Timberlake Park) with recreational facilities to serve Clarks Landing and adjacent subdivisions.

F. Acquire and develop a community park in the southern portion of the sector which serves the Navy-Vale community.

Other Public Facilities

A. An adequate water supply and water distribution system should be provided for fire protection services.

B. Construct a fire station along Centreville Road to serve planned development in the area.

Environment

A. Require that any development in the headwaters of the Difficult Run stream valley be sensitive to water quality issues. Such sensitivity includes minimal impervious surface, stringent sediment control during construction, and stormwater management designed to protect water quality.

B. Design controls for the Difficult Run headwaters include the following:

1. All major collector and subdivision roads should be oriented to uplands and ridge lines.

2. Small subdivision streets or access roads should not cross streams or major swales as this interrupts and disregards the EQC network, promotes nonpoint source pollution loadings and excessive cut and fill.

3. The Difficult Run Environmental Quality Corridor should be protected by dedication or acquisition.

4. Tract consolidation may be appropriate prior to development.

5. Developers are encouraged to design with varying lot sizes corresponding to the planned land use densities, even if the area to be developed involves more than one land use density category.

6. The use of adequate buffers, landscaping and substantial building setbacks should be provided to preserve the present character of this area when viewed from collector and minor arterial roads.

C. Acquire parkland along the Horsepen Run stream valley in accordance with the Fairfax County stream valley policy.

D. Apply water quality recommendations presented at the beginning of the Area III section of the Plan to those lands within the Occoquan Basin.

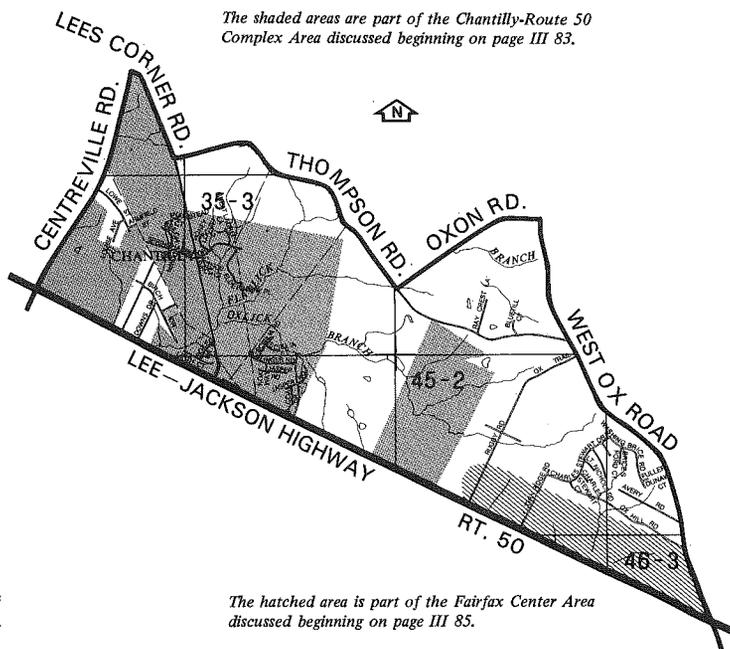
E. Provide highway noise mitigation for noise sensitive land uses so as to ensure a healthful living and working environment in which speech and activity interference is minimized in both interior and exterior areas.

F. Preserve the environmental quality corridor system as described at the beginning of the Area III section of the Plan, including those EQC lands along Flatlick Run and Cain Branch tributaries, through a variety of implementation methods.

Transportation

A. The transportation recommendations for this sector are included in the Transportation section of the Plan.

UP9 LEE-JACKSON COMMUNITY PLANNING SECTOR



Additional land use policies for the area at Route 50 and Centreville Road are discussed on page III 132.

This sector includes stable areas and portions of the Chantilly-Route 50 Complex Area and the Fairfax Center Area.

Land Use

The stable area of this sector includes residential development along Thompson Road, Murray Farms, Chantilly Estates, Fairwood Estates and the International Golf Course.

Except for Chantilly Estates, all of the residential areas consist of large lots of one to several acres. There is pressure for both townhouse, apartment, and commercial uses in the Route 50 corridor, which could have an adverse impact on existing development.

Local-serving commercial uses are located on the south side of Route 50. Regional-serving commercial uses are in Fairfax, Vienna, and Tysons.

Transportation

Route 50 is the major access to the sector. The facility is now congested at peak hours and will need upgrading as substantial new development occurs. The closest public transportation is bus service at Kamp Washington and Greenbriar Shopping Center. There is charter commuter bus service to Greenbriar/Brookfield. See Sector UP8 for discussion of the proposed improvement of West Ox Road.

Public Facilities

Schools

Navy Elementary School is located within the sector. Also, Franklin Park Intermediate, under construction, will be completed for the 84-85 school year.

Parks, Recreation and Open Space

Provision for community parks and additional active recreation will be required as significant development occurs.

Other Public Facilities

The Pender police/fire station site is located within the sector.

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this

Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Environment

This sector is located where the Triassic geologic province and the Piedmont province join. It is in the Cub Run watershed and is traversed by the Flatlick Branch stream valley.

This sector is impacted by several development constraints—noise from Dulles Airport, highway noise and shallow depth to bedrock. Lands affected by the Dulles Noise Impact Area are located in the Chantilly-Route 50 Complex Area.

RECOMMENDATIONS

All of this sector is within the watershed of the Occoquan Reservoir. Special recommendations, resulting from the *Occoquan Basin Study*, are presented at the beginning of the Area III Plan. These apply to affected lands in this sector in addition to the sector recommendations listed below.

Land Use

A. Low-density residential use is recommended in the stable areas, as indicated on the Plan map. Townhouse and apartment development is not appropriate.

B. Residential use in the .5-1 dwelling unit per acre and 1-2 dwelling units per acre ranges should be planned in the vicinity of Thompson Road and West Ox Road, Rugby Road and Avery Road as shown on the Plan map.

C. The International Town and Country Club should be planned for private recreation use.

D. The clustering of development is strongly advised as it provides open space and has a beneficial effect on water quality in the Occoquan Basin.

E. Parcel 45-2((1))25 is appropriate for hospital and related low intensity ancillary medical service use, provided that a substantial vegetated buffer is maintained between such uses and the nearby residential neighborhoods, that siting and height of buildings are

designed to minimize visual impacts on the residential community and that the overall FAR on the site does not exceed .2. The southern 7.5 acre portion of this site is planned for private open space and should not be developed without due consideration for the proceeding buffer provisions.

Public Facilities

Parks, Recreation and Open Space

A. Acquire land for community parks in future development areas through dedication.

Other Public Facilities

A. Relocate the Navy-Vale Fire Station to Route 50 near West Ox Road.

B. An adequate water supply and water distribution system should be provided for fire protection services.

Environment

A. Protect the Flatlick Branch stream valley by dedication and/or acquisition.

B. Apply water quality recommendations presented at the beginning of the Area III section of the Plan to those lands within the Occoquan Basin.

C. Apply aircraft noise mitigation recommendations presented at the beginning of the Area III section of the Plan to those lands within the Dulles Noise Impact Area.

D. Provide highway noise mitigation for noise sensitive land uses so as to ensure a healthful living and working environment in which speech and activity interference is minimized in both interior and exterior areas.

E. Preserve the environmental quality corridor system as described at the beginning of the Area III section of the Plan, including those EQC lands along Flatlick Branch and its tributaries, through a variety of implementation methods.

Transportation

A. The transportation recommendations for this sector are included in the Transportation section of the Plan.

BULL RUN PLANNING DISTRICT

The Bull Run Planning District is located in the western corner of Fairfax County. It is bounded on the northeast by the eastern boundary of Dulles International Airport and Route 50; on the east by Ox Road and Lee Highway; on the southeast by Braddock Road, Shirley Gate Road, Union Mill Road, Compton Road, and Centreville Road; on the southwest by Bull Run; and on the northwest by the Loudoun County line.

Land Use

The Bull Run Planning District has a total of 30,622 acres and is one of the least developed districts in Fairfax County.

Most of the development in this planning district has occurred along Route 50 or in and west of Centreville. This scattered pattern of development was encouraged by Sanitary District No. 12, which established five small-area treatment plants within the planning district. Outside of these concentrations, the district contains a few scattered communities of large-lot development and a mobile home park. The 1983 population of the district was estimated to be 25,359.

Transportation

Access to the District of Columbia is excellent. I-66, Route 29 and Route 50 are major east-west arterials, which extend from Washington, D.C., through Fairfax to Loudoun County. Route 28 is the major north-south arterial, which extends from Route 7 to Sterling Park in Loudoun County, through the western part of Fairfax adjacent to Dulles Airport and through Centreville to Manassas in Prince William County. The proximate intersection of I-66, Route 29 and Route 28 at Centreville provides a focus for potential large-scale development. Internal circulation is generally adequate, although congestion is increasing on the major arterials and especially at their intersections (e.g., central Centreville). Beyond the major highways, circulation is on narrow, winding and hilly rural roads which are adequate for the present scattered population, but which would require major improvement if development occurs.

With the adoption of the *Occoquan Basin Study* recommendations for changes in various County land uses, a reevaluation of the Fairfax

County transportation plan will be needed. Changes to the transportation element of the Comprehensive Plan may be deemed appropriate and necessary, especially in the Centreville area and Route 50 corridor, to adequately address the future transportation needs of the County.

Public Facilities

Existing public facilities located within the Bull Run Planning District are listed in the accompanying table.

As is true in Area III generally, existing school facilities are adequate for the existing population. But the substantial development projected for the Bull Run Planning District will require additional school facilities to meet the needs of the incoming residents.

Due to a lack of recreation facilities, development with active recreation facilities will be necessary to serve the people currently living in the district and the expected growth of the area.

Environment

The Bull Run Planning District lies within the Triassic lowland geologic province. It contains portions of the Cub Run, Bull Run, Little Rocky Run and Popes Head Creek watersheds.

This district contains numerous environmental resources. The western portion of this district is

noted for its potential crushed stone resources along the Bull Run and Cub Run watershed divide. Factors posing constraints to general development in this area include the Dulles Airport Noise Impact Area, an extensive environmental quality corridor which contains extensive floodplains, highly erodible soils covering approximately half of the district and shrink-swell soils in the northern portion of the district. In addition, approximately 90 percent of the district is part of the Triassic aquifer recharge system which is susceptible to contamination.

This area is noted for its gently rolling landforms with a combination of dense deciduous vegetation and open fields. These features, together with a large wildlife preserve, parks along Bull Run and heritage resources, comprise an extensive open space system.

The Bull Run Planning District is extremely important from a water quality perspective. The Metropolitan Washington Area 208 Plan specifies that the Occoquan watershed is a critical watershed which should be protected from degradation and indeed public law 92-500 stipulates that by 1985, the nation's rivers and water courses must be cleaned up. This can be accomplished by controlling two sources of pollution; one is point sources (sewage treatment plant effluents), the other is nonpoint sources of land runoff. The land

PLANNED RESIDENTIAL INFILL—BULL RUN PLANNING DISTRICT

Unit Type	Existing (1983)		Estimated Additional		At Buildout	
	Number	Percent	Number	Percent	Number	Percent
Single-family	6,233	71.5	17,374	55.8	23,607	59.2
Townhouse	2,186	25.1	7,026	22.5	9,212	23.1
Apartment	296	3.4	6,766	21.7	7,062	17.7
Total	8,715	100.0	31,666	100.0	39,881	100.0

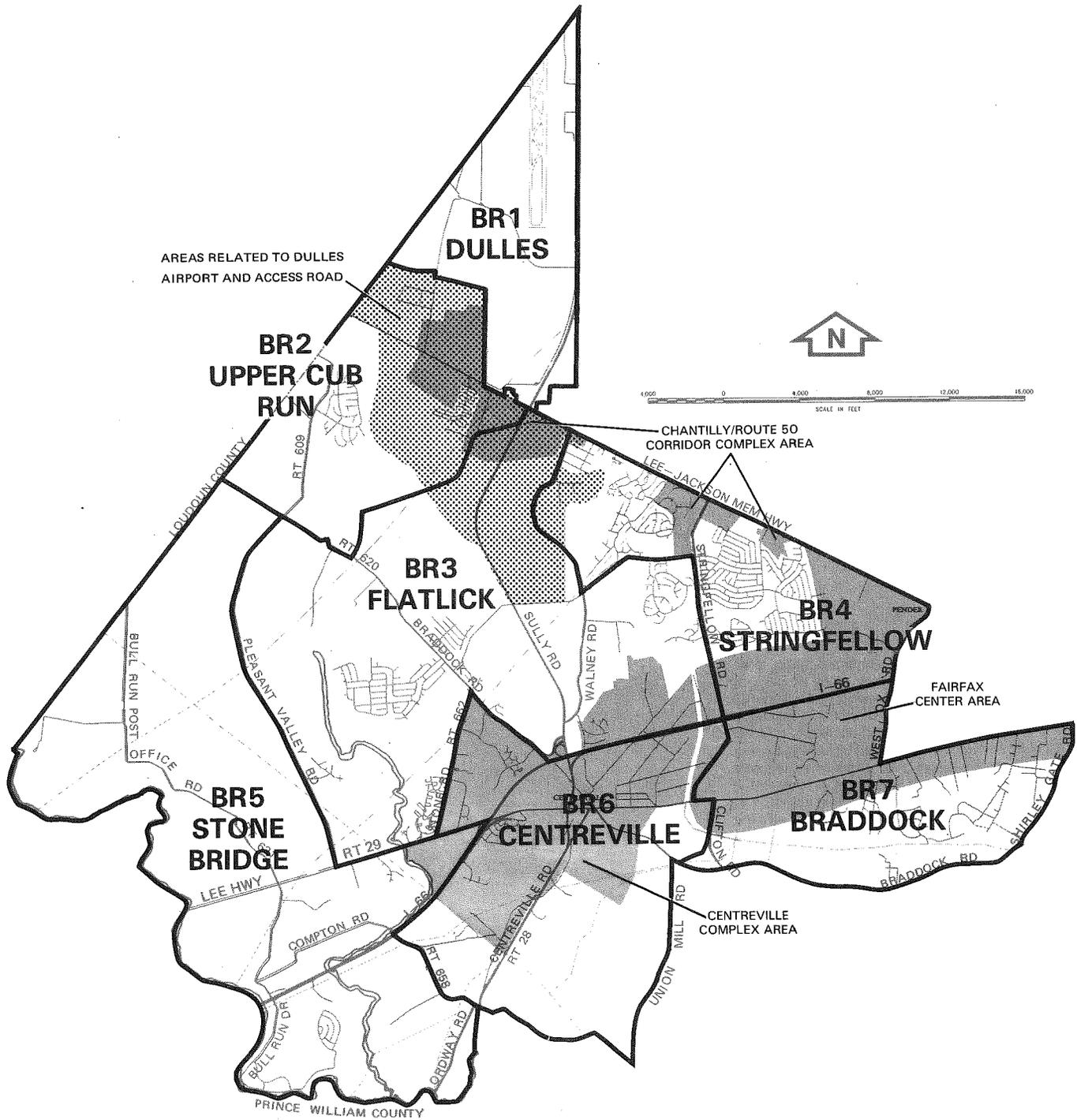
Source: Office of Research and Statistics, January 1983.

EXISTING PUBLIC FACILITIES

June 1983

Sector	Schools			Parks, Recreation and Open Space	Other Public Facilities
	Elementary	Intermediate	High School		
BR1					Dulles Airport
BR2				Cub Run Stream Valley	Chantilly Police District Station
BR3	London Towne	Rocky Run		Chalet Woods, Ellanor C. Lawrence, Country Club School Site, Cub Run and Rocky Run Stream Valleys	Chantilly Fire Station, Flatlick and Middle Cub Sewage Treatment Plant Sites (surplus), two School Sites
BR4	Brookfield, Greenbriar East, Greenbriar West		Chantilly	Greenbriar, Flatlick Frog Branch and Rocky Run Stream Valley	FCWA Western Shop and Property Yard, New Beginning, Park Authority Nursery/Maintenance Facility
BR5				Northern Virginia Regional Park Authority	Upper Occoquan Sewerage Authority Plant
BR6	Centreville			Arrowhead	Centreville Library, Centreville Fire Station, Library Site
BR7				West Ox, Brentwood, Piney Branch Stream Valley	Fire Training Center, Solid Waste Transfer Station, Animal Shelter, EMTA Maintenance Facility, State Prison Camp

AREA III



BULL RUN PLANNING DISTRICT

use development process in this district is especially important for the nonpoint source pollution control program. Therefore, land development decisions in this area should be carefully considered for their water pollution impact upon the Occoquan.

A portion of the stream valley and adjacent land within this Planning District/Planning Sector is within the dam failure impact area for a proposed or existing dam. The extent of development within these impact areas should be minimized in the interest of public welfare and safety. For details on the extent of this area, refer to the section on potential dam failure impact areas, in the Environmental Chapter.

History and Archaeology

Since the Bull Run Planning District is one of the least developed districts in the County, a number of heritage resources have already been identified, and the potential is very high for additional resources to exist relatively intact. This district has produced some of the most important prehistoric archaeological resources identified in the County. The Cub Run and Bull Run floodplains are particularly sensitive areas. There are several important historic resources in the District, a number of which represent events of the Civil War. There is a high potential for the identification of additional resources indicative of other periods in the District's history, and of the historical growth of Centreville and Chantilly. Some of the known historic resources include Walney and Cabell's Mill at E. C. Lawrence Park and Bull Run Stone Bridge.

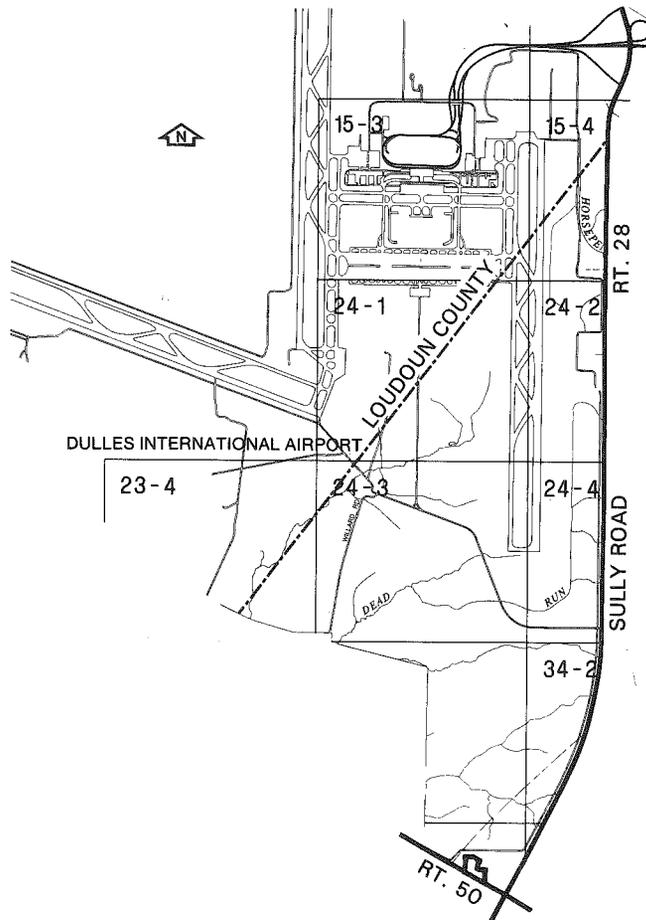
Recommendations

The major heritage resource preservation guidelines for the Bull Run Planning District are:

- consideration of heritage resources at the earliest planning stages of development,
- the investigation of sensitive areas for heritage resources.

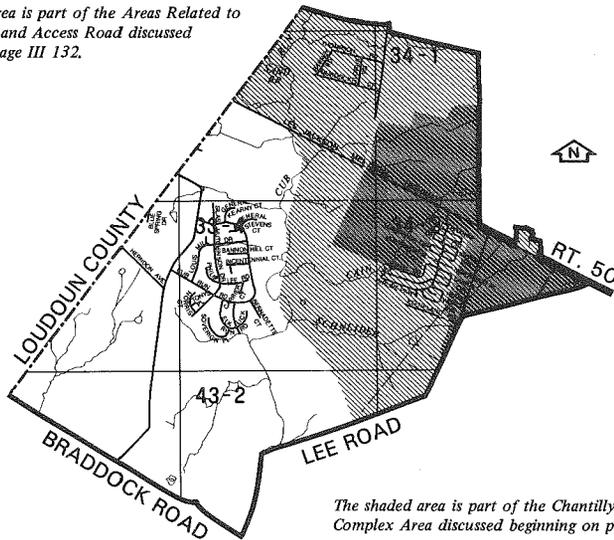
BR1 DULLES AIRPORT COMMUNITY PLANNING SECTOR

This sector lies entirely within the Dulles International Airport property which is the property of the U.S. Government and, therefore, it does not fall within the jurisdiction of Fairfax County planning. At present, the Federal Aviation Administration (FAA) is conducting an airport master planning program which is designed to address regional needs in relationship to the airport. It is essential that the County monitor this planning activity and become an active planning partner along with the FAA and Loudoun County. Two areas of concern to the County, aircraft noise impacts and industrial and commercial development programs, bear especially close scrutiny as they have a major effect on County development potentials in the airport area.



BR2 UPPER CUB RUN COMMUNITY PLANNING SECTOR

The hatched area is part of the Areas Related to Dulles Airport and Access Road discussed beginning on page III 132.



The shaded area is part of the Chantilly-Route 50 Complex Area discussed beginning on page III 83.

This sector is bounded by Dulles Airport, Lee Road, Braddock Road and the Loudoun County line.

Land Use

Much of the area is undeveloped forest and meadowland. Development is difficult on septic systems because of soil conditions. Existing residential development includes Pleasant Valley and Dulles Friendly Village mobile home park. Both communities are impacted by noise from Dulles Airport.

A large proportion of the land in this option area is in the Dulles Airport Noise Impact Area and should be planned to conform with the policies that apply to this area as described at the beginning of the Area III section of the Plan.

There are no local serving commercial uses in this area. Commercial uses are located on Route 50 in Chantilly.

Transportation

Route 50 is the major access to the sector. Traffic congestion is increasing on Route 50 and it will need upgrading as new development occurs in the corridor and in Loudoun County.

Public Facilities

Portions of the Cub Run Stream Valley Park are located in this sector.

The Chantilly Police Substation, which is located in this sector, is inadequate and in need of replacement.

A 13.8-acre County-owned parcel, formerly used for the Upper Cub Run sewage treatment plant, is located in this sector.

This area is served by the UOSA treatment plant which was completed in 1978. The area is located within the Occoquan watershed, making extensive septic development undesirable.

Environment

This sector is located in the Cub Run watershed. It is transected by Schneider Branch, Cain Branch, Sand Branch, Dead Run and Cub Run, all tributaries of the Occoquan Reservoir.

Environmental constraints to development include the Dulles Airport Noise Impact Area, highway noise impacts, extensive floodplain, shallow bedrock, and shrink/swell soils.

Extensive woodlands and several small ponds visually enhance this sector.

RECOMMENDATIONS

All of this sector is within the watershed of the Occoquan Reservoir. Special recommendations, resulting from the Occoquan Basin Study, are presented at the beginning of the Area III section of the Plan. These apply to affected lands in this sector in addition to the sector recommendations listed below.

Land Use

A. Land in this sector which is in the Dulles Airport Noise Impact Area should be planned to conform with the policies that apply to this area as described at the beginning of the Area III section of the Plan.

B. The Area north of Route 50 next to Dulles Airport is appropriate for airport-oriented industrial and employment uses because of severe noise impact and proximity to the airport.

C. Dulles Meadows should not be expanded because it is located within an area so impacted by significant airport noise that mobile homes are not an appropriate use.

D. In the long term, land now occupied by Dulles Meadows mobile home park is appropriate for industrial use because of the projected severe noise impact and its proximity to the airport and major transportation facilities, Route 50 and Route 28. However, until redevelopment occurs, Dulles Meadows should be recognized as a nonconforming residential area, and transitional screening requirements on adjacent industrially-planned parcels should neither be waived or modified to protect the residents of the mobile home park.

E. Agriculture may be considered an appropriate interim use in those areas planned for airport-oriented uses.

F. Land in the westernmost portion of the sector is planned for residential use at a maximum density of .2 dwelling unit per acre to conform with findings in the Occoquan Basin Study which concludes that urban use should occur in Centreville, Chantilly and the area generally east of Cub Run.

G. The clustering of development, where compatible, is strongly advised because it increases open space and has a beneficial effect on water quality in the Occoquan Basin. Clustering also provides flexibility for low-density residential development in the area which has public sanitary sewer.

H. Land in the 35-40 NEF contour area west of Cub Run (no farther north than the Pleasant Valley subdivision) and between Cub Run and Flatlick Run in the vicinity of Braddock Road (see Plan map) should be planned for agricultural or EQC use. A less desirable but achievable option for this land is industrial use if parcels are consolidated, buffering for adjacent existing or potential residential use is provided and access is provided that does not cause employment traffic to traverse the residential areas south along Braddock Road.

I. Additional local-serving commercial uses should be located on Route 50 at Centreville Road.

J. Land between Cub Run and Flatlick Run, in the vicinity of Braddock Road should be planned for residential use at a maximum density of 0.2 dwelling unit per acre. The portion north of Braddock Road may be appropriate for industrial use if, and only if, parcels are consolidated and developed in a unified manner; a substantial undeveloped buffer of not less than 250' consisting of existing and supplemented vegetation and landforms is maintained along Braddock Road; the siting and height of the proposed development does not create a negative visual impact on existing or potential residential communities; and, coordinated employment access is accommodated from the northeast, with no access from Braddock Road.

Braddock Road is intended to remain a residentially oriented road with its rural character to remain intact. The incorporation of a substantial buffer with any industrial development is intended to provide the transition between residential and nonresidential land in this area. No development or parking is appropriate within this buffer area.

Public Facilities

Parks, Recreation and Open Space

A. Develop a small community park to serve Friendly Village.

Other Public Facilities

A. An adequate water supply and water distribution system should be provided for fire protection services.

B. The site of the Upper Cub Run sewage treatment plant should be retained in public use. The site should be used as a storage site for construction materials.

C. Relocate the Chantilly Police Substation to the joint police/fire station site on Route 50.

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this

Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Environment

A. The Cub Run stream valley should be preserved through dedication and/or acquisition. The Cub Run stream valley includes the Cub Run and Cain Branch in this sector.

B. Apply water quality recommendations presented at the beginning of the Area III section of the Plan to those lands within the Occoquan Basin.

C. Apply aircraft noise mitigation recommendations presented at the beginning of the Area III section of the Plan to those lands within the Dulles Noise Impact Area.

D. Provide highway noise mitigation for noise sensitive land uses so as to ensure a healthful living and working environment in which speech and activity interference is minimized in both interior and exterior areas.

E. Preserve the environmental quality corridor system as described at the beginning of the Area III section of the Plan, including those EQC lands along Cub Run, Flatlick Branch, Cain Branch, Sand Branch, Dead Run and their tributaries, through a variety of implementation methods.

History and Archaeology

A. There are numerous prehistoric and historic archaeological resources in the vicinity of Upper Cub Run and Route 50 which should be considered for preservation.

Transportation

A. The transportation recommendations for this sector are included in the Transportation section of the Plan.

BR3 FLATLICK COMMUNITY PLANNING SECTOR

The hatched area is part of the Areas Related to Dulles Airport and Access Road discussed beginning on page III 132.

This sector includes areas, the Fairfax Center Area, the Centreville Area and the Chantilly-Route 50 Complex Area.

Land Use

With the exception of Country Club Manor, Belle Pond Farm, Pleasant Hills, Chalet Woods and London Towne, the sector is undeveloped with some active farmland. The sector has 6,786 acres. Most of the housing is recent and in the higher income range. The Chantilly National Golf and Country Club is on Braddock Road north of Country Club Manor. Land use in this sector will be influenced by the complex areas lying within and adjacent to the sector.

It is important to stabilize residential areas in the immediate vicinity of Country Club Manor and Chalet Woods. There is a potential land use compatibility problem between London Towne and land zoned for industrial use across Route 29.

Local serving commercial uses are located at Centreville.

Much of the land in this sector is in the Dulles Airport Noise Impact Area and should be planned to conform with the policies that apply to this area as described at the beginning of the Area III section of the Plan.

Transportation

Major access in the north portion of the sector is Route 50 and I-66. Route 29 and Route 28 are major roads serving the remainder of Sector BR3. The major north-south access in the sector is Route 28 which is becoming congested. The alignment of Braddock Road and its intersection with Route 28 are inadequate for substantial growth on Braddock Road. Transportation is almost exclusively auto-oriented, with limited commuter bus service from London Towne to Washington, D.C.

Public Facilities

Schools

The London Towne Elementary and Chantilly Intermediate Schools are located within the sector. The school administration owns an elementary and an intermediate school site in this sector.

Parks, Recreation and Open Space

The following parks are located within the sector: Chalet Woods, E.C. Lawrence, Country Club School site, (Interm use agreement) Cub Run Stream Valley, and Rocky Run Stream Valley.

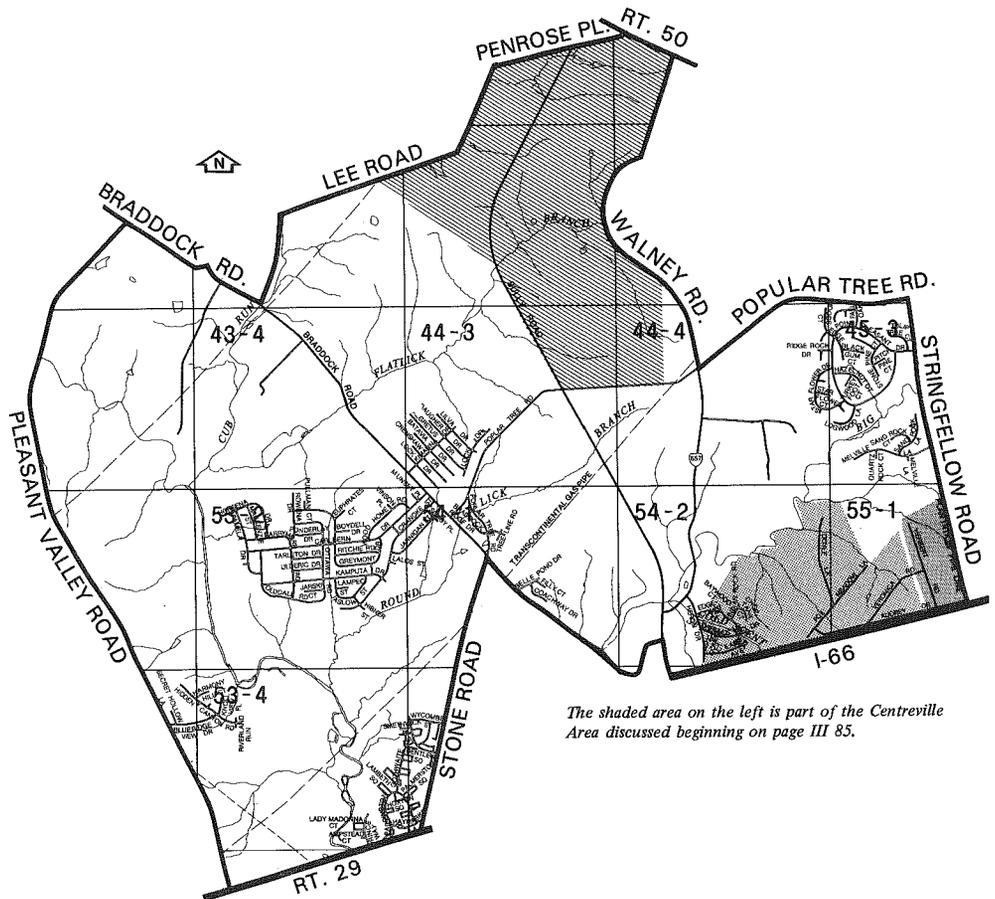
Community parks or private recreation facilities should be provided to serve additional development in the sector.

Other Public Facilities

The following facilities are located within the sector: Chantilly Fire Station, and the Flatlick and Middle Cub sewage treatment plant sites (both surplus to the needs of the sewerage system).

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.



The shaded area on the left is part of the Centreville Area discussed beginning on page III 85.

Environment

This sector is located in the Cub Run watershed. It is transected by Flatlick Branch, Round Lick Run, Cold Scent Spring Branch, Cub Run and Big Rocky Run. All three streams are located in the Occoquan watershed. A large area of upland hardwood forest is found along Pleasant Valley Road and is identified as a potential wildlife habitat preservation area in the *Occoquan Basin Study*. A map showing its location, Map 4, is presented in the beginning of the Area III section of the Plan. Much of the area is still active farmland.

The Transcontinental gas pipeline crosses the southern portion of this sector.

This sector also contains potential crushed stone resources.

Major constraints to development include the Dulles Airport Noise Impact Area, highway noise impacts, and small and sensitive stream valleys and adjacent slopes.

Major assets are the Eleanor C. Lawrence Park natural area and a wildlife preserve.

A portion of the stream valley and adjacent land within this Planning District/Planning Sector is within the dam failure impact area for a proposed or existing dam. The extent of development within these impact areas should be minimized in

the interest of public welfare and safety. For details on the extent of this area, refer to the section on potential dam failure impact areas, in the Environmental Chapter.

RECOMMENDATIONS

All of this sector is within the watershed of the Occoquan Reservoir. Special recommendations, resulting from the Occoquan Basin Study, are presented at the beginning of the Area III section of the Plan. These apply to affected lands in this sector in addition to the sector recommendations listed below.

Land Use

A. Land in this sector which is in the Dulles Airport Noise Impact Area should be planned to conform with the policies that apply to this area as described at the beginning of the Area III section of the Plan.

B. Land generally located between Flatlick Run and Big Rocky Run, in the vicinity of Country Club Manor and Chalet Woods should be planned for residential use in the density range of 2-3 dwelling units per acre which is commensurate with existing development and recent zoning.

C. London Towne and the land between London Towne and Cub Run should be planned for residential use in the 5-8 dwelling units per acre range to be commensurate with the density of London Towne. This location has excellent access to I-66 and therefore is appropriate for higher density residential development.

D. The land between Cub Run, Flatlick Branch, Braddock Road and Country Club Manor subdivision should be in private recreation and EQC use.

E. The land generally located between Cub Run, Braddock Road, Pleasant Valley Road and Route 29 should be planned for residential use at a maximum density of 0.2 dwelling unit per acre to conform with the Occoquan Basin Study findings, which indicate that approximately two-thirds of the land area in the County portion of the Occoquan Basin should be in nonurban use (see Occoquan Basin Study, page 127). This area is appropriate for residential use at a maximum density of 0.2 dwelling unit per acre because growth should be concentrated in Centreville and the areas east of Cub Run.

F. The area south of Route 50 is appropriate for airport-oriented industrial and employment uses because of severe noise impact and proximity to the airport. Certain areas in the Route 28 corridor are also appropriate for industrial and employment uses. This includes land now zoned for these uses.

G. Agriculture may be considered an appropriate interim use in those areas planned for airport-oriented uses west of Centreville Road.

H. Land in the 35-40 NEF contour area of Cub Run and Flatlick Run in the vicinity of Braddock Road (see Plan map) should be planned for agricultural or EQC use. A less desirable but achievable option for this land is industrial use if parcels are consolidated, buffering for adjacent existing or potential residential use is provided and access is provided that does not cause employment traffic to traverse the residential areas south along Braddock Road.

I. Land in the westernmost portion of the sector should be planned for residential use at a maximum density of 0.2 dwelling unit per acre to conform with findings in the *Occoquan Basin Study* which concludes that urban use should occur in Centreville, Chantilly and the area generally east of Cub Run.

J. The clustering of development, where compatible, is strongly advised because it increases open space and has a beneficial effect on water quality in the Occoquan Basin. Clustering also provides flexibility for low-density residential development in the area which has public sanitary sewer.

K. Additional local-serving commercial use should be located near Braddock and Stone Roads to serve the stable area and new development in the vicinity.

L. Land generally located between Poplar Tree Road, Ellanor C. Lawrence Park, Centreville and Stringfellow Road should be residential use in the 1-2 dwelling units per acre range commensurate with the density of existing residential development in that area.

Public Facilities

Schools

A. Construct the Country Club Elementary School.

Parks, Recreation and Open Space

A. Develop active recreation facilities at Challet Woods Park or on the vacant elementary school site adjacent to the Country Club subdivision.

B. Develop the Ellanor C. Lawrence Park.

C. Acquire the surplus Middle Cub Run treatment plant site as an addition to the Park Authority's holdings along the Cub Run stream valley.

D. Acquire parkland along the Cub Run stream valley in accordance with the Fairfax County stream valley policy. This stream valley includes the Elklick, Flatlick, Big Rocky Run, and Cub Run Branches.

Other Public Facilities

A. Update and improve the facilities and equipment available at the Chantilly Fire Station.

B. An adequate water supply and water distribution system should be provided for fire protection services.

C. The Flatlick treatment plant site should be used by the Department of Public Works for sewerage-related purposes.

Environment

A. Apply water quality recommendations presented at the beginning of the Area III section of the Plan to those lands within the Occoquan Basin.

B. Apply aircraft noise mitigation recommendations presented at the beginning of the Area III section of the Plan to those lands within the Dulles Noise Impact Area.

C. Provide highway noise mitigation for noise sensitive land uses so as to ensure a healthful living and working environment in which speech and activity interference is minimized in both interior and exterior areas.

D. Preserve the environmental quality corridor system as described at the beginning of the Area III section of the Plan, including those EQC lands along Flatlick Branch, Roundlick Run, Cold Scent Spring Branch, Cub Run, Big Rocky Run and their tributaries through a variety of implementation methods.

E. Preserve the identified wildlife habitat preservation area along Pleasant Valley Road through either acquisition or restriction to low-density residential development (a maximum density of one unit per five acres) where tree preservation is maximized.

Transportation

A. The transportation recommendations for this sector are included in the Transportation section of the Plan.

BR4 STRINGFELLOW COMMUNITY PLANNING SECTOR

This sector includes stable areas and portions of the Chantilly-Route 50 Corridor Complex Area and the Fairfax Center Area.

Land Use

The subdivisions of Greenbriar and Brookfield are substantial communities of single-family detached houses and townhouses, which include neighborhood shopping centers. There are scattered, older residential dwellings in the sector. All development is oriented to Route 50. The remainder of the sector is undeveloped and includes some active farmland.

The impact on existing stable communities of development along the Chantilly-Route 50 Complex Area is the major land use issue in this sector.

Local-serving commercial uses are located along Route 50.

Some land between Flatlick Run and Walney Road including Rockland Village lies within the Dulles Airport Noise Impact Area and land use should conform to land use and noise compatibility policies described at the beginning of the Area III section of the Plan.

Transportation

Route 50 is the major access to the sector. Congestion is presently increasing along Route 50 in the peak hours and the facility will have to be upgraded to serve substantial new development in the corridor and Loudoun County. Limited commuter bus service is available from Greenbriar to Washington.

Public Facilities

Schools

The Brookfield Elementary, Greenbriar East Elementary, Greenbriar West Elementary and Chantilly High Schools are located within the sector.

Parks, Recreation and Open Space

The following parks are located within the sector: Fairfax Center, Greenbriar, Flatlick Stream Valley, Frog Branch Stream Valley, and Rocky Run Stream Valley.

Other Public Facilities

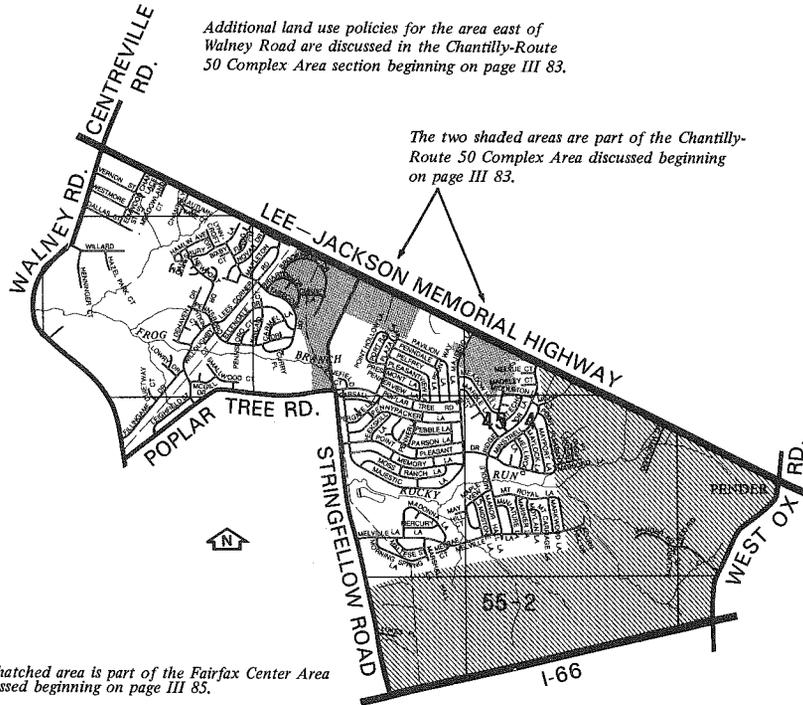
The following facilities are located within the sector: Water Authority western shop and property yard, New Beginning (alcohol intermediate care facility), and the Park Authority nursery and park maintenance facility.

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Environment

The major natural environmental features of the sector are Frog Branch, a tributary of Flatlick Run, and Big Rocky Run. This entire sector is located in the Occoquan Reservoir watershed. Major environmental constraints include the environmental quality corridors of these streams, aircraft noise within the Dulles Airport Noise Impact Area, and highway noise.



Additional land use policies for the area east of Walney Road are discussed in the Chantilly-Route 50 Complex Area section beginning on page III 83.

The two shaded areas are part of the Chantilly-Route 50 Complex Area discussed beginning on page III 83.

The hatched area is part of the Fairfax Center Area discussed beginning on page III 85.

RECOMMENDATIONS

Land Use

A. Land in this sector which is in the Dulles Airport Noise Impact Area should be planned to conform with the policies that apply to this area as described at the beginning of the Area III section of the Plan.

B. Undeveloped land in existing subdivisions should be developed as currently zoned.

C. The land along Route 50 east of the Dulles Airport Noise Impact Area and including Pinewood Meadows, Winding Brook, Brookside and Brookleigh should be residential use at a density of 8-12 dwelling units per acre commensurate with the density of these subdivisions.

D. Land between the Brookfield subdivision, Poplar Tree Road and Stringfellow Road is planned for 2-3 dwelling units per acre commensurate with the density of Brookfield.

E. Land in the Dulles Airport Noise Impact Area, including Rockland Village subdivision, should be planned for industrial use to conform with Plan policies for land use and noise compatibility described at the beginning of the Area III section of the Plan.

F. The parcels immediately west of Flatlick Branch on the south side of Route 50 are planned for low-intensity retail use under the following conditions:

1. the maintenance of the historical integrity of the Mitchell-Weeks house and original out-buildings by preservation or incorporation of the major elements of the historic house into a new structure;
2. the provision of signing and lighting which is compatible with the historic structure.

G. The clustering of development where compatible is strongly advised as it provides increased open space and it has a beneficial effect on water quality in the Occoquan Basin.

H. Land generally located south and west of Brookfield near Poplar Tree Road should be residential use in the 2-3 dwelling units per acre range which is commensurate with the density of existing development in the immediate area.

Public Facilities

Parks, Recreation and Open Space

- A. Develop passive recreation facilities in Frog Branch stream valley.
- B. Complete development of Greenbriar Park.
- C. The site of the former Greenbriar treatment plant should be used for recreation purposes.
- D. Continue the development of the Pender Park Maintenance Facility.
- E. Develop Fairfax Center Park.

Other Public Facilities

- A. Relocate the Navy-Vale Fire Station to the general vicinity of West Ox Road and Route 50 to improve fire and rescue services to the Route 50/Greenbriar area.
- B. Colocate a new police substation (to replace the Chantilly substation), with the relocated Navy-Vale Fire Station.
- C. An adequate water supply and water distribution system should be provided for fire protection services.

Environment

A. Apply water quality recommendations presented at the beginning of the Area III section of the Plan to those lands within the Occoquan Basin.

B. Apply aircraft noise mitigation recommendations presented at the beginning of the Area III section of the Plan to those lands within the Dulles Airport Noise Impact Area.

C. Provide highway noise mitigation for noise sensitive land uses so as to ensure a healthful living and working environment in which speech and activity interference is minimized in both interior and exterior areas.

D. Preserve the environmental quality corridor system as described at the beginning of the Area III section of the Plan, including those EQC lands along Flatlick Branch, Big Rocky Run, Frog Branch, and their tributaries, through a variety of implementation methods.

Transportation

A. The transportation recommendations for this sector are included in the Transportation section of the Plan.

BR5 STONE BRIDGE COMMUNITY PLANNING SECTOR

This entire sector is designated as stable. It is located on Bull Run in the southwestern corner of the County and bounded by Prince William County and Loudoun County.

Land Use

Most of the sector is undeveloped and includes forest and farmland. There are four older large-lot residential subdivisions—Cedar Springs off Route 29 at Cedar Springs Road, a small settlement near the western end of Compton Road, Bull Run Estates along Bull Run Drive south of Compton Road and Bull Run Farm. These residential communities are long-standing and should be preserved. There are scattered, older dwellings throughout the sector. Significant residential or industrial development in the area could easily impact these settlements and impact the marginal road system.

The Fairfax quarry is located on Route 29 near the stone bridge and is a major source of stone for area construction industry. Other industrial uses are located near the quarry and are in poor condition giving the area a rundown appearance.

Local-serving commercial uses are located in Centreville. The Bull Run Bridge Historic District is located on Route 29 at the County line.

A large proportion of the land in this sector is within the Dulles Airport Noise Impact Area and should be planned to conform with the policies that apply to this area as described at the beginning of the Area III section of the Plan.

Transportation

Major access to the area is Route 29. Existing secondary roads adequately serve scattered development. Public transportation, in the form of limited commuter bus service, is available from London Towne to Washington, D.C.

Public Facilities

The Bull Run Regional Park is located between I-66 and Bull Run. It contains both active and passive recreation including a large swimming pool complex and shooting ranges which serve the Northern Virginia area. There is no need for community parkland because additional development is not recommended, nor likely to occur because of poor soils.

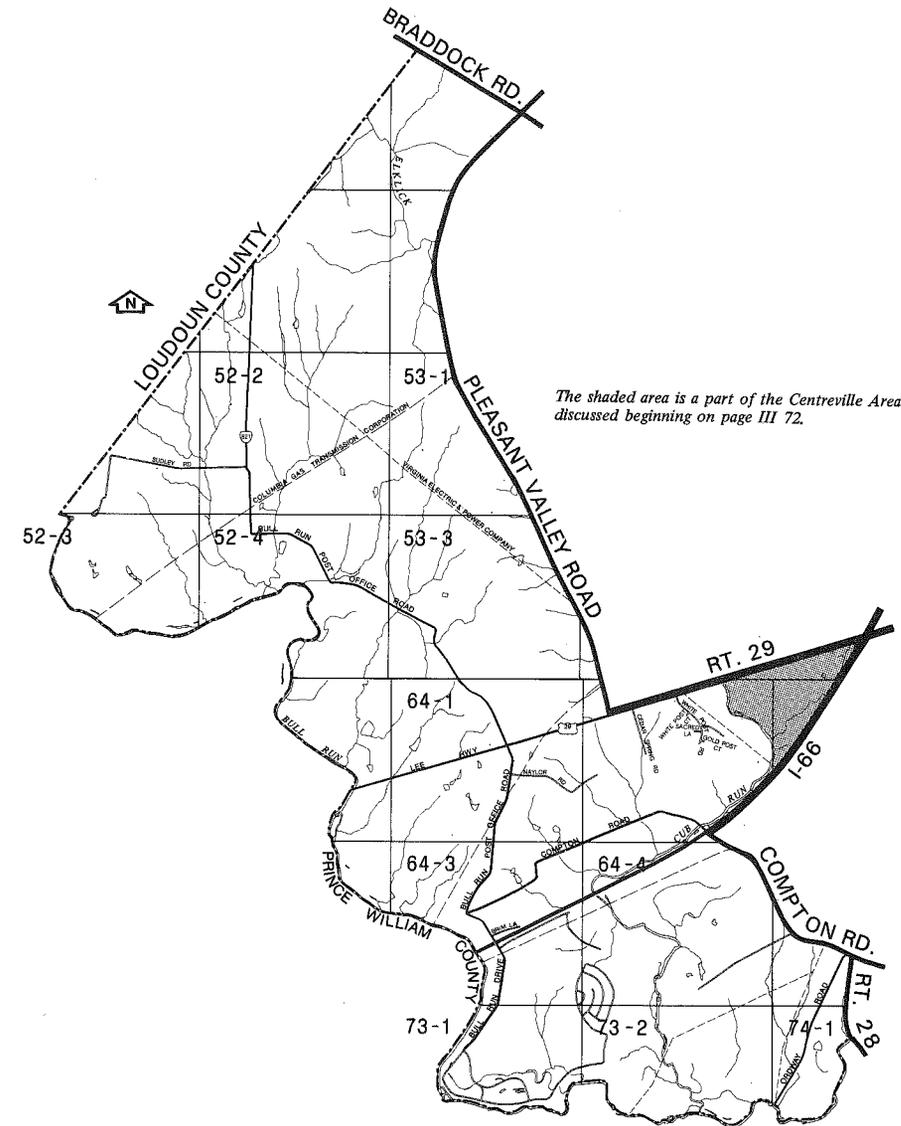
The regional Upper Occoquan Sewage Authority advanced waste water treatment plant is located south of I-66 near Compton Road.

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Environment

This sector comprises all of Bull Run and portions of Cub Run watersheds. Bull Run and Cub Run Environmental Quality Corridors along with the Bull Run Regional Park system are the major environmental features. This entire sector is located within the watershed of the Occoquan Reservoir. A large area of upland hardwood forest is found along Pleasant Valley Road and is identified as a potential wildlife habitat preservation area in the *Occoquan Basin Study*. A map showing its location, Map 4, is presented in the beginning



The shaded area is a part of the Centreville Area discussed beginning on page III 72.

of the Area III section of the Plan. In addition, there is a primary crushed stone resource in the southern portion of this sector.

The sector is transected by the Atlantic Seaboard Corporation and VEPCO utility easements.

Constraints to development include the Dulles Airport Noise Impact Area, the Cub Run floodplain, highway noise impacts, predominance of shrink-swell soils, and steep slopes adjacent to the stream valleys.

Extensive woodlands and several small ponds enhance this sector visually.

A portion of the stream valley and adjacent land within this Planning District/Planning Sector is within the dam failure impact area for a proposed or existing dam. The extent of development within these impact areas should be minimized in the interest of public welfare and safety. For details on the extent of this area, refer to the section on potential dam failure impact areas, in the Environmental Chapter.

RECOMMENDATIONS

All of this sector is within the watershed of the Occoquan Reservoir. Special recommendations, resulting from the *Occoquan Basin Study*, are presented at the beginning of the Area III section of the Plan. These apply to affected lands in this sector in addition to the sector recommendations listed below.

Land Use

A. The land on the southwest perimeter of the County, adjacent to Loudoun County and Prince William County, lying generally along Bull Run and the public parkland associated with Bull Run has remained for the most part open and undeveloped. Countywide planning policy has attempted to channel new development in the western County into areas with locational advantages such as Chantilly, Centreville, Reston and Her-

don. Relatively inaccessible areas such as this, with a history of rural development and poor building conditions, should not be encouraged for new development and extensive new public facilities. The present character should remain intact and be encouraged not only to maintain the semirural character of the community but to protect the ecology of the area in terms of natural wildlife and water quality, which is particularly sensitive in terms of the Occoquan Reservoir located downstream of this area. Most of the land in this sector west of Cub Run should be in residential use at a maximum density of .2 dwelling unit per acre. This is in conformance with the *Occoquan Basin Study* findings and overall planning objectives for the County. Nonurban uses now predominate in the area and continue to be appropriate.

B. The clustering of development, where compatible, is strongly advised because it provides increased open space and has a beneficial effect on water quality in the Occoquan Basin.

C. Existing industrial land should be considered as nonconforming along Route 29 west of the Fairfax quarry industrial node (see Recommendation D, below). The present industrial and commercial development are for the most part aesthetically unpleasant and obviate the positive rural and historic milieu surrounding the Bull Run stone bridge and the Manassas National Battlefield Park which is contiguous with this area.

D. Fairfax County, in conjunction with the Environmental Quality Advisory Council, should study the future use of quarries in Fairfax County, and the Fairfax quarry in particular. The study should include environmental controls and a restoration program, such controls and restoration to become a part of the next issued special use permit. It is possible that these quarries could be used for landfilling inert substances, such as incinerated debris, or developed as lakes and recreational facilities. Parcel 64-1 ((1)) 7A should be shown for natural resources extraction use subject to natural district overlay zoning requirements and review process and subject to the mitigation of any adverse effects on residential and other areas. Industrial use should be planned for land encompassed by the quarry property, so that residential use is not surrounded by industrial use. As an alternative, residential use at the lowest possible density (.2 dwelling unit per acre maximum) is acceptable.

Public Facilities

Parks, Recreation and Open Space

A. Acquisition of additional land by the Northern Virginia Regional Park Authority for the Bull Run Regional Park.

B. Acquire the Bull Run floodplain between I-66 and the Loudoun County line for addition to the landholdings of the Northern Virginia Regional Park Authority.

C. Acquire parkland along the Cub Run stream valley, in accordance with the Fairfax County stream valley policy. This stream valley includes the Ellick and Cub Run Branches.

Other Public Facilities

A. Ensure the availability of sufficient and up-to-date facilities and equipment at the Centreville Fire Station.

B. An adequate water supply and water distribution system should be provided for fire protection services.

Environment

A. Apply water quality recommendations presented at the beginning of the Area III section of the Plan to those lands within the Occoquan Basin.

B. Apply aircraft noise mitigation recommendations presented at the beginning of the Area III section of the Plan to those lands within the Dulles Airport Noise Impact Area.

C. Provide highway noise mitigation for noise sensitive land uses so as to ensure a healthful living and working environment in which speech and activity interference is minimized in both interior and exterior areas.

D. Preserve the environmental quality corridor system as described at the beginning of the Area III section of the Plan, including those EQC lands along Bull Run, Cub Run, and their tributaries, through a variety of implementation methods.

E. Preserve the identified wildlife habitat preservation area along Pleasant Valley Road through either acquisition or restriction to low-density residential development (a maximum density of one unit per five acres) where tree preservation is maximized.

F. Allow for future expansion of the crushed stone industry in areas which are visually buffered, topographically uncomplicated and readily accessible without inordinant disruption of adjacent planned or existing residential or commercial properties. Permanent land development uses should be restricted from such areas.

History and Archaeology

Bull Run Stone Bridge Historic District

A. The regulations of the Bull Run Stone Bridge Historic District (Appendix 1, A1-500 of the *Zoning Ordinance*) specify residential development limited to single-family detached units at a density not to exceed one dwelling unit per acre, with the exception of land already zoned for commercial use. Commercial uses should be limited to tourist and local-serving uses, and all industrial uses should be prohibited. Building height should be limited to 35 feet and freestanding signs should not exceed 10 feet. All improvements, to include structures, signs, fences, street furniture, outdoor graphics, and public and private utilities, shall be designed and installed to be compatible with the Bull Run stone bridge. All development within the historic district will be reviewed by the Architectural Review Board.

B. As a result of the *Occoquan Basin Study* findings and land use reevaluation, the Bull Run Stone Bridge Historic District should be modified to provide that all planned land use be residential at a maximum density of .2 dwelling unit per acre. This will help maintain the rural/historic milieu of the stone bridge and Manassas National Battlefield Park.

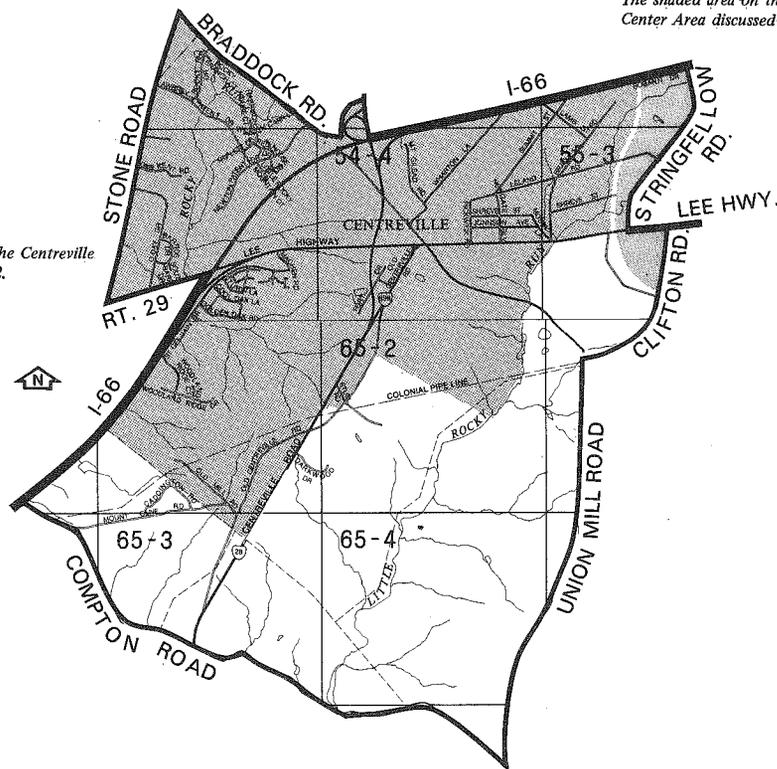
Transportation

A. The transportation recommendations for this sector are included in the Transportation section of the Plan.

BR6 CENTREVILLE COMMUNITY PLANNING SECTOR

The shaded area on the right is a part of the Fairfax Center Area discussed beginning on page III 85.

The shaded area on the left is part of the Centreville Area discussed beginning on page III 72.



This sector includes stable areas, the major portion of the Centreville Area, and a portion of the Fairfax Center Area.

Land Use

The core of Centreville contains scattered residential development and local-serving and highway oriented commercial uses. A few residential areas are located on Clifton Road and Stone Road on one-acre and larger lots. The Meadows of Newgate are recent townhouse and triplex condominiums located at I-66 and Route 29. The sector has 4,435 acres. The remainder of the sector has large and small undeveloped parcels, generally zoned R-1. A few small parcels around main roads and intersections are zoned for commercial use. The major land use and development issues are discussed in the Centreville Complex Area.

Local-serving commercial uses are located in the sector at the Newgate Shopping Center and on Route 29. Other commercial facilities are in Fairfax and Manassas.

Some land in this sector is within the Dulles Airport Noise Impact Area and should be planned to conform with the policies that apply to this area as described at the beginning of the Area III section of the Plan.

Transportation

Major roads in the sector are I-66, Route 29, Braddock Road and Route 28. Circulation is excellent although congestion is beginning to occur because of regional traffic from Prince William County. This will continue in the future and major improvements will be necessary when substantial growth occurs in Centreville. The alignment and intersection of Braddock Road in two places (Route 29 and Route 28) is awkward and will need redesign in the future. There is limited commuter bus service from London Towne to Washington, D.C. The area is also served by Trailways.

Public Facilities

Schools

Centreville Elementary School is located within the sector.

Parks, Recreation and Open Space

Arrowhead and Rocky Run Stream Valley Parks are located in the sector. Active local-serving recreation facilities (e.g. ballfields, tennis courts) are needed to serve existing stable communities including Meadows of Newgate and London Towne.

Other Public Facilities

The following public facilities are located within the sector: Centreville Fire Station, Centreville Library, and a regional library site.

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Environment

A part of the Big Rocky Run stream valley is located in the northern part of the sector, and part of the Little Rocky Run stream valley extends through the eastern part of the sector. Both streams are tributary to the Occoquan Reservoir. A privately-owned nature preserve is located south of I-66 off Old Mill Road.

Level Green is a well-preserved eighteenth-century home which has been designated as a historic site.

Environmental constraints to development include the Dulles Airport Noise Impact Area, highway noise impacts, and the Big Rocky Run and Little Rocky Run stream valleys.

Soils poor for septic system are found in the portions of the sector.

RECOMMENDATIONS

All of this sector is within the watershed of the Occoquan Reservoir. Special recommendations resulting from the *Occoquan Basin Study* are presented at the beginning of the Area III section of the Plan. These apply to affected lands in this sector in addition to the sector recommendations listed below.

Land Use

The core of Centreville contains scattered residential development and local-serving and highway oriented commercial uses. A few residential areas are located on Clifton Road and Stone Road on one-acre and larger lots. The Meadows of Newgate are recent townhouse and triplex condominiums located at I-66 and Route 29. The sector has 4,435 acres. The remainder of the sector has large and small undeveloped parcels, generally zoned R-1. A few small parcels around main roads and intersections are zoned for commercial use. The major land use and development issues are discussed under the Centreville Area section of the Plan.

A. Land generally located between the Centreville Area, Little Rocky Run, Clifton Road, and the Twin Lakes Golf Course Facility should be in residential use in the 2-3 dwelling units per acre range as a transition density away from the higher density uses in the Centreville Area.

B. Land west of the Big Rocky Run stream valley, north of the London Towne/Center Heights medium density residentially planned land, is planned for residential use at 2-3 dwelling units per acre, commensurate with the density of existing residential development and residential rezonings.

C. The clustering of development, where compatible, is strongly advised because it provides increased open space and has a beneficial effect on water quality in the Occoquan Basin.

D. Land shown on the Plan map for 2-3 dwelling units per acre south of Braddock Road between Little Rocky Run and Twin Lakes Park should be developed in a manner which provides a substantial transitional area to lower densities planned to the east. An overall density up to 4 units per acre may be appropriate if all parcels are consolidated or suitably integrated for development and if open space and lower densities as part of the development are arranged to provide the needed transitions and environmental quality corridor areas.

E. There should be a density transition between 2-3 dwelling units per acre development in Little Rocky Run and semirural density in the Johnny Moore Creek watershed to protect the character of the established community around the Clifton area. The density range for development in a 600-foot strip on the west side of Union Mill Road between Compton Road and planned 4-5 dwelling units per acre development near Braddock Road, should be .5-1 dwelling unit per acre, with reverse frontage and a 100-foot open space buffer maintained between the limits of clearing and the right-of-way of Union Mill Road improved.

F. Access points along Union Mill for 2-3 dwelling units per acre and .5-1 dwelling unit per acre development should be minimized. Access should be oriented to Braddock Road and Compton Road wherever possible.

G. The land bounded generally by Little Rocky Run on the west, Compton Road on the south and Union Mill Road on the east and designated as parcels 65-4((1))9 and 11, and parcels 74-2((1))19, 3, 4, 5, 7 and 10 should be designated in the 1-2 dwelling units per acre planned density range with the limitation of one-acre development for the 600' strip along Union Mill Road as noted in Recommendation B. A 200' buffer and reverse frontage development should be established on the north side of Compton Road between Union Mill Road and Little Rocky Run. This provides a transition between planned densities.

Public Facilities

Parks, Recreation and Open Space

A. Acquire community parkland for active recreation where development occurs.

B. Develop Arrowhead Park on Stringfellow Road.

C. Acquire parkland along the Big Rocky Run stream valley in accordance with the Fairfax County stream valley policy.

Other Public Facilities

A. Provide sewer for the Clifton Road community without damaging the Little Rocky Run stream valley.

B. Place needed government services in leased facilities as demand requires. Possible services include public health, mental health and retardation, and inspection services (see Introduction).

C. An adequate water supply and water distribution system should be provided for fire protection services.

Environment

A. Acquire parkland along the Big Rocky Run stream valley in accordance with the Fairfax County stream valley policy.

B. Apply water quality recommendations presented at the beginning of the Area III section of the Plan to those lands within the Occoquan Basin.

C. Apply aircraft noise mitigation recommendations presented at the beginning of the Area III section of the Plan to those lands within the Dulles Airport Noise Impact Area.

D. Provide highway noise mitigation for noise sensitive land uses so as to ensure a healthful living and working environment in which speech and activity interference is minimized in both interior and exterior areas.

E. Preserve the environmental quality corridor system as described at the beginning of the Area III section of the Plan, including those EQC lands along Little Rocky Run, Big Rocky Run, and their tributaries, through a variety of implementation methods.

Transportation

A. The transportation recommendations for this sector are included in the Transportation section of the Plan.

BR7 BRADDOCK COMMUNITY PLANNING SECTOR

This sector includes stable areas and portions of the Fairfax Center Area.

Land Use

The sector has varied land uses including two major subdivisions, marginal highway-oriented commercial uses on Route 29 and the County landfill, animal shelter site and Virginia corrections facility on West Ox Road. A majority of the area is undeveloped with scattered, older dwellings and some active farmland. The sector has 3,169 acres. Local-serving commercial uses are located in Fairfax. Housing ranges from recent, moderate-income to older low-income dwellings in poor condition. The commercial parcels along Lee Highway are used for a variety of retail businesses and are in marginal condition. There will be pressure for highway-oriented strip commercial development and medium-density residential use when new sewer capacity is available.

Transportation

Major roads in the sector are Route 29 (Lee Highway), Braddock Road, Shirley Gate Road and West Ox Road. Braddock Road is becoming congested with east-west commuter traffic between Centreville and I-495. Public transportation is not available within the sector but it is available nearby at Kamp Washington.

Public Facilities

Parks, Recreation and Open Space

The following parks are located within the sector: West Ox, Brentwood, and Piney Branch Stream Valley.

Future development in the area will require additional local-serving active recreation facilities.

Other Public Facilities

The following public facilities are located on West Ox Road within the sector: fire training center, animal shelter, solid waste transfer station, and a vehicle maintenance facility.

A sanitary sewer system is under construction in the Lincoln-Lewis-Vannoy Conservation Area and will be completed by August, 1984. This pressurized collection system was selected because it is environmentally sound and will not adversely affect the surrounding area.

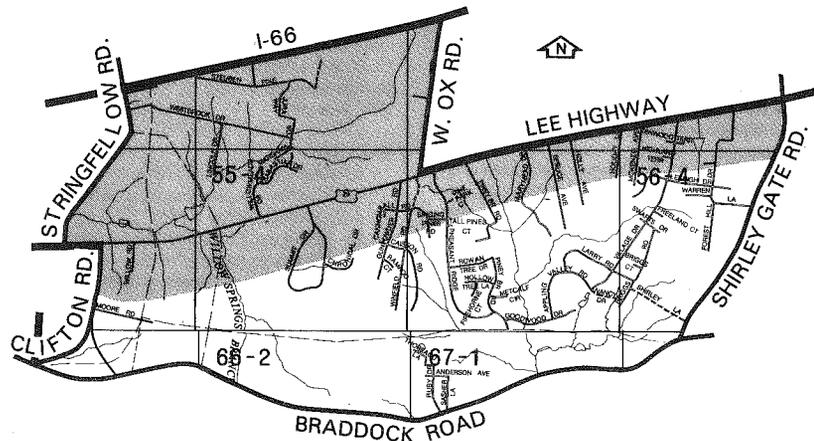
Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Environment

The major natural environmental features in the sector are the upper Little Rocky Run, Willow Springs Branch, and Popes Head Creek stream valleys, all of which are located in the Occoquan Reservoir watershed and are important components of the environmental quality corridor system. These, as well as highway noise, are the major environmental constraints to development.

The shaded area is a part of the Fairfax Center Area discussed beginning on page III 85.



RECOMMENDATIONS

All of this sector is within the watershed of the Occoquan Reservoir. Special recommendations, resulting from the *Occoquan Basin Study*, are presented at the beginning of the Area III section of the Plan. These apply to affected lands in this sector in addition to the sector recommendations listed below.

Land Use

A. The land in the Popes Head Creek watershed should be residential use at a maximum density of .2 dwelling unit per acre to help protect the environmentally sensitive headwaters of the Occoquan Basin watershed and to provide nonurban land use as described in the *Occoquan Basin Study*. Land in this sector which is in the Little Rocky Run watershed, part of the UOSA sewer system, should be residential use in the 1-2 dwelling units per acre density range which is commensurate with the density of existing use and recent rezoning in the area.

B. Clustering of development, where compatible, is strongly advised because it provides increased open space and has a beneficial effect on water quality in the Occoquan Basin.

C. Land generally located south of the Route 29 corridor and Braddock Road should be residential use in the 1-2 dwelling units per acre range commensurate with the density of existing and planned residential use and zoning in the immediate vicinity.

Public Facilities

Parks, Recreation and Open Space

A. Continued development of active recreation facilities on the new park at the County landfill site.

Other Public Facilities

A. An adequate water supply and water distribution system should be provided for fire protection services.

Environment

A. Apply water quality recommendations presented at the beginning of the Area III section of the Plan to those lands within the Occoquan Basin.

B. Provide highway noise mitigation for noise sensitive land uses so as to ensure a healthful living and working environment in which speech and activity interference is minimized in both interior and exterior areas.

C. Preserve the environmental quality corridor system as described at the beginning of the Area III section of the Plan, including those EQC lands along Little Rocky Run, Willow Springs Branch, Popes Head Creek and their tributaries, through a variety of implementation methods.

Transportation

A. The transportation recommendations for this sector are included in the Transportation section of the Plan.

POHICK PLANNING DISTRICT

The Pohick Planning District is located in the southwest part of Fairfax County. It is bounded on the north by Braddock Road, on the east by Rolling Road, on the southeast by the Lorton reformatory, on the southwest by the Occoquan River, Bull Run, Centreville Road, Compton Road, and Union Mill Road.

Land Use

The Pohick Planning District is and has been for the past ten years one of the primary objects of development in the County. Development has proceeded generally from the eastern part of the district westward in the Main Branch and Middle Run portions of the Pohick watershed. The new development in the district has been mostly single-family detached subdivisions and townhouses. In the area west of Route 123, considerable development has taken place on large one to five-acre lots.

As of January 1983, of the nearly 47,000 total acres within the Pohick Planning District, 17,544 acres or 38 percent of the total land area was in residential use. Single-family residences accounted for 65 percent of all dwelling units within the district, and occupy approximately 17,500 acres or 96 percent of the total number of acres in residential use. The 1983 population was estimated to be 88,198. If all currently committed (under construction or building permits issued) residential development takes place, the number of dwelling units will increase by about 1,600.

Retail commercial centers are located on Braddock Road at Rolling Road, Rolling Road at Old Keene Mill Road, Old Keene Mill Road at Shiplett, the village of Burke, Burke Centre, Braddock Road

and Route 123, and Braddock Road and Twinbrook Road. A total of 155 acres were in commercial use in the Pohick Planning District in 1982.

In spite of the foregoing development, nearly 40 percent of the total acreage within the district remains in stream valleys, woodland, farms and parkland.

Transportation

Access to the district is via Braddock Road, Rolling Road, Old Keene Mill Road, Ox Road (Route 123), Hooes Road, Pohick Road and Clifton Road. All of these, and especially those east of Route 123, have become badly overloaded as development outpaced road improvements over the past decade. Public transportation has recently reached into the developed eastern crescent, but the poor roads still inhibit an adequate level of service.

With the adoption of the *Occoquan Basin Study* recommendations for changes in various County land uses, a reevaluation of the Fairfax County transportation plan will be needed in the areas effected by these changes to the transportation element of the Comprehensive Plan may be deemed appropriate and necessary, especially in the Centreville area and Route 50 corridor, to adequately address the future transportation needs of the County.

Public Facilities

Existing public facilities located within the Pohick Planning District are listed in the accompanying table.

Projected development would require major additions to elementary school capacity and would

probably also create demand for some additional intermediate and high school facilities before 1990.

Because of the large population growth planned for the area, additional health services will be needed, including preventive and mental health services, emergency medical and outpatient services. Due to its central location and the availability of mass transit, the mental health, emergency and outpatient services should be provided in the Springfield Planning District. Also, additional fire and rescue facilities will be needed, and a leased library facility should be provided to serve the lower Pohick area.

Due to a lack of facilities and community parks capable of development, new parks must be acquired and several new and existing parks must be developed to serve the large population growth planned for the district.

Environment

The Pohick Planning District lies within the Triassic lowland and Piedmont geologic provinces. It contains Johnny Moore Creek, Popes Head Creek, Pohick Creek, Sandy Run, Ryans Dam, Occoquan and Mill Branch watersheds.

This district, as the other districts in the western portion of the County, contains a substantial number of environmental resources worthy of protection.

Constraints to development in the planning district include an extensive environmental quality corridor network, steep topography dominated by dense forests and the headwaters and ridgelines of several watersheds. These environmental features are complemented by an extensive

EXISTING PUBLIC FACILITIES June 1983

Sector	Schools			Parks, Recreation and Open Space	Other Public Facilities
	Elementary	Intermediate	High School		
P1				Popes Head, Braddock, Twin Lakes Golf Course, Piney Branch Stream Valley	Intermediate School Site, Police Firing range, Nike Site (surplus), Northern Virginia Regional Park Authority Headquarters, Braddock Community Center
P2	Oak View, Laurel Ridge, Burke, White Oaks, Rolling Valley, Hunt Valley	Robinson, Lake Braddock	Robinson, Lake Braddock, West Springfield	Country Club View, Crooked Creek, Kings Park West, Royal Lake, Rolling Woods Estates, Lake Side, Monticello, Lake Braddock School site, Silas Burke, Burke Station, Orange Hunt Estates, Hidden Pond, Greentree Village, West Springfield Village, Pohick Creek and Middle Run Stream Valleys	Burke and West Springfield Fire Stations, Kings Park Library, West Springfield Government Center, 5 Elementary School Sites, Northern Virginia Training Center (State), State Police Headquarters
P3	Clifton			Chapel Road, Town of Clifton Park, Northern Virginia Regional Park Authority	
P4					Clifton Fire Station
P5				Sandy Run Stream Valley, Northern Virginia Regional Park Authority	Fairview Fire Station
P6	Fairview, Terra Center, Orange Hunt, Cherry Run			Burke Ridge, Rolling Valley West, Huntsman, Pohick Creek and Middle Run Stream Valleys	Burke Centre Mini Library, Pohick Regional Library Site, Pohick Fire Station Site, Elementary School Site, Line Maintenance Division Shop and Property Yard
P7	Newington Forest			Burke Lake, South Run District, Poburn Woods, Recreation Lake, South Run Stream Valley	

regional park system, wildlife habitats and many historic sites. The combinations of these elements comprises an extensive open space system.

The Pohick Planning District is extremely important from a water quality perspective. The Metropolitan Washington Area 208 Plan specifies that the Occoquan watershed is a critical watershed which should be protected from degradation and indeed public law 92-500 stipulates that by 1985, the nation's rivers and water courses must be cleaned up. This can be accomplished by controlling two sources of pollution; one is point sources (sewage treatment plant effluents), the other is nonpoint sources or land runoff. The land use development process in this district is especially important for the nonpoint source pollution control program. Therefore, land development decisions in this area, tributary to the Occoquan, should be carefully considered for their water pollution impact on the Occoquan.

A portion of the stream valley and adjacent land within this Planning District/Planning Sector is within the dam failure impact area for a proposed or existing dam. The extent of development within these impact areas should be minimized in the interest of public welfare and safety. For details on the extent of this area, refer to the section on potential dam failure impact areas, in the Environmental Chapter.

History and Archaeology

The relatively undeveloped nature of much of the Pohick Planning District has helped protect the numerous heritage resources in the District. The entire length of the Bull Run and Occoquan River stream valleys are particularly sensitive for some types of historic resources and for prehistoric archaeological sites. The Occoquan Reservoir covers many recorded sites. Watersheds of Popes Head, Johnny Moore, and Pohick Creeks are also sensitive for archaeological sites. In fact, the Johnny Moore Creek watershed contains one of the nation's most noteworthy historic and prehistoric soapstone quarries. Important historic resources represent the agricultural, milling, transportation, and Civil War history of the District, and illustrate the development of communities such as Clifton, Fairfax Station, and Burke. The potential is high for the identification of relatively intact historic structures and archaeological sites throughout the District. Some of the known historic resources include St. Mary's Church, Hope Park Mill, the Town of Clifton, and Brimstone Hill.

Recommendations

The major heritage resources preservation guidelines for the Pohick Planning District are:

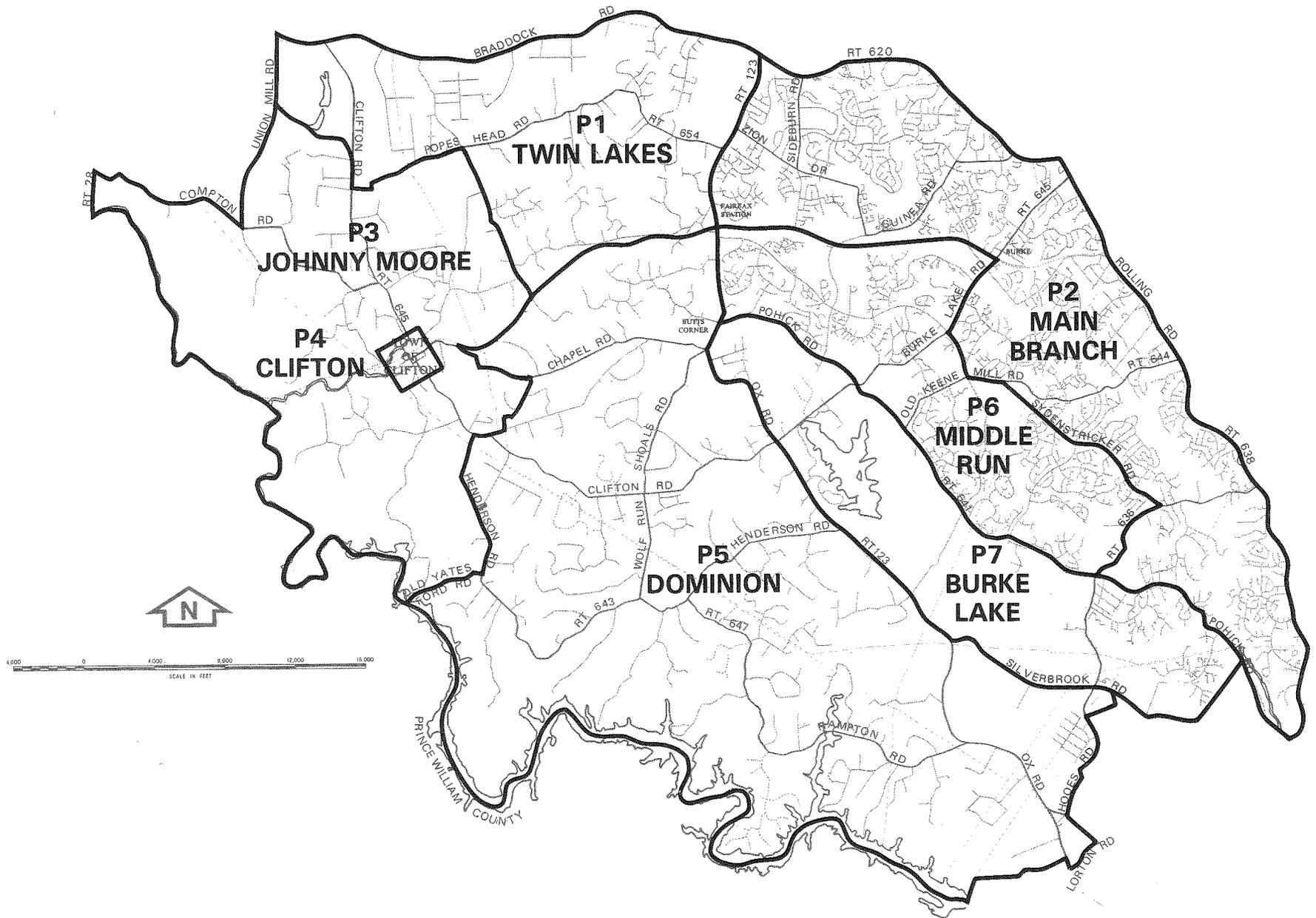
- consideration of heritage resources at the earliest planning stages of development;
- the investigation of sensitive areas for heritage resources.

PLANNED RESIDENTIAL INFILL—POHICK PLANNING DISTRICT

Unit Type	Existing (1983)		Estimated Additional		At Buildout	
	Number	Percent	Number	Percent	Number	Percent
Single-family	18,511	64.7	14,126	78.7	32,637	70.1
Townhouse	9,678	33.8	3,309	18.4	12,987	27.9
Apartment	439	1.5	522	2.9	961	2.0
Total	28,628	100.0	17,957	100.0	46,585	100.0

Source: Office of Research and Statistics, January 1983.

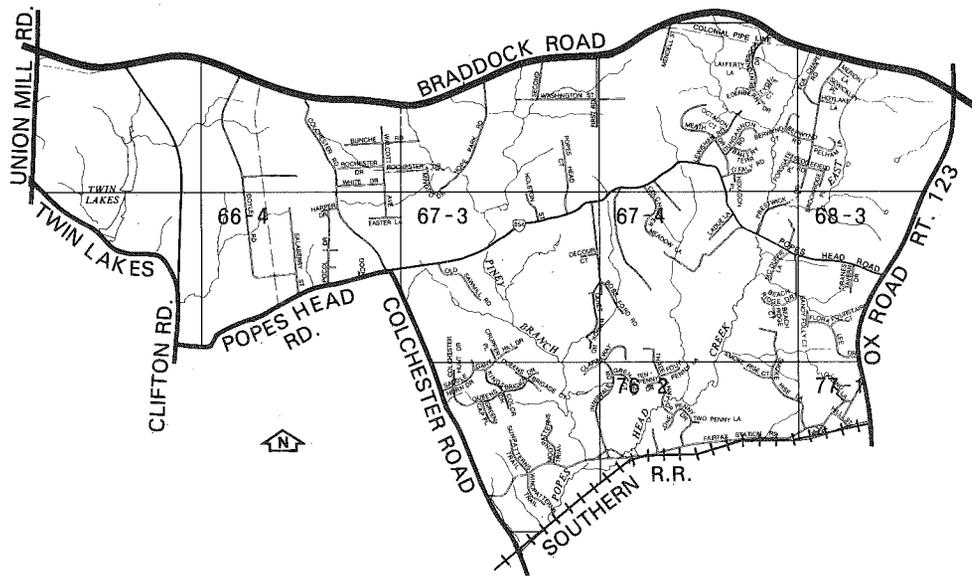
AREA III



POHICK PLANNING DISTRICT

III SS

P1 TWIN LAKES COMMUNITY PLANNING SECTOR



The majority of this sector is classified as stable. It contains the Lincoln-Lewis-Vannoy Conservation Area.

Land Use

There is scattered, large-lot, residential development throughout the sector. The January 1983 estimated population was 2,766. The sector has 5,479 acres. Brecon-Ridge, the Ridges of Glendilough, and Ten Penny Woods are recent subdivisions in the sector. Except for some scattered older homes, housing is fairly recent and in the medium- and high-cost range. There are no commercial uses in the sector. There is a post office branch in Fairfax Station. At Fairfax Station there is a small amount of industrially-zoned land along the Southern Railroad and a parcel of commercially-zoned land fronting on Route 123 at St. Mary's Church which is in a historic district.

Hope Park and Hope Park Mill and Miller's House are historic sites located on Popes Head Road. These should be preserved and protected from environmental impacts.

The University Mall Shopping Center is located in the southeast quadrant of Route 123 and Braddock Road.

Transportation

Major roads in the sector are Route 123, Braddock Road, Fairfax Station Road, Clifton Road, Colchester Road, Popes Head Road, and Union Mill Road. These roads, except Route 123, are rural roads. They are generally narrow, winding and irregular with poor sight distance at many points. There is no public transportation service in the sector.

Public Facilities

Parks, Recreation and Open Space

The following parks are located within the sector: Popes Head, Braddock, Twin Lakes, and Piney Branch Stream Valley.

Other Public Facilities

Other public facilities located within the sector are: Braddock Park intermediate school site, Braddock Community Center, police firing range, Northern Virginia Regional Park Authority headquarters, and Northern Virginia Police Academy.

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Environment

Significant natural environmental features of this sector include the forested and rural character of much of the land, the poor soils in the western part of the sector, the dissected nature of the topography, and the many streams, including Popes Head Creek, Piney Branch, and Johnny Moore Creek, all of which are tributary to the Occoquan Reservoir.

Environmental constraints to development include poor soils, steep slopes, the environmental quality corridors, and highway and railroad noise.

A portion of the stream valley and adjacent land within this Planning District/Planning Sector is within the dam failure impact area for a proposed or existing dam. The extent of development within these impact areas should be minimized in the interest of public welfare and safety. For details on the extent of this area, refer to the section on potential dam failure impact areas, in the Environmental Chapter.

Lincoln-Lewis-Vannoy Conservation Area

The Lincoln-Lewis-Vannoy community has been designated by the Board of Supervisors as a Conservation Area within Area III. It is a community of approximately 169 single-family detached homes located in the Pohick (Sector P1) and Bull Run (Sector BR7) Planning Districts, two to three miles west of Route 123 on Braddock, Popes Head, and Colchester Roads. The majority of the housing stock in Lincoln-Lewis-Vannoy is sound, however the community has problems related to inadequate water and sewerage facilities. A neighborhood improvement program and a conservation plan have been prepared by the Department of Housing and Community Development and adopted by the Board of Supervisors outlining

a program of public facilities improvements and a program for providing low-cost home rehabilitation loans.

A sanitary sewer system is under construction in the Lincoln-Lewis-Vannoy Conservation Area and will be completed by August, 1984. This pressurized collection system was selected because it is environmentally sound and will not adversely affect the surrounding area.

RECOMMENDATIONS

All of this sector is within the watershed of the Occoquan Reservoir. Special recommendations, resulting from the *Occoquan Basin Study*, are presented at the beginning of the Area III section of the Plan. These apply to affected lands in this sector in addition to the sector recommendations listed below.

Land Use

A. Almost all of the land in the sector should be residential use at a maximum density of .2 dwelling units per acre which is consistent with the predominantly nonurban character of the existing development pattern in the area. Nonurban use also helps protect the environmentally sensitive headwaters of Popes Head Creek and the water quality of the Occoquan Reservoir.

B. The clustering of development, where compatible, is strongly advised because it increases open space and has a beneficial effect on water quality in the Occoquan Basin.

C. Local-serving commercial facilities are appropriate at the intersection of Braddock Road and Route 123 to serve present residents and future growth in Sectors P1 and P2 and within the vicinity of George Mason University.

D. Maintain existing secondary roads as two-lane facilities in order to maintain the semirural character of the sector. Improvements should be made primarily for safety.

E. The conservation plan for Lincoln-Lewis-Vannoy is included in the Plan by reference. The community is planned for .2 dwelling unit per acre. The following recommendations represent a listing of proposed public improvements to be undertaken as funding becomes available throughout the life of the Lincoln-Lewis-Vannoy neighborhood improvement program.

1. Parks, Recreation, and Community Center. Expand and develop the community center and adjoining grounds to accommodate the needs of the community (i.e., baseball/football/soccer field, tennis courts, swimming pool, a permanent community center, additional parking space, and day care facilities).

2. As funding becomes available, the County should provide trash pick-up at regular intervals, board-up abandoned structures within the community as required by law until the disposition of these sites has been determined, improve selected roads within the area, provide additional street lighting along Colchester Road, and provide adequate storm drainage within the community.

Public Facilities

Parks, Recreation and Open Space

A. Complete development of Twin Lakes Park golf course.

B. Make improvements to Popes Head Park.

C. Complete development of Braddock Park.

Other Public Facilities

A. An adequate water supply and water distribution system should be provided for fire protection service.

Environment

A. Apply water quality recommendations presented at the beginning of the Area III section of the Plan to those lands within the Occoquan Basin.

B. Provide highway and railroad noise mitigation for noise sensitive land uses so as to ensure a healthful living and working environment in which speech and activity interference is minimized in both interior and exterior areas.

C. Preserve the environmental quality corridor system as described at the beginning of the Area III section of the Plan, including those EQC lands along Popes Head Creek, Piney Branch, Johnny Moore Creek and their tributaries, through a variety of implementation methods.

History and Archaeology

St. Mary's Church Historic District

A. The provisions of the Saint Mary's Church Historic District (Appendix 1, A1-400 of the *Zoning Ordinance*) have been adopted to control development and uses which would have visual and operational impact on the church and environs. The density of residential development should not exceed one dwelling unit per acre west of Route 123 and not exceed four dwelling units per acre east of Route 123. Commercial uses should be developed as part of a shopping center and additional commercial zoning should be prohibited. Industrial development should be limited to the I-P or I-4 districts, as part of a designed industrial park. The height of freestanding signs should not exceed 10 feet and the maximum building height is 35 feet. All improvements to include structures, signs, fences, street furniture, outdoor graphics and public and private utilities, should be designed and installed to be compatible with the church in terms of mass, scale, color and visual impact. To the extent possible, existing tree cover should be preserved in that area south of the Southern Railroad. All development within the historic district shall be reviewed by the Architectural Review Board.

Robey's Mill Historic District

A. The Robey's Mill complex along Popes Head Road has also been designated as a historic district. The provisions of the Robey's Mill Historic Overlay District (Appendix 1, A1-1000 of the *Zoning Ordinance*) have been adopted to protect the mill complex and ensure that all development and uses will be compatible with the mill, miller's house, servants' log house, springhouse and smokehouse.

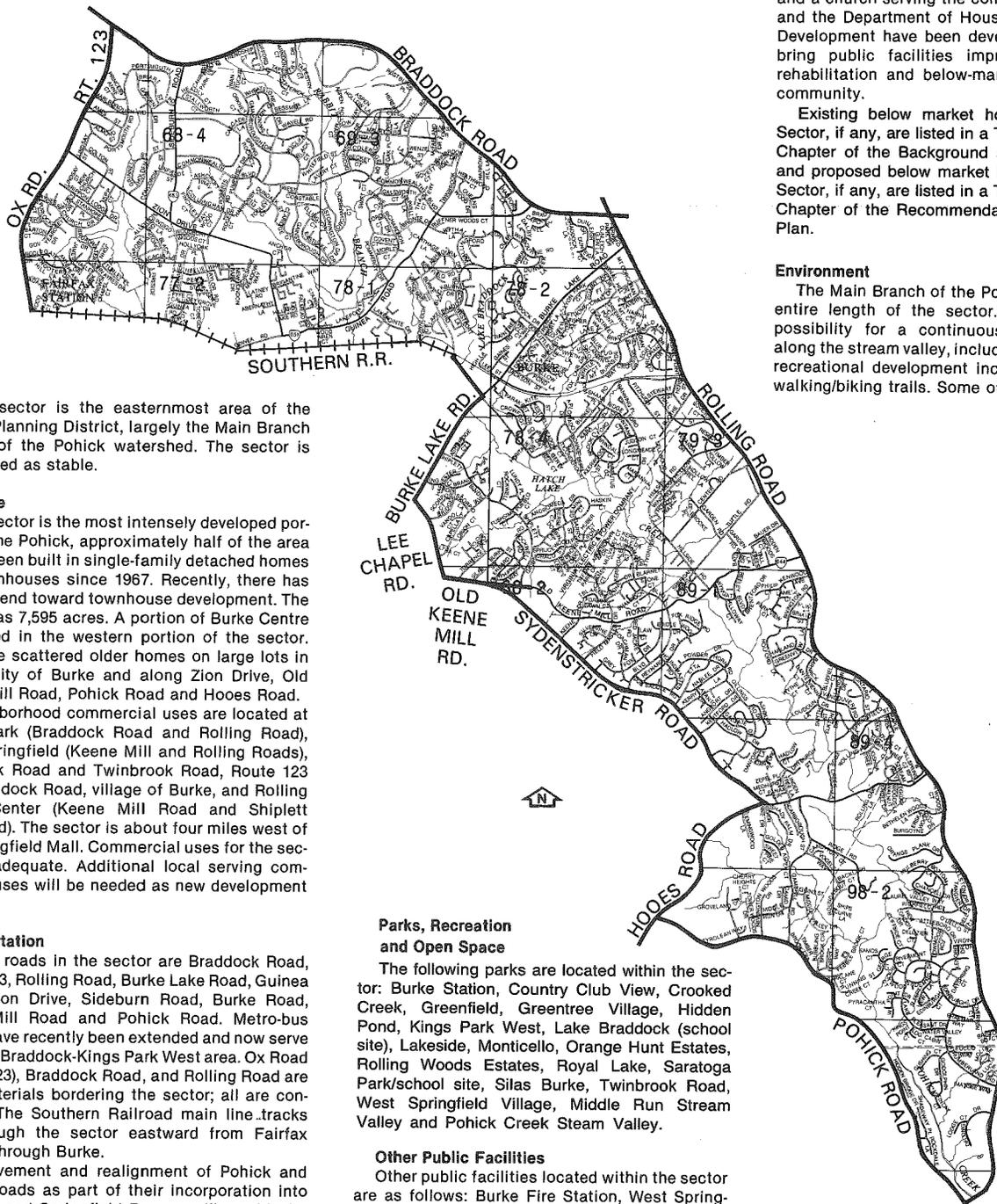
B. Within the historic district, development should be limited to single-family detached dwellings with the exception of the mill which may be used for its historical commercial purpose. All improvements within the district shall be compatible with the historic structures in terms of mass, scale, color and visual impact. All development within the district shall be reviewed by the Architectural Review Board.

Transportation

A. The engineering alignment of the proposed Springfield Bypass should be determined as early as possible and should follow the approximate alignment shown on the Plan map.

B. The transportation recommendations for this sector are included in the Transportation section of the Plan.

P2 MAIN BRANCH COMMUNITY PLANNING SECTOR



This sector is the easternmost area of the Pohick Planning District, largely the Main Branch portion of the Pohick watershed. The sector is designated as stable.

Land Use

The sector is the most intensely developed portion of the Pohick, approximately half of the area having been built in single-family detached homes and townhouses since 1967. Recently, there has been a trend toward townhouse development. The sector has 7,595 acres. A portion of Burke Centre is located in the western portion of the sector. There are scattered older homes on large lots in the vicinity of Burke and along Zion Drive, Old Keene Mill Road, Pohick Road and Hooes Road.

Neighborhood commercial uses are located at Kings Park (Braddock Road and Rolling Road), West Springfield (Keene Mill and Rolling Roads), Braddock Road and Twinbrook Road, Route 123 and Braddock Road, village of Burke, and Rolling Valley Center (Keene Mill Road and Shiplott Boulevard). The sector is about four miles west of the Springfield Mall. Commercial uses for the sector are adequate. Additional local serving commercial uses will be needed as new development occurs.

Transportation

Major roads in the sector are Braddock Road, Route 123, Rolling Road, Burke Lake Road, Guinea Road, Zion Drive, Sideburn Road, Burke Road, Keene Mill Road and Pohick Road. Metro-bus routes have recently been extended and now serve the Lake Braddock-Kings Park West area. Ox Road (Route 123), Braddock Road, and Rolling Road are major arterials bordering the sector; all are congested. The Southern Railroad main line tracks cut through the sector eastward from Fairfax Station through Burke.

Improvement and realignment of Pohick and Hooes Roads as part of their incorporation into the proposed Springfield Bypass will provide for some cross-county travel between I-95/Springfield Metro Station and the Pohick area and Fairfax City. As a four lane arterial, the Springfield Bypass will not serve extensive regional access demands. However, it will help to relieve some of the traffic congestion along major arterials in this area.

Public Facilities

Schools

The Burke Elementary, Hunt Valley Elementary, Laurel Ridge Elementary, Oak View Elementary, Rolling Valley Elementary, Lake Braddock Intermediate, Robinson Intermediate, Lake Braddock High, Robinson High and West Springfield High schools are located with the sector.

Parks, Recreation and Open Space

The following parks are located within the sector: Burke Station, Country Club View, Crooked Creek, Greenfield, Greentree Village, Hidden Pond, Kings Park West, Lake Braddock (school site), Lakeside, Monticello, Orange Hunt Estates, Rolling Woods Estates, Royal Lake, Saratoga Park/school site, Silas Burke, Twinbrook Road, West Springfield Village, Middle Run Stream Valley and Pohick Creek Steam Valley.

Other Public Facilities

Other public facilities located within the sector are as follows: Burke Fire Station, West Springfield Fire Station, Kings Park Library, West Springfield Governmental Center, 5 elementary school sites, and State Police Headquarters.

In addition, a support center used primarily for school maintenance and storage purposes is located on approximately ten acres adjacent to the Robinson Secondary School Complex. No further support center uses, either temporary or permanent structures or use for vehicle maintenance or storage, should be established without review and approval by the Planning Commission.

Housing

The Zion Drive community is a long-standing community with a scattered pattern of older homes generally in the moderate- and low-income

range. There is a community recreation facility and a church serving the community. The County and the Department of Housing and Community Development have been developing programs to bring public facilities improvements, housing rehabilitation and below-market housing to the community.

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Environment

The Main Branch of the Pohick Creek runs the entire length of the sector. This provides the possibility for a continuous greenspace core along the stream valley, including various levels of recreational development including a system of walking/biking trails. Some of the stream valleys

have been acquired for public use; the remainder should be considered for use related to future development in the sector.

A portion of the stream valley and adjacent land within this Planning District/Planning Sector is within the dam failure impact area for a proposed or existing dam. The extent of development within these impact areas should be minimized in the interest of public welfare and safety. For details on the extent of this area, refer to the section on potential dam failure impact areas, in the Environmental Chapter,

RECOMMENDATIONS

Land Use

General

A. A variety of land uses and densities are recommended as shown on the Area III Plan map. In general, the recommendations are based on the principle of compatible infill, i.e., continuing patterns now established.

B. Additional infill development within existing, stable residential communities shall occur at a density comparable to that established within the community.

C. The Homewood subdivision near Burke Road and Rolling Road should be planned for compatible residential infill at 1-2 dwelling units per acre.

D. Planned unit development is an option that may be used to achieve a mixture of housing types and to preserve open space.

E. Recommendations for Burke Centre and its perimeter are found in Sector P6.

Zion Drive/Sideburn Road Area.

A. The Zion Drive community should generally be planned for single-family residential uses which are compatible with existing development. The residential densities should be distributed as follows:

1. The area north and south of Zion Drive, generally bounded by Bonnie Brae, Kings Park West, Glen Cove, and north and west of parcels 77-2 ((1)) 26, 27 and 68-4 ((1)) 45 at 1-2 dwelling units per acre. With substantial land consolidation that benefits circulation and limits access and the preservation of existing dwellings, 2-3 single-family detached dwelling units per acre will be considered.

2. The area between and including parcels 77-2 ((1)) 26, 27 and 68-4 ((1)) 45 and the northern lot line of parcel 77-2 ((1)) 14 at 2-3 single-family detached dwelling units per acre. With substantial land consolidation that benefits circulation and limits access and the preservation of existing dwellings, 3-4 single-family detached dwelling units per acre will be considered.

3. As a transitional use from the industrially planned land on the south side of Guinea Road, parcel 77-2 ((1)) 14, at the southern end of the area, is appropriate for residential use, preferably in townhouses, at a density of 4-5 dwelling units per acre. Appropriate interior and exterior noise mitigation measures should be provided for dwelling units on this property.

B. Residential use at a density of 2-3 dwelling units per acre is appropriate in the area between Route 123, Zion Drive, Sideburn Branch and Middlebridge under the following conditions:

1. development must be consolidated to provide adequate planned circulation and access in order to help prevent traffic disruption on Route 123 and Zion Drive and help assure a desirable residential environment; and

2. some land must be dedicated for developed recreation/open space uses to serve the area and surrounding development, including Middlebridge. Adequate location and access must be provided to assure the equitable use of these recreation facilities by the community.

If these conditions are not met satisfactorily, the appropriate development density is 1-2 dwelling units per acre.

C. Land between the VEPSCO substation and James Robinson Secondary School, fronting on the east side of Sideburn Road should be developed in residential use at 2-3 dwelling units per acre. Buffering should be provided between this single-family area and land on the north now zoned R-8 and R-20.

Guinea Road Area

In the area south of Guinea Road, Guinea Road extended (planned) and north of the railroad between Burke Road and Sideburn Road the following uses are recommended:

A. The existing Greenfield Farm subdivision is planned for residential use at 4-5 dwelling units per acre.

B. Land bounded by Lakepointe townhouse subdivision, Greenfield Farm townhouse subdivision, Burke Road and the Southern Railroad tracks is planned for townhouse development within a density range of 5-8 dwelling units per acre. Actual development should provide high-quality design respecting the special physical constraints of the land. Specifically, it is necessary to site structures away from steep slopes and at a distance from the railroad tracks to provide noise and visual buffer.

Access to the eastern half of the property must be provided by a single access point opposite Lake Braddock Drive. The right-of-way requirement should be for a maximum of 40 feet. Because two access points are needed from Guinea Road to the western half of the subject area for safety purposes, a public street should be dedicated which extends from Lake Pointe Drive to the southwest corner of the land zoned C-6, (parcel 78-1 ((1)) 4) fronting on Guinea Road. This will enable the County to make all attempts to establish second roadway access connection through parcel 4.

Special permit and special exception uses should not be allowed because they can have a potentially adverse impact on the surrounding residential community and may serve to establish precedents for allowing less appropriate uses in the area.

C. Map 78-1 ((1)) lot 4 and the adjacent portion of lots 4A and 5 are planned for residential use not to exceed 10 dwelling units per acre. The remainder of lot 4A adjacent to Lakepointe is planned for either public park or private open space use.

D. Map 78-1 ((1)) lots 2 and 2c which includes part of the Burke Centre planned for RPC—industrial uses and the land westward to Roberts Road Extended, also for industrial uses.

E. Adequate buffering should be provided between residential development and all commercial and industrial development in this area.

F. Map 77-2 ((1)) lots 10, 11 and 12, if consolidated, should be developed in residential uses at a density of 5-8 dwelling units per acre as an appropriate transition between the stable low-density residential community to the west and the more intense commercial and industrial uses planned to the east. These residential units should be clustered on the northern portion of the site to allow approximately 200 feet of open space to be set aside adjacent to the Southern Railroad line as an effective buffer to minimize any visual or noise impact.

In the event that lot 12 is not consolidated with lots 10 and 11 for residential use, an option for transitional low-rise office use in a townhouse style should be considered for this property. This would provide a transition between the medium-density residential use recommended for parcels 10 and 11 to the west and more intense uses east of the planned extension of Roberts Road. Regardless of structure type and facade, substantial landscaped open space buffer must be provided as part of the transitional low-rise office development where it is adjacent to existing, single-family residential neighborhoods.

G. Map 77-2 ((1)) lot 13, north of Guinea Road relocated is planned for medium-density residential development at 8-12 dwelling units per acre.

H. Map 77-2 ((1)) lot 13C, south of Guinea Road relocated is planned for industrial and/or retail use; however, retail use on parcel 13C should be permitted only if preceded by the rezon-

ing of a comparable amount of retail zoned land (on lot 13 to the north) to a residential use. The objective is to reduce the area zoned for retail use and to relocate all retail uses to the south side of Guinea Road relocated.

Burke Lake Road Area

A. Residential use at a density of 2-3 dwelling units per acre is appropriate in the southwest quadrant of Braddock Road and Rolling Road, but a limited amount of low-rise professional office use can be considered as an alternative if a number of conditions are met:

1. The office use must be designed and developed as a +/- four-acre unit located as an adjunct to existing office development on lot 32.

2. Commercial use must be developed under the C-1 zoning category (Low-Rise Office Transitional District) and limited to permitted uses, e.g. churches and places of worship, financial institutions and offices. Special permit uses or special exception uses should not be allowed because of the potentially adverse impacts these can have on the surrounding community and may serve to establish precedents for less appropriate uses in the area.

3. Buildings should be designed as townhouse- or cottage-type units to conform with the scale of low-density residential development existing and planned on adjacent land in the area.

4. The only access point should be from a point on Rolling Road directly opposite a planned access point into Kings Park Shopping complex.

5. On-site development should be generously buffered so that planned low-density residential development on adjacent land to the west can maintain a satisfactory living environment without adverse noise or visual impacts. A fifty-foot natural or landscaped buffer of trees should be maintained between the Braddock Road right-of-way and any parking lots or buildings on site to screen the development from Braddock Road.

Lots 35, 39 and part of 36 and 38 should be planned for low-rise office use with expansion parking area included for the existing offices along Rolling Road. The specifications for this expansion parking will be determined by the County during the zoning review process. Height should be limited to 30 feet, the same as granted on parcel 31 adjacent to the north. To ensure adequate buffering from adjacent residential areas, an attractive, solid masonry wall approximately six feet high should be developed on the western and southern boundaries of the property and well landscaped with thick planting on a strip at least 50 feet wide. No access is appropriate between the commercial property and contiguous residential development. Access should be provided to Rolling Road through the existing office development.

B. Commercial use in Burke Village should be planned as follows:

1. a commercial retail shopping center of about 10 acres on parcel 78-1 ((1)) 33A which will be bisected by the planned realignment of Burke Lake Road.

2. commercial retail use on parcels 78-1 ((1)) 18, 25, 26, pt. 22A, and pt. 28A (the parts zoned C-5) because there is existing commercial use or zoning on these parcels.

3. commercial retail use as a possible alternative to the Burke Methodist Church on map 78-1 ((1)) lot 19 because the parcel is zoned for commercial use.

4. low-rise office use on map 78-1 ((1)) lot 27 between the Pohick Creek floodplain and Burke Road.

5. there is no other land that is appropriate for commercial use in Burke Village because additional use would be incompatible with ex-

isting and planned residential development.

If it becomes necessary at some future date to relocate either the post office or the fire station in Burke village, these uses should be placed on the land referred to above for commercial use, not in residential areas. The land where these public uses are now located should be developed for commercial use, either office or retail, because this would be compatible with surrounding uses.

C. Land between the Pohick Creek floodplain and Burke Lake Road east of Burke Lake Road opposite Cardinal Estates (7 acres—map 78-1((1)) lots pt. 20, 21; map 78-4 ((1)) lot pt. 17) is narrow and irregular and not easily developed. It is directly opposite the Cardinal Estates subdivision, zoned R-3, and the Burke Manor townhouse subdivision, zoned R-5. The townhouses are oriented to Burke Lake Road and open space is located opposite the area. The primary orientation of this narrow strip of land is the single-family Cardinal Estates subdivision and the planned use of 2-3 dwelling units per acre is appropriate. Because of the narrow frontage of the area, it will likely be necessary to develop townhouses, but the overall density must be within the 2-3 dwelling units per acre range.

Old Keene Mill Road Corridor

A. Prohibit commercial stripping along Old Keene Mill Road, west of Rolling Road. Additional commercial use of zoning is inappropriate because it would promote strip development, which has adverse effects on traffic flow, safety, pedestrian shopper convenience, and the visual and functional character of the area, which is closely associated with existing residential development.

B. Map 79-3 ((4)) lots 42A, 43 and 44 are appropriate for a mix of office and retail uses. The office development should employ a townhouse design to act as a transitional buffer between the shopping center and the single-family residential uses north of Bauer Drive. These parcels represent the limit of commercial development in the northwest quadrant of Old Keene Mill and Rolling Roads.

C. The tract located on the north side of Old Keene Mill Road contiguous to Tall Tree Lane and Tall Tree Court on the west and north, respectively, is planned for residential use at 16-20 dwelling units per acre consistent with adjoining residential development to the west and north. However, map 79-3((5)) lot 7 may be developed in low-rise townhouse office use if such use can be shown to be of high quality and compatible with the existing and planned residential development adjacent to the property. Such development would require the provision of:

1. Coordinated vehicular access and internal circulation with existing office development to ensure a minimum number of vehicular access points from parcel 7 to Old Keene Mill Road;
2. A landscaped open space buffer, incorporating large dense shrubs with evergreen trees should be clustered along the property boundary, to ensure the limitation of any adverse visual impact from adjoining property;
3. Limitation in the height of the townhouse office units to a maximum of three stories from all elevations;
4. Provision of an architectural character which is residential in terms of bulk, scale, height and material;
5. Provision of lighting and signs whose size, character and location shall be compatible with, and have no adverse visual impact upon any nearby existing or planned residences.

D. The southwestern quadrant of Old Keene Mill Road and Rolling Road is planned for residential development at 4-5 dwelling units per acre. An

option for residential development at 5-8 dwelling units per acre shall be considered only in the event that there is substantial parcel consolidation which results in desirable, coordinated development and the provision of an effective, internal circulation system as well as coordinated vehicular access to existing median breaks on Old Keene Mill Road and Rolling Road. No road access, however, will be provided from this development to the Kenwood Oaks subdivision.

E. The land which generally lies between Pohick Creek, The Timbers townhouse subdivision, Rolling Road, and Old Keene Mill Road, excluding the commercial/retail office center, has a varied but established residential character which should be enhanced. Land within this area should be planned as follows:

1. The land between Pohick Creek and Hillside Road should be developed in residential use at a density of 3-4 dwelling units per acre. In order to effectively utilize the buildable portion of these lots and to maintain compatibility with existing development west of Hillside Road, townhouses may be permitted. Development plans should be coordinated in a manner that will minimize the access points on Hillside Road.

2. Land north of Center Road should be developed in residential use at a density of 2-3 dwelling units per acre, utilizing single-family detached dwellings. In recognition of the mixed character of this sector, development may be permitted at a density of 3-4 dwelling units per acre provided that the following condition is met:

- substantial consolidation of adjacent parcels to ensure coordinated development.

3. Land north and west of Bauer Drive, with the exception of the West Springfield Terrace townhouses which are zoned R-20, should be developed utilizing single-family detached dwellings at a density of 2-3 dwelling units per acre. The low end of the Plan range will most effectively maintain the existing character of the stable, interior portion of the community; and this density is recommended. However, the high end of the Plan range may be achieved if the following conditions are met:

- substantial consolidation of adjacent parcels to ensure coordinated development; and
- provision of an interior circulation system that is coordinated with adjacent properties so that the remaining acreage can develop in a unified fashion.

Development in this area should preserve, in an undisturbed natural condition, the floodplain soils and adjacent steep slopes along the tributaries of Pohick Creek according to the open space preservation recommendations contained in Section II: Environment subsection of the Plan. This preservation area represents a limit of clearing for development and not a recommendation for publicly-owned open space.

4. The parcels which front on the north side of Bauer Drive, north of the West Springfield Terrace townhouses are distinct from the remainder of the Fairfax Park community, due to the existing zoning and development patterns in the vicinity. These parcels may be developed at the high end of the Plan range, and as attached dwellings, if:

- no vehicular access to the north; and
- an effective transitional open space buffer along the northern edge of the property to ensure no adverse impact upon the Fairfax Park community.

In view of its transitional location, an option for residential use at 5-8 dwelling units per acre may be considered for those parcels which front on Bauer Drive only upon compliance with the above conditions and if there is substantial consolidation of adjacent parcels to ensure coordinated development.

F. The area lying between Old Keene Mill Road, Sydenstricker Road and Keene Mill Heights subdivision should be planned as follows:

1. Low-rise townhouse offices are appropriate on map 88-2 ((1)) lot 3 opposite the intersection of Shiplott Boulevard and Old Keene Mill Road because of existing commercial use and zoning opposite this location, and the noise level resulting from the proximity of three roads—Shiplott Boulevard, Old Keene Mill Road and Sydenstricker Road. The office use should be developed under the lowest commercial office zoning category to assure compatibility with park/open space and low-density residential uses planned on the south perimeter.

2. Multiple structures should be designed with no more than two stories above ground. The structures should be staggered and offset from each other in a manner to enhance their visual aspect.

3. Sydenstricker Road should not be realigned to intersect with Shiplott Boulevard to discourage through movement between Burke and the proposed Springfield Bypass via Sydenstricker where numerous homes front directly on the facility.

4. Access to the office development should be designed so that through-traffic is not drawn through the site.

5. Parking should be sufficient for the use even if this requires more spaces than current ordinance requirements. As much parking as possible should be oriented to either Old Keene Mill Road and/or the proposed realignment of Sydenstricker Road.

6. Special use permits or special exception uses should not be developed because they can have a potentially adverse impact on the surrounding residential community and may serve to establish precedents for allowing incompatible uses in the area.

7. Access should be designed at satisfactory points as far from the actual intersection of Sydenstricker and Old Keene Mill Roads to minimize traffic disruption.

8. The parcels east of Keene Mill Heights (Map 88-2 ((1)) lots 5, 6, 8 and 9) are planned for residential use at 2-3 dwelling units per acre. A density of 3-4 dwelling units per acre should be considered in the event of parcel consolidation and the provision of effective landscaped open space adjacent to the Vepco substation. If possible and desirable, a single access will be provided for consolidated parcels 8 and 9 via old Old Keene Mill Road.

G. The tract in the northwest quadrant of the intersection of Old Keene Mill Road and Shiplott Boulevard is planned for low-rise, townhouse office use. Any office development should provide a substantial landscaped open space buffer adjacent to the Rolling Valley West subdivision.

H. The small (approximately one acre) parcel of land currently zoned C-5, reflecting the rural development pattern of earlier times on Lee Chapel Road south of the Burke Elementary School is planned for residential use at 2-3 dwelling units per acre, which is a compatible use and density with the surrounding residential development. Sufficient commercial land, both in use and zoned, exists 750 feet to the east and 2,250 feet farther east on Old Keene Mill Road. Commercial development of the property would promote undesirable stripping of commercial uses in this area.

Southern Portion

A. Retail commercial uses that are planned to serve local community needs in the lower part of the Sector P2 below Hooes Road area are:

1. the existing Saratoga Shopping Center;
2. a shopping center planned on the Larwin tract in Area IV east of Rolling Road on Hooes Road; and
3. a planned tract across from the Saratoga Center on Rolling Road.

No additional commercial uses should be considered in this area because the planned locations will adequately serve the area. Additional commercial land use would be incompatible with existing and planned residential development.

B. The section of the lower Pohick area north of Pohick Road and east of Hooes Road is appropriate for residential use at a gross density of 2-3 dwelling units per acre.

History and Archaeology

A. Part of the Saint Mary's Church History District lies within this area. Regulations for this district are discussed in Sector P1.

B. Sydenstricker Chapel (Upper Pohick Community Hall) has been designated a historic site and should be protected in the course of any development in the vicinity.

P3 JOHNNY MOORE COMMUNITY PLANNING SECTOR

Sector P3 includes a major portion of Pohick Planning District along Bull Run. The entire sector is designated as stable.

Land Use

The sector is largely undeveloped open space and some farmland. There are 8,036 acres in Sector P3. Some new large-lot subdivisions as well as scattered older residential dwellings are located in the eastern portion of the sector.

Local-serving commercial uses are located in Clifton, Fairfax, and Centreville. Regional commercial uses are located in Fairfax, Vienna and Tysons.

Transportation

Access to the sector is provided by Clifton Road, Union Mill Road, Fairfax Station Road, Compton Road, Colchester Road, Popes Head Road and Herndon Road. Except for Clifton Road, all roads are narrow, winding, irregular rural roads, which need certain safety improvements. There is no access to Bull Run Regional Park which is adjacent to this sector.

Public Facilities

Schools

Clifton Elementary School is located within the sector.

Parks, Recreation and Open Space

The following parks are located within the sector: Chapel Road, Town of Clifton, and Bull Run Marina (Northern Virginia Regional Park Authority).

The sector is crossed by electric transmission and gas pipeline rights-of-way which traverse the sector from northwest to southeast, passing adjacent to the Town of Clifton. Other power rights-of-way are contemplated running roughly north and south intersecting existing ones at a large transformer and distribution center just west of Clifton. There is much public concern regarding the safety and environmental aspects of proposed ultra-high voltage power transmission lines and liquid natural gas pipelines.

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Environment

This sector is located in the Johnny Moore Creek, Polecat Branch, Old Mill Branch, Castle Creek, and Bull Run watersheds all of which are subsheds of the Occoquan watershed.

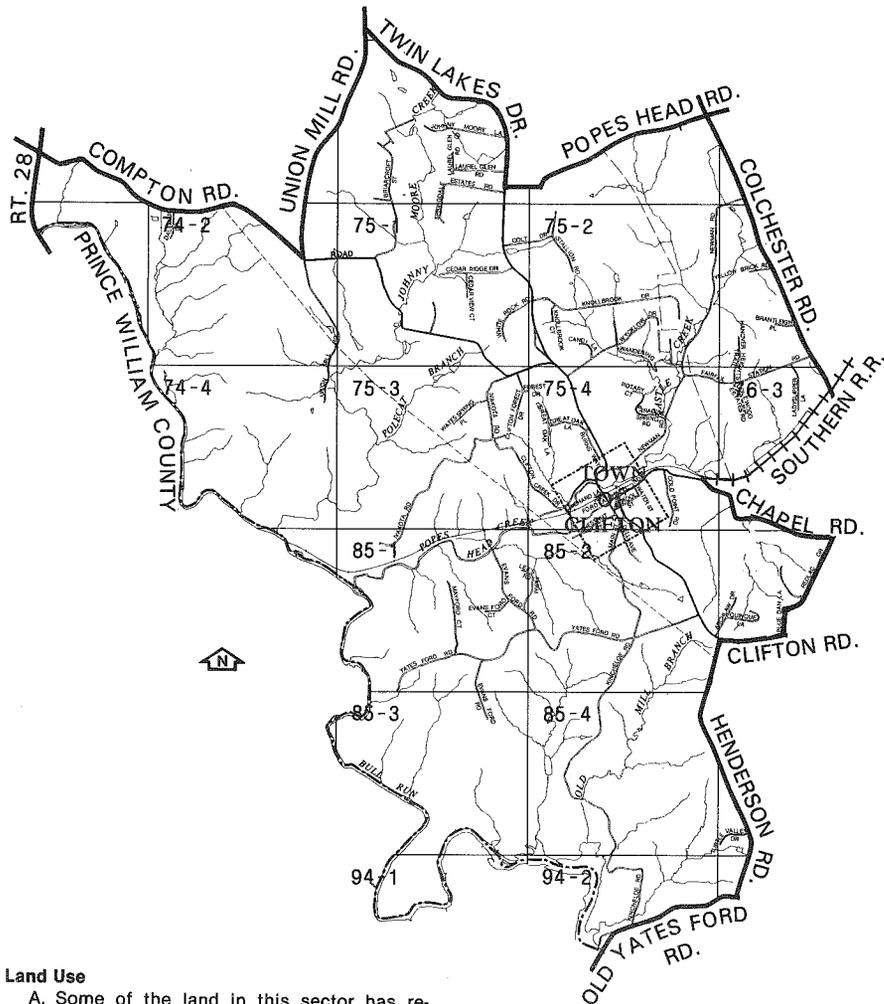
Constraints to development include a clearly defined stream valley with steep slopes over 15 percent (some of which have high erodibility potential), shallow bedrock, a VEPCO utility easement and highway and railroad noise.

Much of the area contains soils with good bearing and high infiltration capacity. These soils together with extensive woodlands pose developmental opportunities

Further development should minimize clearing and grading on sensitive slopes and minor swales.

RECOMMENDATIONS

All of this sector is within the watershed of the Occoquan Reservoir. Special recommendations, resulting from the *Occoquan Basin Study*, are presented at the beginning of the Area III section of the Plan. These apply to affected lands in this sector in addition to the sector recommendations listed below.



Land Use

A. Some of the land in this sector has remained undeveloped where the terrain is irregular and access and road facilities poor, especially in the areas adjacent to the public parkland which stretches along the Occoquan River and Reservoir system. In the eastern sector five-acre development has occurred in the recent past.

Land in this sector should be planned for residential use at a maximum density of .2 dwelling unit per acre. This conforms with findings in the *Occoquan Basin Study* and is commensurate with predominant densities and the well-established nonurban character of existing development in this sector.

B. The clustering of development, where compatible, is strongly advised because it provides increased open space and has a beneficial effect on water quality in the Occoquan Basin.

C. Additional local-serving commercial uses should be located in Clifton (Sector P4) and outside the sector in Centreville.

D. Ivakota, located northwest of Clifton, is planned for residential use at .2 dwelling unit per acre as an alternative to its present institutional use.

Public Facilities

Parks, Recreation and Open Space

A. Develop Chapel Road Park.

Other Public Facilities

A. Do not provide public sewer and water service to the sector.

B. Acquire means to exercise control over location and operation of electric transmission lines and gas pipelines. Ensure safety and maxi-

mum joint use of right-of-way; minimize ecological impacts.

C. An adequate water supply and water distribution system should be provided for fire protection services.

Environment

A. Apply water quality recommendations presented at the beginning of the Area III section of the Plan to those lands within the Occoquan Basin.

B. Provide highway and railroad noise mitigation for noise sensitive land uses so as to ensure a healthful living and working environment in which speech and activity interference is minimized in both interior and exterior areas.

C. Preserve the environmental quality corridor system as described at the beginning of the Area III section of the Plan, including those EQC lands along Johnny Moore Creek, Polecat Branch, Old Mill Branch, Castle Creek, Bull Run, and their tributaries, through a variety of implementation methods.

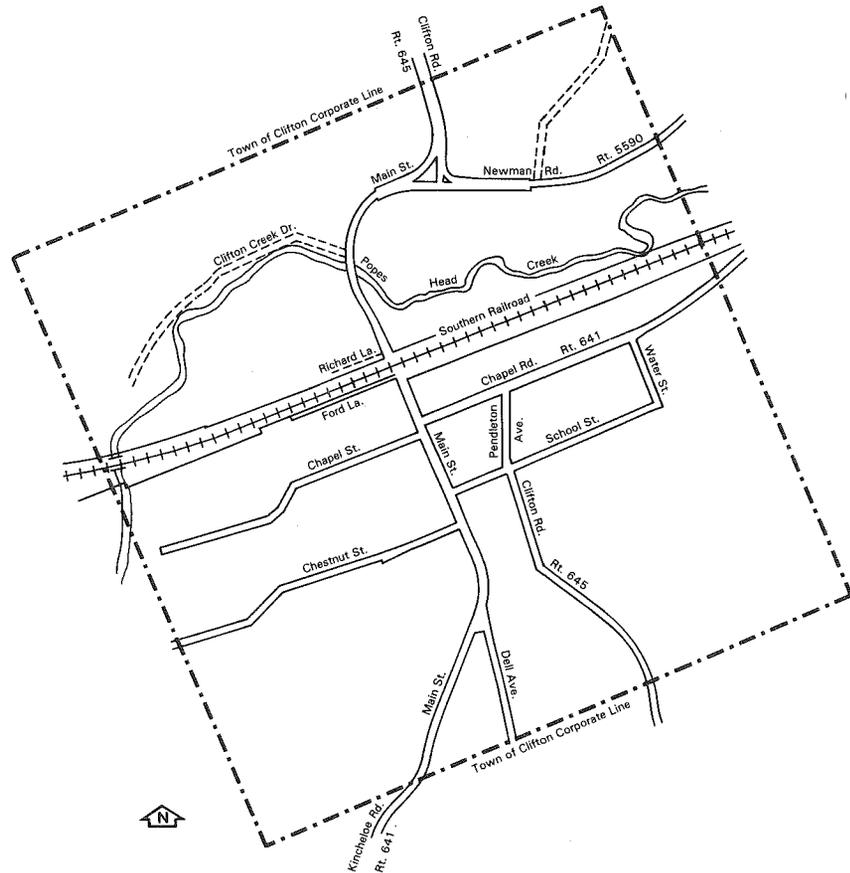
D. Protect the visual and natural environment from extensive and disruptive public utility improvements, e.g., VEPCO line expansion and gas pipeline expansion.

E. Long-range plans could provide for acquisition of additional land for public conservation near the Occoquan River.

Transportation

A. The transportation recommendations for this sector are included in the Transportation section of the Plan.

P4 CLIFTON COMMUNITY PLANNING SECTOR



Clifton is an incorporated town in the outer Pohick. It is a stable community with a distinct historic character. The Town of Clifton is approximately 162 acres in size. It is located on Popes Head Creek nearly two miles from Bull Run. The Southern railroad tracks bisect the town.

Land Use

Clifton is a small older, historic community of single-family dwellings and a handful of local commercial uses. There is little anticipated additional development within the town. The town's policy has been to retain the semirural, historic character of Clifton, so major public facility improvements for the area and development in the vicinity have been discouraged in the past.

Transportation

Clifton Road, Newman Road, and Chapel Road provide access to Clifton. Clifton Road is an improved two-lane facility north of the town. The other roads are narrow, hilly, winding roads. Improvements to roads in the area have not been required in the past and are not planned.

Public Facilities

There is a fire station and post office in the town. There is no public sanitary sewer available. A pump and haul system is being used. It is operated by the County. This system has not been considered ideal, but sewerage the area would open up the area for development, an option that has not been accepted.

Environment

Clifton is in the Popes Head subwatershed of the Occoquan watershed. Protection of the Occoquan Reservoir is a primary countywide environmental goal. Popes Head Creek is part of a designated environmental quality corridor. There are steep slopes in the town, which should be protected where they are unstable. Soils are subject to severe erodibility and are poor for septic systems. The area is heavily wooded. There may be potential for wildlife habitats or recreation trails along VEPCO utility rights-of-way in the vicinity. VEPCO's long-range proposal for a major substation and transmission lines at Clifton is a major environmental and citizen issue.

Railroad and highway noise affect lands in this sector.

RECOMMENDATIONS

All of this sector is within the watershed of the Occoquan Reservoir. Special recommendations, resulting from the *Occoquan Basin Study*, are presented at the beginning of the Area III section of the Plan. These apply to affected lands in this sector in addition to the sector recommendations listed below.

Land Use

A. A substantial increase in development within the town and the vicinity is not appropriate because the character of Clifton should be maintained to protect the existing community and preserve the cultural value of the historic village.

Public Facilities

A. Public sanitary sewer should not be provided for the town until a satisfactory method of serving the town is found without opening up surrounding areas for development.

B. Develop the Town of Clifton Park or acquire and develop a more suitable site.

C. Provide adequate facilities, equipment and manpower at the Clifton Fire Station. An adequate water supply and water distribution system should be provided for fire protection services.

D. Establish procedures to have public and official review of major utility improvements, including location and design.

Environment

A. Apply water quality recommendations presented at the beginning of the Area III section of the Plan to those lands within the Occoquan Basin.

B. Provide highway and railroad noise mitigation for noise sensitive land uses so as to ensure a healthful living and working environment in which speech and activity interference is minimized in both interior and exterior area.

C. Preserve the environmental quality corridor system as described at the beginning of the Area III section of the Plan, including those EQC lands along Popes Head Creek and its tributaries, through a variety of implementation methods.

Transportation

A. The transportation recommendations for this sector are included in the Transportation section of the Plan.

P5 DOMINION COMMUNITY PLANNING SECTOR

Sector P5 is part of the outer Pohick and includes a major section of the Occoquan River. The entire sector is designated as stable.

Land Use

The northern part of the sector from the railroad tracks to Chapel Road is largely undeveloped open land. The sector has 16,485 acres. The central half, from Chapel Road to the westward projection of Lee Chapel Road, consists largely of subdivisions of large lots of five acres or more. The southeastern portion of the sector is largely undeveloped except for pockets of stable neighborhoods along Route 123, at Lorfax Heights, Community Lane, Virginia Estates, Lake Hills and Seven Hills Estates, which are low-income, older communities, some of which lack vital public facilities. The widening of Route 123 may put redevelopment pressures on housing in the corridor and particularly Lorfax Heights. A major part of the Bull Run Regional Park is located along the Occoquan River.

There are no substantial concentrations of local serving commercial uses in the sector. Commercial uses exist in Fairfax, the Inner Pohick and Springfield, as well as the Towns of Occoquan and Woodbridge.

Transportation

Major access roads to the sector are Route 123, Herndon Road, Hampton Road, Chapel Road, Yates Ford Road, Clifton Road and Wolf Run Shoals Road. The projected improvement of Route 123 will improve access to the entire sector. As development occurs, some improvement in the narrow and winding internal roads might become necessary for circulation and access by emergency vehicles and school buses.

No public transportation now serves the area. Fairfax Station is a possible stop should commuter rail service be offered on the Southern railroad.



Public Facilities

Parks, Recreation and Open Space

The following parks are located within the sector: Chapel Road, Popes Head Stream Valley, Sandy Run Stream Valley, and Northern Virginia Regional Park Authority parkland.

There is a need for a community park in the southeastern portion of Sector P5 to serve residents of the low-income communities.

Other Public Facilities

The Fairview Fire Station is located within the sector.

Environment

This sector is traversed by many streams, including Wolf Run, Sandy Run, Stillwell Branch, Maple Branch, Giles Run, and Elk Horn Run. All except Giles Run and Elk Horn Run, are tributary to the Occoquan Reservoir.

This sector is bisected by the VEPCO utility easement. The southern portion of the sector is the property of the Regional Park Authority.

This area is noted for steep slopes (over 15 percent) and erodible soils. In addition, many of the stream valleys, particularly Piney Branch, are subject to flooding.

Further development should not only be restricted from destroying the high quality vegetation (excellent hardwood stands) but also utilize these natural environmental factors as visual attributes. An area of particular importance is a forested area located southwest of Route 123 across from Burke Lake Park. It has been identified as a potential wildlife habitat preservation area in the Occoquan Basin Study. A map showing its location, Map 4, is presented at the beginning of the Area III section of the Plan.

Highway and railroad noise affects some lands in this sector.

A portion of the stream valley and adjacent land within this Planning District/Planning Sector is within the dam failure impact area for a proposed or existing dam. The extent of development within these impact areas should be minimized in the interest of public welfare and safety. For details on the extent of this area, refer to the section on potential dam failure impact areas, in the Environmental Chapter.

RECOMMENDATIONS

Most of this sector is within the watershed of the Occoquan Reservoir. Special recommendations, resulting from the Occoquan Basin Study, are presented at the beginning of the Area III section of the Plan. These apply to affected lands in this sector in addition to the sector recommendations listed below.

Land Use

A. Some of the land in this sector has remained undeveloped where the terrain is irregular and access and road facilities poor, especially in the areas adjacent to the public parkland which stretches along the Occoquan River and Reservoir system. In the eastern sector five-acre development has occurred in the recent past.

Land in this sector should be residential use at a maximum density of .2 dwelling unit per acre, which helps provide nonurban land use as described in the *Occoquan Basin Study* and reflects the well-established existing pattern of low-density residential development in this sector.

The clustering of development, where compatible, is strongly advised because it provides open space and has a beneficial effect on water quality in the Occoquan Basin.

B. Additional commercial uses should be located outside the sector in the Burke area (Sector P6) or the Inner Pohick.

C. For land use density and environmental protection policies in the South Run watershed, refer to Sector P7, Land Use Recommendation A, and Environment Recommendations A, B and C.

D. With the exception of the Lorfax Heights neighborhood and the area planned for 1 to 2 du/ac along Silverbrook Road that drains toward South Run, the area bound by Ox, Hoopes and Silverbrook Roads is recommended for residential use within the density range of .5 to 1 dwelling unit per acre. Development at the upper end of the density range should be allowed only if the following conditions are met:

1. A planned residential community utilizing the cluster development technique at a density of .5 to 1 du/ac, is recommended. Density and housing types proposed to be located on the periphery of the planned development should be compatible with the adjacent planned land uses.

2. Neighborhood areas should be attractive and well-defined. A lack of appropriate spatial distributions resulting in a haphazard development plan is unacceptable.

3. Entrances or gateways from existing roadways, including Ox, Hoopes and Silverbrook Roads, should complement the rural setting of the area.

4. Sites for public facilities (i.e., parks and schools) recommended for this portion of the sector and usable private recreation areas should be provided as an element of this planned development. The location of these properties should be logically related to the distribution of proposed dwelling units and be easily accessible from streets and trails associated with the development.

Public Facilities

Parks, Recreation and Open Space

A. Acquire and develop a community park east of Route 123 in the southern portion of the sector to serve the Lorfax area.

B. Develop Chapel Road Park.

C. Acquire through dedication and develop community parkland to serve areas of future residential development.

Other Public Facilities

A. Ensure the availability of adequate fire and rescue facilities and equipment to serve the sector.

B. An adequate water supply and water distribution system should be provided for fire protection services

C. Public sewer may be provided within areas designated for planned residential developments that are located outside the Occoquan Basin.

Schools

A. Provide an elementary school site in the southern portion of the sector east of Ox Road and south of Silverbrook Road. Appropriate access and utility service should be provided to this site.

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Environment

A. Acquire parkland along the Popes Head Creek stream valley in accordance with the Fairfax County stream valley policy.

B. Apply water quality recommendations presented at the beginning of the Area III section of the Plan to those lands within the Occoquan Basin.

C. Provide highway railroad noise mitigation for noise sensitive land uses so as to ensure a healthful living and working environment in which

speech and activity interference is minimized in both interior and exterior areas.

D. Preserve the environmental quality corridor system as described at the beginning of the Area III section of the Plan, including those EQC lands along Wolf Run, Sandy Run, Stillwell Branch, Maple Branch, Occoquan River and their tributaries, through a variety of implementation methods.

E. Preserve the identified wildlife habitat preservation areas southwest of Route 123 across from Burke Lake Park through either acquisition or restriction to low-density residential development (five acre lots or greater) where tree preservation is maximized.

F. Preserve the environmental quality corridors of Giles Run and Elk Horn Run.

G. To help protect water quality and to minimize erosion and sedimentation, limits-of-clearing should maximize the preservation of existing vegetation.

H. The Environmental Quality Corridor designation includes the 100-year floodplain, adjacent steep slopes in excess of 15 percent, major streams and swales, alluvial floodplain soils and, at a minimum, the storm-water runoff filter strip. The Environmental Quality Corridor is intended as a minimum limit of clearing.

I. Protect high-quality vegetated open spaces outside the Environmental Quality Corridor system, which serve as wildlife habitats.

J. Provide a system of pedestrian hiking, horseback riding and bicycling trails that provide for a continuation of linkages for access throughout this area.

K. Best Management Practice techniques should be implemented on a voluntary basis to help control nonpoint pollution and the resultant detrimental impacts.

Transportation

A. The transportation recommendations for this sector are included in the Transportation section of the Plan.

P6 MIDDLE RUN COMMUNITY PLANNING SECTOR

This sector is in the Pohick watershed adjacent to the heavily developed inner Pohick (Sector P2). Most of the area north of Burke Lake Road is part of the planned residential community of Burke Centre.

Land Use

Burke Centre, currently under development in the northern portion of the sector, includes a variety of residential densities and local-serving commercial services. Other existing development, which is fairly recent, is comprised of single-family detached dwellings and townhouses. Completion of existing subdivisions and committed development at similar densities will absorb much of the remaining vacant land.

Several local-serving commercial areas are located outside the sector on Old Keene Mill Road and in Springfield.

Transportation

Major access roads in the sector are Route 123, Guinea Road, Pohick Road, Burke Lake Road, Old Keene Mill Road, Lee Chapel Road and Sydenstricker Road. There is bus service to Orange Hunt. Internal circulation is generally good since local streets of urban standards have been provided with recent development. However, there is a lack of connection between subdivisions and many stretches of rural roads still exist between new subdivisions.

Public Facilities

Schools

The following schools are located within the sector: Fairview Elementary, Orange Hunt Elementary, Terra Centre Elementary, and Cherry Run Elementary.

Parks, Recreation and Open Space

The following parks are located within the sector: Burke Ridge, Huntsman, Rolling Valley West, Middle Run Stream Valley, and Pohick Creek Stream Valley.

Adequate open space is needed for walkways to parks and active recreation facilities, particularly for the future population.

Other Public Facilities

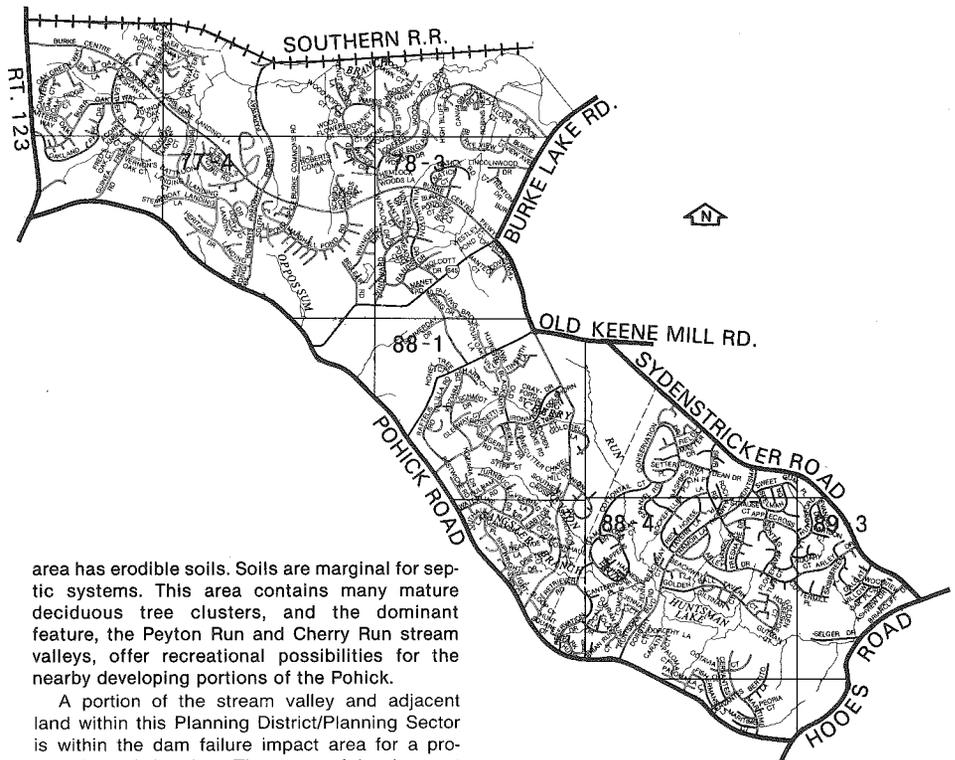
Other public facilities located within the sector: Burke Centre Mini Library, LMD shop and property yard, Pohick regional library site, Pohick fire station site, and one elementary school site.

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Environment

This sector is located within the Pohick Creek watershed and is part of the Potomac estuary critical environmental area. The Pohick watershed ridgeline extends along Route 123 near the western edge of the area. Ridge areas provide visual amenity as they are often associated with scenic vistas. The floodplains and stream valleys of Sideburn Branch and Pohick Creek are located south along the Southern railroad tracks on the northern edge of the Burke area. The Middle Run stream valley is in the southern portion of the area. There are extensive floodplains and half the



area has erodible soils. Soils are marginal for septic systems. This area contains many mature deciduous tree clusters, and the dominant feature, the Peyton Run and Cherry Run stream valleys, offer recreational possibilities for the nearby developing portions of the Pohick.

A portion of the stream valley and adjacent land within this Planning District/Planning Sector is within the dam failure impact area for a proposed or existing dam. The extent of development within these impact areas should be minimized in the interest of public welfare and safety. For details on the extent of this area, refer to the section on potential dam failure impact areas, in the Environmental Chapter.

RECOMMENDATIONS

Burke Centre Planned Community

A. Approximately 1,300 acres presently in one ownership and located adjacent to the Southern railroad between Route 123, the South Run and Burke Lake Road are recommended for a new planned community. Small parcels belonging to the project are located north of the railroad on Sideburn Road and Guinea Road in Sector P2. The Burke Centre master plan provides for an appropriate mixture of uses, including single-family, townhouse, low-rise and high-rise residential development, a small village center and a community level center, industrial uses, and park and open space recreation uses. The overall population density is up to 13 persons per acre, according to the RPC zoning category. Two major transportation links will extend through the community for access and circulation: Roberts Road and Pohick Road extended provide for north-south movement and Lee Chapel Road extended provides east-west movement between Burke Lake Road and Route 123. The Burke Centre master plan is included in the Comprehensive Plan by reference.

B. In order to assure the orderly development of the planned community, a phasing plan should indicate construction timetables that coincide with planned and programmed public facilities, whether these facilities are provided by the developer or the public sector.

C. Design features and/or well-landscaped buffering should be incorporated in the Burke Centre plan to assure the compatibility of contiguous residential and nonresidential development.

D. Parcel 77-4 ((1)) 23 is not presently included in the Burke Centre residential planned commu-

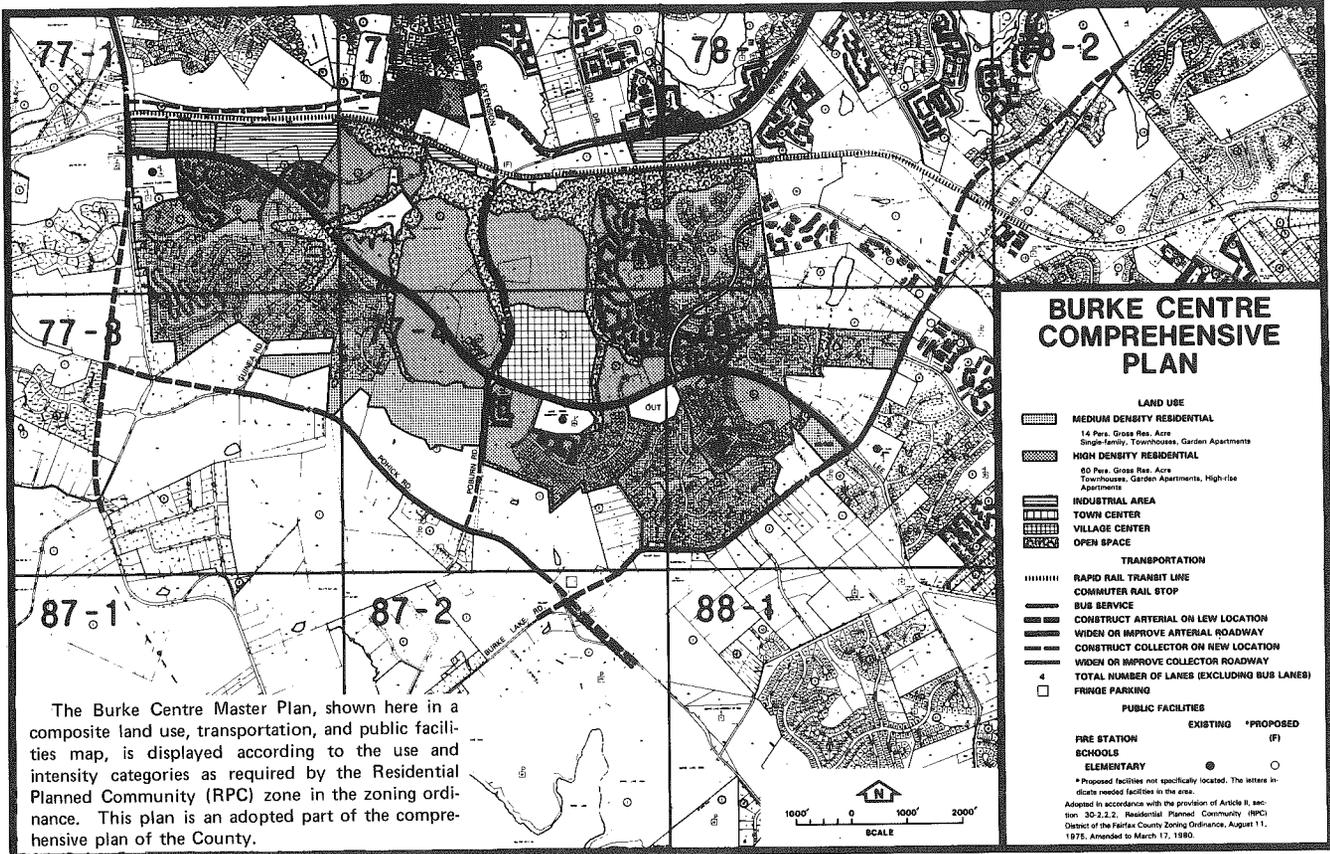
nity. Should this parcel be developed, it would be desirable to include it within the adjacent residential planned community. However, whether the parcel is developed as part of Burke Centre or under conventional zoning, residential use, utilizing single-family detached dwellings at a density of 2-3 dwelling units per acre, is appropriate.

Burke Centre Perimeter Area

A. The area between Guinea Road, Pohick Road, Route 123 and the Burke Centre RPC to include parcels 6A, 7, 8, 9, 10, 11, 12, 13, 14, and 14A on map 77-3 is appropriate for industrial use because of existing industrial zoning and use on some of these parcels and because a creek forms a natural boundary between the subject area and planned residential use to the north. Industrial development in the subject area should provide for visually attractive and appropriately buffered relationships with adjacent areas planned for residential use.

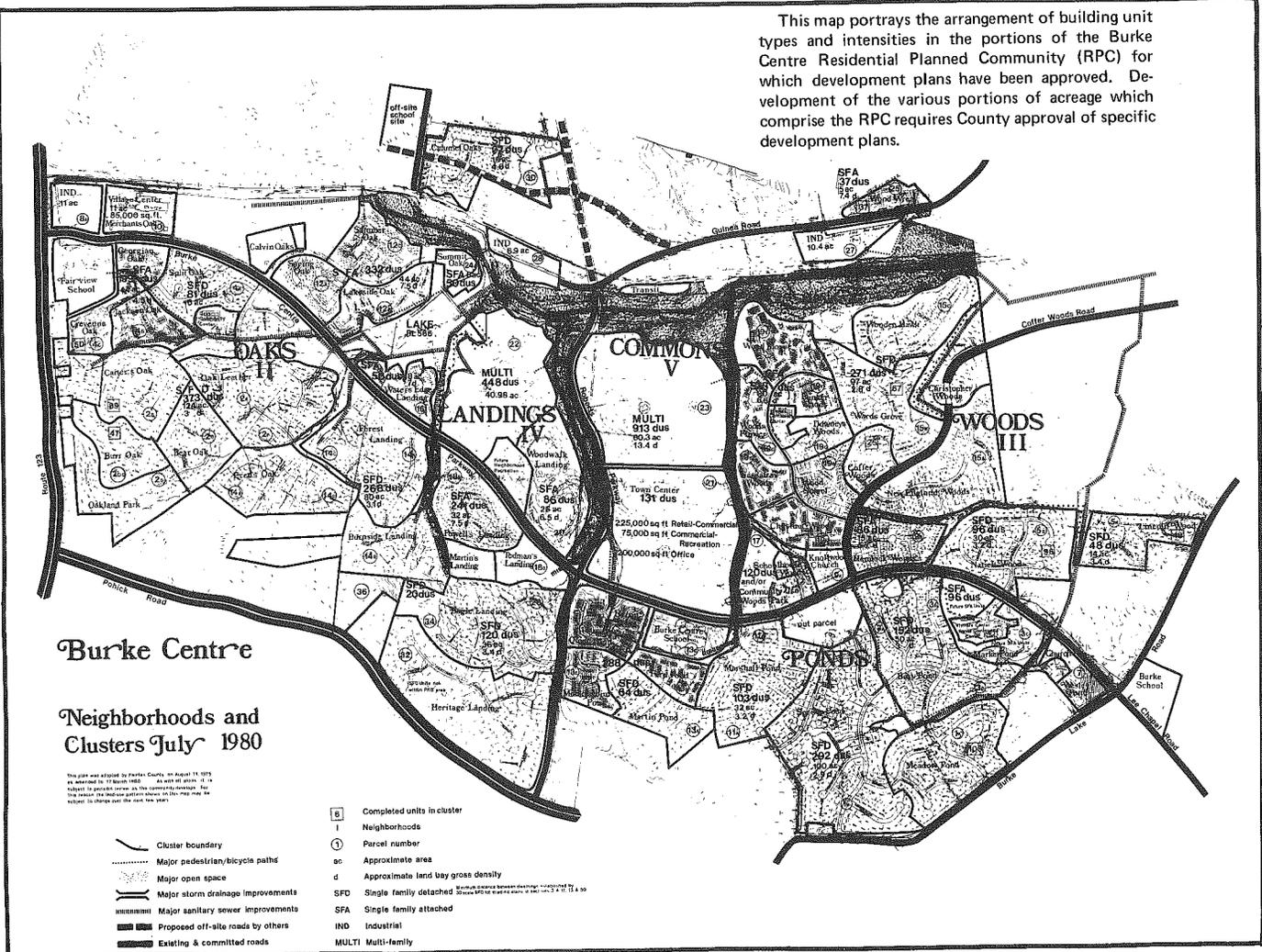
Residential planned community use is an appropriate alternative to industrial use on parcels 16 and 17 only if generous buffer is provided adjacent to the industrial development to protect residential development from any adverse impacts generated by industrial use.

B. Other land in the perimeter of the Burke Centre on the north side of Burke Lake Road (west of Burke Hills), north of the South Run watershed boundary and east of Route 123 is appropriate for the expansion of the Burke Centre RPC or residential development at 2-3 dwelling units per acre. Burke Centre should not extend beyond Route 123, Burke Lake Road or into the South Run. Land in the expansion area only in Main Branch is planned for 2-3 dwelling units per acre. It should be permitted higher density, not to exceed 3-4 dwelling units per acre, only if it is developed as if it were an integral part of the Burke Centre in terms of adjacent densities, circulation, access, buffering, clustering and preservation of natural



The Burke Centre Master Plan, shown here in a composite land use, transportation, and public facilities map, is displayed according to the use and intensity categories as required by the Residential Planned Community (RPC) zone in the zoning ordinance. This plan is an adopted part of the comprehensive plan of the County.

This map portrays the arrangement of building unit types and intensities in the portions of the Burke Centre Residential Planned Community (RPC) for which development plans have been approved. Development of the various portions of acreage which comprise the RPC requires County approval of specific development plans.



and open space. In all cases, non-RPC development must provide necessary and desirable land consolidation, public facilities, environmental protection, and amenities to justify an increase in allowable densities above the 2-3 dwelling units per acre range.

C. The Belleair subdivision should be planned at .2-5 dwelling unit per acre in order to assure infill at densities compatible with existing development and to help protect the environmental quality of the South Run. One-acre development should be allowed only on existing vacant one-acre parcels as infill to the existing development. Special permit uses or special exception uses, other than those already issued for the Burke Community Church, should not be allowed because of the potentially adverse impacts these can have on the surrounding community.

D. The area between the east edge of the Burke Centre, Burke Hills subdivision, Burke Lake Road and Burke Road is appropriate for 4-5 dwelling units per acre because of existing zoning on the land and because it is contiguous with planned and existing commercial uses in Burke.

E. Low-rise commercial office use is appropriate on the south side of Burke Road between the retail center and the Pohick Creek floodplain (planned for public park and open space), as compatible infill within the commercial center of Burke Village. Commercial development on this land, however, must occur only after Burke Lake Road has been constructed in its entirety on its planned realignment through the village of Burke, which includes a grade separation over the Southern railroad tracks. This will ensure adequate traffic flow through the area at all times.

F. Burke Hills subdivision is recommended for a development density of .5-1 dwelling unit per acre, compatible with present development within the subdivision.

Remainder of the Sector

A. Development should generally continue the residential use and density pattern established in P2, which includes single-family detached dwellings and townhouses. Therefore 2-3 dwelling units per acre is appropriate and recommended. This type of development will act as a transition to conservation, open space and low-density residential uses appropriate in Sector P7.

B. Residential uses can be developed under the planned unit development option to provide a mixture of housing types and to preserve open space.

C. Additional local-serving commercial facilities should be located at Burke and at the existing shopping center on Old Keene Mill Road.

D. Land between Lakewood Hills and Rolling Valley should be planned for compatible, single-family development.

E. Local-serving commercial uses should be located on land currently zoned for these uses.

F. The historic value of Lee Chapel and cemetery should be investigated for possible inclusion in the County's inventory of historic sites.

G. Rolling Valley West Park should be developed in accordance with its master plan.

H. Existing and proposed development surrounding the intersection of Lee Chapel Road and Old Keene Mill Road, together with the difficult horizontal alignment of these two roads, requires that care be taken in guiding future development in this area. The desired goal for this area is to complement existing single-family residential communities with compatible, residential land uses. The existing housing for the elderly in the northwest quadrant of the intersection is a suitable method of achieving this goal.

The remaining undeveloped land in the vicinity should be developed in residential use at 2-3 dwelling units per acre utilizing single-family detached dwelling units. All development in this area should avoid direct frontage on either Lee

Chapel or Old Keene Mill Roads and primary access roads should be well set back from the intersection. Higher density residential or commercial use is well provided in the vicinity and therefore not appropriate in this area. Special permit and special exception uses should be reviewed very carefully due to the potentially detrimental effects on the surrounding areas.

- The parcels are consolidated and sole coordinated access is provided to Lee Chapel Road at a point along the property line between parcels 22 and 22A; and
- Development of these parcels is accompanied by the widening of Lee Chapel Road to provide a second southbound lane between Old Keene Mill Road and the northern property line of parcel 22 for the purposes of providing safe ingress and egress from these parcels.
- Parcel 23 may also be appropriate for residential use at 4-5 dwelling units per acre provided that the following conditions are met:
 1. It is part of a consolidated development with parcels to the front along Lee Chapel and Old Keene Mill Roads.
 2. Only single family detached dwellings will be placed on the rear to provide an effective transition to the lower density parcels in the interior of the quadrant.
 3. No vehicular access is provided to the lower density parcels in the interior of the quadrant.

I. Land with frontage on the south side of Old Keene Mill Road between Lee Chapel Road and Sydenstricker Road should develop at a medium residential density of 4-5 dwelling units per acre. Development above the low end of this density range should be approved only if there is:

1. substantial parcel consolidation within the tract which ensures coordinated development and related vehicular access;
2. the siting of residential units away from Old Keene Mill Road and Lee Chapel Road; and
3. access to Old Keene Mill Road only at existing median breaks.

J. The area south of Old Keene Mill Road and east of Lee Chapel Road is a highly desirable location for a future Fairfax County regional library site.

Public Facilities

Parks, Recreation and Open Space

A. Acquire community parkland for new development.

B. Develop Burke Ridge Park.

C. Develop the South Run District Park.

D. Huntsman Park should be developed. Consideration should be given to acquiring dedicated or reserved rights-of-way for the old Northern Virginia Expressway as linear parks.

Other Public Facilities

A. Provide a public health clinic in leased facilities within the next decade possibly at Burke.

B. Ensure the availability of adequate facilities and equipment at the Burke Fire Station.

C. An adequate water supply and water distribution system should be provided for fire protection services.

D. Construct a regional library facility on the site of Old Keene Mill Road and Sydenstricker Road.

Environment

A. Preserve the Middle Run stream valley system through dedication and/or acquisition.

B. Acquire parkland along the Opposum Branch and Sideburn Branch stream valleys in accordance with the Fairfax County stream valley policy.

C. Current code provisions, including drainage grading and the removal of vegetation should be followed strictly in the PRC development to protect the headwaters of Pohick Creek tributaries in the Burke area.

D. Tree cover should be preserved where possible for visual amenity, air quality, and noise protection.

E. For land use density and environmental protection policies in the South Run watershed, refer to Sector P7, Pohick Planning District, Land Use Recommendation A and Environment Recommendations A, B and C.

Transportation

A. Construct a four-lane, east-west facility on the general alignment of Hooes Road and Pohick Road, with certain realignments between Ox Road (Route 123) and Backlick Road (Area IV). The facility will connect with the Franconia/Springfield Metro Station. This facility is needed to provide access to the rapidly developing Pohick area.

B. Improve Burke Lake Road to a four-lane facility between Pohick Road and Rolling Road near Braddock Road to provide access from the developing portions of the Pohick to I-495.

C. Consider Burke as a stop for the proposed commuter rail project.

D. Widen Lee Chapel to a four-lane facility between Burke Lake Road and Route 123.

E. Additional transportation recommendations for this sector are included in the Transportation section of the Plan.

P7 BURKE LAKE COMMUNITY PLANNING SECTOR

The sector is designated as stable and includes the Burke Lake and Park and the South Run stream valley.

Land Use

This sector includes extensive parkland in Burke Lake Park, South Run District Park, Recreation Lake Park and the South Run stream valley. A portion of the Burke Centre planned community is located in the northern portion of the sector. There are several small relatively stable communities including Fairwood Acres, Avon Forest, Trenton Forest and Silverbrook Farms plus scattered dwellings throughout the sector. Chapel Acres is a low-income community that lacks numerous public facilities. There is a mixture of housing including new, high-income development on large lots and older, scattered dwellings. Brimstone Hill is a historic site on Route 123 at Burke Lake Road.

Local-serving commercial uses are located on Old Keene Mill Road in Sector P2 and in Springfield.

Transportation

Major access to the sector is provided by Pohick Road, Hooes Road, Route 123, Burke Lake Road, Lee Chapel Road, and Silverbrook Road. Improvements programmed soon for Route 123 will increase access to the area but not within the sector. The proposed improvement of Pohick Road and Hooes Road (Springfield Bypass) will provide access from the sector to I-95 and the Franconia/Springfield Metro Station. There is no public transportation service in the sector.

Public Facilities

Schools

Newington Forest Elementary School is located within the sector.

Parks, Recreation and Open Space

The following parks are located within the sector: Chapel Acres, Newington Commons, Poburn Woods, Burke Lake, Recreation Lake, South Run District, and South Run Stream Valley.

Housing

Existing below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Background section of the Plan, and proposed below market housing sites in this Sector, if any, are listed in a Table in the Housing Chapter of the Recommendations section of the Plan.

Environment

This section contains most of the South Run segment of the Pohick watershed. It has been designated as an environmental quality corridor wildlife preserve. Impoundment site #1 of the Pohick PL566 plan is located on South Run just west of Hooes Road. The South Run is the cleanest stream in the County. Because of high water quality, the impoundment at Hooes Road has a potentially high recreational value.

A portion of the stream valley and adjacent land within this Planning District/Planning Sector is within the dam failure impact area for a proposed or existing dam. The extent of development within these impact areas should be minimized in the interest of public welfare and safety. For details on the extent of this area, refer to the section on potential dam failure impact areas, in the Environmental Chapter.

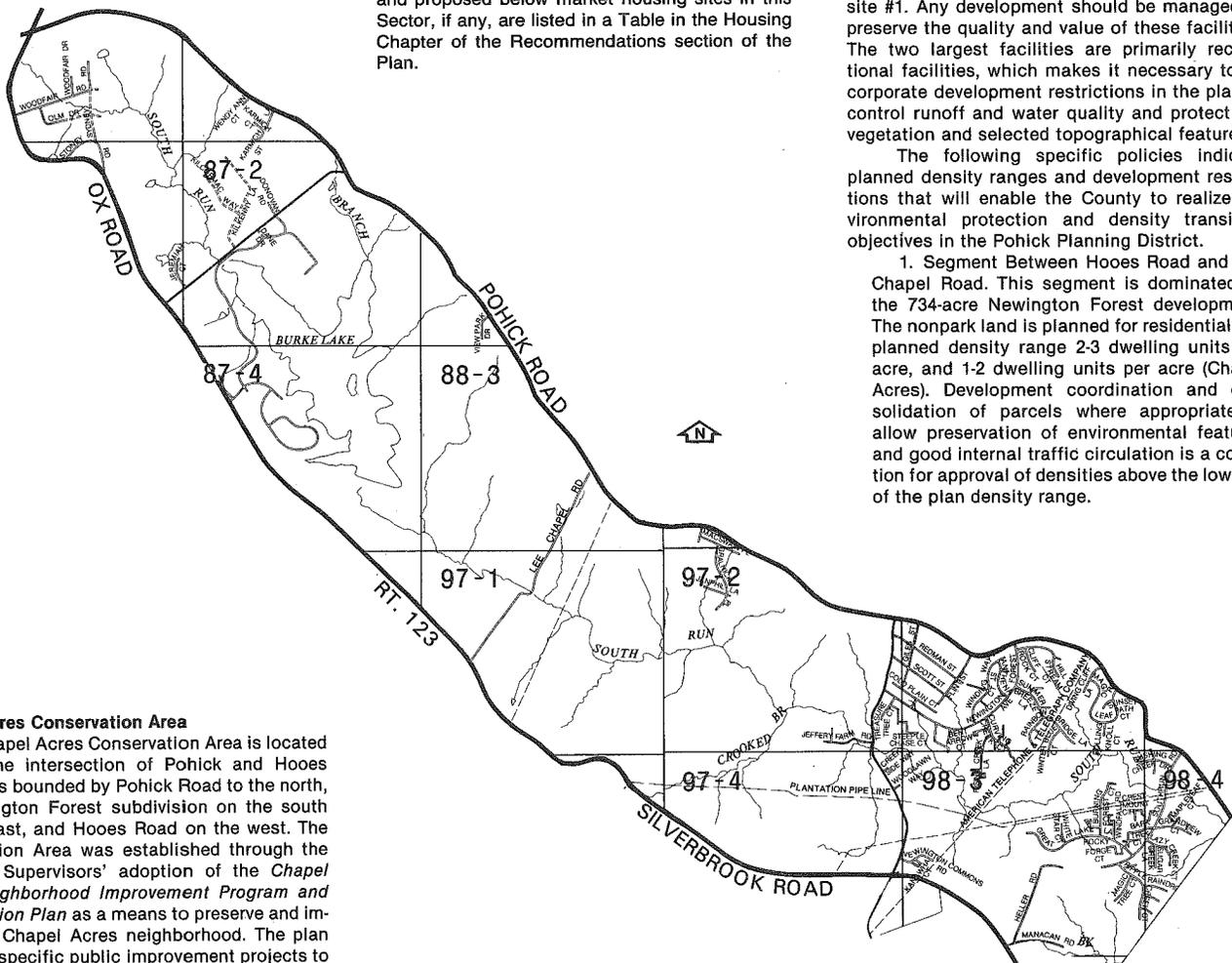
RECOMMENDATIONS

Land Use

A. The South Run watershed is dominated by three major parks, recreational and open space uses: the Burke Lake Park, the South Run District Park and the planned impoundment-recreation site #1. Any development should be managed to preserve the quality and value of these facilities. The two largest facilities are primarily recreational facilities, which makes it necessary to incorporate development restrictions in the plan to control runoff and water quality and protect the vegetation and selected topographical features.

The following specific policies indicate planned density ranges and development restrictions that will enable the County to realize environmental protection and density transition objectives in the Pohick Planning District.

1. Segment Between Hooes Road and Lee Chapel Road. This segment is dominated by the 734-acre Newington Forest development. The nonpark land is planned for residential use planned density range 2-3 dwelling units per acre, and 1-2 dwelling units per acre (Chapel Acres). Development coordination and consolidation of parcels where appropriate to allow preservation of environmental features and good internal traffic circulation is a condition for approval of densities above the low end of the plan density range.



Chapel Acres Conservation Area

The Chapel Acres Conservation Area is located east of the intersection of Pohick and Hooes Roads. It is bounded by Pohick Road to the north, the Newington Forest subdivision on the south and the east, and Hooes Road on the west. The Conservation Area was established through the Board of Supervisors' adoption of the *Chapel Acres Neighborhood Improvement Program and Conservation Plan* as a means to preserve and improve the Chapel Acres neighborhood. The plan identifies specific public improvement projects to be undertaken as funding becomes available through the duration of the neighborhood improvement program. These include acquisition and development, installation of sanitary sewer system, resolving storm drainage problems and providing for improved traffic safety.

DEPARTMENT OF CORRECTIONS OF D.C.

2. Segment Between Hooes Road and Lee Chapel Road. This segment is dominated by the planned impoundment-recreation site #1 and the South Run District Park. The development level must be such that the park, open space and recreational uses can be maintained at a high level of quality. To comply with the objectives of stepping down from the base to the headwaters of the shed and providing a density transition between the developed inner Pohick and the semirural outer Pohick, this area is planned for a density range of 1-2 dwelling units per acre for nonparkland. In order to ensure a compatible transition to the low-density area west of the watershed, a buffer of lots and open space not to exceed one unit per acre and a natural buffer should be planned along the western edge of the watershed between Hooes Road and Lee Chapel Road. Such a transition area should be provided for a depth of at least 300 to 500 feet. Environmental protection features meeting County approval for development (in this segment) must be provided by development, especially for development at densities greater than the low end of the plan density range. Such matters as stormwater runoff control, water quality control and retention of vegetative and sensitive topographic features must be adequately addressed including best management practices for impact mitigation.

3. Segment Between Lee Chapel Road and the South Perimeter of Burke Lake Park. This segment is located directly above the South Run district park and the planned impoundment-recreation site #1. Stream valley park land needs to be acquired along South Run. The development level should be such that a high level of quality can be maintained for these park, recreational and open space uses. The residential development level should be less than 1-2 dwelling units per acre planned in the Hooes Road-Lee Chapel Road segment, according to the step-down concept. The most appropriate planned density range for nonpark land in the segment is .5-1 dwelling units per acre. Such matters as stormwater runoff control, water quality control and retention of vegetative and sensitive topographic features must be adequately addressed including best management practices for impact mitigation.

4. Segment Including Burke Lake Park and the South Run Headwaters. The segment is dominated by Burke Lake park and the development level in the segment should be such that its recreational and open space function is maintained at a high level of quality. The residential level should be less than the .5-1 dwelling units per acre level planned in the segment below. The most appropriate planned density range for nonpark land is .2-5 dwelling units per acre in this segment, except for the Fairwood Acres subdivision, which should be planned at a density of .5-1 dwelling units per acre to provide for compatible infill with the existing development. Such matters as stormwater runoff control, water quality control and retention of vegetative and sensitive topographic features must be adequately addressed including best management practices for impact mitigation.

B. Incorporate the Chapel Acres conservation plan and related improvement programs into the Plan.

C. Maintain secondary roads in their existing condition to maintain the rural character of the sector.

D. The area between Hooes Road, Pohick Road, and the Lorton detention facility, which is at the lower end of the South Run subwatershed, is generally appropriate for urban residential development at 2-3 dwelling units per acre as a continuation of the type of development predomi-

nant in the Pohick area. Development density south of Pohick Road (and east of Hooes Road) is also planned in accord with environmental protection objectives for the South Run subwatershed, consistent with environmentally sound watershed planning. The upper portion of a watershed should have only a limited amount of development to protect the sensitive land-water system, which in this case supports extensive open space, park and recreation uses.

E. Planned unit development is an option that can be used to achieve a mixture of housing types and preserve open space.

F. Recommendations for Burke Centre and its perimeter are found in Sector P6.

Public Facilities

Parks, Recreation and Open Space

A. Develop Recreation Lake Park for park and water-oriented recreation use.

B. Develop the South Run District Park while preserving its environmental qualities.

C. Complete development of Burke Lake Park.

D. Acquire and develop community parkland to serve the Newington Forest area.

E. Federal community development block grant funds have been committed for the development of a community building to serve Chapel Acres. Parcel 98-1 ((3)) 41 has been acquired for this purpose.

Other Public Facilities

A. Ensure the availability of adequate facilities, equipment and water supply for the Burke and Lorton Fire Stations.

B. An adequate water supply and water distribution system should be provided for fire protection services.

C. Provide an adequate storm drainage system to serve the Chapel Acres Conservation Area.

Environment

A. Preserve the South Run Environmental Quality Corridor through acquisition and/or dedication.

B. Preserve the South Run Environmental Quality Corridor by applying the watershed land use planning model to residential densities.

C. Require all new development to implement best management practices for nonpoint pollution control. The nature of the BMPs needed will be determined on a case-by-case basis.

Transportation

A. Improve Silverbrook Road to a two-lane improved facility between Lorton Road, Hooes Road and Route 123 to provide improved access from the Pohick area to the Lorton Interchange of I-95.

B. Other transportation recommendations for this sector are included in the Transportation section of the Plan.

COMPLEX AREAS

Criteria for Complex Areas

The designation of a complex area depends upon the seriousness of the problem, but most complex areas exhibit the characteristics listed below:

- The area is under intense development pressure because of existing plans, existing, or planned major public facilities and major rezoning applications.
- A high degree of integration is needed between land use, access, and circulation in order for the area to satisfactorily serve high-density development.
- High density development has potential spillover effects on surrounding areas. Complex areas are often not suitable for high-density development because existing development produces negative effects, which can be made worse by intense additional development.
- There is potentially adverse impact on the environment by intense development.

Complex Area Analysis and Policy Approach

Policies for dealing with complex areas must be process-oriented, which means that decisions should be made for the short term but there should be no pretense that single-shot solutions are possible. Unresolved problems will remain in each complex area for some time. The most impor-

tant task is to reduce the range of options and to focus on increasingly detailed alternatives. Here are some others:

- A comprehensive impact evaluation—including fiscal, transportation, environmental, housing, social, economic, and other impacts—is necessary for future development in complex areas.
- Analysis should be appropriate to the level of decision being made, which means that the impact evaluation and review should become more detailed as the alternatives are narrowed.
- Integrated solutions are required (for example, transportation). Improvements may have to be coordinated with private redevelopment.
- Downstream and upstream effects need to be considered with regard to transportation facilities, air pollution, storm runoff, and other off-site impacts.
- Neighborhood effects that require transitional use and buffering should be the responsibility of activities of the more intensive nature, normally those within the complex area; traffic spillover and noise impacts should be controlled and ameliorated. Performance standards may be suitable for some of these purposes.

RECOMMENDATIONS

Recommendations for land use, transportation, public facilities, environment and housing in complex areas are made in an open-ended context. County policy decisions and or external factors of area-wide significance may change the context in which these recommendations are made. Conditions affecting land use, transportation, other facilities, environment factors or residential, commercial or industrial development may change requiring that planning recommendations be made responsive to the new context. The following recommendations should be used as a conceptual guide to pursue goals that are currently desirable and feasible.

DESCRIPTION

The Centreville Area contains approximately 2,700 acres in the southwestern portion of the County where Route 28, Route 29, Interstate 66 and Braddock Road converge. Currently, most of the land in this area is either vacant or underutilized. The majority of the development in the area is residential and has been constructed since 1970.

BACKGROUND

On June 15, 1982, the Board of Supervisors adopted the Occoquan Basin Study (OBS) which recommended that a detailed study and plan be undertaken for Centreville. Subsequently, on December 13, 1982, the Board appointed a Citizens Advisory Task Force to participate in the study and planning process for Centreville. This Task Force and staff continually met to discuss growth options for Centreville and prepare basic recommendations for its future development.

ADOPTION OF THE CENTREVILLE STUDY

On March 10, 1986, the Board of Supervisors adopted the Centreville Study, as modified by reference into the Comprehensive Plan. General findings and objectives, background information, and specific land use, environmental, transportation and public facilities recommendations were amended into the Comprehensive Plan. The Centreville Area Study document (published in September, 1984) includes background to the recommendations and study methodology and is available for additional detail and reference.

PLANNING OBJECTIVES

In determining how an area should be planned, it is necessary to decide how one ultimately envisions the area once full development has occurred. The following objectives were endorsed by the Centreville Task Force and served as a guide in the preparation of the Centreville Plan.

A. Land Use

Establish Centreville as a focus of development in western Fairfax County.

1. Ensure the development of a variety of uses including residential, office, retail, institutional and recreational uses.
2. Encourage the more intensive development to occur only within a well defined contiguous segment(s) of the study area so as to ensure that Centreville develops geographically and characteristically distinct from the 50-66 Fairfax Center Area.
3. Minimize large land use zones which are homogeneous, single use and single density.
4. Encourage medium and high intensity development for a substantial portion of the study area, where parcel size and location, access and visibility make these appropriate.

Achieve a balanced community in Centreville.

1. Ensure development of a community where an appropriate mix of land uses fosters a continuous cycle of activity; prevent Centreville from becoming predominantly either a bedroom community or an employment center.
2. Plan Centreville as a whole, so that various tracts of land relate to each other and in combination result in an integrated community.
3. Provide a range of housing structure types and costs, recognizing countywide needs, local desires for a balanced community, and Centreville's appropriate location for a variety of housing unit types including housing affordable to low and moderate income households.
4. Supplement existing retail development to provide an appropriate range of services to future residents in the region.

5. In addition to retail development in the primary commercial core, provide neighborhood-scale retail facilities in convenient locations to serve planned residential development.
6. Ensure the provision of adequate public and private recreational and community facilities and services.
7. Ensure that a balanced, adequate road network is planned to accommodate projected development.

Preserve and enhance existing stable residential and nonresidential development.

1. Ensure that existing stable residential development is protected from potentially adverse impacts from higher intensity uses by 1) ensuring that potentially adverse impacts are buffered on site to the extent possible, 2) planning appropriate transitional uses between potentially adversely impacting uses, and/or 3) providing open space or natural or man-made buffers between potentially adversely impacting uses.
2. Avoid using local residential streets to provide access to higher intensity uses.
3. Provide convenient pedestrian access to neighborhood facilities.

B. Environmental Quality

Identify, protect and enhance natural and man-made resources in Centreville.

1. Ensure that development in the Centreville Area does not jeopardize the Occoquan Basin as a source of drinking water.
2. Preserve the area's Environmental Quality Corridors (EQCs). Develop an open space system, utilizing EQCs where possible to provide passive recreational space and relief from the urban landscape.
3. Create visually interesting focal points within the central activity center(s) and visual transitions to existing and planned residential areas.
4. Preserve natural physical features that create visual interests and enhance these features during the planning process.
5. Preserve quality vegetation and use this vegetation to enhance views. Promote supplemental landscaping as necessary to enhance views and energy conservation.
6. Take advantage of the visual amenities associated with the Bull Run mountains.
7. Minimize adverse impacts associated with noise from roadways and Dulles International Airport.
8. Promote energy conservation through energy efficient land use planning and individual building siting and design.
9. Continue to maintain air quality standards in the Centreville Area.

C. Historic Preservation

Preserve, protect and enhance Centreville's historic resources.

1. Identify and evaluate sites which reflect the historic character of Old Centreville and protect these sites through sensitive land use and transportation planning.
2. Minimize adverse visual impacts that could jeopardize the quality of historic sites.
3. Protect Centreville's historic resources through appropriate regulation and incentive measures.

D. Transportation

Enhance both motorized and nonmotorized access and circulation patterns in Centreville.

1. Plan and design an integrated transportation network — including roadways, pedestrian access, bicycle trails and mass transportation patterns — that provides good access, and avoids creating barriers between adjoining land uses.
2. Plan appropriate land uses for Centreville which will recognize the advantages and limitations of

the major traffic corridors of I-66, Route 29, Route 28 and Braddock Road as well as major internal collectors.

3. Encourage development configurations and land use patterns that reduce the need for vehicular transportation for local trips.
4. Ensure development patterns that promote the use of mass transportation and ride sharing for travel within Centreville and for commuting to regional employment and retail centers.
5. Provide a balanced roadway network for Centreville which achieves a level of service "D" (approaching congestion) or better during morning and evening peak hours.
6. Accommodate nonmotorized circulation in Centreville on all roadways through the use of bike-ways, improved shoulders, and widened curb lanes as appropriate.
7. Minimize barrier perception created by roadways.
8. Minimize negative visual impacts to and from roadway corridors.

E. Economic Development

Encourage commercial and industrial development to levels which are supportive of the overall countywide economic development goals and compatible with nearby planned economic development centers, such as the Fairfax Center Area.

1. In recognition of Centreville's regional accessibility, visibility from I-66, proximity to new population and labor force growth, encourage development of Centreville as an employment center.
2. Designate sites with good visibility from I-66 for appropriate commercial development.
3. Identify and establish well defined boundaries for Centreville's major commercial activity area and restrict commercial uses to that area.

FOUNDATION OF THE CENTREVILLE PLAN

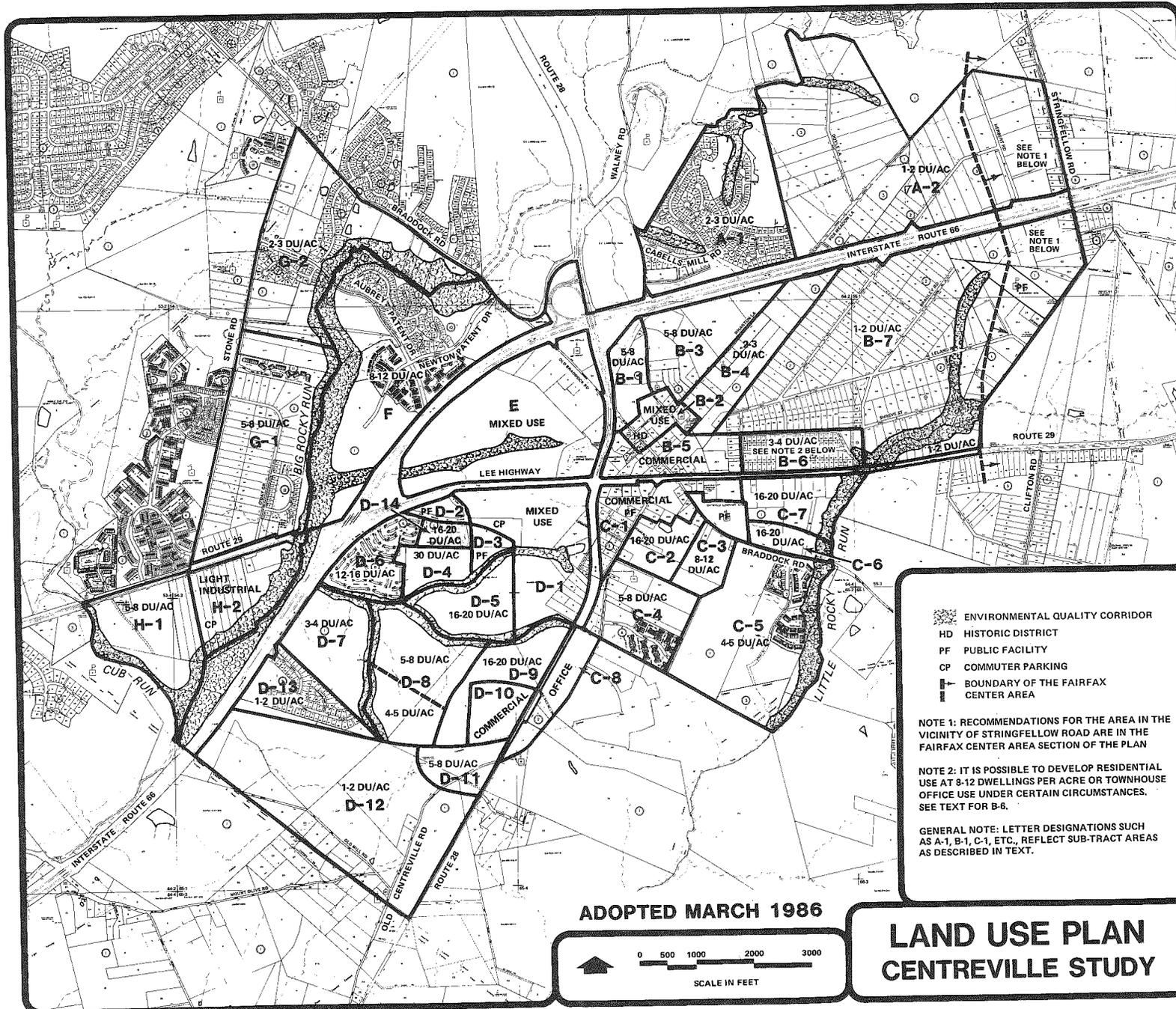
The planning effort for the Centreville Area also involved a detailed analysis of past trends and existing conditions. This analysis provided the data base necessary for determining appropriate future land uses and development patterns.

The following data was analyzed and subsequently served as the foundation for the Centreville Plan:

- **History.** The historical background of Centreville including the identification of historically important structures.
- **Environmental Characteristics.** An analysis of environmental features including geology, topography, soils, vegetation, water and air quality, and roadway noise.
- **Existing Land Use Conditions.** Identification of the land use and ownership patterns, existing zoning and recent zoning activity.
- **Transportation.** An evaluation of highway facilities and characteristics, traffic volumes and transit facilities.
- **Public Facilities.** The existing public facilities in the Centreville Area including parks, fire services, libraries, water and sewer lines, electricity and natural gas.
- **Economic Development.** The potential for economic development in Centreville, industrial and commercial growth, and the role of Centreville in the County's overall economic development effort.
- **Housing.** Existing housing conditions and the position of Centreville for meeting the basic housing goals of the County.

THE RECOMMENDED LAND USE PATTERN

In determining an appropriate future land use pattern for the Centreville Area, various development concepts were examined by the Centreville Task Force. These concepts provided alternative land use config-



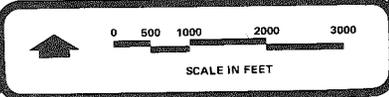
 ENVIRONMENTAL QUALITY CORRIDOR
 HD HISTORIC DISTRICT
 PF PUBLIC FACILITY
 CP COMMUTER PARKING
 BOUNDARY OF THE FAIRFAX CENTER AREA

NOTE 1: RECOMMENDATIONS FOR THE AREA IN THE VICINITY OF STRINGFELLOW ROAD ARE IN THE FAIRFAX CENTER AREA SECTION OF THE PLAN

NOTE 2: IT IS POSSIBLE TO DEVELOP RESIDENTIAL USE AT 8-12 DWELLINGS PER ACRE OR TOWNHOUSE OFFICE USE UNDER CERTAIN CIRCUMSTANCES. SEE TEXT FOR B-6.

GENERAL NOTE: LETTER DESIGNATIONS SUCH AS A-1, B-1, C-1, ETC., REFLECT SUB-TRACT AREAS AS DESCRIBED IN TEXT.

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**LAND USE PLAN
CENTREVILLE STUDY**

urations and densities with distinct orientations as to where the more intense uses should be located. This examination of alternatives resulted in the determination of the most suitable development pattern which should be pursued for each Sub-tract in the Centreville Area. The location of each sub-tract in the Centreville Area is shown on Map 1.

The development concept which subsequently was selected to guide the recommendations for Centreville is termed "dual-core." It envisions two core areas consisting of a concentration of mixed use activity located on tracts on either side of Route 29 southwest of its intersection with Route 28. These activity cores are treated as closed systems with an internal focus. Route 29 is emphasized as a major east-west thoroughfare with limited connections between the two tracts. Major residential communities are to be located beyond and potentially between the activity core.

With this basic concept of future development, a land use plan was formulated which provides recommendations for each sub-tract in the Centreville Study Area. If fully developed as recommended this Plan would result in a total population of approximately 37,000 and a commercial and industrial use of approximately 5 million square feet.

It is intended that future development by tract should not exceed the overall intensity allocated for that tract. In other words, all sub-tract totals should not exceed tract totals but flexibility among sub-tracts could be permitted provided they are under a common ownership or control and adhere to basic Plan objectives.

Specific land use recommendations for each tract and sub-tract are presented in the following pages. Included as part of these recommendations are density ranges for the proposed use. In order for the high end of these density ranges to be permitted, there must be satisfactory achievement of the "Development Criteria for Residential Density Ranges" shown on the Fairfax County Comprehensive Plan Map. All applications for commercial and industrial use shall likewise be evaluated in light of the development criteria set forth in the Comprehensive Plan, entitled 'Development Criteria'.

In light of the objective of the Centreville Study to achieve a level of Service D (Approaching Congestion) or better during morning and evening peak hours, in no event shall any application for residential use at the upper end of the range, or for commercial or industrial use, be evaluated without reference to those criteria which relate to the provision of transportation improvements unless the applicant can persuade the Board of Supervisors that those criteria relating to transportation improvements are not applicable to that particular application.

Studies completed in the preparation of the Centreville Study indicate that transportation requirements are critical to the support of future development. Therefore, transportation improvements must be provided concurrently with or prior to, additional demand if the public health, safety, convenience and welfare of present and future citizens of the Centreville Area are to be maintained or improved.

In order that the future development and transportation systems of Centreville are properly planned, the recommendations for Centreville provide for ultimate land use intensities when public facility support, especially transportation, is available. This will ensure that the community is developed with adequate facilities, that the needs of industry and business are recognized, that residential areas have healthy surroundings, and that the growth of the community is consonant with the efficient and economical use of public funds.

Because currently programmed transportation facilities are not sufficient to support development under even existing zoning at an acceptable level of service, rezoning applications should be considered in light of the existing circumstances at the time of Board hearing and decision. Provisions should be made by rezoning applicants to phase development in order to coordinate anticipated impact of new development with the provision of needed transportation improvements.

Tract A
(401 Acres)

The relative separation of Tract A from the main portion of the study area makes it appropriate for low-density residential use and as a transition area between Centreville and Chantilly. There is development presently occurring in this Sub-tract at 2-3 dwelling units per acre near Heron Drive.

A-1.
(121 Acres)

Part of this Sub-tract is already committed for single-family residential development at three dwelling units per acre. The planning concept for this Sub-tract, is to maintain a low density separation between the Fairfax Center Area and Centreville. Therefore, single-family detached residential at 2-3 dwelling units per acre is planned for the Sub-tract.

A-2.
(279 Acres)

This Sub-tract is part of the low density transition area located between Centreville, Chantilly and the Fairfax Center Area. Residential development should be comparable with development in the immediate vicinity along Stringfellow Road, which is in the density range of 1-2 dwelling units per acre. The planned use is therefore, single-family detached residential at 1-2 dwelling units per acre.

Tract B
(541 Acres)

While the western portion of this Tract is located in the core area of Centreville, its development potential is somewhat limited because of its relative isolation from I-66 and Route 28. Certain transportation constraints, combined with the need for future development to be compatible with existing residential uses and historic resources indicate that the Tract is appropriate for a moderate level of residential, commercial or office development.

B-1.
(22 Acres)

When the planned highway improvements at the intersections of Route 28- Route 29 and Route 28-Interstate 66 are completed, there will be limited access to this Sub-tract. In addition, this area is immediately adjacent to the historic district. Therefore, new development in this Sub-tract must fully recognize the access and transportation constraints as well as the historic character of the adjoining area.

Medium-density residential at 5-8 dwelling units per acre is preferred since this use and density would complement existing townhouse zoning along Wharton Lane without severely impacting the transportation network. However, for this intensity to be realized, it is important for planned development to achieve the following:

- compatibility with the historic district in terms of scale, layout, height, bulk, material, architecture, parking bays, landscaping;
- minimization of traffic impact on the historic district;
- provision of pedestrian linkages to the historic district; and

B-2.
(17 Acres)

- design of structures to front, when possible, the historic district and to eliminate long rows of units.

This Sub-tract encompasses an area proposed as an historic overlay district. The visual aspect of the environment in this segment is of primary importance and is addressed specifically in the Centreville Historic Overlay District.

Traffic in this Sub-tract should be minimized in order to protect the integrity of the historic area. In addition, direct access from Sub-tract B-2 to Route 29 should be encouraged, but through traffic from adjacent segments should be discouraged.

This sub-tract is suitable for retail, commercial, office, and residential uses, provided they are compatible with the requirements of the Historic Overlay District. No single non-residential use should exceed 6,000 square feet. The Architectural Review Board (ARB) may recommend modifications of the transitional screening requirements to the Department of Environmental Management.

The ARB does not have authority to modify the screening requirements. Therefore, staff recommends the following revision to the foregoing: "The ARB may recommend modification of the transitional screening requirements to the Department of Environment Management".

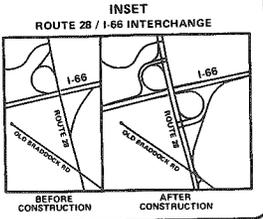
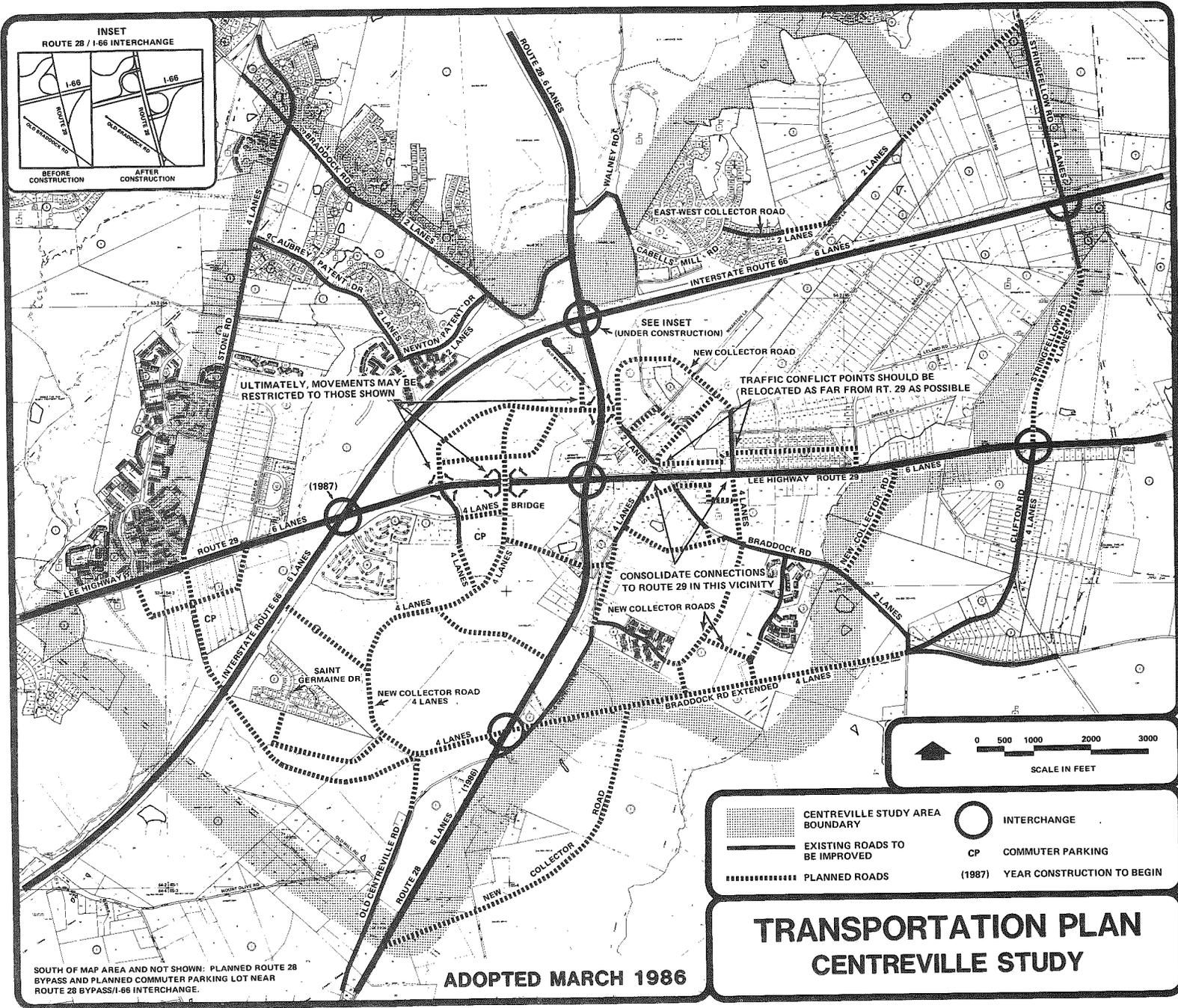
B-3.
(55 Acres)

The potential for providing good access to this area is limited and therefore a use which generates a level of traffic compatible with the existing and planned transportation network is desirable. Moreover, the existence of one major Civil War entrenchment in this Sub-tract should be recognized and protected as the area develops.

Due to the access problems and the Sub-tract's relationship to the proposed historic district, townhouse residential development of between 5 and 8 dwelling units per acre is recommended. In order to achieve the high end of this density range, the criteria listed under Sub-tract B-1 must be met. This Sub-tract contains fortifications constructed during the Civil War which should be recognized and protected as the area develops.

B-4.
(50 Acres)

Access limitations and the relationship of this Sub-tract to the proposed historic district are conditions similar to those described for Sub-tract B-3. In addition, this Sub-tract is contiguous with the Centreville Farms subdivision to the east which has single-family detached residential development at .5 dwelling units per acre. For this reason, the density of development should be a

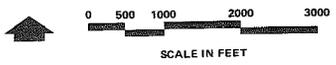


ULTIMATELY, MOVEMENTS MAY BE RESTRICTED TO THOSE SHOWN

SEE INSET (UNDER CONSTRUCTION)

TRAFFIC CONFLICT POINTS SHOULD BE RELOCATED AS FAR FROM RT. 29 AS POSSIBLE

CONSOLIDATE CONNECTIONS TO ROUTE 29 IN THIS VICINITY



- CENTREVILLE STUDY AREA BOUNDARY
- EXISTING ROADS TO BE IMPROVED
- PLANNED ROADS
- INTERCHANGE
- CP COMMUTER PARKING
- (1987) YEAR CONSTRUCTION TO BEGIN

SOUTH OF MAP AREA AND NOT SHOWN: PLANNED ROUTE 28 BYPASS AND PLANNED COMMUTER PARKING LOT NEAR ROUTE 28 BYPASS/I-66 INTERCHANGE.

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TRANSPORTATION PLAN
CENTREVILLE STUDY

transition between the density ranges planned for Sub-tracts B-3 and B-7. Thus, a single-family detached residential use at 2-3 dwelling units per acre is planned.

B-5.
(34 Acres)

This Sub-tract contains a number of commercial uses developed along Route 28 and Route 29 each with separate access to these highways. The transportation plan for Centreville includes a full interchange for the Route 28/Route 29 intersection, which will impact existing commercial uses and the access to these uses. However, local-serving retail commercial uses will remain appropriate in this Sub-tract along with limited office use to serve local needs for professional services and a motel with proximity to the historic district.

Development in this Sub-tract which occurs in proximity to Sub-tract B-2 must recognize the Historic character of the district and be compatible in terms of scale, layout, bulk, height, landscaping, et cetera.

Therefore, this Sub-tract is planned for retail commercial use (approximately 150,000 square feet with a .25 FAR); limited office use (about 185,000 square feet with a .25 FAR), and approximately 150 motel units.

B-6.
(27 Acres)

This Sub-tract has a linear configuration and a number of small parcels fronting Route 29. It will be necessary for a substantial number of lots to be consolidated to achieve a satisfactory development. In addition, an assemblage of land is necessary to reduce the number of direct access points to Route 29. To encourage such consolidation and the upgrading of the physical condition of certain parcels in the area, a medium density use is recommended.

This Sub-tract is planned for residential uses of 3-4 dwelling units per acre; a higher residential use in the range of 8-12 units per acre or a townhouse office use would be appropriate if the planning objectives discussed in the general description and those listed on the Comprehensive Plan Map under "Development Criteria for Residential Density Ranges," are met and a FAR of 0.25 is not exceeded. However, the land on each side of Newgate Boulevard, which divides the Tract, is to be developed as one use although the use on one side of this road may be different from the other.

Development of this Sub-tract in the more intense uses also is contingent on the consolidation of parcels. For land on either side of Newgate Boulevard to develop as an intense use, at least 75% of the total parcels, and 100% of the parcels which front on Route 29, are to be in common ownership.

If this Sub-tract is to develop as a townhouse office use, the following conditions additionally must be met:

- coordinated vehicular access and internal circulation to ensure a minimum number of vehicular access points;
- provision of a substantial landscaped open space buffer, and permanent screening along the periphery of the acreage to ensure the limitation of any adverse visual impact upon nearby existing planned residences;
- limitation in the height of the townhouse office units to a maximum of three stories from all elevations;
- provision of an architectural character which is residential in terms of bulk, scale, height and material;
- provision of lighting and signs whose size, character and location shall be compatible with, and have no adverse visual impact upon any nearby existing or planned residences.

B-7.
(336 Acres)

This Sub-tract is located in an area that is planned as a low density transition between Centreville and the Fairfax Center area. There is large lot, low density residential development throughout the Sub-tract. For this reason low density residential use at 1-2 dwellings per acre density range is planned. Part of the area in the vicinity of Stringfellow Road is in the Fairfax Center Area. The Plan for this area allows up to 3 dwellings per acre under certain circumstances. (Base density: 1 unit per acre; Intermediate density: 2 units per acre; Overlay density: 3 units per acre.)

Tract C.
(345 Acres)

This Tract is sparsely developed with some older low density residential units along the major roads, Route 28 and Route 29. Highway-oriented local-serving commercial retail uses, mostly of an older vintage, are located in a scattered pattern along Route 29. The majority of undeveloped land in the Tract has already been zoned for medium density residential development. Because access to the highway network is good, the general land use policy for this Tract is for medium and high residential use with segments C-2, C-6 and C-7, planned for garden apartments at a density of 16-20 dwelling units per acre. Local-serving retail commercial land fronting on Route 29 in this Tract between Route 28 and Pickwick Road is for the most part zoned for commercial use (zoning categories C-6 and C-8). Also, land between Route 28 and Old Centreville Road in the southern portion of the Tract is zoned C-2. The Plan reflects this zoning pattern so that local-serving commercial uses, including retail and offices, are available for residents in the immediate area.

C-1.
(38 Acres)

This Sub-tract contains local-serving, highway-oriented retail commercial uses. The Transportation Plan includes a full interchange for the Route 28/Route 29 intersection, which may impact existing commercial uses in such a way that redevelopment and land consolidation become necessary. However, local-serving retail commercial uses will remain appropriate in this Sub-tract. Limited office use is also appropriate to serve local needs for professional services.

The proposed realignment of Braddock Road bisects Sub-tract C-1, C-2, and C-3. If land assembly is accomplished at the southeast quadrant of Old Centreville Road and Lee Highway, coordinated mixed-use development with neighborhood retail commercial use and low-rise office would be appropriate on the north side of realigned Braddock Road (Sub-tracts C-1 and C-2) with multifamily development at approximately 15 dwelling units per acre as an appropriate use for the south side of realigned Braddock Road (Sub-tracts C-2 and C-3).

C-2.
(20 Acres)

This Sub-tract, because of its proximity to nearby commercial development and ease of access to Route 28, Route 29 and Route 66, provides an excellent opportunity to help satisfy the need for higher density housing. Multifamily development will be compatible with adjoining property and with careful siting of units will provide future residents a panorama view of the mountains to the west. It is planned for attached residential use at 16-20 dwellings per acre.

The proposed realignment of Braddock Road bisects Sub-tract C-1, C-2, and C-3. If land assembly is accomplished at the southeast quadrant of Old Centreville Road and Lee Highway, coordinated mixed-use development with neighborhood retail commercial use and low-rise office would be appropriate on the north side of realigned Braddock Road (Sub-tracts C-1 and C-2) with multifamily development at approximately 15 dwelling units per acre as an appropriate use for the south side of realigned Braddock Road (Sub-tracts C-2 and C-3).

C-3.
(25 Acres)

Sub-tract C-3 is adjacent to land zoned R-5 on both its south and west perimeters. It offers an excellent opportunity to provide attached residential units in a location with good access to the regional transportation network and local-serving commercial uses. Therefore, medium density residential use at 8-12 dwellings per acre is planned for this area.

The proposed realignment of Braddock Road bisects Sub-tract C-1, C-2, and C-3. If land assembly is

accomplished at the southeast quadrant of Old Centreville Road and Lee Highway, coordinated mixed-use development with neighborhood retail commercial use and low-rise office would be appropriate on the north side of realigned Braddock Road (Sub-tracts C-1 and C-2) with multi-family development at approximately 15 dwelling units per acre as an appropriate use for the south side of realigned Braddock Road (Sub-tracts C-2 and C-3).

C-4.
(52 Acres)

This Sub-tract is in the southeast quadrant of the intersection of Route 28 and Route 29 where Old Centreville Road intersects Route 28. Approximately one-half of Sub-tract C-4 is zoned R-8 and is committed to medium density residential use at 7.6 dwellings per acre. Since this Sub-tract has excellent access to the regional transportation network and is located in the central portion of the Centreville core area it is an appropriate location for medium density housing of 5-8 dwelling units per acre.

C-5.
(135 Acres)

This Sub-tract is zoned R-5 for medium density residential use. Since this is in accord with the development objectives for Centreville and will be easily served by nearby commercial development, medium density residential at 4-5 dwellings per acre is the planned use.

C-6.
(26 Acres)

This Sub-tract is in the southeast quadrant of the Route 28/Route 29 intersection, along the north side of Braddock Road between the Centreville Elementary School and Little Rocky Run. Higher density residential use at 16-20 dwelling units per acre is appropriate for this Sub-tract because it has good access to the regional transportation network and planned local-serving retail commercial development in the vicinity.

C-7.
(26 Acres)

Because this Sub-tract is located along a major arterial highway near commercial uses and abuts Sub-tract C-6 which is planned for garden apartments, it is planned for higher density residential at 16-20 dwelling units per acre.

C-8.
(22 Acres)

The northern portion of this Sub-tract is currently zoned Commercial, C-2, which permits non-retail and office commercial uses. It is recommended that the planning for this entire Sub-tract reflect this current zoning category.

Tract D.
(648 Acres)

The northern portion of this Tract and Tract E form the major part of the Centreville high density core area. In order to create an activity center of appropriate density that is efficient, easy to access and attractive, development activity should be monitored continually to assure appropriate land use relationships within both Tracts.

Although recommendations for Tract D allow the flexibility to vary densities from Sub-tract to Sub-tract in the northern portion of the Tract (D-1, D-3, D-4, D-5, D-9, and D-10), it is essential that overall planning objectives are adhered to.¹ Further, it is essential that the existing Newgate Forest subdivision be protected from incompatible development.

The more intense development of both a residential and commercial nature which takes place in Tract D should be in the northern portion in proximity to Route 29, immediately south of Route 29 and west of Route 28. Within this northern portion, densities may be transferable from Sub-tract to Sub-tract provided the overall Tract D development densities are maintained and the dwelling unit ranges for Sub-tracts D-7, D-8 and D-12 are followed. However, densities should not be transferred from the northern portion of the Tract to the southern portion where a lower intensity of development is desired.

As Tract D develops additional access points will be needed to Routes 28 and 29. To assure that new development in Tract D does not overburden the only existing access road, St. Germain Drive, a new access point to either Route 28 or Route 29 should be constructed before 25% of the units in the Tract are completed.

Development in the southern part of Tract D should generally be of lower density uses since it is the farthest removed from the core center and compatibility with existing single-family units is necessary. Internal collector streets should be designed in order to discourage or prevent through traffic within existing residential neighborhoods. Internal collector streets within Tract D are as shown on the Transportation Plan map.

D-1.
(88 Acres)

This Sub-tract's location with respect to the transportation network and its orientation to the proposed development in Tract E make it suitable for intense development. This is where people will shop, visit or participate in activities normally associated with a downtown setting.

This Sub-tract is planned for commercial retail use of approximately 300,000 square feet located near the Route 28-Route 29 intersection; office use of approximately 800,000 square feet which is closely associated to the commercial activity area; approximately 300 elevator apartments at 30 dwellings per acre; and approximately 400 garden apartments at 20 dwellings per acre.

D-2.
(4 Acres)

This Sub-tract was acquired as a future County library site to replace the present library located in leased space within the Newgate

Shopping Center. Therefore, the Plan designation is for a community library.

D-3.
(10 Acres)

Sub-tract D-3, because of its relation to the core area and its proximity to Route 29, Route 28 and Route 66, is planned for an area-wide recreational complex, similar to the Providence Recreation Center. This type of facility will provide a variety of activities and will help establish Centreville as a major activity center. This recreation complex should include a community center which provides visitor information, and a reception area for visitors and functions.

D-4.
(20 Acres)

Sub-tract D-4, because of its proximity to the planned activity center in D-1 and easy access to Route 29 and Route 66, is planned for high density residential use not to exceed 30 units per acre.

Careful attention should be applied to site development to assure compatibility with adjoining development. Because of the unique panorama of the Blue Ridge mountains to the west, building orientation should maximize this view.

D-5.
(41 Acres)

This Sub-tract is planned for residential use at 16 to 20 dwelling units per acre because of its proximity to the planned high density activity center in Sub-tract D-1 and because access to Route I-66, Route 29 and Route 28 is good. The design of development in this Sub-tract should incorporate transitions between planned medium density residential structures and high density development in adjacent Sub-tracts (D-1 and D-4). Pedestrian links should be planned to surrounding development, especially the major public recreation facilities in D-3 and the high intensity retail and office uses planned in D-1.

D-6.
(38 Acres)

This Sub-tract contains the Meadows of Newgate triplex subdivision located in the southeast quadrant of the Route 29 and I-66 intersection. It is planned for single-family attached.

D-7.
(53 Acres)

This Sub-tract lies along Interstate 66 between Newgate Forest and the Meadows of Newgate. The site planning, design, and density of future housing in this Sub-tract should recognize and complement the existing development adjacent to it. This can be achieved by the construction of single-family units in proximity to Newgate Forest and the provision of appropriate buffers and open space areas.

The overall Plan designation for this Sub-tract is low density residential at 3-4 dwellings per acre.

D-8.
(70 Acres)

Medium density use is appropriate for most of this Sub-tract because of its proximity to the highway network and nearness to the activity

and neighborhood centers planned in Sub-tracts D-1 and D-10. Further, the site planning, design, and density of future housing in the Sub-tract should recognize and complement existing development in the Newgate Forest subdivision. The planned use for this Sub-tract is medium density residential use at 5-8 dwelling units per acre.

D-9.
(45 Acres) This Sub-tract has direct access to Route 28 and Braddock Road extended and is therefore suitable for high density residential use. It is located along the southern boundary of D-1 which is part of the urban core and borders D-10, which is proposed for local-serving commercial retail uses. Development in Sub-tract D-9 should be designed so that transitions and pedestrian linkages are made to the nonresidential uses in D-1 and D-10. This Sub-tract is planned for high density residential use at 16-20 dwellings per acre.

D-10.
(20 Acres) Because of the confluence of roads and the commercial needs of the extensive residential development planned in the immediate vicinity, this Sub-tract is suitable for local-serving commercial retail and low density office uses. Development should be designed to incorporate a transition and pedestrian linkages between nonresidential uses and residential uses in adjacent Sub-tracts.

Approximately 100,000 square feet of retail commercial use and 100,000 square feet of low density office use are planned for the Sub-tract.

D-11.
(19 Acres) This Sub-tract is opposite Sub-tract D-10, which is planned for commercial retail and low density office uses. Because of the excellent access to the highway network and the proximity to local-serving commercial uses, the Sub-tract is planned for medium density residential uses at 5-8 dwelling units per acre.

D-12.
(203 Acres) Because of the proximity of this Sub-tract to the Newgate Forest subdivision and its relative distance from the Centreville core area, it is appropriate for low residential uses at 1-2 dwelling units per acre. As described in the General Description of Tract D, the lower density uses should be adjacent to Newgate Forest. Further, the Historic Military Terminus is a feature that should be preserved and protected as the area develops.

D-13.
(29 Acres) This Sub-tract lies along I-66 at the western side of Tract D, and consists of the Newgate Forest low density residential subdivision, which is developed under R-2 zoning.

D-14.
(9 Acres) This Sub-tract lying between the Meadows of Newgate triplex subdivision and Machen Drive near

Tract E.
(151 Acres)

Route 29 contains the Newgate garden apartment complex.

Most of this Tract is vacant and under single ownership, the only major development being the Newgate Shopping Center of some twenty acres at the intersection of Route 28/Route 29. This Tract is appropriate for high density residential, retail, office and research uses.

The Newgate Shopping Center should be expanded to serve additional population and the planned work force. It was originally designed for expansion to the rear. The shopping center expansion should develop around a large plaza which is designed with high-rise office, apartment and retail uses serving as the perimeter for the plaza.

Research and development (R&D) and office uses should be planned along I-66 because of high visibility and good access. It is unlikely that all of the area will develop at the same time or under the same ownership, therefore, it is practical to design a series of development bays along the inner loop road planned to serve the entire Tract. Within these bays, several buildings can be grouped around a common plaza. This will link the buildings together visually as well as facilitate pedestrian movement between buildings. These common areas should be linked to the major plaza which is part of the Newgate Shopping Center expansion.

High-rise and garden apartment development is proposed in the area immediately west of the retail center. This location is appropriate because of the proximity to planned retail development. This area is within walking distance of the activity center proposed in Tract D. It will have good access to I-66, Route 28 and Route 29 and provide an excellent panorama of the Blue Ridge Mountains.

A high-rise hotel is also appropriate in Tract E because of good access to I-66 and good visibility from this highway. An appropriate location for such a use would be near the intersection of Route 66 and Route 28. A hotel in this location will serve the traveling public and will complement the proposed office uses in Centreville.

The planning for this Tract is for approximately .25 million square feet of commercial retail use, 1.8 million square feet of office/high tech light industrial, 900 elevator apartment units at 35 dwellings per acre, 300 garden apartment units at 20 dwellings per acre.

Tract F.
(200 Acres)

Tract F is currently developing zoning at an average density of 5.4 dwellings per acre. Land use on this Tract is established and the Plan simply recognizes this. The

Tract G.
(245 Acres)

Plan designation is therefore medium density residential use at 8-12 dwellings per acre.

Because the upper portion of this Tract is in an area of existing and planned low to medium density residential use at 2-3 dwelling units per acre, similar development is planned. The lower portion of the Tract has good access to the regional highway network (Route 29) and is adjacent to the London Towne townhouse development. Townhouses are also being developed on the Tract near O'Day Drive. Medium density residential use of 5 to 8 dwelling units per acre is planned for these reasons.

G-1.
(129 Acres)

The Center Heights subdivision in Sub-tract G-1 has a scattered pattern of existing residential development. There is a 12+ acre parcel zoned R-8 being developed at a density of almost 7 dwellings per acre on O'Day Drive. Part of the Big Rocky Run EQC is located in this Sub-tract. Medium density residential use at 5 to 8 dwellings per acre is appropriate in Sub-tract G-1 since 1) it has been planned for this density in the past, 2) circumstances have not changed since the last Plan review cycle that would dictate change, 3) it is compatible with London Towne, and 4) it has good access to the regional transportation network.

However, the upper end of the density range is to be permitted only upon substantial consolidation which would develop under the ordinance requirements of the planned development housing (PDH) district. Minimal consolidation for a 5-8 dwelling unit per acre rezoning, under the PDH criteria, should be no fewer than ten acres.

G-2.
(116 Acres)

Low density residential use in the density range of 2-3 dwellings per acre is being developed adjacent to Sub-tract G-2 on the north side of Braddock Road. Similar density is appropriate for this location because of its distance from the core area of Centreville. Access from Stone Road to Tract F is planned through this Sub-tract.

This Sub-tract is planned for low-density residential use at 2-3 dwellings per acre. In addition, although no specific site is recommended for local-serving retail uses in G-2 there will eventually be a need for a neighborhood shopping center to serve the area north of I-66 and west of Route 28.

Tract H.
(131 Acres)

This Sub-tract is planned for industrial use on the eastern portion next to I-66 and medium density residential use on the western portion across from the London Towne townhouse subdivision.

H-1.
(78 Acres)

Medium density residential use of 5 to 8 dwelling units per acre is appropriate for this Sub-tract because 1) this area has been previ-

ously planned for this use and the new Plan policies for Centreville do not impact this area in any manner that would require this to be changed, 2) it is similar to that of London Towne in both use and intensity, 3) it has good access to the regional transportation network. The Cub Run EQC is partly located in this segment. Access points to Route 29 should be consolidated because it is a regional highway.

H-2.
(53 Acres)

Both the industrial zoning and the excellent regional access of this Sub-tract make it appropriate for general industrial use. Access points to Route 29 should be limited, however, to minimize turning movements. Part of the Big Rocky Run EQC is in this Sub-tract. If office uses are developed in conjunction with industrial development, noise mitigation measures should be undertaken.

In addition H-2 also is appropriate for a fringe parking lot. Planning strategies for the core area suggest reducing as many through or commuter trips as possible. Fringe parking locations would help achieve this objective. Therefore, if a fringe parking area is chosen for H-2, then the amount of acreage devoted to light industrial uses would be decreased by the size of the parking area.

TRANSPORTATION RECOMMENDATIONS

The accommodation of major travel movements through and around the Centreville area should be provided through the preservation and enhancement of the major arterial facilities (such as I-66 and Route 28). This can be accomplished by:

- controlling and limiting access to these facilities
- providing adequate capacity (number of lanes) on these facilities
- removing bottlenecks (through upgrading intersections and planning for interchanges)
- providing new circumferential facilities to relieve overburdened facilities.

The provision of access to adjacent properties in Centreville, on the other hand, should be provided through the development of a collector roadway network within each Tract which:

- provides adequate access to individual properties
- distributes traffic to the major arterials at designated points where impacts can be minimized.

In addition to these concepts, one of the primary transportation objectives for the Centreville area is to provide a balanced roadway network which achieves a Level of service 'D' (approaching congestion) or better during morning and evening peak hours.

In summary, the detailed transportation recommendations which are provided have been developed in recognition and support of the above outlined principles.

- **Recommended Improvements.** All of the improvements which are required to achieve Level of service 'D' for the future Centreville roadway network are presented in this section with the exception of required improvements on I-66. I-66 would require more than six lanes to achieve level of service 'D', but only six lanes are viewed as feasible as reflected on the Comprehensive Plan.

The following improvements are recommended for the major roadway facilities in Centreville with the exception of I-66 as outlined above. (These are also shown on Map 10.)

I-66

1. Retain the present master plan designation to improve I-66 to a six lane divided roadway from the Fairfax/Prince William County Line to Stringfellow Road.
2. Retain the present master plan designation showing planned completion of interchanges on I-66 at Route 28 and Route 29.
3. Retain the full planned interchange of I-66 at Stringfellow Road.
4. Retain the present master plan designation to consider additional bus lanes on I-66 if warranted by further study from Route 29 to Stringfellow Road.

Route 28 Bypass

5. Delete the alignment and interchange of the Route 28 Bypass as it is shown intersecting Route 28 on the existing Plan, and show a relocated alignment and interchange of the Route 28 Bypass from the Prince William County line tying into I-66 at approximately Cub Run (between Compton Road and Bull Run Post Office Road). The Route 28 Bypass originates within the City of Manassas at Route 234 (Sudley Road) and offers an alternative to Route 28 for Prince William County commuters. Specific approvals from VDH&T and NVRPA must be obtained prior to final action on this recommendation.
6. Show a new connection from Compton Road to the Route 28 Bypass. Show designation of fringe parking lot in the Route 28 Bypass/I-66 vicinity.

Braddock Road Extended

7. Retain the present master plan showing Braddock Road extended between Route 28 and Route 29, including the currently planned bridge over Interstate 66.
8. Realign Braddock Road Extended in the vicinity of Clifton Road/Old Clifton Road such that the major movement is shown from Braddock Road Extended over Old Clifton Road to Clifton Road with Braddock Road tying in as a "T" intersection. The majority of the widening which takes place on Old Clifton Road should take place on the north side so as to minimize the impact on existing houses.
9. Retain the present master plan designation to improve Braddock Road Extended to a four-lane roadway from Braddock Road to Route 28 (also, see number 19 below under Clifton Road/Stringfellow Road and number 3 above under I-66).

Route 29

10. Retain the present master plan designation to improve Route 29 to a six lane roadway from I-66 to Stringfellow Road.
11. Retain the present master plan designation showing a planned interchange at the Route 28/Route 29 intersection. A high design at-grade intersection (i.e. highly channelized) should be a first preference, however, for the Route 29/28 intersection. Grade separation should occur **only** after other interim traffic solutions have been tried and after other interchanges proposed for the Centreville vicinity are in place such as the Route 28 Bypass/I-66 interchange, the Route 28/I-66 interchange, and the Route 29/I-66 interchange. If and when grade separation occurs, community disruption should be minimized using urban design which is compatible with the nature of Centreville core development.
12. Access to Route 29 between I-66 and Route 28 should be limited to a maximum of two access

points; one to be located at Machen Road with the other at the north-south collector road between Tracts E and D. In addition, while left turns may be permitted at these access points, it may ultimately become desirable to limit left turns at one of these access points if capacity becomes compromised on Route 29. The elimination of left turns at **both** of these intersections should occur **only** after other interim traffic solutions have been tried at these intersections (i.e. a high degree of channelization). If and when it becomes necessary to eliminate left turns at **both** of these intersections, a grade separated overpass should be constructed between tracts D and E to ensure adequate circulation for this area. Should it be determined that this overpass will be needed before Tracts D and E are fully developed, then any proposed development should take place only after a financing mechanism has been established to address construction of this overpass (since this overpass will play a significant role in alleviating potential access problems to further development). The overpass itself should be constructed such that traffic operations are not unnecessarily interrupted at either intersection along Route 29 after which the overpass should ideally **replace** one of these intersections if possible. If it can be shown that another type of grade separation(s) (i.e. flyover(s)) would work in the place of such an overpass, then this type of traffic solution should be considered before considering construction of an overpass. Any grade separated movements which are proposed and/or constructed should minimize community disruption using urban design which is compatible with the nature of Centreville core development.

Route 28

13. Designate Route 28 to be improved to a six lane facility from Route 29 to the Prince William County Line.
14. Retain the present master plan designation to improve Route 28 to a six lane facility between Route 29 and I-66.
15. Designate Route 28 to be improved to a six lane facility from I-66 to Poplar Tree Road.
16. Designate Route 28 as a controlled access facility rather than a limited access facility from I-66 to Braddock Road Extended. This is a very short section of Route 28 which is located between an existing interchange and a planned high grade intersection/interchange. Because of the short length of this section and the large number of weaving movements occurring here, it may ultimately become desirable to limit access at this point if and when capacity becomes compromised on Route 28.

Detailed design of the configuration of the Braddock Road/Route 28/ Tract B collector road area should be finalized in the context of reviewing specific rezoning applications in this area. Such review should be predicated on the objectives of minimizing impacts on Route 28 and the Historic District, and minimizing conflicting and potentially hazardous traffic movements. Any such design should be coordinated with the Virginia Department of Highways and Transportation (VDH&T) and should meet appropriate VDH&T standards.

Access to Route 28 between Route 29 and Braddock Road Extended should be limited to two points. These points should be located approximately 1700 feet south of the Route 29 intersection, and 1700 feet north of Braddock Road Extended. (Accesses to each side should be aligned across from each other if possible.) While left turns may be permitted at these access points, it may ultimately become desirable to limit left turns at one or both of these

access points if capacity becomes compromised on Route 28.

Access to Route 28 between Poplar Tree Road and I-66 should be carefully considered with regard to long range planning. While existing access to Route 28 is provided from Walney Road and Braddock Road, it may ultimately become desirable to limit left turns at one or both of these points if capacity becomes compromised on Route 28. On the other hand, Walney Road provides access to the Centreville Core from the residential community located to the south of the E.C. Lawrence Park. Access to and from this community should be fully evaluated, and alternatives fully explored, before any consideration is given to eliminating left turns or other restrictions of access at the Walney Road/Route 28 intersection.

Stone Road

17. Retain the present master plan designation showing Stone Road to be improved to a four-lane roadway from Route 29 to Poplar Tree Road.
18. Retain the present master plan designation showing a planned interchange on Route 28 at Stone Road Extended (Poplar Tree Road).

Clifton Road/Stringfellow Road (also, see number 3 above under I-66)

19. Retain the present master plan designation to improve Clifton Road/Stringfellow Road to a four lane roadway from I-66 to Braddock Road Extended.

The following improvements are recommended for collector roadway facilities in the Centreville area. Some of these recommendations go beyond the actual study area boundaries.

Tract A

1. Retain the present master plan designation to show a new east-west collector road between Walney Road and Stringfellow Road.

Tract B

2. Add/delete collector roads as presently master planned such that a new collector road system as shown in Map 3 is planned for this Tract.
3. Maintain Braddock Road as a two-lane facility from Route 29 to Route 28. The historic nature of Braddock Road as it passes through the historic district should be maintained as development occurs.
4. Service drives along Route 29 should be relocated such that traffic conflict points are located as far from Route 29 as possible.
5. Collector roads passing through the historic district which are perpendicular to Braddock Road should be considered for one-way operations if and when it should prove to be feasible.

Tract C

6. Add/delete collector roads as presently master planned such that a new collector road system as shown in Map 4 is planned for this Tract.
7. Service drives along Route 29 should be relocated such that traffic conflict points are located as far from Route 29 as possible.
8. Collector roads should be constructed as four lane facilities are indicated as such in Map 3. All other collector road cross-sections should be finalized during the process of reviewing development plans.

Tract D

9. Delete the present master planned collector road system shown for this Tract and replace it with the collector system as shown in Map 5.
10. Collector roads should be constructed as four-lane facilities and are indicated as such in Map 5. All other collector road cross-sections should be finalized during the process of reviewing development plans.
11. Show designation of fringe parking lot within Tract D. Consider the possibility of shared parking with the proposed recreational center to be located in Sub-tract D-3.
12. Show an east-west service road extending from existing St. Germain Drive across Sub-tract D-1 to the proposed north-south collector road in Sub-tract D-1. While the configuration of this service drive may vary, the western intersection should be a natural extension of St. Germain Drive and the eastern intersection with the N-S collector road should be located as far from the Route 29 intersection as possible.

Tract E

13. Delete the present master planned collector road system and bridge shown for this Tract and replace it with the collector road system shown in Map 8.
14. The collector road system shown for this Tract should take the place of service drive requirements along Routes 28 and 29. As such, the proposed internal intersecting roadways should be located at least 250 feet from Routes 28 and 29.

Tracts F & G

15. Delete the present master plan designation showing a bridge over I-66 between Route 28 and Route 29. Show collector road from Stone Road to Braddock Road. Delete the portion of collector road (shown on the existing plan) to be constructed from Newton Patent Drive to the bridge at I-66.
16. Delete designation of fringe parking lot.
17. North of Route 29, access to properties between O'Day Drive and Stone Road should be consolidated to either Stone Road or O'Day Drive. No access should be provided to service drives in this vicinity. Service drives will be provided only if the alternative access described above is impossible.

Tract H

18. Add collector roads as shown in Map 10.
19. Show designation of fringe parking lot.

Of the major roadway improvements which have been recommended for Centreville, the following roadway improvements should be considered for construction as first and second priorities:

First Priority Roads not presently funded which should be considered for construction as funds become available for the Centreville Area:*

- Complete interchanges on I-66 at Route 28 and Route 29.
- Construct the Route 28 Bypass and connection to Compton Road from Prince William County to I-66.

Second Priority Roads not presently funded which should be considered for construction as funds become available for the Centreville Area:*

- Construct Braddock Road Extended from Braddock Road to Route 28.
- Construct Clifton Road/Stringfellow Road Realigned from I-66 to Braddock Road Extended.
- Construct partial interchange at I-66 and Stringfellow Road

Note that the transportation analysis of the recommended Land Use Plan shows that an acceptable level of traffic service will result with the implementation of the roadway improvements described above (with the exception of I-66 as previously described). This is in contrast with the results obtained in the traffic analysis of the currently adopted plan. It should further be noted that more detailed traffic studies based upon peak hour traffic volumes, peak hour trip generation and assignment to the area roadnet (and intersection turning movement analysis) could provide more detailed traffic information which could be used as a supplement to this planning effort in evaluating future traffic requirements for the Centreville area.

NONMOTORIZED CIRCULATION RECOMMENDATIONS

Centreville is well suited to nonmotorized travel because of its relatively compact scale and mixed use development concepts. The mixed land use plan is an important strategy for encouraging the development and utilization of nonmotorized circulation systems. Optimum utilization of pedestrian and bicycle modes provides benefits in energy savings, reduced air pollution and reduced traffic congestion as well as recreational amenities.

These linear circulation systems should be incorporated internally into all development projects as well as provide links between various land use areas. The scale and detail of each system or development node should relate directly to the use and intensity of the area served (for example, the urban core area would require a larger and more detailed nonmotorized circulation system than low density single-family neighborhoods in the surrounding areas). New trail construction should complement the Countywide Trails Plan and be provided by developers whenever possible.

Pedestrian circulation in Centreville should be facilitated through the provision of an interconnected system of paved walkways that link users with work and service destinations. A coordinated system is essential in order to facilitate inter- and intra-subtract circulation.

In addition to walkways which are the basic pedestrian facility, major roadways and their intersections should be designed to accommodate pedestrians through the use of grade-separated crossings (underpasses and overpasses) refuge medians, pedestrian activated or phased signals and sidewalk buildouts as applicable. These facilities enhance pedestrian circulation by enabling safe and convenient road crossings. The ability to cross all roadway intersections is essential to pedestrian circulation and access.

Pedestrian circulation should be provided to and from parking lots, public transportation, recreational facilities, and to or through open space facilities. Where access limitations dictate the need to plan for the fewest possible vehicular trips, nonmotorized access via cul-de-sac connections should be allowed. Development of sites with facilities intended to attract and/or generate a high volume of traffic should be designed to include appropriate transitions and pedestrian linkages with surrounding areas.

The major nonmotorized circulation recommendations for the Centreville area are as follow:

- Primary transportation bikeways (road separated) should be eight feet wide, asphalt surfaced and centered within a minimum 12 foot wide right-of-way.
- Bicycle transportation support facilities such as secure parking and storage, should be designed into employment and commercial developments. Major developments should also be encouraged to provide shower and locker facilities.
- Through travel streets unless otherwise designated should be designed to accommodate bicycle travel through the use of widened curb land or improved bike-lane shoulders.
- Pedestrian walkways should provide access to the proposed historical district, regional recreational center, local neighborhood centers, plazas,

- market places and to contiguous segments.
- Pedestrian crossings should be incorporated into the design and control of controlled intersections, particularly multilane arterials or connector roadway intersections with pedestrian crossings.
- Curb cuts should be provided for all bikeway curb crossings.
- Pedestrian activated signalization should be provided along with crosswalk markings.
- The high density activity centers in the core area such as the historic district and recreation center should be easily accessible and attractive for non-motorized users through the provision of carefully planned pedestrian walkways and plaza areas.

A grade separated bicycle/pedestrian crossing should be considered as part of the north-south connector road linking Tracts D & E in order to facilitate easy access across Route 29.

- Provide an integrated pedestrian network that harmonizes with the "development bays design concept proposed for the inner loop road within Tract E. Individual groups of buildings grouped around common plazas as proposed would facilitate pedestrian movement between buildings.
- Pedestrian walkways should link these groups of buildings together with the plaza and market place proposed to serve the shopping center at Newgate.
- In areas where access limitations dictate the need to discourage through travel, nonvehicular interneighborhood access should be facilitated by cul-de-sac connections.

ENVIRONMENTAL RECOMMENDATIONS

• **Environmental Quality Corridor System**

Preservation of the EQCs is a high priority for Centreville. A comprehensive EQC network, augmented by additional parks and open space areas, provides an interconnecting system of preserved natural environments which should be maintained and protected for their ecological, recreational and scenic value. It also serves as a linkage to, and buffer between, the residential, office, retail and commercial uses within the area. Preservation of the Environmental Quality Corridors should be achieved by dedication of land to the Fairfax County Park Authority. The land use plan map includes the EQC in Tract E and the extension of the EQC from Little Rocky Run to Arrowhead Park. Boundaries of these EQCs should reflect the boundary establishment criteria contained in the text of the Comprehensive Plan.

• **Stormwater Management**

In an effort to achieve the federal environmental goals of fishable, swimmable waters in Fairfax County, the Board of Supervisors has adopted best management practices (BMPs) as a requirement in the *Public Facilities Manual* for nonpoint source pollution control in the Occoquan watershed. These land use-based management techniques help protect water quality in the Occoquan Reservoir and the tributaries to the Reservoir through physical modifications in development. Any new development requiring subdivision or site plan approval has to provide water quality control measures or Best Management Practices (BMPs) sufficient to reduce by one-half the projected runoff pollution for the proposed use. One-half is the level of projected post development phosphorus runoff reduction that was found to be necessary in order to meet the water quality goal established as a result of the Occoquan Basin Study (1982).

PUBLIC FACILITIES RECOMMENDATIONS

The Facilities Plan projects needed facilities by size and location. The time element, while critical, is often elusive. The actual need for a specific facility is sub-

ject to conditions not directly under public control. For this reason, the Capital Improvement Program (CIP) is used as the Plan implementation tool which orders individual projects through the time dimension. The CIP, by allocating resources over a five-year period, is able to respond to positive and negative accelerations of demand.

• **Schools**

The projection methodology for school spaces utilizes estimates of dwelling unit types and student generation ratios for the various types of residential units. Based on the recommended land use mix, there is a projected ultimate demand of 2,399 elementary school spaces, 1,038 intermediate and 1,955 high school spaces. When compared to the availability of school spaces in the current inventory, there is a potential unmet demand of 2,095 elementary, 1,096 intermediate and 1,843 high school spaces.

Based on present standards of the Fairfax County School Board, elementary schools are normally designed on the basis of 660 spaces, intermediate schools have 1,200 spaces and high schools 2,400 spaces. This translates into a potential facility demand of three elementary schools, one intermediate and one high school. In anticipation of this demand, two elementary schools and an intermediate school are included in the Capital Improvement Program for Fiscal Years 1985-1989.

The elementary schools presently included in the CIP are the Union Mill and Country Club Manor schools. The Union Mill School is proposed on the west side of Union Mill Road near Twin Lake Drive and is scheduled to open for the 1988-1989 school year. The Country Club Manor school is presently proposed on a site owned by the School Board near Carlberrn Drive in the Country Club Manor subdivision and is scheduled to open for the 1987-1988 school year. However, this facility may be relocated to a school site which has been proposed for dedication on the north side of Braddock Road. The third school identified as needed as been proposed on a site to be dedicated at the time of the rezoning of Tract D.

With the completion of the Franklin Intermediate school north of Route 50, there will be available intermediate school spaces in the western part of the County beginning in the 1984-1985 school year.

An additional high school has been proposed by the School Board. In order to alleviate over-capacity conditions in some high schools, the School Board has adopted a comprehensive set of boundary adjustments that would utilize surplus capacity in others. However, the effectiveness of this solution is not seen as long term. Since projections indicate that development of the Centreville core will generate students in excess of the ability of Chantilly High School and Robinson Secondary School to absorb them, a new high school has been proposed on the Braddock Park site. Located on the east side of Union Mill Road, this site was planned formerly as an intermediate school.

• **Parks**

Community-serving parkland is defined as land primarily devoted to the recreation needs of nearby residents, or land having this potential, including related open space or natural areas. The model for the definition is the community park which typically provides a package of recreation facilities serving short term daytime needs. The facilities may include tot lots, tennis courts, multiuse courts, ballfields, play areas, picnic areas, etc. Portions of the park usually consist of unimproved open space of natural areas.

The adequacy of community-serving parkland is generally evaluated on the basis of acres per 1,000 population. In Fairfax County, the standard of 8.5

acres per 1,000 persons has been established. This reflects the much lower availability of parkland in the older portions of the County while striving for a realistically attainable goal in areas that are still to develop.

By applying the standard of 8.5 acres per 1,000 persons to the projected population of 36,900 persons, a gross projected demand of 312 acres of community-serving parkland is calculated. Existing parks in or near the Centreville core area include:

Site	Type	Size (Acres)	Acres Available as Community Serving Parkland
Parks			
Arrowhead	Community Park	12.98	12.98
Cub Run	Stream Valley	52.95	0
E.C. Lawrence	County Park	639.03	25.00
Rocky Run	Stream Valley	15.39	0
Fairfax Center	Community Park	35.00	35.00
	Park Sub-total		72.98
Schools			
Centreville	Elementary School	13.00	6.50
London Towne	Elementary School	11.00	5.50
	School Sub-total		12.00
Total Existing Acres Available as Community Serving Parkland			84.98

Using the recommended standards for Community Serving Parkland (42.37 acres) it appears that there is currently a surplus of 42.61 acres of Community Serving Parkland in the study area.

Site	Type	Size (Acres)	Community Serving Parkland
Parks			
Centreville South (2)	Community Park	2.70	2.70
Old Centreville Road (1)	Community Park	10.00	10.00
Centreville Center (3)	Community Recreation Center Park	10.00	10.00
Four Add'l. Parks (3)	Community Parks	75.00	75.00
	Park Sub-totals		97.70
Schools			
Tract D (3)	Elementary School Site	10.00	5.00
	School Sub-total		5.00
Total Community Serving Parkland Acres Proffered, Funded and Proposed			102.7
Total Acres Existing and Projected Community Serving Parkland			187.7

Using the recommended standards of 8.5 acres per 1,000 persons, there will be a community-serving parkland deficiency of 227.2 acres at build out in Centreville unless there is additional park or school land. If all the proffered, funded or projected parks are realized, this deficiency will total 124.5 acres. The proffered, funded, or projected parks which will meet a portion of the future demand are the 2.7-acre Centreville south area park, the elementary school site in Tract D, and a park on Old Centreville Road.

To move toward the goal of achieving 8.5 acres of community-serving parkland per 1,000 persons, it is recommended that an additional four medium-sized community parks, of between 15 to 25 acres, be developed. These parks will allow an adequate mix of facilities, including large ones such as ballfields. These sites are located in Tracts B and D. While every effort should be made to acquire sites through dedication, the purchase of appropriate sites should be considered in future bond referenda.

• **Public Safety**

As the core area and the community around it develops and approaches the build out levels proposed in this Plan, the level of fire protection will have to

be increased. Presently, the fire service is tailored for the needs of the community, a growing rural area fast becoming a bedroom community. Prudent fire protection planning for a commercial and residential hub as envisioned in this Plan with an excess of 3 million square feet of R&D office along with two hotels and several apartment developments may require the location of a second company within a 2 to 3 mile distance of the area. This likely will include the need for a ladder truck.

In addition, future development to the west of the study area may require the location of an engine company with basic life support and brush units to cover low density development and to provide assist pumps on multi-company alarms in the core. The present volunteer owned station, Company 17, provides sufficient fire protection for the community, but if the transportation system worsens the response time to areas to the west of the community will increase. Therefore, development and response times should be reviewed annually and additional facilities proposed through the Capital Improvement Program as the need becomes identified.

Based on the proposed patterns of development and the central location of the existing station, an additional fire station is not recommended. Response times can be reduced with intersection and highway improvements. Should modernization or other improvement of the existing station be necessary, it can be accomplished within the normal CIP process.

Police response is not dependent on the location of a substation. Dispatches are made to cruisers already on the road so that service adequacy is more a measure of personnel and equipment than facility location. For this reason, the proposed relocation of the Chantilly substation to the Pender public safety complex will not affect police services to the Centreville area. As growth occurs in the Centreville area, patrols will be added to maintain the desired standard of service. Should overall growth in the area served by the new Pender substation result in overcrowding at that facility, a substation in the Centreville area may be appropriate. However, at this time that is not viewed as a likely eventuality.

- **Libraries**

Centreville is currently provided with library services by the 5,000 square foot leased facility in the Newgate Shopping Center. In anticipation of the overall growth in the Centreville library region which encompasses the southwestern portion of the County bounded by Routes 50 and 123, a regional library of 30,000 square feet has been proposed. This facility will be located on a site at Lee Highway and Machen Road that was purchased in 1982. The Centreville Regional Library is programmed in the CIP and scheduled to open in FY1990.

- **Health Care Facilities**

The minimum threshold population for a free-standing emergency and out-patient facility is between 35,000-50,000. Since this population will be generated within the Centreville core area and the surrounding area to the south and east, an ACCESS-type facility could be justified in the post-1990 period. Since the need for medical facilities of this type is based on factors other than population, the situation should be monitored carefully with regard to the probability of construction of a new hospital in the Fair Oaks area. In the interim, however, a suitable location should be identified in case this facility actually is needed.

- **Other Facilities**

The proposed relocation of general County government offices to the new governmental center on Lee Highway will eliminate the need for satellite governmental center in Centreville. However, if future con-

ditions indicate the need for a police facility in Centreville, provision should be made in the design of the facility to include space for violations bureau and assessments office.

- **Sanitary Sewer Facilities**

Total projected development will generate sewage flows on the order of 4.9 million gallons per day (mgd). Of this amount, 4.2 mgd will drain through the Rocky Run trunk sewer and the remaining 0.7 mgd through the Little Rocky Run trunk. While the design capacities of the two trunks are adequate to accommodate flows from the study area, the Rocky Run trunk may need to be enlarged in the future. The majority of the Fairfax Center development area is also tributary to this line and the trunk may not have sufficient capacity to carry flows generated by the ultimate development of its service area. However, unless the pace of development is exceptionally rapid, trunk capacity will not be a constraining factor until well beyond the year 2000.

A similar situation exists with regard to treatment capacity. The Fairfax County share of capacity at the UOSA plant is currently 5.45 mgd. This is projected to increase to 8.17 mgd or 36.3% of the total capacity of 22.5 mgd. Ultimate development within the Fairfax County portion of the service area of the plant will probably exceed presently projected capacity. However, since present flows from the County to the plant are about 2.0-2.5 mgd, treatment capacity would not be a constraint on development until well into the future. At that time, the County's options would be to obtain additional capacity either contractually from a member jurisdiction or through the actual physical expansion of the plant.

- **Water Service**

The primary water feed to Centreville is a 12-inch main in Lee Highway. While this main provides adequate domestic supply, it does not provide adequate fire protection flows to meet the standards of the Fire Marshal's Office (2,500 gpm). To improve water service to Centreville, the Fairfax County Water Authority has programmed the installation of a 24-inch main in Lee Highway between West Ox Road and Stringfellow Road during the spring and summer of 1984. The Water Authority has also identified future improvements associated with the Fair Lakes development and other development north of Centreville that will greatly increase the reliability of the system and total available flow.

SITE PLANNING GUIDELINES

When the Board of Supervisors adopted the Fairfax Center Plan a set of design guidelines were included to assist in the review of subsequent development proposals within the Fairfax Center Area. Although these guidelines were initially designed for this area, they have general applicability and should be used throughout the County where high intensity uses or mixed uses exist or are planned. The checklist provides guidance on site planning, architectural design and landscaping. Planning objectives for Centreville are similar to those for the Fairfax Center Area in many instances. That is, the establishment of an attractive urban environment containing a variety of mixed uses, adequately served by a good transportation system.

The checklist now applicable to the Fairfax Center Area will assist Centreville in achieving basic design principles as discussed in the Centreville Study. Therefore, this checklist for Site Planning, Architectural Design and Landscape Architectural Review now applicable to the Fairfax Center Plan is to be used as a guide for development in the Centreville Area (See Plan pages III 85 through III 131).

CHANTILLY—ROUTE 50 CORRIDOR COMPLEX AREA

The Chantilly-Route 50 corridor area is designated a complex area for the following reasons:

- The area has been designated as a subregional center in the past plans and is under development pressure.
- Good regional access is available on Route 50 and Route 28.
- Conflicting pressures exist from potential industrial uses in the Dulles Airport area and residential uses on Route 50 nearby.
- There is a potential trend toward a commercial strip along Route 50.
- Increased development along Route 50 has caused congestion and multiple access is delaying regional traffic.
- The proposed Springfield Bypass will intersect with Route 50 east of Rugby Road.
- With the trend toward high-density development, there is a potential for adverse environmental impact on areas downstream from Chantilly, especially to stream valley systems of Big Rocky Run, Flatlick Run and Cub Run.

Heritage resources and existing open space recreation facilities are threatened by increased land value as development occurs.

Description

This complex area extends along both sides of Route 50 generally from Rugby Road to Cub Run. Existing stable residential communities along the corridor are not included in the complex area.

Local-serving and highway-oriented commercial uses are located at Greenbriar and Chantilly Mall. Other commercial uses are located at Centreville Road and Route 50.

The portion of the complex area west of Centreville Road (see Plan map) is in the Dulles Airport Noise Impact Area.

ISSUES

Land Use and Population

Good regional access and the availability of public sanitary sewer through the Upper Occoquan Sewage Authority system make the complex area a logical location for a subregional growth center.

One of the major considerations in the complex area is the need to plan land uses in the Dulles Airport Noise Impact Area that conform with the policies for this area as described at the beginning of the Area III section of the Plan. Another major land issue is the trend toward strip commercial development. Multiple access to these uses poses a traffic conflict between local and regional

travel demand. Congestion has built up on Route 50 and the highway is now losing its capacity to serve regional traffic.

Transportation

The complex area has intersections of major north-south and east-west arterial and collector highways; Route 50, Route 28, Stringfellow Road, West Ox Road, Centreville Road and the future Springfield Bypass. Improvements to some of these facilities will have to be made as the area develops and appropriate land uses have to be considered vis-a-vis these facilities.

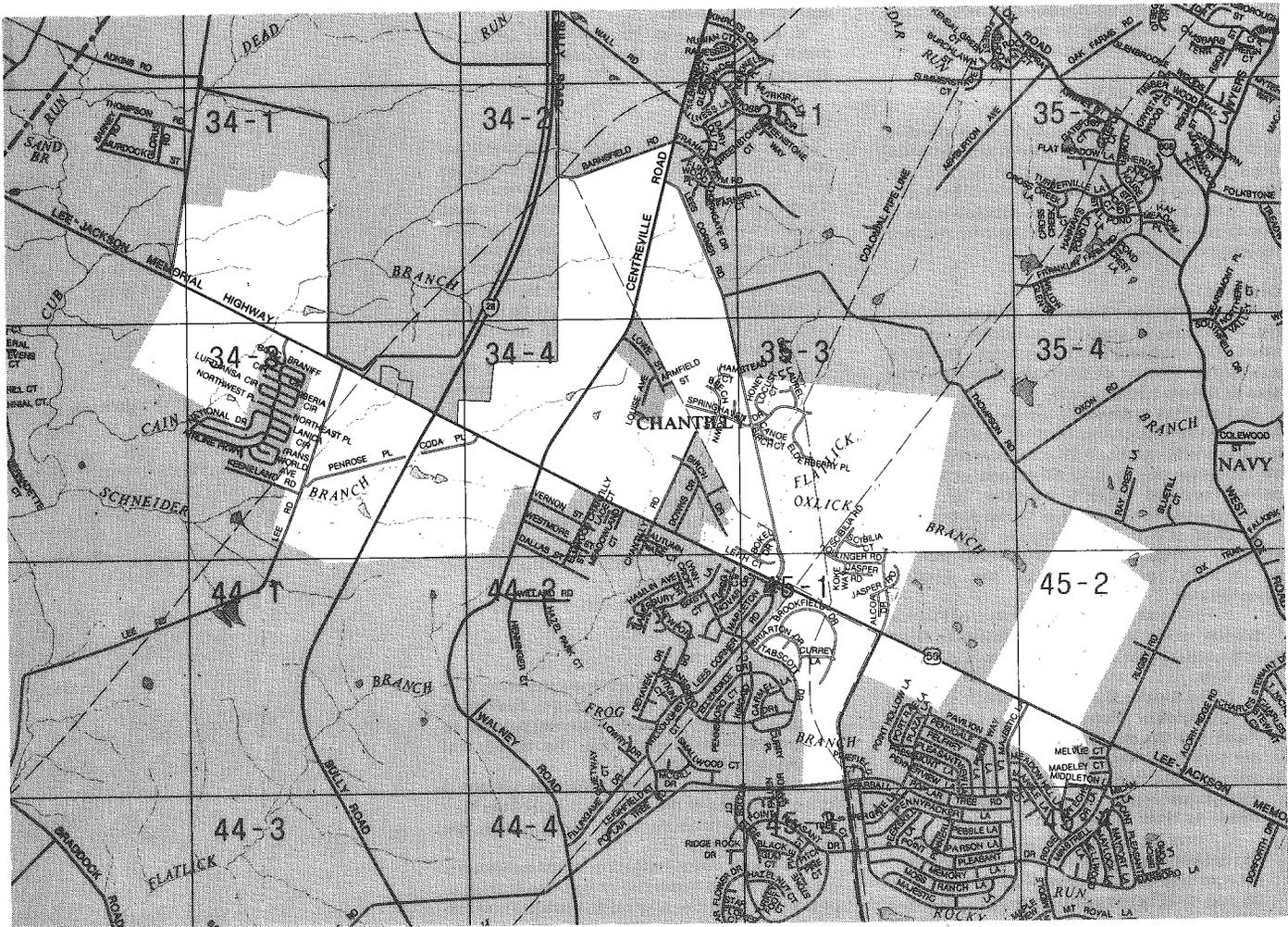
Availability of Sanitary Sewer

(See Centreville Complex Area for explanation.) Chantilly will be the second major growth center in the Bull Run Planning District, as indicated in previous plans. Centreville is the major growth center.

Other Public Facilities

Existing parks, one at the landfill site on West Ox Road and the Ellanor C. Lawrence Park near Centreville, will serve Chantilly when they are developed. Community parks need to be provided as development occurs.

Other public facilities will need to be expanded and modernized (fire and police) as development



occurs. Services which do not exist (e.g., a library and community recreation facilities) will have to be provided as Chantilly experiences substantial growth.

Environment

Chantilly is located in the Occoquan watershed and future development should be evaluated to assure that there are no negative effects on the Occoquan Reservoir.

Portions of the stream valleys of Cain Branch, Upper Cub Run, Schneider Branch, Flatlick Branch, Oxlick Branch, and Frog Branch are found in this complex area. All these streams eventually drain into the Occoquan Reservoir. Protection of the downstream environment is necessary as development occurs. There is a potential impoundment site on Flatlick Branch north of Route 50.

Highway noise, particularly from Route 50, impacts large portions of this area. In addition, western portions of the complex area are located in the Dulles Noise Impact Area.

History and Archaeology

The Ayre House on Route 50 is a well-maintained site which may become subject to economic pressure as substantial development occurs. Policies should be considered for its preservation.

Sully is within a historic district, which allows industrial use under restricted conditions. A more appropriate use for land east of the site would be open space or open space recreation use.

There are numerous prehistoric and historic archaeological sites in the vicinity of Upper Cub Run and of Route 50 which if they are not protected, could be destroyed as development occurs. The value of these sites should be explored and appropriate protection measures enacted.

RECOMMENDATIONS

All of this complex area is within the watershed of the Occoquan Reservoir. Special recommendations, resulting from the *Occoquan Basin Study*, are presented at the beginning of the Area III section of the Plan. These apply to affected lands in this complex area in addition to the complex area recommendations listed below.

Land Use

A. Chantilly should develop as a subregional center because of good regional access and the availability of additional sanitary sewer. There is a substantial amount of undeveloped land in the area to absorb future growth.

B. Land that is generally located in the Dulles Airport Noise Impact Area west of Elmwood Street in the Route 50 and Route 28 corridor areas should be industrial use to take advantage of the excellent regional access provided by these highways and the proximity of Dulles Airport.

C. Land use in the remainder of Chantilly should be low-density residential uses distributed as follows (see Plan map for density designations):

1. The area east of Sully and west of Flatlick Branch, which is oriented to Centreville Road and Lees Corner Road, for 3-4 dwelling units per acre;

2. The area east of Flatlick Branch and west of Stringfellow Road and the International Town and Country Club for 2-3 dwelling units per acre (north segment) and 3-4 dwelling units per acre (segments fronting on Route 50 and Stringfellow Road). No access should be permitted to Birch Drive.

3. Parcel 38, map 45-2((1)) should be planned for residential use at a density of 16-20 dwelling units per acre to reflect the existing R-20 zoning. Parcel 36, map 45-2((1)) and parcel 27, block 27, map 45-2((3)) are appropriate for residential use at a density

of 2-3 du/ac, which is compatible with density in adjacent Greenbriar.

4. The area fronting on Thompson Road near Rugby Road for 1-2 dwelling units per acre;

5. The area on the north side of Route 50, east of the International Town and Country Club, for 2-3 dwelling units per acre;

6. The area west of Stringfellow Road and south of Route 50 for 2-3 dwelling units per acre;

7. The area east of Centreville Road and south of the Route 50 development at 3-4 dwelling units per acre;

8. The clustering of development, where compatible, is strongly advised because it increases open space and has a beneficial effect on water quality in the Occoquan Basin.

D. Where feasible, the reverse frontage concept is recommended but not required for residential development along Route 50. If frontage is desired on Route 50, service roads should be required so that each individual property does not connect to Route 50. Sufficient setback is required to assure protection from noise.

E. Provide open space buffer between industrial or airport-oriented uses and residential uses.

F. A limited amount of local-serving commercial is appropriate as additional development occurs. This should be located within residential development and should not have direct access to Route 50.

G. The International Town and Country Club should be maintained through tax incentives when development pressure reduces its economic viability. Acquisition may be considered as a less desirable alternative.

H. Agriculture may be considered an appropriate interim use in those areas planned for airport-oriented industrial uses.

Transportation

A. Route 50 should be improved to a limited access facility with six lanes. Grade separations are also necessary. Service drives should be discouraged, and reverse frontage should be used only if backyards are screened from highway view by use of appropriate planting and/or fencing.

B. Upgrade Route 28 to a four-lane facility from Dulles Access to I-66 for north-south regional traffic. Realign Centreville Road to Route 28 to divert north-south regional traffic from the intersection of Centreville Road and Route 50.

C. Open a connection on Rugby Road from West Ox Road to Route 50 to provide improved access for fire protection.

Public Facilities

A. Construct a police district station and a fire station (relocated from Navy/Vale) on the County-owned site on Route 50 west of West Ox Road.

B. Community parks should be provided, preferably through private development, in planned unit development.

C. Construct a community library on Parcel 35, map 45-2((1)).

Environment

A. Environmental impact analyses should be developed as development occurs. Evaluation should occur early in the development process so reasonable modifications can be made and administered equitably.

B. Water quality recommendations presented at the beginning of the Area III section of the Plan should be applied to those lands within the Occoquan Basin.

C. Aircraft noise mitigation recommendations presented at the beginning of the Area III section of the Plan should be applied to those lands within the Dulles Airport Noise Impact Area.

D. Highway noise mitigation should be provided for noise sensitive land uses so as to ensure a healthful living and working environment in which speech and activity interference is minimized in both interior and exterior areas.

E. The environmental quality corridor system as described at the beginning of the Area III section of the Plan, including those EQC lands along Cain Branch, Upper Cub Run, Schneider Branch, Flatlick Branch, Oxlick Branch, Frog Branch and their tributaries, should be preserved through a variety of implementation methods.

History and Archaeology

A. Assure the preservation of the Ayre house as the outstanding historic site in Chantilly.

B. A change in the land use for the Sully Historic District should be considered so that land directly east of the site can be designated for open space, agricultural use or open space recreation use. This use could be accomplished through private development (e.g., nursery, polo grounds or horse show facilities) or through public acquisition for a public golf course of approximately 100 acres.

C. The heritage resources within the Complex Area should be evaluated for preservation.

THE FAIRFAX CENTER AREA

Description

The Fairfax Center Area comprises approximately 5340 acres of land west of Fairfax City and is bisected by several principal highways—Route 50, I-66, and Route 29. See Map 1.

The area is generally sparsely developed with several large tracts in single ownership. It includes the site of the proposed Fairfax County Government Center and the Fair Oaks shopping center, the largest retail center in Fairfax County.

Background

On May 19, 1980, the Fairfax County Board of Supervisors approved the establishment of a citizens task force to assist in the formulation of planning recommendations for an area of over 5000 acres adjacent to and west of the Route 50/I-66 interchange immediately west of the City of Fairfax.

It is beneficial to outline briefly some of the factors and events which led to the creation of the Route 50/I-66 Task Force:

- The Board of Supervisors decided to relocate the existing Fairfax County Government Center. A 183-acre site in the Route 50/I-66 area was identified and purchased by the County for the future government center.
- A Government Center Master Plan Committee was established to develop a design competition for the proposed government center. The committee stated that the design excellence anticipated for the proposed Fairfax County Government Center should extend beyond that site to the surrounding area, and that the entire Route 50/I-66 area should be planned as a strong focal point for Fairfax County.

- Fair Oaks regional shopping mall, with 1.2 million square feet of enclosed space, opened in mid-1980 at the intersection of Route 50 and I-66. The largest regional mall in the County, Fair Oaks and its associated development are expected to become a nucleus for development of a major shopping/office/hotel complex in the area. The opening of Fair Oaks mall, along with the construction of the initial buildings of the Pender and High Ridge business parks east of the Route 50/I-66 interchange, underscore the area's present economic development potential.
- Increased private developer interest in the I-66 development corridor, and the fact that a great deal of the Route 50/I-66 area today remains undeveloped, underscore the new development potential for the area.

Adoption of the Fairfax Center Area Study

On August 2, 1982 and September 13, 1982 the Board of Supervisors adopted the *Fairfax Center Area Study*, as modified by reference into the Comprehensive Plan. General findings and objectives, specific land use, environmental and transportation recommendations and some background information of the *Fairfax Center Area Study* were amended into the Comprehensive Plan. The *Fairfax Center Area Study* document (published in November, 1981) includes background on the recommendations and study methodology and is available for reference.

MAJOR ISSUES SUMMARY

A list of major issues was identified and categorized into five major areas:

Land Use

- Large, homogeneous areas of similar densities and uses should be avoided. Instead, a rich mix of land uses, in quality developments, which respond to market and site-specific conditions should be encouraged.
- There is a need for multiple and mixed land use arrangements if the potential quality level of the area is to be attained. This can be achieved through the use of existing Fairfax County P (planned development) zoning categories allowing for a quality mix of housing, employment, retail and other uses, and through the development of special mixed use village cores in strategic areas. Such multiple and mixed use projects must be governed by performance criteria which will ensure quality development.
- The proposed Fairfax County Government Center will be a major focal point for future area development. Therefore, it is critical that adjacent development be compatible with the proposed government center in general use relationships. Scale and quality should complement and reinforce, not compete with the government center. This high quality of design should be encouraged in all development within the area.
- Urban or suburban sprawl is not a desirable land use pattern for the area. The proposed land use plan should provide a strong conceptual and perceivable sense of order



through the control of land use location, densities, hierarchical road systems, major focal areas (cores) for development, cluster design concepts and strong use of buffers and amenity features.

- Land uses should be allocated to specific sites based upon each site's suitability to support a particular use or uses in terms of natural conditions, support service availability and consideration of adjacent planned and existing uses.
- To ensure a high quality level of development throughout the area, design review mechanisms should be considered for inclusion during implementation of the Plan recommendations. This review process would help to maintain and assure a standard of excellence of development for the area.
- Open space definition through the planning of continuous linear park and pedestrian/bicycle systems throughout the area is desirable; these systems would frame and buffer development clusters while providing recreational and transportation opportunities. Fairfax County currently encourages the formation of stream valley parks, and actively pursues a policy of the protection of environmental quality corridors along streams. The land use planning process should actively support and augment these County policies.
- Existing stable neighborhoods should be preserved, enhanced and reinforced through the use of buffering and recommended improvement actions. Buffering measures and compatible adjacent land uses must be implemented to protect the integrity of neighborhoods such as Dixie Hills, Random Hills, and Greenbriar.
- Strip development should be minimized while maximizing the cluster development concept throughout the area.

Transportation

- The need to attract suitable mass transit services to the area through the planning of proper type, mix, location, and intensity of land uses was considered of primary concern. If the extension of commuter rail services proves infeasible, the assurance of express commuter bus service via I-66 to the Vienna Metro Station and the District of Columbia is desirable to reduce automobile traffic generated by the land uses within the area, as well as to conserve energy and lessen air pollution. Internal to the area should be a well-developed bicycle path system, linking homes, employment centers, retail areas and recreational sites; such systems will offer alternatives to using automobiles for short trips within the area, and link the area to neighboring areas.
- The roadway system for certain parts of the area is already congested during peak traffic periods. Strong consideration must be given to the traffic impact of any proposed development. Therefore, transportation improvements must be provided in concert with new development, as needed. The baseline level provides one option with emphasis on residential and commercial development which would need one level of transportation facilities in place. To support rezonings for more intensive use above the baseline level, a prerequisite for said development, at the higher intensity options, is the insurance of the timely provision of a higher level of transportation improvements to support such level of development.

Particular areas of concern include Route 50 and West Ox Road north of Route 50. These major regional commuter routes are

operating at the lowest level of service during peak hours, and future planning efforts should improve this situation as much as possible through redistribution of traffic along other (new or existing) routes or through highway infrastructure improvements. Sanitation truck traffic to and from the landfill via West Ox Road constitutes another traffic problem. Although the planned cessation of landfill operations in late 1982 would improve this situation, the proposed sanitation truck transfer station on that site may create new truck traffic in the area. The interchange at Route 50 and I-66 is currently incomplete. This hinders the smooth flow of traffic by forcing drivers to resort to circuitous routes. Inclusion of the additional ramps necessary to create a full interchange must be considered in the planning process.

Any proposed major thoroughfare must respect existing established residential neighborhoods to the greatest extent possible. The alignments of proposed roads should not reduce the livability of residential neighborhoods either by entering the neighborhood or by passing unreasonably close by, unless such impacts are mitigated.

- I-66, Route 50 and Route 29 should be recognized as major traffic corridors in the planning effort. The proposed Springfield Bypass or another major north-south connector road and other proposed internal collectors should be considered as primary future traffic carrier options which may complement the existing road system. Neighborhood collector streets should not be looked to as future major thoroughfares when such usage degrades the quality of the adjacent land uses.
- Currently proposed roadways should be assessed in light of the area planning objectives, opportunities and constraints. A major artery should run in a north-south direction and would be located between the Greenbriar community and the Fair Oaks mall. A substantial land use and noise buffer would be retained between the major roadway and the residential area along the eastern boundaries of the Greenbriar and Oakwood Estates communities.
- Quality truck and service vehicle access must be provided in such a way as to cause minimal negative impacts on area users and residents. This applies particularly to vehicles servicing existing and proposed commercial, office, industrial, and utility uses. Limited access highways with adequate design characteristics, along with the proper location of service-oriented land uses, can reduce potential negative impacts.
- Proposed road alignments must be responsive to natural landscape conditions and existing and proposed land uses. The visual impact of the roadway must be considered a primary design criterion during horizontal and vertical alignment planning and design. Roadway design through wooded areas should include tree preservation criteria, especially in the median area. The relationship of proposed roads to residential uses must be considered; safety, noise, air quality and other issues should be addressed in this context.

Environmental Quality Concerns

- There is a need to protect the water and environmental quality of the Occoquan basin area. The Occoquan basin drains approximately 20 percent of the total area of Fairfax County. The reservoir stores water for a large percentage of the Northern Virginia popula-

tion. Even though the present overall intensity of development within the Occoquan basin is relatively low, water quality levels in the basin are worsening. Further influx of development into the area will be extremely detrimental to water quality and wildlife habitats unless environmentally sensitive site development measures are utilized.

- It is necessary to protect the water and environmental quality of the Occoquan basin area. Protection of runoff should be provided by retention ponds and other best management practices (BMP). Every effort should be made to assure that streams will not flood and cause damage to neighborhoods and homes due to future construction in undeveloped areas.
- It is necessary to include air quality as an important factor in land use development.
- Nonpoint source pollution has been identified as a major contributor to water quality problems in the Occoquan Reservoir. The impact of nonpoint source pollution is related to land use densities. As development becomes more intense and higher percentages of the land surface are paved, pollution concentrations in the urban stormwater runoff increase drastically. This nonpoint source pollution can be reduced by the implementation of BMPs. All projects within the area must abide by the BMPs criteria for nonpoint source pollution control, as adopted by the Board of Supervisors, in an effort to achieve water quality goals. Included in these practices are sedimentation control, storm water detention (modified as per BMPs), storm water retention and detention, infiltration trenches, porous pavement usage, paved surface cleaning practices, erosion control, cluster development, grass swales and vegetation filter strips.
- There is a need to minimize, if not eliminate, point source pollution within the area. These sources of pollution can have severe effects on water quality, and can become health hazards, particularly when pollutants permeate into the ground water supply. When this occurs in an aquifer (such as exists in the area), drinking water can be severely affected. The inclusion of facilities which may generate point source pollution must be studied carefully within the planning process. In addition, mitigation methods must be employed for all situations where point source pollution may present a problem within the area.
- A portion of the Difficult Run watershed is contained within the area. This has been designated as a critical environmental area by the Commonwealth of Virginia in recognition of the serious threat that development makes on water quality, wildlife habitats and preservation of flora and fauna. Earthwork, reduction in vegetation cover, and increased rate of run-off resulting from the use of impervious surface materials can result in erosion and increased sedimentation of the stream system. Water quality, stream profiles, and vegetated wildlife habitats along stream edges may be adversely affected. While development could have adverse effects on the watershed, there are numerous available techniques of siting, choice of materials, construction methods and water-related management practices that can assure the preservation of the Difficult Run watershed, while accommodating an increase in development. These techniques must be utilized in all development projects within the area.
- The need to protect and enhance flora, fauna and water quality is of primary concern. This

can be accomplished through the provision of environmental quality corridors (EQCs). These EQCs form a vegetated filter strip around streams. In this way, impurities which flow in run-off are filtered out prior to entry into the stream system, thus ensuring higher water quality. The EQCs additionally serve as valuable wildlife habitats and zones where natural vegetation processes are allowed to progress. Consequently, all streams and other areas of particular environmental consequence must be protected through the strict adherence to a policy of protection of environmental quality corridors. Once established, these environmental quality corridors, when linked together and augmented by parks and other open space areas, can form a continuous open space system linking all major parts of the area. Such a system of pedestrian and/or bicycle trails should be established during the planning process.

Energy Concerns

- In this era of substantial dependency upon continually more expensive purchased energy, energy conservation has become a prominent concern. There is need to increase energy efficiency and use of renewable energy and reduce total energy demand.
- The opportunity to factor energy conscious land use planning and site design into the Fairfax Center Area is both timely and important. Multiple and mixed use land arrangements, in which residential, retail and employment opportunities are located within close proximity to one another, can dramatically cut energy usage and reduce the total number of vehicle and/or person miles traveled.
- By developing comprehensive transportation management strategies, including mass transportation, parking and traffic improvements, a ride-sharing program and an extensive interconnecting system of pedestrian and bicycle pathways, energy conserving goals can be accomplished.

Market Potential

- The land use assignments and densities ultimately recommended for the Fairfax Center Area should accurately reflect the development potential of the area. A plan that is overly optimistic in terms of the amount of development that can be attracted to the area will remain unfulfilled. Conversely, a plan that underestimates the type and density of future development will likely cause serious pressures that can weaken the adopted Plan.

Implementation/Adoption

In order for the plan to be brought to fruition, an implementation strategy must be developed. An incentive-based approach, in which mutual benefits are agreed to between the developer and the County, has a better chance of success than a purely mandated, control-based approach. In the first case, both the County and the developer benefit—one through the provision of public amenities, public facilities and infrastructure improvements, and the other through an increase in allowable intensity of development. In a control-based system, where benefits expected from developers are more rigidly defined, the opportunity for this exchange is lessened. The implementation component of the plan should be based upon a density/intensity incentive concept with the understanding that this approach would create a forum for flexibility, compromise and mutually beneficial development solutions. Under this concept, in order to obtain more intense uses and greater densities, applicants must provide

facilities and amenities commensurate with those more intense uses and increased densities. In this manner, the policy makes more intense uses and greater densities dependent upon the applicant providing facilities and amenities of an increasingly significant nature designed to mitigate the impact of that intensity.

The County should take maximum advantage of its planned development zoning classifications. The P districts, whether Planned Development Commercial (PDC) or Planned Development Housing (PDH), are sufficiently flexible to accommodate the major goals of the Plan. In a PDC district, commercial uses (including office and retail) are primary. Mixed use can be accomplished by the inclusion of suitable secondary uses (which may include housing). In a PDH, residential use is primary. Secondary uses which serve and enhance the residential use are permitted at graduated levels related to residential density. These secondary uses are primarily designed to be support commercial in nature.

Within the Fairfax Center Area, individual ownership holdings range from less than one acre up to several hundred acres. In order to develop the land to its fullest potential, development parcels of sufficient size must be aggregated. This may be accomplished either by purchase or by joint development among groups of land owners. Incentives should be provided to promote this aggregation of small adjacent lots into larger parcels more suitable for quality development.

Vehicular circulation within the area already contains areas in which traffic is congested. An increase in development without accompanying infrastructure improvements will only serve to exacerbate the problem. Conversely, construction of a road network without the accompanying development will prove enormously expensive for the County. The planning and implementation process should, therefore, ensure that transportation improvements neither lead nor lag development.

The County will have responsibility for overseeing the funding of the public infrastructure elements of the adopted Plan. It is incumbent upon the County to determine the most realistically achievable method of financing these public/private sector improvements—be it through private, self-taxing associations, a schedule of prepayment of taxes, state/local revenue sharing, or any other feasible method.

BUILDING BLOCKS FOR A PLAN

A detailed analysis of the Fairfax Center Area was undertaken as a data base for the planning effort. These data were collected in two major areas:

1. Physio-biological, which included:

- Land Structure. The characteristics of major land forms were studied with particular emphasis on waterways, ridges and valley walls.
- Soils. Soils were analyzed in terms of slope, erodibility, septic system suitability and flooding or water table problems.
- Environmental Quality Corridors and Watersheds. The environmental quality corridors, particularly when associated with the portions of the Difficult Run, Cub Run, Occoquan and Bull Run watersheds in the area, were studied as both a resource and moderating influence in determining the intensity and extent of development.

2. Sociocultural, which included:

- Ownership Patterns. Data was collected to determine the ease of assemblage, timing of development and the optimum infrastructure as it affects roads and utilities.

- Community Features. Major features were studied with particular emphasis on existing neighborhoods, major commercial retail and employment centers, parks, recreational areas and historic sites. See Map 2.
- Transportation Infrastructure. The transportation network was studied in terms of present alignments, capacity and congestion and future approved and proposed improvements to the system.
- Utilities. Gas, electric, water and sewer facilities were mapped and analyzed to determine the availability of the measures.

Other data analyzed and recorded included climate conditions, visual features, and archaeological sites.

LAND USE PLAN IMPLEMENTATION

Philosophy

The implementation philosophy for the Fairfax Center Area is that a higher quality of life will result from an incentive-based rather than solely a control-based process. Only by encouraging the highest quality development with the necessary public and private support systems can the full potential of the area be attained while preserving its natural systems and special qualities. Homes can be located within walking distance of work; energy-efficient and solar design principles that lessen demand for purchased energy should be incorporated into all projects; transportation alternatives can be emphasized; the environmental issues can be addressed in a strong, positive manner; and the entire area can provide a mixed-use focal point for Fairfax County. Since a major portion of the area is presently undeveloped, there is still time not only to achieve quality development in general, but also to create a new concept for community development—the urban village. The urban village should maintain an appropriate balance between residential and employment uses and be substantial enough in size and density to support efficiencies in transportation and public facilities and the provision of substantial amenities which are in the public interest.

The intent of the Fairfax Center Area implementation component is to create a tandem approach, forming a complementary relationship between existing minimum ordinance and regulation requirements and well-defined provisions for increased intensity. The provisions consist of a set of measures designed to accommodate development and to provide desired amenities. In this manner quality amenity and infrastructure provisions at many development levels can be assured.

Method

The key implementation component for the Fairfax Center Area Plan is based on a system of development intensity levels related to the provision of development elements.

A. Development Levels. Three levels of development intensity are proposed within the Fairfax Center Area as follows:

1. Baseline Level

- The lowest level of development intensity.

- This option is based on the Comprehensive Plan that existed prior to the Fairfax Center Area study effort with certain modifications in transportation infrastructure, open space and other key land use assignments.

2. Intermediate Level

- An intermediate range in terms of overall development intensity.
- This option offers a level of guidance for performance in terms of controls/incentives above the baseline level yet less than the overlay level.

3. Overlay Level

- The highest level of development intensity.
- This option offers maximum guidance for performance in terms of controls/incentives, and thereby offers the highest intensity with commensurate quality.
- This level is the preferred land use recommendation for parcels within the Fairfax Center Area.

The intent of defining the two basic levels (baseline and overlay) of development intensity is two fold: first, it allows more flexibility for development to respond to changing market conditions and second, it offers a framework for quality control mechanisms to be utilized. The latter concept is a plan implementation tool which attaches progressively more detailed development elements (as quality controls) to progressively greater development intensity levels (quantity incentives above a baseline). The intermediate level is provided as a single reference point from which the County can determine more finite development intensity on a case-by-case basis.

B. Development Elements. Any development quantity increase allowed above the baseline level must result in a proportional development quality increase through the provision of essential infrastructure and desired amenities. These two quality measures are referred to as development elements. Development elements are defined as those factors which serve to:

1. ensure that the anticipated impacts of proposed development will be accommodated in a satisfactory manner; and
2. provide desirable amenities that will contribute significantly to the quality of the development and surrounding area in a manner which achieves the objectives envisioned for the Fairfax Center Area.

Three categories of development elements have been identified:

1. Basic development elements represent a minimum standard which the developer is expected to satisfy before proceeding to develop.

2. Minor development elements represent the provision of additional infrastructure and desired amenities above the basic elements to ensure a proportional increase in the quality of development which corresponds to the increased intensity of the proposed development.

3. Major development elements represent the provision of additional infrastructure and desired amenities above the basic and minor development elements to ensure a proportional increase in the quality of development which corresponds to the increased intensity of the proposed development.

Each category of development element is divided into two areas of emphasis:

1. Area-Wide. This designation applies to all property within the Fairfax Center Area.

1. Key Area. This designation applies to those specific areas that are strategically located and have substantial development potential. These areas establish the identity for the Fairfax Center Area and are essential to the implementation of the urban village concept.

For both the area-wide and key area designations, the development elements are related, respectively, to the transportation, environment and public facilities systems that serve to reinforce and define the area.

Process

To develop within a specific intensity level, an applicant must agree to provide a number of development elements as set forth below for each level. Based on an initial review of the proposal and its location, the County will identify those development elements which are considered essential if the development proposal is to fulfill the desired objectives of the Fairfax Center Area. Any remaining development elements to satisfy the formula for a given level can be selected at the discretion of the applicant.

Disproportionate weight may be assigned to one or more development elements in certain unique instances where development features, circumstances, innovations, or the costs incurred by

the developer to provide the requested elements merit such consideration.

The general guidelines for use by the County in evaluating the number of elements necessary for the desired intensity level are as follows:

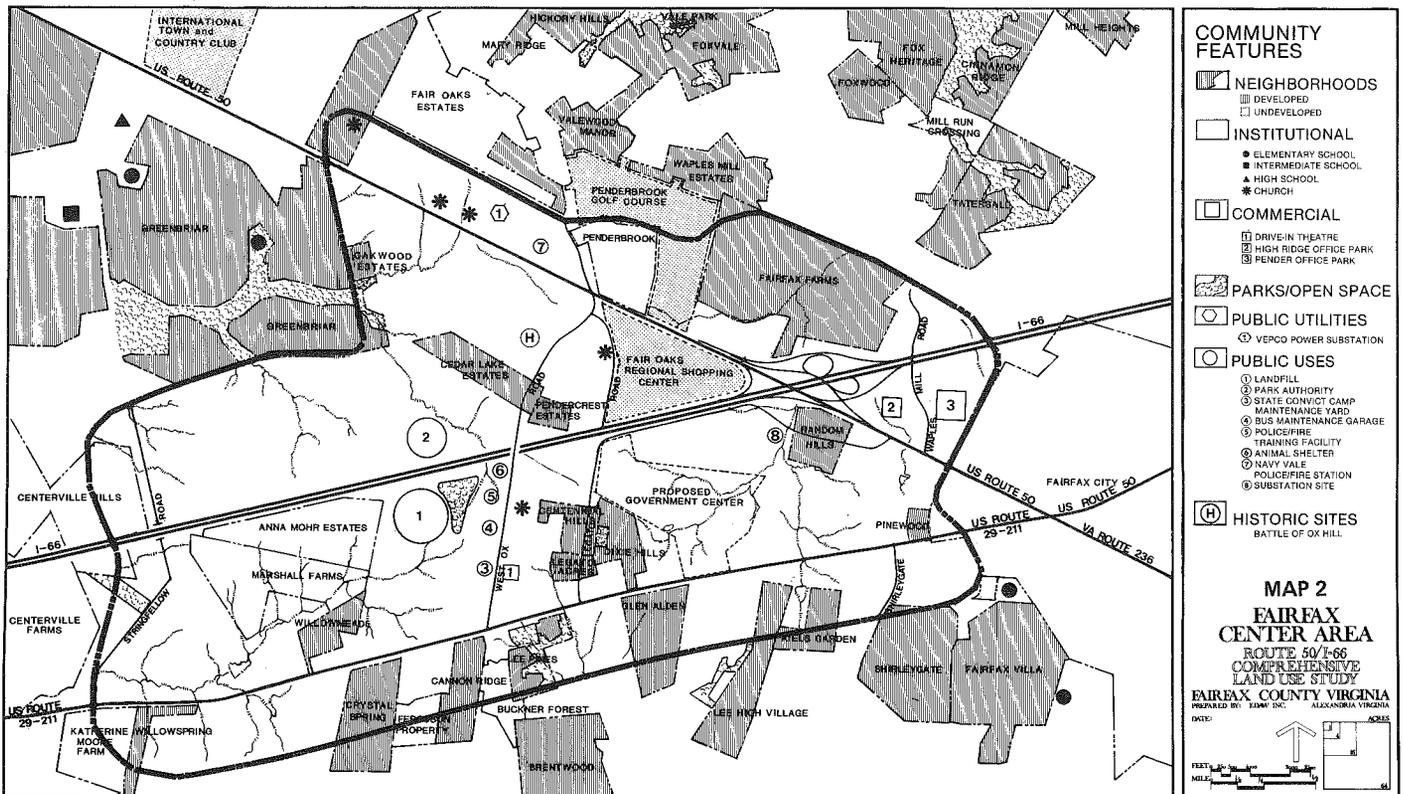
A. Baseline Level Requirements. The applicant shall submit to the County a development plan of sufficient detail to respond to all applicable basic elements.

B. Intermediate Level Requirements. The applicant has the option to apply for the intermediate level as specified in the land unit summary charts. To qualify for the intermediate level, the applicant shall submit to the County a proposal for development fulfilling at least:

1. all applicable basic elements, plus
2. all applicable minor transportation elements relating to highway improvements (rights-of-way dedication and highway construction),
3. all essential elements, plus
4. the inclusion of either of the following:
 - three-fourths of the applicable minor elements or
 - one-half of the applicable minor elements plus one-fourth of the applicable major elements.

C. Overlay Level Requirements. The applicant has the option to apply for the overlay level as specified in the land unit summary charts. To qualify for the overlay level, the applicant shall submit to the County a proposal for development fulfilling at least:

1. all applicable basic elements, plus
2. all major transportation elements relating to highway improvements (rights-of-way dedication and highway construction) plus
3. all essential elements, plus
4. the inclusion of either of the following:
 - three-fourths of the applicable minor elements and one-half of the applicable major elements, or
 - the inclusion of all applicable minor elements and one-third of the major elements.



Relationship of Development Levels to the Development Elements

The County shall determine the development elements applicable to each individual case from the following categories. The baseline level corresponds to the lowest intensity appropriate for planned development and the overlay level represents the highest appropriate planned intensity. An intermediate level of intensity is also presented as a single reference point between the low and high levels of development; this intermediate level is offered merely as a benchmark from which the County will determine more finite development on a case-by-case basis.

Also presented here are general guidelines for use by the County in evaluating the number of development elements required based on the intensity level desired by the applicant.

The County will determine at the time of application those applicable minor or major elements which are essential for the applicant to implement. The remaining applicable elements can be selected at the discretion of the applicant to satisfy the requirements for either the intermediate level or the overlay level.

Basic Development Elements

A. Area-Wide Basic Development Elements

1. Transportation System

- Motorized Transportation. To satisfy the existing and planned traffic demands anticipated within the Fairfax Center Area. The individual elements include:
 - minor street dedication and construction
 - major street right-of-way dedication
- Mass Transportation. To provide a balanced transportation network within the Fairfax Center Area and encourage the use of mass transportation as an alternative form of transportation. The individual elements include:
 - bus loading zones with necessary signs and pavement; bus pull-off lanes
 - nonmotorized access to bus or rail transit stations
- Nonmotorized Transportation. To provide a coordinated nonmotorized network integrated into the overall transportation system to serve commuting, shopping and recreational uses. The individual elements include:
 - walkways for pedestrians
 - bikeways for cyclists
 - bicycle parking facilities

2. Environmental Systems

- Environmental Quality Corridors (EQCs). To ensure protection of ecologically sensitive areas, and preservation of valuable natural and cultural resources. This open space system will also serve as wildlife habitats, protect the citizens from most of the physical hazards, and at the same time provide residents with appropriate recreational opportunities and visual amenities. The individual elements include:
 - preservation of EQCs as private open space
- Stormwater Management (BMP). To ensure effective control of water quantity and quality and thus protect downstream properties from potential flooding and minimize the impact of the nonpoint source stormwater runoff on existing ambient conditions. The individual elements include:
 - stormwater detention/retention
 - grassy swales/vegetative filter areas
- Preservation of Natural Features. To ensure protection of additional natural features which are not included in EQCs.

This will supplement EQCs to form a continuous open space system throughout the County for aesthetic value, wildlife protection, water quality and quantity control, air quality improvement or noise impact mitigation. The individual elements include:

- preservation of quality vegetation
- preservation of surface water streams/lakes/ponds, etc.
- preservation of natural landforms
- minimization of site disturbance as a result of clearing or grading limits
- Other Environmental Quality Improvements. To address those environmental elements not listed above to ensure high quality of overall environment. The individual elements include:
 - landscaping within street rights-of-way
 - additional landscaping of the development site where appropriate
 - provision of additional screening and buffering
 - mitigation of highway-related noise impacts
 - siting roads and buildings for increased energy conservation (including solar access)
 - cluster development
- 3. Provision of Public Facilities
 - Park Dedications. To facilitate the implementation of the County's plan for stream valley parks:
 - dedication of stream valley parks in accordance with Fairfax County Park Authority policy
 - Public Facility Site Dedications. To ensure acquisition of appropriate sites for public facilities:
 - schools
 - police/fire facilities

B. Key Area Basic Development Elements

1. Site Planning

- Considerations. To ensure good site planning satisfying the following on-site and off-site considerations:
 - coordinated circulation systems
 - transportation and sewer infrastructure construction phased to development construction
 - mitigation of potential roadway noise impact
 - appropriate transitional land uses to minimize the potential impact on the adjacent sites

2. Detailed Design

- Site Entry Zone. To provide the first introduction to the key area development and to facilitate direct, safe movements by using the following elements:
 - signs
 - planting
 - lighting
 - screened surface parking
- Street Furnishings. To ensure quality development in the key areas by using:
 - properly designed elements such as lighting, signs, trash receptacles, etc.

Minor Development Elements

A. Area-Wide Minor Development Elements

1. Transportation Systems

- Motorized Transportation. To satisfy the existing and planned traffic demands anticipated within the Fairfax Center Area:
 - major street construction of immediately needed portions (prorated costs based upon number of peak-hour auto trips generated per site)
 - shared parking allowances
 - signs

- Mass Transportation. To provide a balanced transportation network within the Fairfax Center Area and encourage the use of mass transportation alternatives:
 - bus shelters
 - commuter parking

2. Environmental Systems

- Nonmotorized Transportation
 - pedestrian activated signals
 - bicycle support facilities (showers, lockers)
- Increased Open Space. To encourage expansion of EQCs to include adjacent areas with natural features worthy of protection and to encourage increased on-site open space compliance with these elements shall be at least 50 percent above minimum requirements.
 - expanded EQCs
 - increased on-site open space
- Protection of Ground Water Resources. To ensure the quality of ground water resources in the County and to avoid excessive well draw-down:
 - protection of aquifer recharge areas
- Stormwater Management (BMP). To ensure effective water quality control and minimize the impact of the nonpoint source stormwater runoff pollution:
 - control of off-site flows
 - storage capacity in excess of design storm requirements
- Energy Conservation. To maximize the benefits of energy conservation through sensitive site planning and design:
 - provision of energy conscious site plan

3. Provision of Public Facilities

- Park Dedications. To facilitate the implementation of the County's plan for natural and neighborhood parks:
 - natural/passive park
 - neighborhood park
- Public Facility Site Dedications. To ensure acquisition of appropriate sites for public facilities:
 - libraries
 - community centers
 - government offices/facilities

4. Land Use

- parcel consolidation to facilitate good site design and coordinated access
- low/moderate-income housing in accordance with County policies

B. Key Area Minor Development Elements

1. Site Planning

- Mixed Use Plan. To ensure the full utilization of the site:
 - commitment to construction of all phases in mixed use plans
 - 24-hour use activity cycle encouraged through proper land use mix (such as a mix of hotels, restaurants, theatres/entertainment uses, and residential and office/institutional uses in a mixed use urban village core)

2. Detailed Design

- Building Entry Zone. To enhance the impression and identity of the building or building group by integrated design and architecturally compatible use of the following elements:
 - signs
 - special planting
 - lighting
- Structures. To encourage creative architectural design:
 - architectural excellence which complements the site and adjacent developments

- use of energy conservation techniques
- Parking. To provide well-located, well-landscaped, safe parking areas:
 - planting—above ordinance requirements
 - lighting
- Other Considerations. To ensure overall design quality by providing the following elements:
 - street furnishings such as seating, drinking fountains
 - provision of minor plazas

Major Development Elements

- A. Area-Wide Major Development Elements
 - 1. Transportation Systems
 - Motorized Transportation
 - construction of later (future) needed major road improvements
 - major thoroughfare improvements (e.g., roadways, interchanges, highway bridges, etc., with possible combination of public and private funding)
 - traffic signals as required by VDH&T
 - Mass Transportation. To provide a balanced transportation network within the Fairfax Center Area and encourage the use of mass transportation alternatives:
 - bus or rail transit station parking lots
 - Transportation Strategies. To ensure reduction of auto trips with necessary transportation strategies:
 - car/van pool program
 - local shuttle services
 - parking fees
 - Nonmotorized Circulation. To permit non-motorized crossings of high volume roadways:
 - grade separated road crossings
 - 2. Environmental Systems
 - Innovative Techniques. To encourage innovative techniques exceeding the requirements for baseline level in the areas of stormwater management, sensitive environmental management, and air and noise pollution control:
 - innovative techniques in stormwater management provisions
 - innovative techniques in air or noise pollution control and reduction techniques
 - extraordinary sensitivity in managing the environment
 - 3. Provision of Public Facilities
 - Park Dedications. To facilitate the implementation of the County's plan for parks which meet community and countywide needs:
 - community parks
 - county parks
 - historic parks
 - miniparks
 - Public Indoor Activity Spaces. To provide convenient public indoor activity spaces for County residents:
 - recreation centers
 - meeting rooms/auditoriums/ theatres
- B. Key Area Major Development Elements
 - 1. Site Planning and Design
 - Extraordinary Innovation
 - site design
 - energy conservation
 - Detailed Site Design
 - structured parking with appropriate landscaping
 - major plazas
 - street furnishings to include structures (special planters, trellises, etc.), kiosks, covered pedestrian areas (arcades, shelters, etc.), water fea-

- tures/pools, ornamental fountains, and special surface treatment
- landscaping of major public spaces

**PREFERRED LAND USE PLAN
RECOMMENDATION—THE OVERLAY LEVEL**

Land Use

The land use assignments and intensities at the overlay level represent the preferred option for development if the major development conditions, particularly provision of substantial transportation improvements, are satisfied. The overlay level is based upon a single core concept. In this concept the core area contains the most intense mixed-use development. One portion of the core relates to the Fair Oaks mall and the other to the government center site. Land uses within the core areas consist of office (with a maximum FAR of .35 in the government center core area and 1.0 in the Fair Oaks core); housing in elevator buildings and garden apartments; hotels and supporting commercial uses; as well as plazas, parks, and additional open space areas.

In general, intensity of development at the overlay level diminishes with distance from the core areas. A notable exception to the concept of progressively decreasing intensity of development is in the Kamp Washington area. In this particular area, the Plan recognizes the existing permitted level of development potential based on existing zoning. However, the land use assignments were designated as OFF/MIX (office mixed uses) in order to encourage well-planned office/commercial uses rather than the industrial uses that are currently zoned or recommended at the baseline level.

The overlay level recognizes the potential of the Fairfax Center Area to develop into a major employment center node in the County. The image of the area would be one of high quality developments of large single-purpose office users and high technology firms in planned mixed use core and campus-like business park situations.

High quality industrial development, including research and development and technical manufacturing companies (as opposed to warehouse/distribution/ service facilities) should be attracted to the area. Consequently, in the assignment of land uses, an emphasis was placed upon the inclusion of desirable sites for such development—in particular, the core areas and the employment center west. Concentrations of primarily multifamily residential developments in proximity to areas of commercial activity were incorporated in the Plan.

The overlay level represents a level of intensity achievable only in conjunction with the provision of substantial development elements. As such, it is a planning goal, rather than a prediction of the level of development which will be realized in the area.

The intensity incentive philosophy is the underlying premise for setting development levels within the area. However in specific areas, existing industrial and/or commercial zoning, with their accompanying high FARs, took precedence in setting the intensity levels at the overlay level. These situations normally occur where the commercial land development process is already underway; thus, these areas are clearly unique in that development intensity incentives will not readily apply. In these cases, the intensity level for the overlay level is also a planning number.

While the overlay level is the preferred development intensity, an applicant may choose to develop at a lesser level of intensity.

The baseline level represents the minimum level of density/intensity in the three-tiered implementation approach. The baseline level is substantially low-density residential in character. In the majority of cases, the baseline level uses the low end of the residential density range

previously adopted in the Comprehensive Plan. All development at the baseline level should satisfy the applicable baseline development elements.

The intermediate level represents a possible mid-range of intensity achievable through the provision of applicable development elements. The intermediate level depicted in the land use summary chart is illustrative of only one of many potential development scenarios. The basic elements of the intermediate level include:

- land use assignments based upon the overlay level;
- density/intensity levels set as an intermediate range between the baseline and overlay levels;
- transportation infrastructure improvements appropriate to the more intense development at the intermediate level.

Preferred Land Use Recommendations

The following recommendations are presented on an individual land unit basis; these land units are aggregated into larger units (lettered A through V) having similar land use or geographic characteristics. To describe these recommendations fully, each unit is described through the use of the following elements:

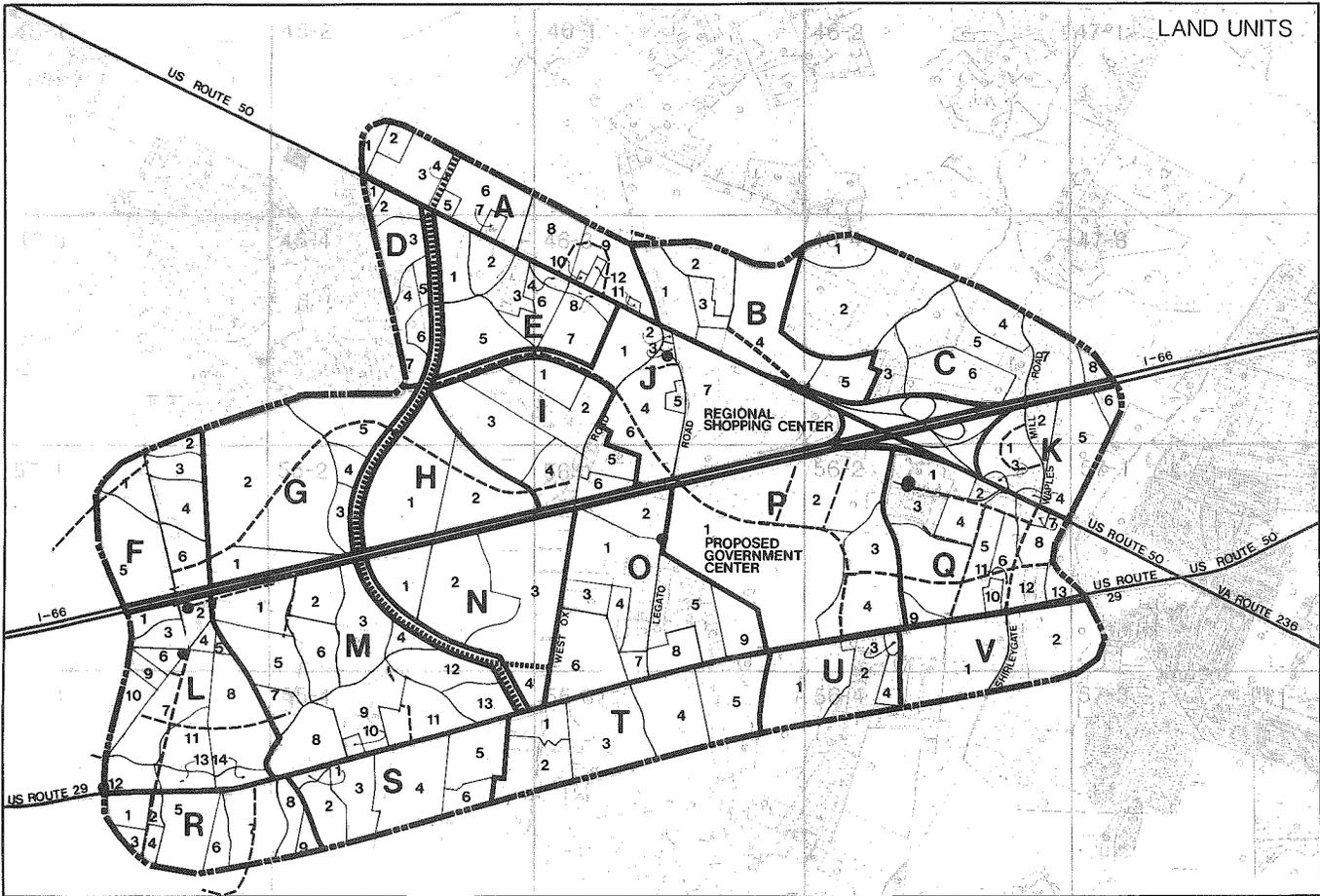
1. Land Use Summary Chart. This chart represents the key linkage mechanism between the Plan and the proposed performance criteria for the development of that Plan. The data in the chart is illustrative of the use and intensity quantities recommended for each land unit for the three levels of the Plan (in terms of square footage of nonresidential and number of dwelling units of residential uses). All density/intensity calculations are based on gross acres of land.

Office/mix: In land segments planned for office/mixed uses, the calculations are based on development occurring under the County's PDC zoning district with the maximum housing allowed in that district as a secondary use. A 2 to 1 split between primary uses and residential uses is assumed. For estimating purposes, an average housing unit size of 1,500 square feet has also been assumed; although in actual practice, the size and number of units can vary as long as total floor area of all units does not exceed limits of the zoning district.

Residential/mix: In the land segments planned for residential mixed use, the calculations are based on development occurring under the County's PDH zoning district with supporting retail and service activities allowed in that district as a secondary use.

2. Plan Text. Specific Plan text recommendations and considerations for the development of each specific land unit are included. Recommendations for key areas of development (e.g., Fair Oaks mixed use core) are described in greater detail and are supplemented by illustrative concept plans for potential development. The Plan text for each land unit refers to the maximum intensity allowed with the overlay level.

These two elements relate to Maps 8 and 9, which show the recommended land use pattern. Map 8 shows the recommended land uses pattern for the baseline level and Map 9 depicts the recommended pattern for the overlay level. Both of these maps should be read in conjunction with any of the land use summary charts and corresponding text recommendations for the 22 individual land units lettered A through V and corresponding subunits.



A

LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage	
	Net	Gross
A3, A6	70	84
A8, A9, A10, A11	72	81

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR Units/Ac.	Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
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Baseline Level—Development Intensity Potential

A3, A6	RES			2	168
A8, A9, A10, A11	RES			2	158
	COMM	.7			60,984

Intermediate Level—Development Intensity Potential

A3, A6	RES/MIX			3.5	294	35,280
A8	OFF	.07	115,869			
A9, A10, A11	OFF	.15	325,418			

Overlay Level—Development Intensity Potential

A3, A6	RES/MIX			5	420	37,800
A8	OFF	.15	248,292			
A9, A10, A11	OFF	.25	468,180			

Definitions

RES/MIX* = Predominantly residential mixed with supporting retail and service activities within the limits set forth in the County's PDH district as the secondary uses.

* It is recommended that planned mixed uses be achieved via the County's P districts. If conventional zoning districts are used, the developer is expected to commit to a development plan which assures that Plan objectives are achieved.

Note: This land unit is within the Water Supply Protection Overlay District.

A1, A2

These land units are a portion of the existing Murray Farms subdivision containing residential dwellings and the Fairfax Church of Christ. These tracts are planned for residential use at 1-2 dwelling units per acre. Access should be oriented to Rugby Road.

A4

This land unit includes Acorn Ridge Road and will accommodate the Springfield Bypass & Extension in the future.

A3, A6

Access to Route 50 should be oriented to Acorn Ridge Road (and the subsequent Springfield Bypass & Extension) and to the median break at A7. Parcels west of Fair Woods should be oriented to Rugby Road.

A5

This land unit will be utilized for the interchange of Route 50 and the Springfield Bypass & Extension.

A7

This tract is planned for residential use at 2-3 dwelling units per acre. The existing church is anticipated to remain. Access to Route 50 will be via a median break in the vicinity of the existing location.

A8

In view of the existing VEPCO substation and transmission lines, additional VEPCO facilities are appropriate. This land unit is planned for low-intensity office use well set back from Route 50, to be restricted to use by VEPCO staff with substantial open space buffers to the north and west. Church in the southwest corner is to remain. The south side of Ox Hill Road is planned for residential use at 2-3 dwelling units per acre. Access to Route 50 for this land unit will be via a loop road on its eastern boundary. The church access will be via the median break at Dorforth Drive.

A9, A10, A11

These land units are planned for low-intensity office use at an FAR not to exceed .25. Consolidation of parcels is strongly encouraged in these land units. Access to the arterial system should be oriented to a loop road connecting with Route 50. No access points, including right turns, should be allowed between Ox Hill Road and Route 50 on West Ox Road. Alternatives to an interchange 'clover' loop through A9 and A11 should also be considered during the design phase for the grade separation of West Ox Road and Route 50.

The southside of Ox Hill Road is planned for residential use at 2-3 dwelling units per acre.

A12

A County police district station and fire station are collocated in this unit.

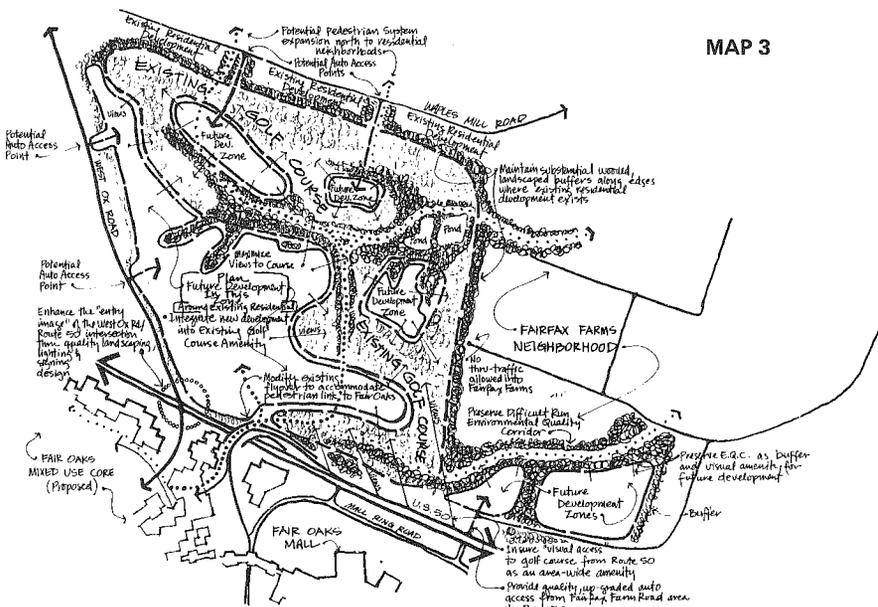
B1, B2, B3, B4, B5 (Key Area—Golf Course)

These land units contain the Penderbrook Golf Course, the Penderbrook subdivision and properties along West Ox Road. The preservation of the golf course as an area-wide amenity is extremely desirable. The remaining property should be consolidated to the greatest extent feasible and developed as a single, unified project. Access and transportation problems are critical issues, particularly as they relate to increased congestion on West Ox Road and Route 50 and as they affect the Fairfax Farms residential community. The primary access of parcels in B1 should be via Penderbrook Drive, B2 and B3 via Central Drive, B4 via Central Drive and Fairfax Farms Road Extension, and B5 via Fairfax Farms Road. The access of parcels along the eastern frontage of West Ox Road should be directed to either the intersection at Ox Hill Road or Avery Road. Local roadways through Area B should be constructed on circuitous alignments in order to impede cut-through travel.

To achieve the overlay level of density, development of the site should respond to the following recommendations:

- General site planning techniques should be incorporated into the design of the area which:
 1. Minimize noise impacts.
 2. Minimize the extent of impervious surfaces.
 3. Maximize vistas and other visual amenities and provide visually attractive streetscapes through a variety of siting, landscaping, buffering and landforming techniques.
 4. Site development with the topography to foster the preservation of existing vegetation, to minimize site disturbance and regrading and to preserve the aesthetic characteristics of the area.
 5. Discourage through traffic on neighborhood streets.
 6. Maximize open space.
 7. Promote energy conservation.
- The golf course should be preserved either as an operating Golf course or as passive green space in perpetuity. A legal agreement should be encouraged that assures that the land area to be occupied by the Golf Course is to be preserved as an operating golf course. The site will be open to the general public or, in the event that the privately owned golf course ceases operations, the land is to be dedicated to a public entity, not excluding a homeowners association, with the Fairfax County Park Authority having the right of first refusal. In any event, the site is to be perpetually available for publicly acceptable open space.
- The site should be developed in residential use within a PDH. Overall density not to exceed 2,125 units (6.6 dwelling units per acre). The site should be developed in a mixture of townhouses and low-rise multifamily units at approximately a 2:1 ratio. This mixture would provide housing for a wide variety of citizens, while still being compatible with surrounding development and with the overall philosophy of the Fairfax Center Area, where density is concentrated south of Route 50. Multifamily rental units would be highly desirable at this location.
- Substantial consolidation of parcels is necessary to achieve maximum development.
- Higher density of development should be located in internally oriented land bays so as to minimize impact on adjacent, low density communities.
- Substantial buffering should be provided between development on this site and existing adjacent communities of Penderwood, Penderbrook and Fairfax Farms and surface parking should be screened from view at site entrances.
- If a support commercial retail component is submitted as part of this development, it should be designed as an integral component of the plan. No free standing retail functions should be permitted. No strip commercial uses should be

MAP 3



B

LAND USE SUMMARY CHART

allowed along Route 50 or West Ox Road. The location of this support-commercial use should be internal to the site, and chosen so as to minimize transportation impact to existing and proposed residential units.

- In addition to retention of the golf course, outdoor active recreation facilities should be provided to serve residents of this and adjoining neighborhoods. In light of the deficiency of parkland in this area, at least one park containing a minimum of one multi-purpose court, one tot-lot and picnic facilities should be developed and conveyed to the Fairfax County Park Authority.
- An intra-site trail system should connect development bays, as well as provide linkages to the Countywide system.
- Development should be sited within land bays to maximize open space related to residential units for visual and recreation amenities, to maximize solar orientation while honoring existing land-forms, and to avoid the appearance of a continuous wall of units.
- Existing on-site hardwood vegetation and natural land forms should be preserved and integrated into the site plan.
- Development should be sited to maximize orientation to golf course.
- A master landscape plan should be developed that unifies the site through a street tree planting scheme, and provides focal points at project entrances, development bay entrances, building entrances and courtyards.
- A unified system of signage, lighting and street furniture should be designed to promote a cohesive image for the development.
- The Difficult Run Environmental Quality Corridors (EQCs) should be preserved through non-encroachment of development.
- BMPs (Best Management Practices) should be incorporated into site plan to protect water quality within the Difficult Run. Their design and landscaping should be consistent and coordinated with that of the site, golf course and surrounding communities. Provision should be made for the construction of the Valley Road culvert.
- Adequate sewer capacity must be secured prior to density approval. If necessary, a pump station should be constructed outside of the 100 year floodplain to the standards of the Fairfax County and the State Water Control Board. Substantial screening and buffering as well as noise attenuation measures should be provided. Only underground storage tanks will be permitted.
- Development must be phased to transportation improvements. In particular, residential construction in the eastern portion of the site, south of Fairfax Farms, should be phased such that construction in this area will not be commenced until the Fairfax Farms Road extension is connected to Penderbrook Drive and the interchange at Route 50/West Ox Road is under construction.

Developable Land Units (Map Key)	Approximate Net	Acreage Gross
B1, B2, B3, B4, B5	141	163 322

*Includes entire golf course

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR Units/Ac.	Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
Baseline Level—Development Intensity Potential					
B1, B2, B3, B4, B5	RES, GOLF COURSE	1,4		535	
Intermediate Level—Development Intensity Potential					
B1, B2, B3, B4, B5	RES, GOLF COURSE	4		1236	
Overlay Level—Development Intensity Potential					
B1, B2, B3, B4, B5	RES, GOLF COURSE	6.6		2125	

C

LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage	
	Net	Gross
C1	13	17
C4	23	31
C6	36	49
C7	16	30
C8	4	7

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR	Units/Ac.	Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
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Baseline Level—Development Intensity Potential

C1	RES		.5		8	
C4	RES		.1,.5		10	
C6	RES		.1,.5		11	
C7	RES		.1		3	
C8	RES		.1		1	

Intermediate Level—Development Intensity Potential

C1	RES		.75		12	
C4	RES		.15		15	
			.75			
C6	RES		.15		16	
			.75			
C7	RES		.15		5	
C8	RES		.15		1	

Overlay Level—Development Intensity Potential

C1	RES		1		17	
C4	RES		.2,1		20	
C6	RES		.2,1		22	
C7	RES		.2		6	
C8	RES		.2		2	

C2, C3, C5

These land units are a portion of the Fairfax Farms subdivision and should be buffered and preserved. Fairfax Farms Road should be the only non-emergency vehicle access into and out of the Fairfax Farms community. Additional emergency access should be made available.

West and north of Difficult Run the area is planned for .5-1 dwelling unit per acre. East of Difficult Run it is planned for .5-1 and .1-.2 dwelling unit per acre, private open space and public park. The area adjacent to Fairfax Farms Road is planned for public park, 1-2 dwelling units per acre and 4-5 dwelling units per acre on a small portion of land fronting on Route 50.

Fairfax County should continue to exercise its best efforts to protect the residential neighborhood of Fairfax Farms.

C1, C4, C6, C7, C8

These areas are part of, or adjacent to, the Fairfax Farms community and should reflect that land use, density and character.

Access along Fairfax Farms Road at the end of the existing development in the Fairfax Farms community should be discontinued at such time as Valley Road is opened to Waples Mill Road, the roadway connection to Waples Mill Road in the western half of the community has been opened to traffic, and all maneuvers are possible at the interchange at Route 50 and I-66.

Fairfax County should continue to exercise its best efforts to protect the residential neighborhood of Fairfax Farms.

D

LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage	
	Net	Gross
D1, D2, D3, D5, D6	39	78

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR	Units/Ac.	Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
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Baseline Level—Development Intensity Potential

D1, D2, D3, D5, D6	RES		2		156	
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Intermediate Level—Development Intensity Potential

D1, D2, D3, D5, D6	RES		2.5		195	
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Overlay Level—Development Intensity Potential

D1, D2, D3, D5, D6	RES		3		234	
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Note: This land unit is within the Water Supply Protection Overlay District.

D1, D2, D3, D5, D6

The final configuration of these units will depend upon the actual built alignment of the north-south connector road. Regardless of exact configuration, parcels west of the north-south connector and east of the Greenbriar community shall be a three-unit per acre residential use at the overlay level. A substantial land use and noise buffer should be retained between the north-south connector road and the eastern boundaries of Greenbriar, Oakwood Estates and other residential units in the D1 through D7 areas (if any). Access to Land Units D1 and D2 should be via Milan Lane, and Land Units D5 and D6 from the north-south connector road. Roadway noise mitigation techniques (e.g. berms and depressed roadways) should be employed along the north-south connector edge of Land Units D3, D5, D6, and D7.

D4, D7

Oakwood Estates is an existing residential neighborhood. Noise mitigation and buffering measures should be employed to protect this area from negative impacts. These land units are planned for residential use at 2-3 dwelling units per acre.

E

LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Net	Acreage Gross
E1	6	34
E2, E3, E4, E5, E6	92	110
E7	24	39
E8	5	8

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR Units/Ac.	Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
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Baseline Level—Development Intensity Potential

E1	RES	2		68	
E2, E3, E4, E5, E6	RES	2		254	
E7	RES	2		78	
E8	RES	2		14	
	COMM	.7			30,504

Intermediate Level—Development Intensity Potential

E1	RES/MIX	3		102	12,240
E2, E3, E4, E5, E6	RES/MIX	4			
E7	RES/MIX	5		195	17,550
E8	RES/MIX	5		35	
	RETAIL	.7			30,504

Overlay Plan-Development Intensity Potential

E1	RES/MIX	4		136	16,320
E2, E3, E4, E5, E6	RES/MIX	6		707	59,400
E7	RES/MIX	8		312	28,080
E8	RES/MIX	8		56	5,040
	RETAIL	.7			30,504

Definitions

RES/MIX* = Predominantly residential mixed with supporting retail and service activities within the limits set forth in the County's PDH district as the secondary uses.

*It is recommended that planned mixed uses be achieved via the County's P districts. If conventional zoning districts are used, the developer is expected to commit to a development plan which assures that Plan objectives are achieved.

Note: This Land Unit is within the Water Supply Protection Overlay District.

E1, E2, E3, E4, E5, E6

Land Unit E1 is proposed to be a residential mixed use development of four units per acre, while E2, E3, E4, E5, and E6 are proposed to be residential mixed use at six units per acre, at the Overlay Level. Parcel consolidation should be encouraged throughout Land Unit E in order to produce a high quality, environmentally sensitive development. Interparcel access is encouraged with access to the arterial system occurring at the designated median breaks on Route 50, the subconnector and the Springfield Bypass & Extension. E4 and E6 should be treated as a single development unit, with E4 and the EQC area paralleling Route 50 maintained in open space. The building orientations should present a quality image to the north-south and east-west connector roadways bounding the land unit and take advantage of the open space for buffering and views. The Big Rocky Run EQC should be preserved in undisturbed open space and incorporated into the area's primary pedestrian open space system. Its dedication to the County is necessary in any related site plan submission. Physical linkage and design continuity of this open space system is critical to the success of the area's planning objectives. Parcels in E1 and E2 should access the arterial roadway system via a service drive along Route 50 and a roadway connection along the southern boundary of E2 to Dorforth Drive. Dorforth Drive should be extended on a circuitous alignment to the subconnector.

E7, E8

These units are proposed for PDH-8 usage and their future development should have access from, and orient positively to, the proposed east-west subconnector road and linear park. The provision of this road and park is essential to the achievement of the Plan objectives for this area. Land Unit E8 should be considered as an integral open space portion of the development for Land Unit E7 north of the connector road. Of major importance is the provision of a portion of the proposed historic site along the eastern boundary of Land Unit E7, and site plan sensitivity to the proposed use. Interparcel access with other parcels in E as well as in J1 should be encouraged.

F

LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage	
	Net	Gross
F1, F2, F3, F4, F5	124	137
F6	23	24

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR	Units/Ac.	Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
Baseline Level—Development Intensity Potential						
F1, F2, F3, F4, F5	RES		1		137	
F6	RES		1		24	
Intermediate Level—Development Intensity Potential						
F1, F2, F3, F4, F5	RES		2		274	
F6	OFF/MIX	.14		99,786	33	
Overlay Level—Development Intensity Potential						
F1, F2, F3, F4, F5	RES		3		411	
F6	OFF/MIX	.25		174,240	58	

Definitions

OFF/MIX* = Predominantly office mixed with other associated activities limited to those allowed in the County's PDC district with housing as the dominant secondary use.

* It is recommended that planned mixed uses be achieved via the County's P districts. If conventional zoning districts are used, the developer is expected to commit to a development plan which assures that Plan objectives are achieved.

Note: This Land Unit is within the Water Supply Protection Overlay District.

F1, F2, F3, F4, F5, F6

These land units represent a transition in land use and intensity between the proposed employment center to the east and residential neighborhoods to the west. As such, Land Units F1 through F5 are proposed as three units per acre residential development. The proposed employment center east-west subconnector road intersects Stringfellow Road through Land Unit F6; therefore, this unit is proposed for low-intensity commercial mixed use development at a .25 FAR. Access to parcels in F south of the Park Authority property and east of Stringfellow Road should be oriented towards the planned subconnector. Access to parcels in F should be oriented to Stringfellow Road at either its intersection with the Fox Meadow Lane Extension or the subconnector road.

Public park use is an appropriate alternate use for all or portions of Land Units F2, F3, and/or F4.

Key Area—Employment Center West

The employment center west area has the potential to explore a number of unique opportunities that can assure successful development of this key area. It is located adjacent to, or near the following:

- north-south connector road;
- I-66 corridor;
- north-south connector/I-66 interchange;
- Greenbriar residential neighborhoods;
- environmental quality corridors (EQC).

The land has the following qualities that can aid in the realization of its development potential:

- high-quality highway frontage and internal orientation potential;
- gently rolling slopes;
- utility service availability;
 - sewer (partial now available);
 - water/gas/electric available;
- ownership pattern—minimum number of owners for implementation ease;
- excellent vegetative cover (west of connector);
 - high-quality image;
 - buffer potential enhanced;
- major County-owned parcel.

Issues and concerns pertaining to the successful development of this area include:

- role of the County-owned lands (options);
 - County as developer;
 - long term lease to private sector;
 - sale to private sector;
 - other;
- impacts on existing residential neighborhood (particularly Greenbriar, Oakwood Estates)—mitigate impact through buffering and land uses;
- noise impact mitigation from I-66 and north-south connector;
- water quality impact on Occoquan Reservoir and EQCs;
- potential for high-quality architectural and site design with area-wide developer-imposed design controls/amenities;
- low- to moderate-density/intensity (approximate gross FAR .25);
- primary office building concentration should orient toward I-66 and north-south connector road;
- vehicular access through Greenbriar should be prevented.

G, H

LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage	
	Net	Gross
G1, G2, G3, G4, G5	221	309
H1	73	96
H2	47	62

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR Units/Ac.	Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
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Baseline Level—Development Intensity Potential

G1, G2, G3, G4, G5	RES			309	
H1	RES	1		96	
H2	PUBLIC PARK				

Intermediate Level—Development Intensity Potential

G1, G2, G3, G4, G5	OFF/MIX	.14	1,276,170	425	
H1, H2	OFF/MIX	.14	642,348	214	

Overlay Plan—Development Intensity Potential

G1, G2, G3, G4, G5	OFF/MIX	.25	2,243,340	747	
H1, H2	OFF/MIX	.25	1,147,080	382	

Definitions

OFF/MIX* = Predominantly office mixed with other associated commercial activities limited to those allowed in the County's PDC district with housing as the dominant secondary use.

* It is recommended that planned mixed uses be achieved via the County's P districts. If conventional zoning districts are used, the developer is expected to commit to a development plan which assures that Plan objectives are achieved.

Note: These Land Units are within the Water Supply Protection Overlay District.

G1, G2, G3, G4, G5 (Key Area—Employment Center West)

This area is proposed to be developed under a PDC concept, with housing as a major secondary land use to the office/commercial development. High-quality campus-like office park development (for example, Perimeter Center in Atlanta, Georgia) is expected in this area. Architectural excellence, preservation and enhancement of natural features, uniform signing, lighting and landscaping systems and quality roadway entry treatments are expected. The proposed east-west subconnector provides major internal circulation for these units and should be the only access from this area to the north-south connector road and to Stringfellow Road. Close Middle Ridge Drive, Marshall Hall Lane and Acorn Street (where they now currently end) to all future commercial development south of Greenbriar. See Map 4 for an illustrative concept plan for the employment center west area.

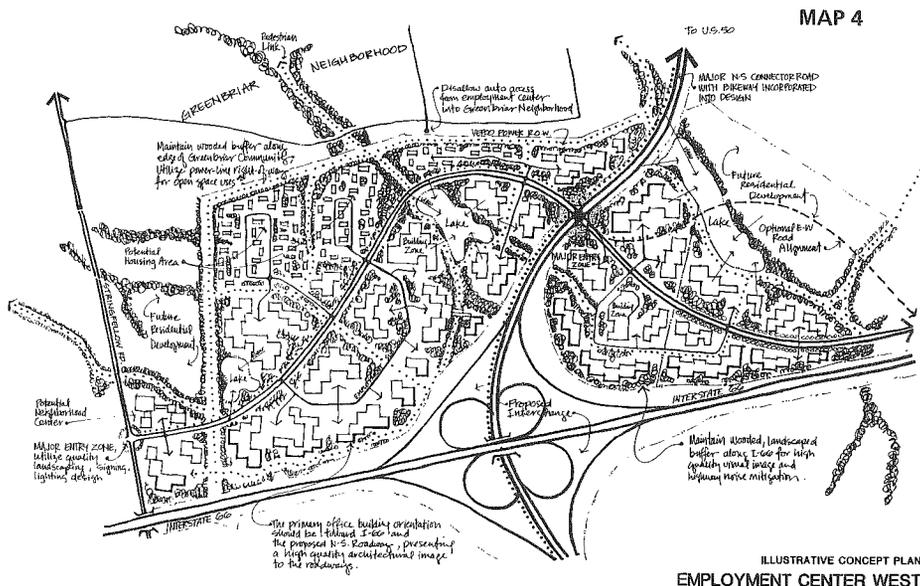
H1 (Key Area—Employment Center West)

As in the preceding discussion (G land units), high-quality campus-like office park and residential development is anticipated. The east-west subconnector through these units will provide major internal circulation and access to the north-south connector and West Ox Road.

H2 (Key Area—Employment Center West)

This land unit is currently owned by Fairfax County. The unit has been excavated to obtain earth fill material for use in the nearby County landfill operation. It is planned that this land unit will be developed as part of the employment center west under the same criteria as Land Units G and H1. The County has the option of selling or leasing this land to private developers or developing the parcels itself.

Access to/from H2 should be oriented to the subconnector. Interparcel access with H1 and I4 should be provided



LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Net	Acreage Gross
I1	24	24
I3, I4	76	93
I5, I6	26	

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR	Units/Ac.	Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
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Baseline Level—Development Intensity Potential

I1	RES		2		48	
I3, I4	RES		1		93	
I5, I6	RES		2			

Intermediate Level—Development Intensity Potential

I1	RES/MIX		5		120	10,800
I3, I4	RES/MIX		2.5		232	27,840
I5, I6	RES/MIX		2			

Overlay Plan—Development Intensity Potential

I1	RES/MIX		8		192	17,280
I3, I4	RES/MIX		4		372	44,640
	OFF/MIX	.25				
I5, I6	OFF/MIX	.5		383,785	126	

Definitions

OFF/MIX = Predominantly office mixed with other associated commercial activities limited to those allowed in the County's PDC district with housing as the dominant secondary use.

RES/MIX* = Predominantly residential mixed with supporting retail and service activities within the limits set forth in the County's PDH district as the secondary uses.

*It is recommended that planned mixed uses be achieved via the County's P districts. If conventional zoning districts are used, the developer is expected to commit to a development plan which assures that Plan objectives are achieved.

Note: These Land Units are within the Water Supply Protection Overlay District.

I1

This land unit is proposed for PDH-8 development. Access should be provided from the east-west subconnector road. Development should orient positively to both the east-west subconnector and the linear park. The provision of this roadway and park are essential to the achievement of the objectives of the Plan.

I2

This land unit contains the existing residential neighborhood of Cedar Lake Estates (Hanger Road). Efforts should be made to maintain this residential area in its current use through buffering and traffic controls. The provision of a minor north-south pedestrian linkage through this land unit to the historic site, the Fair Oaks core and Fair Oaks mall should be studied. This unit is recommended for residential use at 1-2 dwelling units per acre.

I3, I4

These land units are planned for four dwelling units per acre with residential mixed use as a transitional use between the employment center area and the Cedar Lake Estates subdivision (Hanger Road). Access to these parcels could occur from West Ox Road, Hanger Road extended or through an extension of the employment center west subconnector. However, the southern portion of Land Unit I4, which is owned by Fairfax County, south of the east-west connector road is an integral part of the area to the west and should be planned for the same use and intensity (.25 FAR) as Land Units H1 and H2. In the event this property is developed under a common development plan with the 183 acre government property in Land Unit P1, development shall be subject to the Plan provisions for the government center site. See discussion, Land Unit P-1. In this latter instance, the intensity of office development on this portion of the 216 acre site should not exceed .45 FAR and the increase on this site must be compensated for by a concurrent reduction in intensity on the 183 acre portion of the property south of I-66.

Access to/from parcels in I4 west of West Ox Road and south of the subconnector at Ballard Place should be oriented to the subconnector. Interparcel access with H2 should be provided.

I5, I6

This area is planned for office mixed use as an extension of the "urban village" core area. The residential component of the mix should be oriented north towards the East-West Subconnector, while commercial uses should be oriented along Interstate 66 to the south.

Access to/from parcels should be oriented to the subconnector. Interparcel access with J6 should be provided.

J

LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage	
	Net	Gross
J1	35	41
J2	52	52
J3,J4	42	42
J6	33	33

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity		Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
		FAR	Units/Ac.			
Baseline Level—Development Intensity Potential						
J1	RES		2		82	
J2	OFF	.25		5,704		
J3,J4	OFF	.25		359,370		
	RES		5		45	
J6	RES		4		192	
			8			

Intermediate Level—Development Intensity Potential

J1	OFF/MIX	.29		315,428	105	
J2	OFF/MIX	.57		13,005		
J3,J4	OFF/MIX	.57		694,050	231	
J6	OFF/MIX	.35		355,580	111	

Overlay Plan—Development Intensity Potential

J1	OFF/MIX	.45		548,856	183	
J2	OFF/MIX	1.0		22,815		
J3,J4	OFF/MIX	1.0		1,103,520	368	
	HOTEL		300 Room			
J6	OFF/MIX	.5		479,160	160	

Definitions

OFF/MIX* = Predominantly office mixed with other associated commercial activities limited to those allowed in the County's PDC district with housing as the dominant secondary use.

* It is recommended that planned mixed uses be achieved via the County's P districts. If conventional zoning districts are used, the developer is expected to commit to a development plan which assures that Plan objectives are achieved.

Note: This Land Unit is within the Water Supply Protection Overlay District.

J1

This land unit is proposed for mixed use development under a PDC concept. Access should be from West Ox Road and/or the proposed east-west subconnector. The proposed historic site park area along the land unit's western boundary and linear park on the southern edge are major amenities for the area and must be reflected in future site development plans. Preservation of the Ox Hill Battlefield and an appropriate surrounding buffer is a high priority. This unit, with its moderate-intensity of development, plays a key transition role between the major mixed use core to the east and housing areas to the west and south. Excellence in site planning and design is expected of this development, particularly since the unit occupies such a highly visible location near the village core and I-66. Interparcel access with E7 should be encouraged.

J2 (Key Area—Fair Oaks Mixed Use Core)

The Pender Veterinary Clinic currently occupies this land unit. A portion of this area will probably be required to accommodate the planned interchange at Route 50 and West Ox Road. Should the property redevelop, mixed use at a maximum FAR of 1.0 is recommended. Development should be coordinated with Land Unit F3. The height of structures should be carefully analyzed on this property as it is a very visible area with the highest elevation in the Fairfax Center Area.

J3, J4 (Key Area—Fair Oaks Mixed Use Core)

This area is likely to undergo the earliest development of all the key areas. Because of this probability, the need for quality in the proposed development must be underscored. The J core area is very critical from a transportation viewpoint. All rezoning applications above the current zoning will be viewed critically with regard to adequacy of existing transportation and proposed provision of improvements to coincide with the development. As the primary mixed use development in the area, the Fair Oaks village core should exemplify the overall planning philosophy of the Fairfax Center Area. The proposed linear park, east-west subconnector road and urban plaza must be accommodated in site development plans for the area. Although a maximum FAR of 1.0 is allowed for future commercial development, it is anticipated that in the first 10 to 15 years an FAR of over .625 will not be achieved as a result of private development economic considerations (such as structured parking costs). Therefore, development plans for this area should portray any future building and parking structure phasing which would result in the maximum allowable FAR. The highest quality of site and architectural design is expected for proposed development in this area. In addition, landscaping, lighting and signing design should be well integrated. A roadway should be provided that connects the western entrance of the shopping mall to the planned subconnector.

Consideration should also be given to:

- parking requirements (surface and/or structure) and possible parking reduction measures (e.g. vanpooling, carpooling, compact car lots, shared parking between uses);
- open space requirements;
- historic site provision and enhancement;
- developer incentives to provide public amenities, including public indoor activity spaces and major outdoor plaza development;
- phase public improvements to private developments.

The Fair Oaks core is strategically located in proximity to the following major elements of the area:

- major highways (I-66, Route 50);
- potential future Metro-bus and rail station;
- Fair Oaks mall—regional retail center;
- vacant land west of West Ox Road suitable for planned density housing development;
- West Ox Road and proposed east-west subconnector;
- Battle of Ox Hill historic site;
- proposed Fairfax County Government Center.

The Fair Oaks core area is considered prime developable land as a result of the following qualities:

- high point topographically—quality visibility;
- gently rolling slopes;
- mixed wooded/open land;
- utility service availability;
 - sewer service partially available in short term;
 - water/gas/electric services available;
- nearly-single ownership pattern for development quality and phasing control.

There are a number of issues and concerns which must be addressed to assure that the Fair Oaks core becomes a *high quality image/focal point* for Fairfax County. These include:

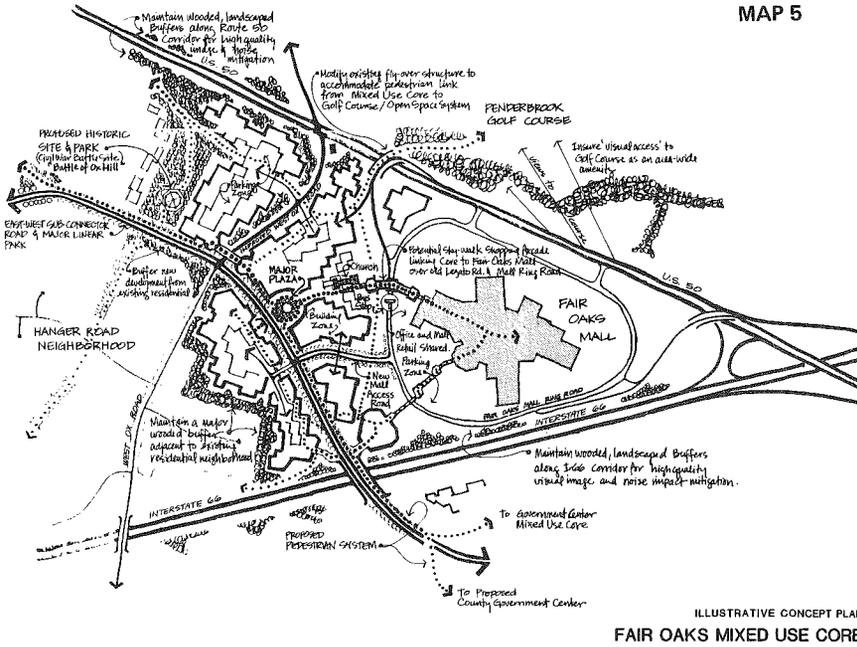
- impact on existing Hanger Road residential area (mitigation measures);
- improvements of West Ox Road from east-west subconnector to Route 50;
- stormwater run-off impact (mitigation);
- quality linkages to residential areas, Penderbrook Golf Course, proposed government center and Fair Oaks mall (critical linkage);
- quality landscape architectural treatment;
- access to Fair Oaks mall directly from subconnector road through the core area;
- 24-hour activity cycle through use mix (e.g. office, retail, hotel entertainment and housing mix);
- pedestrian access to Metro-bus/rail facilities, as needed;
- shared parking potential between uses;
- mixture of commercial, residential, recreation, etc. uses;
- highest intensity/density in Fairfax Center Area allowed here (approximate gross FAR = 1.0).

See Map 5 for illustrative concept plan for the Fair Oaks mixed use core area.

J5

The church which currently occupies the land unit is a viable land use within the context of the Plan. The building is attractive and in good repair. It is located on a high point topographically and presents a quality image for the area. Therefore, this is a fixed land use whose continuation should be assured. The major pedestrian system from the west to Fair Oaks mall is expected to traverse this land unit. It is anticipated that this open space linkage will enhance, not detract from, the church site.

MAP 5



J6

This land unit is proposed for a predominantly office mixed use development. Access should occur in a controlled manner from the subconnectors. Provision for the proposed linear park and east-west subconnector must be reflected in site development plans. This land unit, with its relatively high-intensity of development, acts as an integral portion of the Fair Oaks village core and provides a transition zone between the core and the residential neighborhood to the southwest.

J7

This land unit, the Fair Oaks mall, is a nucleus for development within the area and is planned for retail commercial use. A pedestrian/open space linkage between the mall and Fair Oaks village core to the west is an important element in the area-wide open space system and should be reflected in site development plan submissions.

K

LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage		Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
	Net	Gross			
K1, K3, K4	27	38			
K2	12	12			
K5, K6	60	63			

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity		Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
		FAR	Units/Ac.			
Baseline Level—Development Intensity Potential						
K1, K3, K4	OFF	1.0,.7	.5	1,489,752		
K2	OFF	1.0,.5		348,480		
K5, K6	OFF	.7		1,646,568		
Intermediate Level—Development Intensity Potential						
K1, K3, K4	OFF	1.0,.7	.5	1,489,752		
K2	OFF	1.0,.5		348,480		
K5, K6	OFF	.7		1,646,568		
Overlay Level—Development Intensity Potential						
K1, K3, K4	OFF	1.0,.7	.5	1,489,752		
K2	OFF	1.0,.5		348,480		
K5, K6	OFF	.7		1,646,568		

K1, K2, K3, K4, K5, K6

The development process for these land units has already begun, particularly the High Ridge and Pender Business Parks. The land use assignment for this area should be planned for office use. Within the overall context of site development for this area, Land Units K-1, K-3, and K-4 should be developed in coordination with one another with K-3 and K-4 preserved in open space. Access to, and internal circulation within, the sites should be from collector roads which intersect with Waples Mill Road. Particular attention should be given to the presentation of a high-quality image from I-66 and Route 50. Properties to the west of Waples Mill Road should be oriented to the planned loop road (Fairfax Ridge Road). Properties fronting the east side of Waples Mill Road between Pender Drive and I-66 should be oriented to the median break at Fairfax Ridge Road. Consideration should be given to the use of a service drive along the frontage of these properties.

L LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage		Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
	Net	Gross			
L1, L3, L4, L5, L6 L7, L8, L10, L11 L12, L13, L14	160	241			
Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR	Units/Ac.	Residential Units	Support Commercial Sq. Ft.
Baseline Level—Development Intensity Potential					
L1, L3, L4, L5, L6 L7, L8, L10, L11 L12, L13, L14	RES		1	241	
Intermediate Level—Development Intensity Potential					
L1, L3, L4, L5, L6 L7, L8, L10, L11 L12, L13, L14	RES		1.5	361	
Overlay Plan—Development Intensity Potential					
L1, L3, L4, L5, L6 L7, L8, L10, L11, L12, L13, L14	RES		2	482	

Note: This Land Unit is within the Water Supply Protection Overlay District.

M LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage		Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
	Net	Gross			
M1, M2, M3	71	102			
M4, M5, M6, M7	94	133			
M8, M10	43	60			
M12	36	56			
M13	8	13			
Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR	Units/Ac.	Residential Units	Support Commercial Sq. Ft.
Baseline Level—Development Intensity Potential					
M1, M2, M3 M4, M5, M6, M7, M8, M10	RES		1	102	
M12, M13	RES		1	193	
Intermediate Level—Development Intensity Potential					
M1, M2, M3	RES		1.75	178	
M4, M5, M6, M7	RES		1.5	199	
M8, M10	RES/MIX		1.5	90	10,800
M12	RES		2.5	180	
M13	RES/MIX		2.5	32	3,840
Overlay Level—Development Intensity Potential					
M1, M2, M3	RES		2.5	255	
M4, M5, M6, M7	RES		2	266	
M8, M10	RES/MIX		2	120	14,400
M12	RES		4	224	
M13	RES/MIX		4	52	6,240

Definitions

RES/MIX* = Predominantly residential mixed with supporting retail and service activities within the limits set forth in the County's PDH district as the secondary uses.

* It is recommended that planned mixed uses be achieved via the County's P districts. If conventional zoning districts are used, the developer is expected to commit to a development plan which assures that Plan objectives are achieved.

Note: This land unit is within the Water Supply Protection Overlay District.

L1, L3, L4, L5, L6, L7, L8, L10, L11, L12, L13, L14

Low-intensity residential use is planned for this area. Access to these land units should be improved with the extension of Shreve Street to Stringfellow Road, the extension of Leland Road to Lincoln Drive, and the continuation of the old Stringfellow Road facility to the Leland Road/Lincoln Drive extension. Access to L7, L8, and L11 should not be provided via the Leland Road/ Lincoln Drive extension. Reverse frontage development should be encouraged on realigned Stringfellow Road and old Stringfellow Road with access prohibited between these two roads on the Leland Road/Lincoln Drive extension. Upon completion of the interchange of Stringfellow Road/Route 29, access directly between old Stringfellow Road and Route 29 should be eliminated. Land Units L13 and L14 should be left undeveloped as part of the open space system. Sensitivity in site planning is required in areas affected by utility easements and rights-of-way which traverse these land units. Noise and visual mitigation methods should be employed in portions adjacent to I-66.

L2

This land unit consists of a small existing residential neighborhood. New residential development should be compatible with this existing development. This tract is planned for residential use at 1-2 dwelling units per acre. Access should be oriented to Westbrook Drive. The connection between Stringfellow Road and Bobann Drive should be eliminated.

L9

Arrowhead (Stringfellow) Park forms this land unit.

M1, M2, M3, M4, M5, M6, M7

These land units are located within the residential development of Anna Mohr Estates and Marshall Farms. They are planned for low-density residential use. The entrance and internal circulation should be from a collector road from Stringfellow Road. Noise mitigation methods must be employed to buffer impacts from I-66. Visual buffering should also be incorporated into the site planning for this area.

M8, M10, M11

Land Units M8, M10 and M11 are planned for low-density residential use. Access and internal circulation should be through collector roads with limited entrances from Route 29. Visual buffering between the residential development and Route 29 should be incorporated into site planning for these land units.

M9

Land Unit M9 consists of the Willowmeade subdivision. It is anticipated that this will remain a viable land use. This tract is planned for residential use at 1-2 dwelling units per acre.

M12, M13

Land Units M12 and M13 are planned for residential use at four dwelling units per acre with M13 utilizing a mixed use concept. Access should be from Route 29 through limited entrances via collector roads which will also provide internal circulation.

N

LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage	
	Net	Gross
N1	11	11
N4	11	20

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR	Units/Ac.	Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
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Baseline Level—Development Intensity Potential

N1	OPEN SPACE					
N4	RES		1		20	

Intermediate Level—Development Intensity Potential

N1	OPEN SPACE					
N4	OFF/MIX	.07		39,929	13	

Overlay Plan—Development Intensity Potential

N1	OPEN SPACE					
N4	OFF/MIX	.14		79,822	26	

Definitions

OFF/MIX* = Predominantly office mixed with other associated commercial activities limited to those allowed in the County's PDC district with housing as the dominant secondary use.

* It is recommended that planned mixed uses be achieved via the County's P districts. If conventional zoning districts are used, the developer is expected to commit to a development plan which assures that Plan objectives are achieved.

Note: This land unit is within the Water Supply Protection Overlay District.

N1

This land unit is located between the landfill and the proposed I-66/north-south connector interchange. Due to this location and the land demand for the I-66 interchange, development would be undesirable on this site. Therefore, it is recommended that this land unit be retained in open space.

N2

Land Unit N2 comprises the landfill site. It is anticipated that operations of the landfill will cease within the next two years. In 1979 Fairfax County commissioned a *Solid Waste: Energy Resource Recovery Study* to evaluate options for waste disposal. This study proposed using a portion of this site as a solid waste truck transfer station after the landfill is no longer in operation. It was determined that this type of transfer system was more cost efficient than a direct haul (house to new landfill site) option. Access should be from the north-south connector and not from West Ox Road, in order to reduce traffic congestion.

N3

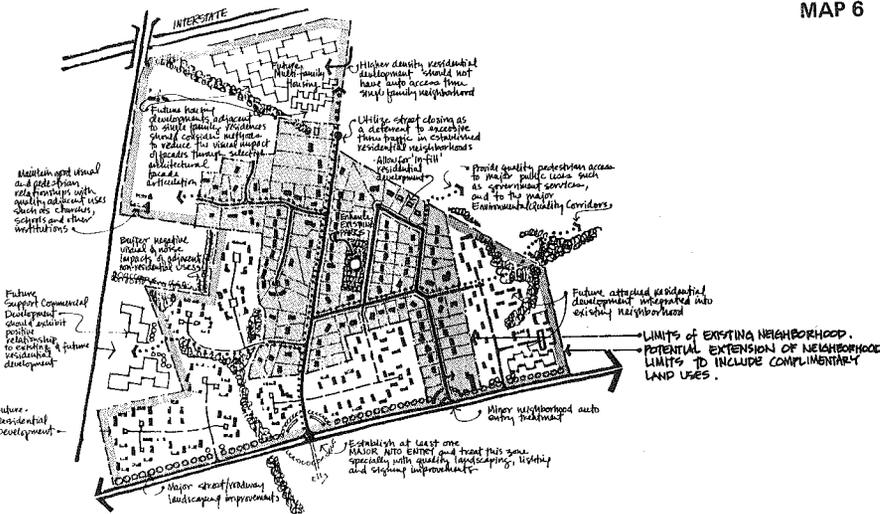
This land unit consists of a variety of public/institutional uses, including the West Ox Road Park, the Fairfax County Animal Shelter, the County Fire Training Center, and the State Convict Camp (#30). It is anticipated that these land uses will remain. This tract is planned for institutional use.

N4

This land unit is located between the exit/entrance to the north-south connector and West Ox Road. Due to its location, this site has been planned as PDC use for possible community center service/support facilities.

O

MAP 6



ILLUSTRATIVE CONCEPT PLAN
PRESERVATION/ ENHANCEMENT OF EXISTING NEIGHBORHOODS

O1

This land unit consists of the Bethlehem Baptist church and school, planned for institutional use, and the residential neighborhoods of Centennial Hills and Legato Acres, planned at 1 to 2 dwelling units per acre and 3 to 4 dwelling units per acre, as shown on the Plan maps. These uses should be enhanced within the philosophy and goals of the Fairfax Center Area. Parcel 26 and that portion of parcel 13, which are located in this land unit, have the option of being developed in medium to high density residential mixed use at 14 dwelling units per acre at the intermediate level and 20 units per acre at the overlay level, only if these are consolidated as part of a larger development plan for Land Unit 02.

Access to West Ox Road from the portion of parcel 13 in Land Unit 01 should be consolidated with the access of the institutional uses to the south and government uses to the west in order that satisfactory median break spacing on West Ox Road can be provided for the ultimate four-lane divided section and suitable sight distance is provided between the bridge over I-66 and the consolidated access point. A four-lane road connection should be provided between West Ox Road and Legato Road east of the parcels in Land Unit 02. This connection should be designated as a public street.

LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage	
	Net	Gross
O2	26	28
O4	8	12
O6	64	66
O7	6	7
O8	19	19
O9	24	29

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity		Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
		FAR	Units/Ac.			
Baseline Level—Development Intensity Potential						
O2	RES		8		224	
O4	RES		3		36	
O6	OFF/MIX	.7		487,872	162	
	RES		1		44	
O7	RES		1		7	
O8	RES		1		19	
O9	RES		1		29	

Intermediate Level—Development Intensity Potential						
O2	RES/MIX		14		392	23,520
O4	RES		3.5		42	
O6	OFF/MIX	.7		487,872	162	
	RES		2.5		105	
O7	RES		2.5		12	
O8	RES		1.5		28	
O9	RES/MIX		3.5		101	12,120

Overlay Plan—Development Intensity Potential						
O2	RES/MIX		20		560	33,600
O4	RES		4		48	
O6	OFF/MIX	.7		487,872	162	
	RES		4		176	
O7	RES		4		20	
O8	RES		2		38	
O9	RES/MIX		6		174	15,660

Definitions

RES/MIX* = Predominantly residential mixed with supporting retail and service activities within the limits set forth in the County's PDH district as the secondary uses.

* It is recommended that planned mixed uses be achieved via the County's P districts. If conventional zoning districts are used, the developer is expected to commit to a development plan which assures that Plan objectives are achieved.

Note: This land unit is within the Water Supply Protection Overlay District.

O2
This triangular parcel is bounded by I-66, Legato Road and West Ox Road. It is listed as high residential density of 20 dwelling units per acre in a PDH concept only for the purpose of assuring its use in support of the adjacent proposed Fairfax County Government Center, and to assure the establishment of the proper road system to the east through the government center, west to West Ox Road, and north across I-66, but not through the residential developments on Legato Road to the south. This latter provision must be assured by a cul-de-sac at the south border of the property shown as Land Unit O2. Random Hills Road to the east should also be protected with a cul-de-sac appropriately placed to protect the residential developments on that road and to prevent its use to the developments on Land Unit O2.

O3
The current land use—warehousing—is expected to remain; however, buffering measures to adjacent land uses must be incorporated. The area is planned and zoned for industrial use, except for the eastern portion which is planned for 1-2 dwelling units per acre.

O4
Land Unit O4 is planned for residential use at a density of four dwelling units per acre. This land unit is adjacent to and must be buffered from the commercial use in Land Unit O3. Development in this land unit must also be compatible with the adjacent residential communities of Centennial Hills and Legato Acres. Access to this parcel should be from Ruffin Drive and/or Deljo Drive.

O5
The Dixie Hills neighborhood is contained in this land unit, which is planned for 1-2 dwelling units per acre. Adjacent proposed development should preserve, enhance, and protect this existing neighborhood. Incompatible land uses, particularly on the proposed Fairfax County Government Center site, should be sited and/or buffered to protect the residential character of Dixie Hills.

O6
This land unit is planned for a combination of office and residential uses. The predominantly office district is located in the portion currently zoned commercial. These commercial uses could be neighborhood center service/support facilities. Buffering and transitional uses should be encouraged between this area and the adjacent residential uses. The remainder of the site is planned for residential use at four dwelling units per acre. Access to the residential portion would be from Route 29 via a residential collector road. Visual buffering to Route 29 is encouraged. Buffering to the surrounding commercial/industrial uses should be incorporated in site development plans.

O7
Land Unit O7, located at the intersection of Legato Road and Route 29 is planned for residential use at four dwelling units per acre. Access to the site should be from Legato Road at a distance far enough from the intersection to allow for adequate automobile stacking. Buffering measures from Route 29 should be incorporated into the site plan.

O8
Located at the intersection of Legato Road and Route 29, this land unit is proposed for residential development at a two dwelling units per acre density. Access to the site may be from both Route 29 and Legato Road. Buffering measures should be implemented in areas affected by Route 29.

O9
This land unit is planned for a residential mixed use development of six dwelling units per acre. As this density is higher than that of the adjacent Dixie Hills neighborhood, adequate transitional buffers should be incorporated into the site plan. Higher density development should be oriented toward the proposed government center. The substantial EQC which runs through this parcel should be respected by site development. Access should be via a residential collector road from Route 29.
See Map 6 for an illustrative concept plan of preservation enhancement of existing neighborhoods.

P

LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage	
	Net	Gross
P2	85	121
P3	16	24
O4	30	52

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR	Units/Ac.	Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
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Baseline Level—Development Intensity Potential

P2	OFF RES	.25	4,8	392,040	510	
P3	RES		5		105	
P4	OFF RES	.2	5	243,936	240	

Intermediate Level—Development Intensity Potential

P2	OFF/MIX	.28		970,110	323	
P3	RES/MIX		8		192	17,280
P4	OFF/MIX	.23		350,658	116	

Overlay Level—Development Intensity Potential

P2	OFF/MIX	.35		1,168,860	389	
P3	Hotel RES/MIX	300 Rooms	10		240	21,600
P4	OFF/MIX	.35/7		538,692	179	

Definitions

RES/MIX* = Predominantly residential mixed with supporting retail and service activities within the limits set forth in the County's PDH district as the secondary uses.

OFF/MIX* = Predominantly office mixed with other associated commercial activities limited to those allowed in the County's PDC district with housing as the dominant secondary use.

* It is recommended that planned mixed uses be achieved via the County's P districts. If conventional zoning districts are used, the developer is expected to commit to a development plan which assures that Plan objectives are achieved.

P1 (Proposed Fairfax County Government Center)

The facilities of the Fairfax County Government Center are located on the 183.0-acre Land Unit P1 planned for development at an overall .35 FAR. Buffering measures must be incorporated to mitigate potential impacts on adjacent residential communities. Pedestrian linkages to the government center and Fair Oaks core must be assured in the site plan. Information on this site can be obtained from the Design Competition Guidelines.

If the Fairfax Government Center facility occupies only a portion of the 183.0 acres of Land Unit P1, the remainder of the property may be developed for office/mix that in conjunction with the 33 acre government property in Land Use Unit I-4 may contain not more than 2.2 million gross square feet. Of this total, at least one-third must be devoted to residential uses. The area adjacent to I-66 and the core area may be developed at an office/mix of approximately .5 FAR. The area north of Route 29 and south and east of the proposed government center may be developed at an office/mix of approximately .35 FAR, with a residential component located on the southwestern portion of this area to ensure that the commercial uses do not continue westward along Route 29 and that office uses do not adversely impact the low-density and medium-density residential uses in the area.

Access to this subarea should be oriented to the major east-west subconnector road. Extended right and left turning lanes should be provided through this area on the subconnector road. Secondary roadway access should be provided to interconnect adjacent parcels and allow for access to/from the subconnector. Inter-parcel access should be provided in an effort to join compatible land uses and to connect adjacent parcels with the subconnector. Random Hills Road should be relocated so as to provide:

- access to the northwestern portion of the subject property;
- access to the planned high density residential uses adjacent to the subject property; and
- sufficient sight distance from the subconnector's bridge abutments at I-66.

Additional alternative connections south of I-66 between West Ox Road and the major east-west subconnector road (which crosses I-66) should be examined. A loop circulation system off of the subconnector road and within P1 should be provided.

P2 (Key Area—Proposed Fairfax County Center Mixed Use Core)

Development of this area should relate in timing and orientation to the Fairfax County Government Center development. Techniques to mitigate noise impacts from I-66 should be incorporated into site planning. Primary access should be from the east-west subconnector. Roadway connections should be provided between Random Hills Road and the subconnector, through P2.

The proposed Fairfax County Government Center mixed use core is centrally located, in proximity to:

- major highways—I-66, Route 29;
- potential future Metro-bus and rail station along I-66;
- proposed east-west subconnector road;
- proposed Fairfax County Government Center;
- proposed planned development office employment and residential developments;
- existing residential neighborhoods;
- major open space amenity.

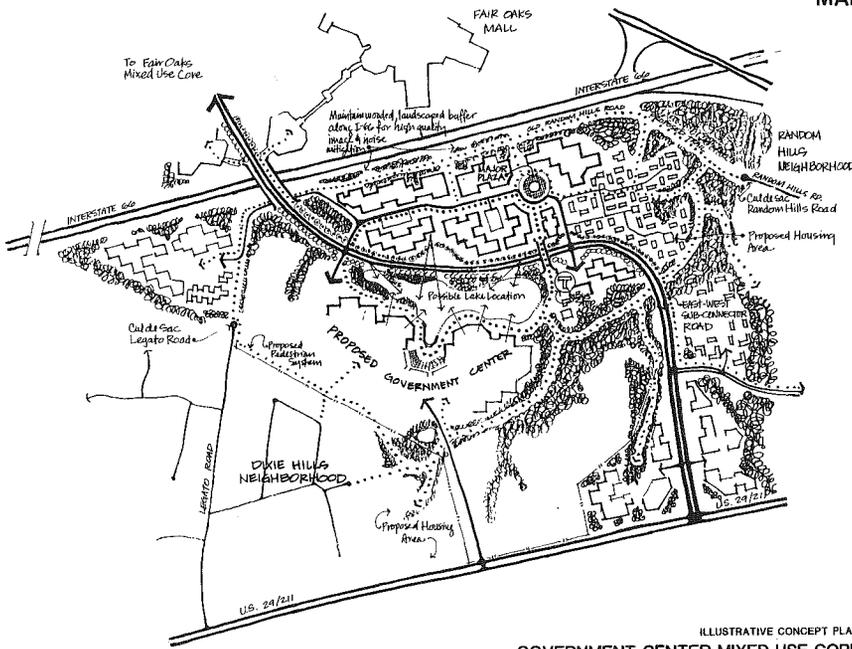
The qualities that contribute to the development potential of this area include:

- I-66 corridor orientation along northern boundary;
- quality open space orientation south and west;
- strong relationship to proposed Fairfax County Government Center;
- gently rolling slopes (excluding EQC);
- good vegetative cover mix;
- utility service availability;
 - sewer (available through Route 50/66 Association);
 - water/gas/electric services available;
- ownership pattern—relative ease of assembly over mid-term.

The areas and issues of particular concern for the successful development of the proposed Fairfax County Government Center core are:

- emphasis on assembly of parcels to facilitate cohesive quality development;
- timing of development must relate directly to proposed Fairfax County Government Center phasing;
- impacts on existing residential areas (mitigation measures);
 - Dixie Hills (limit vehicular access, buffer homes);
 - Random Hills (access/traffic impact issues);
- linkage to Fair Oaks core via bridge (east-west subconnector) near Legato Road;
- impact of storm water run-off into Difficult Run;
- preservation/enhancement of EQC;
- mitigate potential negative traffic impacts on surrounding areas;
- mixture of commercial, residential, recreational, etc., uses;
- overall intensity lower than Fair Oaks core (approximate gross FAR² .35);
- noise impact (I-66 related) mitigation;
- east-west subconnector sensitively aligned;
- office development orientation to I-66;
- housing development orientation to EQC;
- potential sharing of amenities with proposed Fairfax County Government Center;

MAP 7



ILLUSTRATIVE CONCEPT PLAN
GOVERNMENT CENTER MIXED USE CORE

- program—some support services for proposed Fairfax County Government Center included;
- provide pedestrian access to future potential Metro-bus and rail;
- achieve a 24-hour activity cycle with use mix (e.g., office, retail, hotel, entertainment, and housing mix).

See Map 7 for an illustrative concept plan for the government center mixed use core area.

P3, P4

These land units are proposed for a combination of residential mixed use at ten units per acre and office mixed use at predominantly .35 FAR. Access should be from the east-west subconnector or from the proposed connection between this connector and Waples Mill Road. The strong relationship between this site and the proposed Fairfax County Government Center would indicate that development in this parcel might include government-related service and support uses. There is a substantial amount of EQC land in this parcel, which must be recognized and protected in site planning and development.

Q

LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage	
	Net	Gross
Q2	4	4
Q3	12	24
Q4	20	21
Q5	71	88
Q6	7	12
Q7	3	4
Q8	19	19
Q9	3	10
Q11	7	7
Q12	20	20

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity		Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
		FAR	Units/Ac.			

Baseline Level—Development Intensity Potential

Q2	RES		1		4	
Q3	RES		1.2		36	
Q4	RES		4		84	
Q5	OFF/MIX	1.0,.5		1,393,920	464	
	RES		1.5		124	
Q6	OFF/MIX	1.0		348,480	116	
Q7	OFF/RET	.7		81,312	27	
Q8	OFF/MIX	.7		579,348	0	
Q9	OFF/MIX	1.0		290,400	99	
Q11	OFF/MIX	1.0,.7		185,856	62	
Q12	OFF/MIX	1.0,.7		399,768	113	

Intermediate Level—Development Intensity Potential

Q2	RES		4		16	
Q3	RES		1.75		42	
Q4	RES		6		126	
Q5	OFF/MIX	1.0,.3		1,746,320	582	
Q6	OFF/MIX	1.0		348,480	116	
Q7	OFF/MIX	.7		81,312	27	
Q8	OFF/MIX	.7		579,348	0	
Q9	OFF/MIX	1.0		290,400	99	
Q11	OFF/MIX	1.0,.7		185,856	62	
Q12	RES/MIX	1.0,.7		339,768	113	
		.5				

Overlay Plan—Development Intensity Potential

Q2	RES		8		32	
Q3	RES		2		48	
Q4	RES		8		168	
Q5	OFF/MIX	1.0,.5		1,974,720	657	
Q6	OFF/MIX	1.0		348,480	116	
Q7	OFF/MIX	.7		81,312	27	
Q8	OFF/MIX	.7		579,348	0	
Q9	OFF/MIX	1.0		290,400	99	
Q11	OFF/MIX	1.0,.7		185,856	62	
Q12	OFF/MIX	1.0,.7		339,768	113	
		.5				

Definitions

OFF/MIX* = Predominantly office mixed with other associated commercial activities limited to those allowed in the County's PDC district with housing as the dominant secondary use.

OFF/RET = Office use mixed with retail sales and services.

* It is recommended that planned mixed uses be achieved via the County's P districts. If conventional zoning districts are used, the developer is expected to commit to a development plan which assures that Plan objectives are achieved.

Note: These Land Units are within the Water Supply Protection Overlay District.

Q1

This land unit includes a developed portion of the Random Hills neighborhood. Preservation of the residential nature of this area should be considered in the development of its adjacent parcels. Current access problems should be eliminated by the extension of Random Hills Road to the proposed Waples Mill Road extension. The western end of Random Hills Road should be cul-de-saced in order to prevent heavy traffic to the proposed core area from passing through this neighborhood.

The residential eastern portion of the tract could readily accept zero-lot line type structures. Because of the limited buildable ground available, however, the density should be only 3-4 dwelling units per acre overall. A density of up to five dwelling units per acre should be considered only if there is sufficient lot consolidation to accomplish the Comprehensive Plan objectives for the tract and if a development plan clearly indicates the feasibility of accomplishing that much density without creating an undesirable living environment for persons living on or adjacent to the site.

Noise impact, modified by local topography, extends approximately 225 feet into the tract.

The adjacent stable, single-family subdivision should be buffered.

Q2

This land unit represents a developable portion of the Random Hills subdivision. Access should be from Random Hills Road. This land unit is proposed for residential development at a density of eight dwelling units per acre. Noise and visual mitigation techniques should be incorporated in development of this site in order to reduce the impacts from Route 50.

Q3

Land Unit Q3 includes a predominantly undeveloped portion of the Random Hills subdivision. This parcel has been planned for residential use at two dwelling units per acre, similar to the adjacent existing density. A substantial environmental quality corridor surrounds this land unit. Protection of this EQC must be assured in any site plan for this area.

Q4

Land Unit Q4 is planned for residential use, as a transition between the office mixed use development to the east and the lower density residential development of Random Hills to the west. This land unit should be buffered from the Random Hills neighborhood. Access from Random Hills Road is recommended. Extend Gateway Road along the southern portion of Q4 and connect to Ridge Top Road to provide access for residential traffic only.

Q5, Q6, Q7, Q8, Q9, Q11, Q12

These land units, in the Kamp Washington area, are currently zoned for PDH-5, industrial, retail, and office uses. This area is planned for office mixed use development at the overlay level. Currently allowable intensities (.7 and 1.0 FAR) were retained. Land Unit Q8 is the Montgomery Ward development site and is anticipated to be constructed under current zoning. Land Unit Q9 should be developed in concert with Land Unit Q5 and should be retained as open space within that development. Extend the subconnector to the east to Stevenson Street.

Q10, Q13

This area is planned for retail and industrial uses. Currently, miniwarehouses and a K-Mart store occupy these land units.

R

LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage	
	Net	Gross
R1	16	16
R2, R5, R6, R7, R8, R9	101	134

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR	Units/Ac.	Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
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Baseline Level—Development Intensity Potential

R1	RES		1		16	
R2, R5, R6, R7, R8, R9	RES		1		134	

Intermediate Level—Development Intensity Potential

R1	RES		2		32	
R2, R5, R6, R7, R8, R9	RES		1.5		201	

Overlay Level—Development Intensity Potential

R1	RES		3		48	
R2, R5, R6, R7, R8, R9	RES		2		268	

Note: This land unit is within the Water Supply Protection Overlay District.

R1, R2, R5, R6, R7, R8, R9

These land units, located south of Route 29, are planned for single-family residential use. Visual and noise buffering is recommended to reduce the negative impacts of Route 29-Stringfellow Road on the residential development. Access should be limited to major entrances on Route 29 and Stringfellow Road. Access should be limited to major entrances on Route 29 and Clifton Road. A roadway along the eastern boundary of R7 on a circuitous alignment and connecting with Moore Road should provide the primary access for R5 and R6.

R3, R4

These land units are planned for residential use at 1-2 dwelling units per acre.

S

LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage	
	Net	Gross
S1, S2, S3, S5, S6	79	99

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR	Units/Ac.	Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
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Baseline Level—Development Intensity Potential

S1, S2, S3, S5, S6	RES		1		99	
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Intermediate Level—Development Intensity Potential

S1, S2, S3, S5, S6	RES		1.5		148	
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Overlay Level—Development Intensity Potential

S1, S2, S3, S5, S6	RES		2		198	
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Note: This land unit is within the Water Supply Protection Overlay District.

S1, S2, S3, S5, S6

These land units are planned for low-density residential use at two dwellings per acre, with the exception of several parcels zoned for retail use which should develop in office uses. Access should be through a limited number of entrances along Route 29. Buffering along Route 29 should be incorporated in the site planning process. Access to S5 should be provided by a roadway between the median break at the western end of M13 on Route 29 and Cannonball Road.

S4

The parcel consists of a portion of the Crystal Springs subdivision. This land unit is planned for residential use at 1-2 dwelling units per acre.

T

LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage	
	Net	Gross
T1, T4	57	66

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR	Units/Ac.	Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
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Baseline Level—Development Intensity Potential

T1, T4	RES		1		66	
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Intermediate Level—Development Intensity Potential

T1, T4	RES		1.5		99	
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Overlay Level—Development Intensity Potential

T1, T4	RES		2		132	
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Note: This land unit is within the Water Supply Protection Overlay District.

T1, T4

Low-density residential use is planned for these parcels at a density of two dwelling units per acre. Access to Land Use T1 (a portion of the Cannon Ridge subdivision) should be from Gunpowder Road. Access to Land Unit T4 should be from Route 29 via a collector road. Buffering to Route 29 should be provided.

T2, T3, T5

These land units are comprised of portions of the Lee Pines, Piney Branch, and Glen Alden subdivisions. These land units are planned for residential use at 1-2 dwelling units per acre.

U

LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage	
	Net	Gross
U1	66	66
U2	7	7
U3	1	2
U4	7	10

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR	Units/Ac.	Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
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Baseline Level—Development Intensity Potential

U1	RES		1,2		68	
U2	RES		1		7	
U3	RES		2		4	
U4	RES		1		10	

Intermediate Level—Development Intensity Potential

U1	RES		1,3		77	
	OFF/MIX	.13		50,965	17	
U2	OFF	.13		39,640		
U3	OFF/MIX	.13		11,325	4	
U4	RES		1.5		15	

Overlay Level—Development Intensity Potential

U1	RES		2,4		33	
	OFF/MIX	.25		98,010		
U2	OFF	.25		76,230		
U3	OFF/MIX	.25		21,780	7	
U4	RES		2		20	

Definitions

OFF/MIX* = Predominantly office mixed with other associated commercial activities limited to those allowed in the County's PDC district with housing as the dominant secondary use.

* It is recommended that planned mixed uses be achieved via the County's P districts. If conventional zoning districts are used, the developer is expected to commit to a development plan which assures that Plan objectives are achieved.

Note: These Land Units are within the Water Supply Protection Overlay District.

U1

Land Unit U1 is planned for a combination of office and residential use. The northeastern portion of the site is planned for office mixed use at .25 FAR. The remainder of the land unit is planned for residential use. Those portions which are within the Route 50/66 Association sewer boundary are planned for four dwelling units per acre, with the rest at a two units per acre density. The residential area should have an internal collector road system which provides access to Route 29. Service to the office component should be from the south; however, the building orientation should be toward Route 29. Appropriate buffering and use transitions should be incorporated between differing land uses.

U2

The major portion of Land Unit U2 contains the subdivision of Lee High Village. The northern portion of the land unit is vacant and developable. This portion is planned for office use at .25 FAR. Orientation should be toward Route 29. Service access should be from the south. Appropriate measures must be taken to buffer the Lee High Village residential community.

U3

Land Unit U3 is planned for office mixed use at .25 FAR. Particular consideration must be given to protection of the substantial environmental quality corridor that surrounds this site on three sides. Access should be from Route 29.

U4

A residential use is planned for this site at a density of two units per acre. Access should be via the road and right-of-way currently existing from Forest Hill Drive to the east.

V

LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage	
	Net	Gross
V1	81	95
V2	80	80

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR	Units/Ac.	Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
Baseline Level—Development Intensity Potential						
V1	RES OFFICE	.4	1	69,696	91	
V2	RES OFFICE	.4	.2, 1	435,600	58	
Intermediate Level—Development Intensity Potential						
V1	RES OFFICE	.4	1.5, 3	69,696	201	
V2	RES OFFICE	.4	.2, 2	435,600	58	
Overlay Level—Development Intensity Potential						
V1	RES OFFICE	.4	.2, 5	69,696	311	
V2	RES OFFICE	.4	.2, 3	435,600	145	

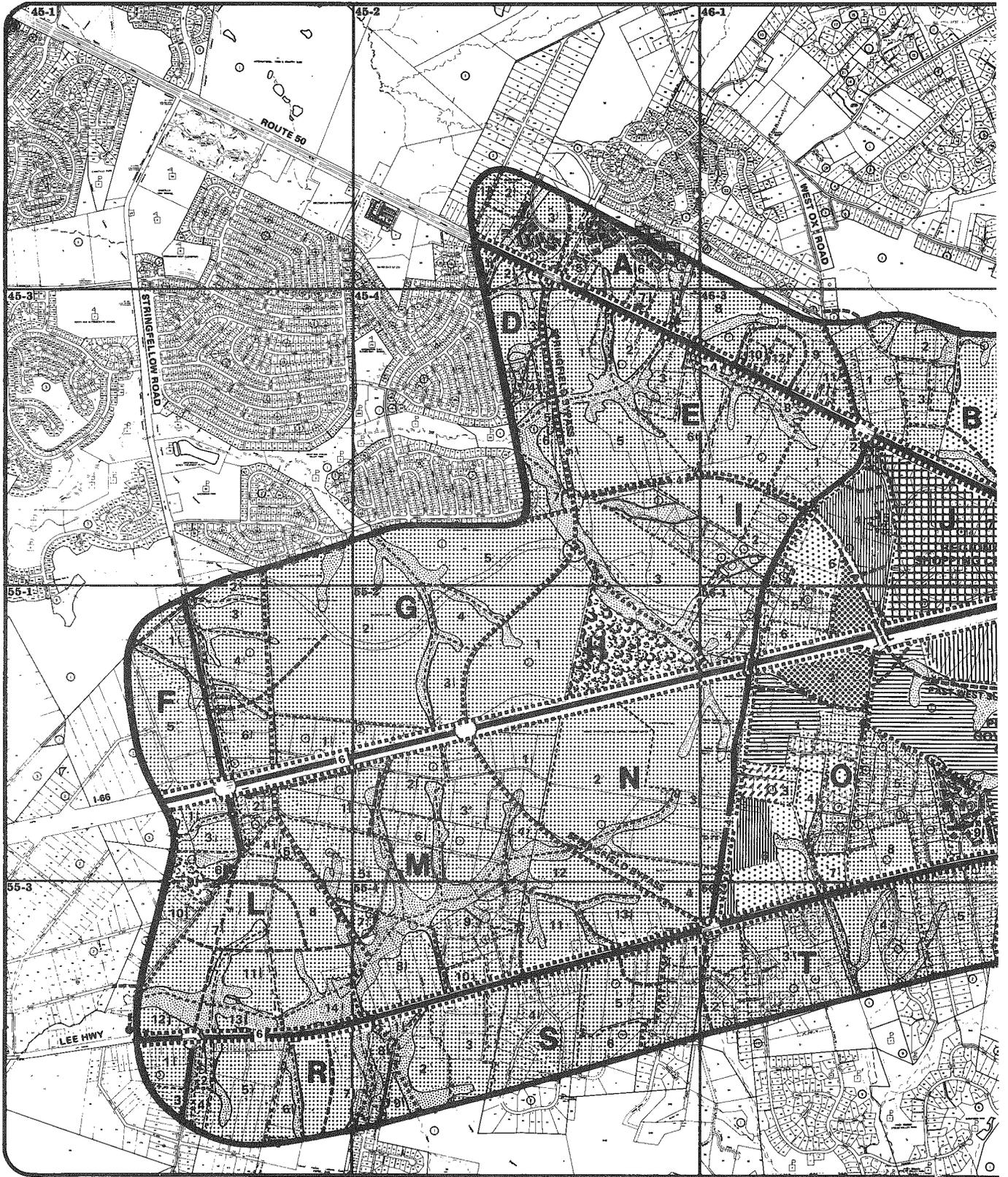
Note: This land unit is within the Water Supply Protection Overlay District.

V1

Acreage on the south side of Lee Highway to an approximate depth of 600-800 feet to the north of Kiel Gardens, is planned for 5 dwelling units per acre. The remaining southern portion of this land unit is planned for 1-2 dwelling units per acre. Retail zoned parcels are appropriate for office use.

V2

Parcels fronting on Lee Highway are planned for office use at .4 FAR for a distance of approximately 425 feet from Lee Highway which generally corresponds to the southern boundary of Parcel 56-2((1)) 50 (see map). The area to the south, including the back portion of lots fronting on Lee Highway is planned for residential use at 1 to 3 dwelling unit per acre as an appropriate transition to the low-density residential uses to the south. A substantial vegetative buffer should be provided between residential and non-residential land uses. Parcel 56-2((4)) 11 shall be developed in residential use. Should there be consolidation of lots to the south, including but not limited to lots 47 and 49, for the purpose of residential development that would occur simultaneously with development of commercial properties fronting on Lee Highway, part of lot 11 could be used for commercial purposes, and part for the provision of this land unit (Parcels 56-4((6)) 1, 2, 36, 37) is planned for residential use at a maximum density of .2 dwelling unit per acre. Access to the Land Unit should be from Shirley Gate Road.





ADOPTED PLAN - BASELINE LEVEL

RESIDENTIAL

-  <1 DU/AC
-  1-2 DU/AC
-  3-4 DU/AC
-  5-8 DU/AC
-  8-12 DU/AC
-  12-16 DU/AC
-  16+ DU/AC

NON-RESIDENTIAL

-  COMMERCIAL OFFICE OR OFFICE/MIX (SEE TEXT)
-  COMMERCIAL RETAIL
-  INDUSTRIAL
-  INSTITUTIONAL
-  MIXED USE VILLAGE CORE
-  PARK
-  ENVIRONMENTAL QUALITY CORRIDOR

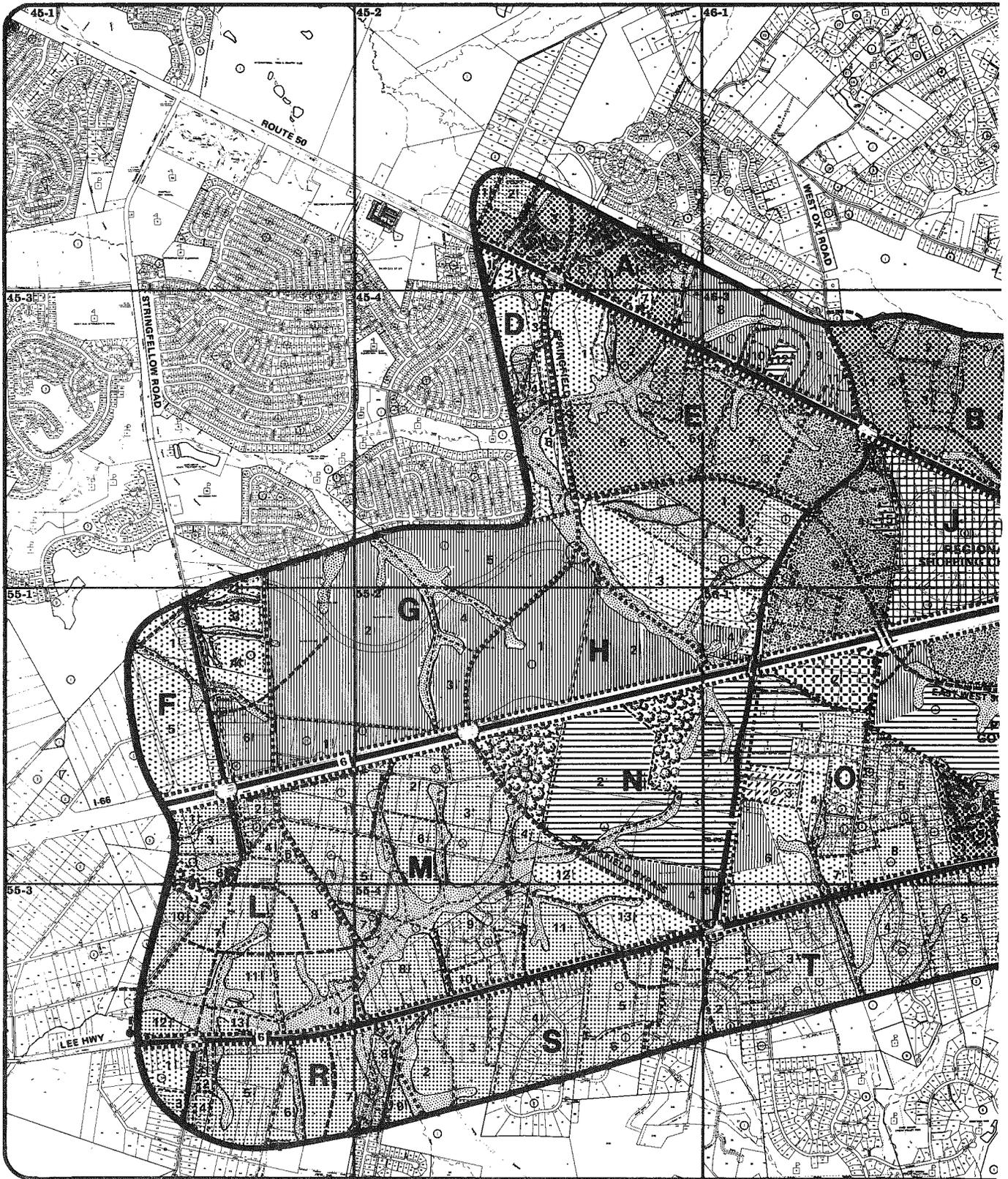
-  LAND UNIT BOUNDARY
-  SUB-LAND UNIT BOUNDARY
-  PROPOSED ROADWAY
-  WIDEN OR IMPROVE ROADWAY

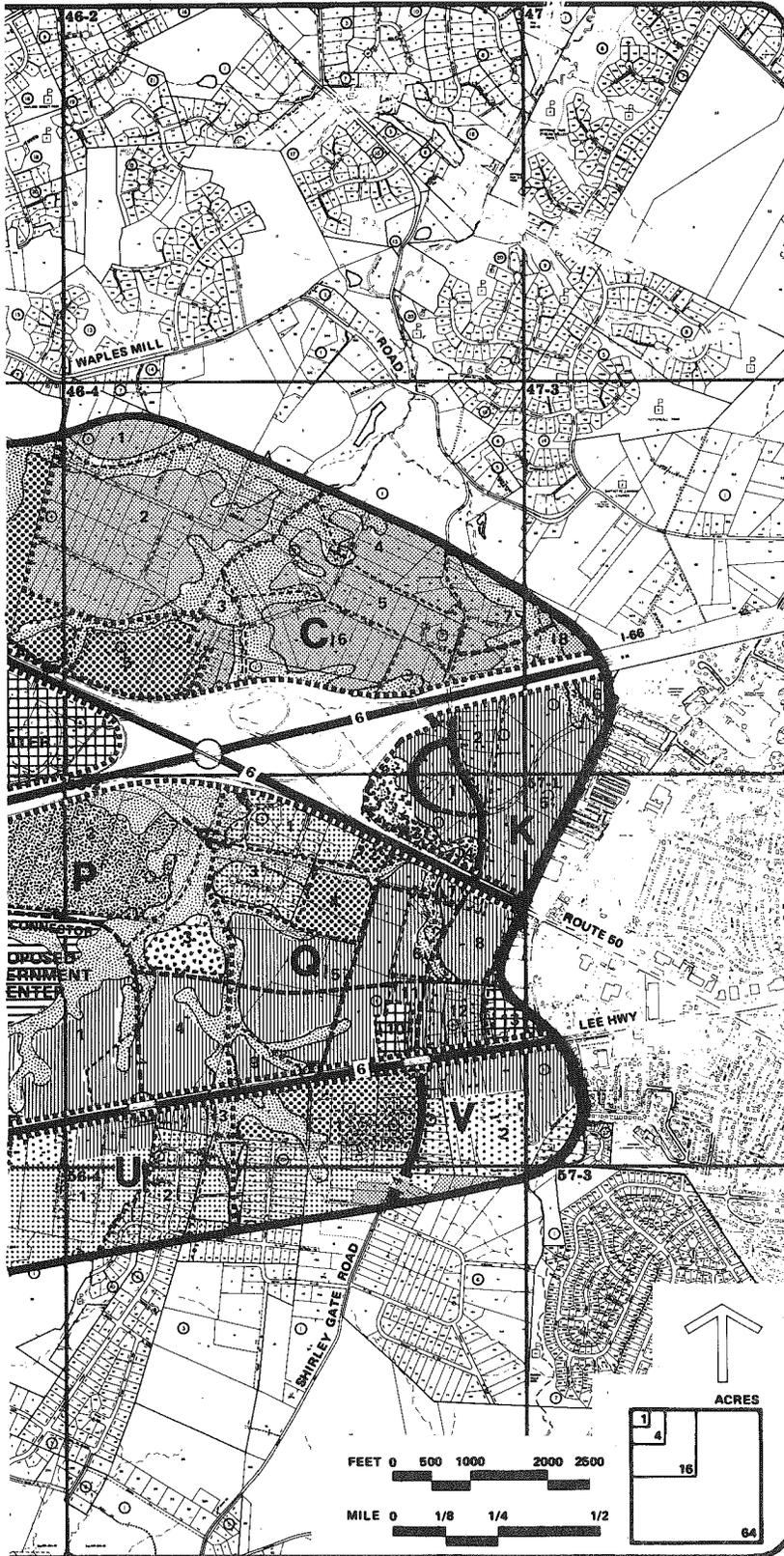
6 LANES

**FAIRFAX CENTER AREA
FAIRFAX COUNTY, VIRGINIA**

PREPARED BY THE
OFFICE OF COMPREHENSIVE PLANNING

OCTOBER 1986





ADOPTED PLAN - OVERLAY LEVEL

RESIDENTIAL

-  <1 DU/AC
-  1-2 DU/AC
-  3-4 DU/AC
-  5-8 DU/AC
-  8-12 DU/AC
-  12-16 DU/AC
-  16+ DU/AC

NON-RESIDENTIAL

-  COMMERCIAL OFFICE OR OFFICE/MIX (SEE TEXT)
-  COMMERCIAL RETAIL
-  INDUSTRIAL
-  INSTITUTIONAL
-  MIXED USE VILLAGE CORE
-  PARK
-  ENVIRONMENTAL QUALITY CORRIDOR

-  LAND UNIT BOUNDARY
-  SUB-LAND UNIT BOUNDARY
-  PROPOSED ROADWAY
-  WIDEN OR IMPROVE ROADWAY
-  6 LANES

**FAIRFAX CENTER AREA
FAIRFAX COUNTY, VIRGINIA**

PREPARED BY THE
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OCTOBER 1986

SUMMARY OF RECOMMENDATIONS

Recommended Levels of Development

The recommended levels of development are summarized below:

Development Level Options	Commercial Square Feet (Rounded in Thousands)			Dwelling Units
	Primary	Support	Total	
Baseline	6,520	90	6,610	5,800
Intermediate	10,000	260	10,260	7,500
Overlay	12,500	330	12,830	10,400

- The recommendations were developed utilizing a technique which required designation of land use followed by assignment of intensity at each level.
- The recommendations in the above table reflect the objective of creating an urban village atmosphere which mingles residential, retail, commercial and industrial uses in the same land unit. The concept of an urban village, as envisioned for this area is designed generally to promote housing as a secondary use in the areas proposed for office/mixed uses.
- It is an important objective of this Plan that proposed office/mixed use areas described in land use summary charts A through V be developed with primary office uses and with secondary uses comprising the maximum amount of housing which could be accommodated in accordance with the limits allowed under the County's PDC district. In unique instances where evidence can be presented that a higher proportion of housing, or a higher proportion of office would be desirable to achieve the goals of the County and of this Plan, overall floor area ratios should not exceed those which are proposed in this Plan.

Relationship Between Actual Development and Planned or Zoned Maximum Intensity

In developing the recommendations, it was recognized that in Fairfax County actual development does not always take place at maximum allowable planned or zoned intensity. This phenomenon results from any one or any combination of development constraints related to the site itself, limited current market potential or economic requirements such as the high cost of building structured parking necessary to achieve the maximum allowable floor area.

An empirical analysis of commercial development for the Tysons Corner area found that the actual development was 18 percent to 74 percent less than maximum planned and/or zoned potential. Another example of this phenomenon is within the Fairfax Center Area itself. The Pender Business Park is zoned to allow FARs of 1.0 and .7; however, final plans call for development at approximately .6 FAR.

Market conditions also affect the relationship between actual and maximum potential development. The Fairfax Center Area will be in competition with Tysons Corner, the Route 50/I-495 Area, the Reston/Dulles area, and sites at the County's Metro stations for a share of the County's long-range office market. This market has its limits.

The highest County forecasts for new office development in all of Fairfax County estimate an additional 43.8 million square feet during the 1980-2000 period. This amount of development already assumes that the County will attract a dramatically increasing share of the metropolitan region's new office-type employment in the future—from a 20 percent share between 1970 and 1980 to about 28 percent between 1980 and 1990 and 37 percent between 1990 and 2000. The recommended overlay primary commercial level of approximately 12.5 million square feet represents

more than 28 percent of the forecast's high level of countywide office growth. This is an optimistic share when considering the quality and attractiveness of competing locations.

In order to accommodate the discount phenomenon and the market condition relationship in the Plan recommendations, a conservative discount factor of 25 percent of potential maximum intensity was utilized. Thus, the primary commercial square footage shown in the above table represents a 25 percent discounting of that which could theoretically be developed under the alternative plans. (It is important to note that the intermediate and overlay level intensities are, in fact, development incentives. In order to achieve such intensities, developers will be called upon to provide various improvements and amenities.) Comparable significant discounting in residential development has not been observed and, therefore, the dwelling unit figures have not been discounted in locations where residential is proposed as the primary use. However, in office/mixed use areas related secondary housing uses were discounted in proportion to the discounting of primary commercial areas.

Theoretical Maximum Intensity

The following table summarizes the theoretical maximum intensity potential levels of development of all the individual parcels located in the Fairfax Center Area. It provides for maximum housing as a secondary use in the areas planned for office/mixed uses.

Development Level Options*	Commercial Square Feet (Rounded in Thousands)			Dwelling Units
	Primary	Support	Total	
Baseline	8,690	90	8,780	6,100
Intermediate	13,340	260	13,600	8,200
Overlay	16,670	330	17,000	11,300

*Maximum housing as secondary use.

It should be emphasized that the above table reflects theoretical development potential only and not what actual development will yield.

Other Development Committed or In Place

The theoretical figures in the previous table summarize the analysis of the parcels noted in the detailed land use charts. The numbers do not reflect existing development such as houses already built, existing shopping centers such as Fair Oaks mall, or the proposed Fairfax County Government Center. (However, all of such development has been included for purposes of transportation and traffic analysis.)

The development committed or in place as of 1982 in addition to that noted in the parcel-by-parcel analysis in the report can be summarized as follows:

Single-family residential units	550
Churches	7
Commercial Square Footage	2,600,000 sq. ft.
Industrial Square Footage	10,000 sq. ft.
Min Warehouse Development	74,000 sq. ft.
Proposed County Government Center (Range)	352,000 to 748,000 sq. ft.
Other County Facilities: (Landfill, Fire Training, Animal Shelter, Equipment Yard)	77,000 sq. ft.
No. Va. Correctional Unit No. 30	15,000 sq. ft.

PLAN DESCRIPTION AND DEVELOPMENT CRITERIA

The Plan is described, and performance criteria applied, in three major categories—area-wide, key area and site- and use-specific.

Area-Wide Plan Description and Development Criteria

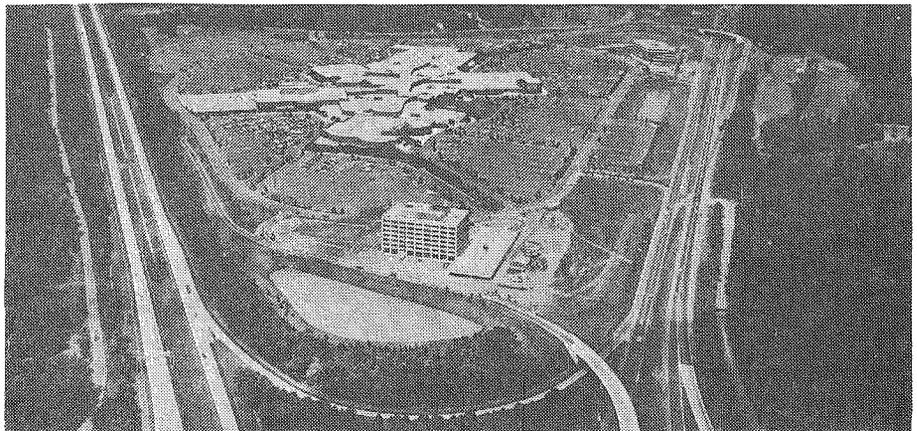
At the area-wide level, the Plan will be described in terms of systems—transportation, environmental, public facility sites, buffer relationships and land use.

Transportation Systems

A. New Transportation Infrastructure Improvements. The automobile circulation system is hierarchical. The character of service provided is related to the hierarchy of land use types and intensities. The road system hierarchy can be outlined generally as follows:

1. interstate highways/expressways
2. regional parkways and federal routes
3. area-wide connectors
4. area-wide subconnectors
5. major collector streets
6. minor (local) streets

Rights-of-way widths, lane size and number, intersection/interchange treatment, traffic volume capacity, design speeds, access control and landscape architectural treatments vary from one level of roadway to the next. Visual and noise impacts related to automobile circulation must be considered in planning circulation systems. Service and emergency vehicle requirements must also be accommodated in street design and location. The roadway image and level of usage should be defined and reinforced through well-designed landscaping, lighting and signing systems, with inter-



Fair Oaks Mall, Fairfax, Virginia

section/interchange transition areas receiving a high degree of design consideration. Existing traffic congestion and safety problems should be mitigated through quality land use and transportation planning.

Carpool, vanpool, flextime and other programs aimed at increasing transportation efficiency are desirable under all levels of the Plan; however, they are more critical at the overlay level.

The major elements of the recommended road system for the Fairfax Center Area are described more fully in the following categories:

1. Area-Wide Connectors

The proposed north-south connector road falls into this category. The north-south connector is a vital component of the roadway network required to serve the area. It will provide direct, high-capacity access to Routes 50 and 29 and I-66. The interconnection of these three east-west arterials provides the greatest potential for distribution of traffic. This north-south connector also serves as an arterial connection to points north and south of the area. To be fully effective, eventual construction of the entire length of a connection between I-95 and Route 7 will be necessary. The alignment of the Springfield Bypass has not been designated by Fairfax County in the Fairfax Center Area.

Implementation Aspects. Substantially all of the right-of-way needs for this road and its interchanges should be met through private developer land dedication to the County under existing standard policies. Minimum landscaping requirements should be funded by private developers with no density bonus credit.

Minor development elements would include the provision of major connector road sign systems. Major development elements would include construction of the major connector road (including all phases as required to serve later private development project phases—roadways, interchanges, bridges, etc.) and provision of traffic signalization systems.

2. Area-Wide Subconnectors

The proposed east-west subconnector road and the employment center west subconnector road fall into this category. These roads link interior portions of the area to the north-south connector road and to other major area streets.

The alignment of all subconnectors is subject to site planning considerations at the time of development and is not considered to represent an exact location. The determination of the most appropriate alignment should occur when zoning proposals are presented and should include the following considerations:

- equitable distribution of construction costs and right-of-way dedication;
- provision of access from nearby properties to the proposed subconnector network and encouragement of mutual access for utilities and storm drainage;
- environmental impacts;
- impact on residential areas;
- vertical alignment and sight distance characteristics.

Implementation Aspects. The implementation aspects that apply to the north-south connector road (described earlier) apply to the subconnectors as well. However, the nature and scale of the required improvements are substantially less. A bridge is proposed as a roadway improvement at the subconnector crossing at I-66. The construction of this bridge would be considered a major development element for private developers.

3. Major Collector Streets

Major collector streets serve individual land use areas by carrying locally-generated traffic loads. They link the neighborhoods of various uses to the area-wide roadway system and

serve as partially limited access streets.

Implementation Aspects. The same implementation aspects which apply to the east-west subconnector road are applicable; essentially, right-of-way dedication and the provision of street trees required at various construction phases are expected to be privately funded with no density bonus awarded. Minor development elements would include provision of major street sign systems. Major development elements would include roadway and intersection construction, as well as signalization system funding.

4. Minor (Local) Streets

These streets serve individual use areas at the lowest level of mobility and traffic volume. Bus service or nonlocal through-traffic is discouraged on these streets. Access to adjoining parcels is by means of private drives.

Implementation Aspects. It is expected that both right-of-way dedication and roadway construction costs, including landscaping, will be provided by the developer with no density bonus awarded. Sign system provision is a minor development element, and traffic signalization system provision is a major development element for the developer.

B. Mass Transportation

Basic to the urban village concept is the provision of various transportation alternatives. Although quality road and pedestrian systems are provided, public transit system development is necessary to complement these systems and to reduce the total volume of vehicular trips within and to/from the area. Mixed land uses in densely clustered arrangements can attract the extension of mass transit systems from the east, along I-66. Metro-bus and/or potentially rail systems could provide express transit modes to Washington, D.C. from the area, while an internal shuttle bus system would provide area-wide public transportation. Other private transit modes should be developed in the form of corporate car/vanpool programs, the increase of taxi service or the introduction of dial-a-ride or jitney services in the area.

A Metro-bus system would require commuter transfer areas featuring parking lots, drop-off zones, bus loading zones, shelters, benches, sign and lighting systems, pedestrian systems, landscaping and other amenities (e.g., telephones, restrooms, bike racks, information kiosks, drinking fountains). If Metro-rail were ever to become feasible within the Fairfax Center Area, an air rights-type station over I-66 at the proposed subconnector/I-66 bridge near the proposed Fair Oaks mixed use core and the proposed Fairfax County Government Center mixed use core would be appropriate.

Implementation Aspects. It is expected that bus loading zones and pedestrian access systems to any future Metro-rail station be provided by the developer (if applicable) for no density bonus credit. Bus shelters and commuter parking lot provisions by developers are considered minor development elements. Major development elements are Metro-rail parking lots, special car/vanpool programs, and local shuttle bus systems (could be shared funding).

C. Recommended Roadway Improvements

A better transportation network is essential in order to realize the full market potential of the area, and the economic return from increased densities should be used, in part, to provide the needed transportation improvements.

The existing road network, both into and within the area, is insufficient to handle existing or planned traffic adequately or safely. First, it is important to ensure the completion of all Comprehensive Plan transportation improvements into and within the area.

Secondly, it is essential that the following improvements, inter alia, be incorporated in this Plan. A north-south connector road east of Greenbriar, from Route 50 to Route 29 is needed to provide adequate access and traffic movement in the western part of the Area. (See Figure 4, Traffic Impact Analysis in the *Fairfax Center Area Study*). A second north-south connector road from Route 50 at Waples Mill Road to Route 29 will provide access and traffic movement in the eastern part of the area.

The major arterial roads—Route 50, 29 and I-66—will all need to be widened to accommodate the increased traffic. Completion of the two missing ramps in the Route 50/I-66 interchange is important to facilitate traffic flow through the area. This will also create the need to reconstruct one of the Fair Oaks flyovers. If Route 50 is widened to eight lanes as planned, both flyovers must be rebuilt to accommodate the extra lanes. Therefore, only six lanes are recommended.

East-west connector roads from the western north-south connector to West Ox Road and from West Ox Road to the proposed Fairfax County Government Center site and Route 29 with a bridge spanning I-66 will help improve east-west circulation internally and connect the core areas.

Improved intersections such as West Ox Road, Fairfax Farms Road and others throughout the area are needed using turn lanes, signalization, grade separations and even relocation as in the case of Legato Road which intersects West Ox Road so near Route 50 that it interferes with the already congested West Ox Road/Route 50 intersection. Residential roads such as Random Hills, Legato (south of I-66) and three streets in Greenbriar (Middle Ridge, Acorn Street and Marshall Hall Lane) should be terminated in cul-de-sacs to keep them from becoming throughways for commercial traffic.

A great opportunity exists to promote alternate transportation modes including mass transit, an intra-area shuttle system, ridesharing and vanpools. Development of a pedestrian and bicycle circulation system within the area is necessary.

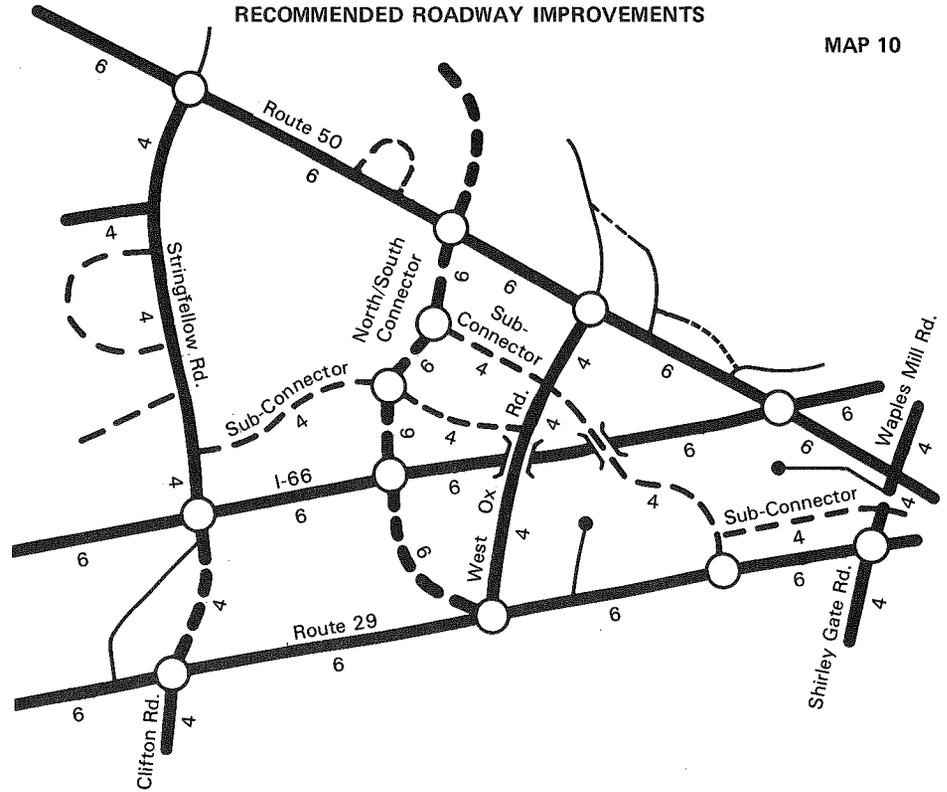
The following roadway improvements are recommended within the Fairfax Center Area:

- **Route 29.** Widen to six lanes between Centreville and the City of Fairfax. The north-south connector should be grade separated with Route 29. In addition, grade separations should be considered at Clifton Road, the subconnector near the Government Center, and Shirley Gate Road.
- **Route 50.** Widen to six lanes between Chantilly and the City of Fairfax. Grade-separated interchanges should be constructed at Stringfellow Road, the north-south connector, West Ox Road and Waples Mill Road.

On the section between West Ox Road and I-66, improve capacity by eliminating crossovers and consolidating and minimizing right-turn access points. An in-bound right turn on the westbound segment of Route 50 between I-66 and West Ox Road should be located between the Fairfax Farms Road and the westernmost mall flyover. This would replace the Fairfax Farms Road connection to Route 50. The feasibility of closing the Penderbrook Drive connection to Route 50 should be examined upon the completion of the Route 50/West Ox Road interchange. Outbound right turn access onto westbound Route 50 between West Ox Road and I-66 should be examined as a possible additional access point.

- **I-66.** Widen to six lanes between Route 28 and Route 50. A grade-separated interchange is necessary at the north-south connector. The interchange at Route 50 should be improved to accommodate traffic from northbound Route 50 to eastbound I-66 and traffic from westbound I-66 to southbound Route 50. In addition, the Route 50 interchange should be improved so that additional capacity is provided for:

RECOMMENDED ROADWAY IMPROVEMENTS



- southbound Route 50 traffic destined to eastbound I-66;
- southbound Route 50 traffic going through the interchange;
- eastbound I-66 traffic destined for southbound Route 50; and
- northbound Route 50 traffic destined for westbound I-66.

A collector/distributor roadway configuration should be utilized between the north/south connector and Route 50 in an effort to separate the major through and turning movements on I-66.

- **North/South Connector.** Construct a four-lane arterial and reserve right-of-way for six lanes between Route 50 and Route 29. Grade separated interchanges should be provided at the three primary highways—Route 50, I-66, and Route 29. In addition, grade separations should be considered at the intersections with the two subconnector roads north of I-66.
- **Waples Mill Road.** Widen to four lanes immediately north of Route 50 and construct a four-lane extension to Route 29 at Shirley Gate Road. Grade separation with Route 50 should be provided. Shirley Gate Road should be widened to four lanes south of Route 29 and grade separation with Route 29 should be considered.
- **West Ox Road.** Widen to four lanes between Ox Hill Road and Route 29 with a grade separated interchange at Route 50 and a connection to the interchange of Route 29 and the north-south connector.
- **Stringfellow Road.** Plan for four lanes but construct two lanes with improved intersections between Route 50 and Route 29 realigning Stringfellow Road to connect with Route 29 at Clifton Road. A grade-separated interchange should be constructed at Route 50 and consideration should be given to a grade separation at Route 29. Clifton Road should be widened to four lanes south of Route 29.
- **Subconnectors.** Construct subconnector roadways on new location within the Fairfax Center Area. The major east-west subconnector road should connect with the north-south connectors, intersect with West Ox Road, continue over I-66 (bridging that facility only), and traverse the eastern boundary of the County center to Route 29. Another subconnector paralleling Route 29 should join the major east-west subconnector with the Waples Mill Road extension. The employment center west subconnector should connect Stringfellow Road, the north-south connector, and West Ox Road, and the major east-west subconnector road (which crosses I-66).
- **Legato Road.** Cul-de-sac south of I-66, preserving the residential character of the neighborhood to the north of Route 29. In addition, it is also recommended that use of Legato Road as a major access to Fair Oaks mall be terminated in favor of a direct link from the mall to the subconnector roadway.
- **Fairfax Farms Road.** Extend Fairfax Farms Road to South Drive and Penderbrook Drive to West Ox Road at Ox Hill Road, however do not allow access to Ox Hill Road west of the West Ox Road from Penderbrook Drive, and vice versa. Replace the existing connection of Fairfax Farms Road to Route 50 with a right turn inbound and outbound access on the segment of Route 50 between the existing Fairfax Farms Road and the westernmost mall flyover.

Implementation Aspects. Since the existing transportation network in the Fairfax Center Area cannot safely support development recommended at any level in the plan, significant roadway improvements are needed. The implementation of these improvements is critical to the satisfactory

and timely accommodation of vehicular traffic in the area. A key factor in the implementation process is the ability to acquire or generate funding for these improvements. While application for development within the Fairfax Center Area does not assure approval if the application does not promote the health, safety, and welfare and comply with the applicable development elements, development intensities above the base line level are feasible only if the private sector contributes a proportional share of transportation improvements and/or funding to meet the transportation needs of the area. The proportional share of the transportation improvements provided by the private sector will be established by the Board of Supervisors and reviewed periodically through an established public process such as the annual plan review. This concept was developed and recommended by the Transportation Subcommittee of the Route 50/66 Task Force in a report entitled *Financing Transportation Improvements in the Fairfax Center Area*. For the first year, the contribution factor recommended in the report will be considered a minimum.

The level of public sector participation in providing transportation improvements shall be determined by the availability of federal and state funds allocated annually for expenditures on projects in Fairfax County, the County's own fiscal and budgetary policies and competing needs and the priorities for transportation improvements established on a countywide basis.

Commitments by either the public or private sector will include but not be limited to funding for construction of roadway projects, construction of roadway projects and dedication of rights-of-way. The commitments will be predicated on the proposed development per parcel and the resultant traffic utilization of the proposed roadway improvements.

The timing of the roadway improvements is crucial to the manner in which the Fairfax Center Area develops. The following improvements are considered as high priority for implementation and should be considered for implementation as closely as possible in the order in which they are

listed. Physical, fiscal and developmental constraints may shift the priorities of the projects as identified through the yearly analysis of road improvement needs:

- Construct the four-lane extension of Waples Mill Road to Route 29 and the grade separation with Route 50.
- Construct the subconnector between Route 29 and the north-south connector, including the bridge over I-66.
- Construct four lanes of the north-south connector between Route 50 and I-66 with interchanges at Route 50 and I-66.
- Construct the four-lane extension of Waples Mill Road to Route 29 and the grade separation with Route 50.
- Construct the subconnector between Route 29 and the north-south connector, including the bridge over I-66.
- Construct the four-lane subconnector between Stringfellow Road and the north-south connector.
- Construct the four-lane subconnector between the Waples Mill Road extension and the subconnector near the County center.
- Construct four lanes of the north-south connector between I-66 and Route 29 with an interchange at Route 29.
- Widen West Ox Road between Ox Hill Road and Route 29.
- Complete the construction of the four-lane subconnector between Stringfellow Road and the major east-west subconnector road (which crosses I-66) as well as the grade separation at the north-south connector.
- Widen Route 50 to six lanes between I-66 and Waples Mill Road.
- Widen Waples Mill Road to four lanes north of Route 50 and improve the intersection with Route 50.
- Widen I-66 to six lanes east of the north-south connector.
- Widen Route 50 to six lanes east of Stringfellow Road and improve the interchange with I-66 to accommodate the southbound Route 50 to eastbound I-66 traffic and the

southbound Route 50 through traffic.

- Widen Route 29 to six lanes east of Stringfellow Road with a grade separation at the subconnector near the County center.
- Construct the extension of Fairfax Farms Road to South Drive and Penderbrook Drive to West Ox Road at Ox Hill Road. Provide for the signalization of the West Ox Road/Ox Hill Road intersection.

This priority listing will change due to development and financial considerations. It is important that development not occur without the availability of sufficient roadway access and capacity. This is especially important in the development of those parcels which would utilize the subconnectors traversing or adjoining their property.

D. Access Management

The following paragraphs provide guidance towards an access management plan for the Fairfax Center Area. The objectives of the access management plan are to:

- minimize service drives,
- minimize median breaks (or cross-overs),
- minimize the need for traffic signals,
- minimize the need for heavy left-turn movements (encourage clockwise traffic circulation patterns),
- preserve right-of-way for planned roadway improvements, and
- provide public street access for every parcel or contiguous parcels of the same ownership.

These objectives should be balanced so that the encouragement of one does not impede the fulfillment of another.

1. Divided Roadway Facilities

All multiple laned arterials should be designed and built as divided facilities in the Fairfax Center Area. This type of roadway design will provide the following benefits to the specific roadway, the roadway system, and the identity of the Area:

- separation of major 'through' travel movements which helps to minimize vehicular collisions (especially, head-on collisions) and headlight blinding,
- elimination of haphazard turning movements with the designation of specific crossover locations,
- reduction in medial friction and increase in traffic capacity due to the minimization of interruptions to the traffic streams,
- creation of areas for pedestrian refuge,
- standardization of roadway type, and
- expansion of the motorists' viewing area.

Access points to/from the divided facilities should be oriented predominately towards the crossover locations. Driveway access points (right turns in and out) should be minimized between crossovers.

For newly developed areas, driveway access points should be no closer to another driveway or crossover than the minimum sight distance recommended for crossover spacing of the roadway facility. In addition any new driveway access points should be provided with appropriate deceleration and acceleration lanes on the divided roadway.

For those areas, especially residential neighborhoods, where a divided roadway will be constructed or improved, the following methods, listed in increasing order of importance, for minimizing driveway access points should be considered:

- consolidation of driveways (common driveways, pipestems, etc.) and points of access,
- reorientation of entrance/access,
- construction of new interparcel roads, and
- redevelopment/consolidation of parcels.

These methods should also be used for minimizing driveway access points along newly constructed or improved nondivided roadways.

2. Single Ended Access (Cul-de-sacs)

Whenever possible, the length of single ended access, public or private, for any uses should be minimized. The length of any single-ended access should be no longer than 1000 feet. Alternatives to long single ended access points include, but are not limited to: loop roads, horseshoe or circular configurations, and interconnections with other roadways. The maximum length is recommended due to: the need for access of emergency/rescue services, service vehicles (trash collection, deliveries, and utility maintenance), and traffic flow and circulation (alternate routes of travel).

3. Cross-over spacing (Locations of median breaks)

Minimum design speeds should be utilized in identifying suitable locations (due to stopping distance, sight distance, weaving distance, and turn lanes) for cross-over spacing of divided facilities in the Fairfax Center Area. Subconnectors and their cross-over locations should be constructed at a minimum to the standards for 45 mph facilities with 600 feet minimum and 700 feet desirable between crossings. Other median break locations are discussed in the following paragraphs:

Median break locations on Route 29:

- Maintain the existing median break on Route 29 at Stringfellow Road and at Clifton Road until the construction of the planned interchange at Route 29 and Clifton Road/realigned Stringfellow Road. Construction of this interchange will require the closing of the median break at old Stringfellow Road.
- Provide a median break on Route 29 at Willow Road until the construction of the planned interchange at Route 29 and realigned Stringfellow Road/Clifton Road. Construction of this interchange will require the closing of this median break.
- Provide a median break on Route 29 at the eastern edge of L14 and R7.
- Maintain the median break on Route 29 at S1, Hampton Forest/Braddock Farms Subdivision.
- Relocate and provide a median break on Route 29 at Willowmeade Drive.
- Maintain the median break on Route 29 and Summit Drive.
- Provide a median break on Route 29 at the western end of M13.
- Provide a median break on Route 29 at the planned subconnector near the County property.
- Access to Route 29 should be oriented to either these median break locations or the planned interchange locations. Right turns on and off of Route 29 should be discouraged throughout the Fairfax Center Area except at those points coincident with the median break locations.

Median break locations on Route 50:

- Maintain a median break at Route 50 and Acorn Ridge Road until such time as a grade separated interchange between Route 50 and the Springfield Bypass & Extension is built.
- Maintain the existing median breaks at A7 and Dorforth Drive.
- Maintain a median break in the vicinity of the existing median break near the VEPCO easement and parcels in A8, A10, and E8. This median break would provide access to Route 50 for the western leg of a loop road on the north side of Route 50 and access for parcels in E4, E6, E7 and E8 to the south.
- Maintain a median break in the vicinity of the easternmost median break serving the fire station. This median break would provide

access to Route 50 for the eastern leg of a loop a road on the north side of Route 50 and access for parcels in E7 and E8 to the south.

- Eliminate median break locations between West Ox Road and I-66.

Median break locations on Clifton Road:

- Provide a median break on Clifton Road at Moore Road.

Median break locations on Stringfellow Road:

- Provide a median break at the intersection of the extension of Fox Meadow Lane and Stringfellow Road.
- Provide a median break at the intersection of the subconnector road and Stringfellow Road. In locating this median break, consideration should be given to the proximity of possible interchange ramps between I-66 and Stringfellow Road.
- Provide a median break on Stringfellow Road at Westbrook Drive.
- Provide a median break on realigned Stringfellow Road at old Stringfellow Road.
- Provide a median break on realigned Stringfellow Road at the Leland Road/Lincoln Drive extension.

Median break locations on Waples Mill Road Extended:

- Provide a median break on Waples Mill Road Extended at Random Hills Road (Realigned).
- Provide a median break on Waples Mill Road Extended at the subconnector.

Median break locations on West Ox Road:

- Provide a median break on West Ox Road at the planned subconnector immediately to the south of J1. The intersection to be constructed at this point should be of a high type design with channelization, extended turn lanes, and free flow right turn lanes.
 - Provide a median break on West Ox Road at the intersection of Hanger Road/Pendercrest Court. Hanger Road and/or Pendercrest Court should be realigned so that these two roads meet at one intersection on West Ox Road.
 - Provide a median break on West Ox Road at Ballard Place (to be replaced by the planned subconnector road) and Ernest Drive.
 - Examine the possibility of an additional median break on West Ox Road between the interchange with Route 50 and the subconnector intersection immediately south of J1.
- ##### 4. Service Drives

It is intended, whenever possible, that the use of service drives be minimized and alternatives to service drives be implemented in the Fairfax Center Area. It is acknowledged that this objective cannot always be achieved, especially due to factors, such as:

- the preponderance of small parcels under separate ownership located along major roadways,
- the irregular shapes of parcels,
- design constraints (e.g. minimum crossover spacing),
- existing locations of land uses, buildings, and roadway system, and
- topography and/or environmental limitations.

Notwithstanding the objective to minimize the use of service drives, the implementation of these facilities requires guidelines for access planning of development.

Service drives provide for the separation of the access and travel functions along roadways designed to accommodate primarily through movements. When correctly planned and built, their use allows the adjacent parallel roadway to operate more efficiently, with increased

capacity and improved safety. At the same time, access to adjacent properties is provided and oriented to controlled access points. Except for the collector-distributor road along I-66, there are two types of service drives planned for the Fairfax Center Area:

1. Minor (residential) service road—predominately serves as an access street for residential uses, and
2. Major service road—predominately serves as an access street for a mix of uses (e.g. multifamily residential and retail, office and retail) or a variety of nonresidential uses.

Based upon the two service drive types, the following guidelines should be utilized in the implementation of service drives in the Fairfax Center Area:

Service Drive	Maximum Length between Roadway Connections	Minimum Off-set from Major Roadway (see sketch)	Recommended Design Connection	
			Minimum	Desirable
Minor (residential)	2000 feet	25 feet	traditional	bulb
Major	2000 feet	150 feet	bulb	diverted

Traditional, bulb, and diverted designs are shown schematically on the accompanying sketches.

Entrances from service drives to the parallel roadway should only be allowed if the entrance location meets the crossover spacing guidelines for the parallel roadway.

Service drive locations on Route 29:

- Provide a service roadway on the north side of Route 29 between realigned Stringfellow Road and old Stringfellow Road. Orient access of L7 and L12 towards this service roadway or old Stringfellow Road.
- Provide a service roadway on the south side of Route 29 between Moore Road and Clifton Road. Continue this facility along Clifton Road to Moore Road.
- Provide a service roadway on the south side of Route 29 between Clifton Road and the roadway traversing the eastern side of R7. Continue this facility along Clifton Road to Moore Road.
- Provide a service roadway on the south side of Route 29 between the AT&T easement and the frontage of S3.
- Provide a service roadway along the frontage of the Crystal Springs Subdivision.
- Provide a service roadway on the north side of Route 29 fronting parcels in Q10 connecting with the Waples Mill Road Extension.

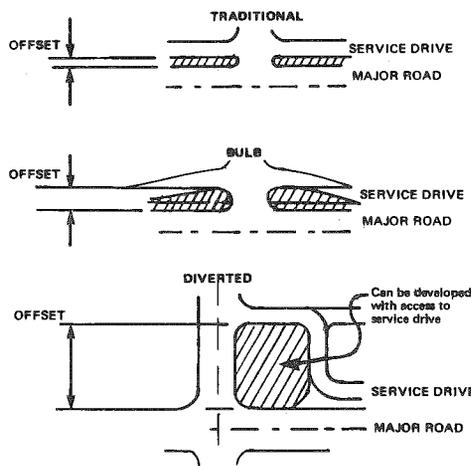
Service drive locations on Route 50:

- A service drive serving parcels in Land Units E1, E2, and E3 should be provided west of Dorforth Drive.
- Service drives should not be constructed along Route 50 between I-66 and the City of Fairfax.

E. Pedestrian and Bicycle Systems

Pedestrian and bicycle travel constitute major forms of transportation in the Fairfax Center Area, providing access to employment, commercial, and community land uses. The relatively compact scale of the area and the use of planned development districts are particularly well suited to non-motorized transportation. Optimum utilization of pedestrian and bicycle modes provides benefits in fuel savings, reduced air pollution, and reduced traffic congestion.

Coordinated walkway networks are fundamental as well as essential and should be required of



all development in the Fairfax Center Area. Comprehensive, coordinated walkway networks shall be required for each site to provide full intra and inter parcel pedestrian circulation to and from all buildings, parking, recreational facilities, and to or through open space areas. High volume and high speed roadway intersection control and design should accommodate pedestrians through the use of separate pedestrian grade-separated crossings, walkway incorporation into roadway grade separations, pedestrian activated signals, crosswalks and pedestrian refuge medians as applicable. These elements are particularly necessary given the number of high volume traffic arteries in the area which are difficult to cross. Local roadway networks that are designed to discourage automotive through travel should allow nonmotorized through travel via cul-de-sac connections. Plazas should be located at the focal points of major commercial or high-density residential developments where walkways converge. Pedestrian circulation should be provided through and from parking lots, and to transit stops. Walkway width and clearance integrity should not be reduced or comprised by utility poles, mail boxes, etc. These devices should be located on utility strips between curbs or road shoulders and walkways.

In order to take full advantage of the bicycle as an efficient mode of transport, a comprehensive approach to its use must be applied. Full circulation and support facilities, are components of such an approach. Bikeways provision is important but is just one aspect of a comprehensive approach to bicycle transportation.

Secure bicycle parking should be provided at all employment, business, apartment, and public uses. Theft prevention is of paramount importance to cyclists, yet the cost and space requirements are negligible. Bicycle parking facilities should correspond to long-term and short-term parking needs.

Long-term parking or storage should be provided at employment, school, commuter and apartment uses. These facilities require weather protection and security devices, such as, bike lockers or controlled access areas. Shopping, personal business, and recreation trips have short parking duration. Open air parking devices which lock bicycle wheels and frame, and are in close proximity and view of building entrances should be provided. Bicycle parking spaces should equal five percent of the automobile parking spaces provided.

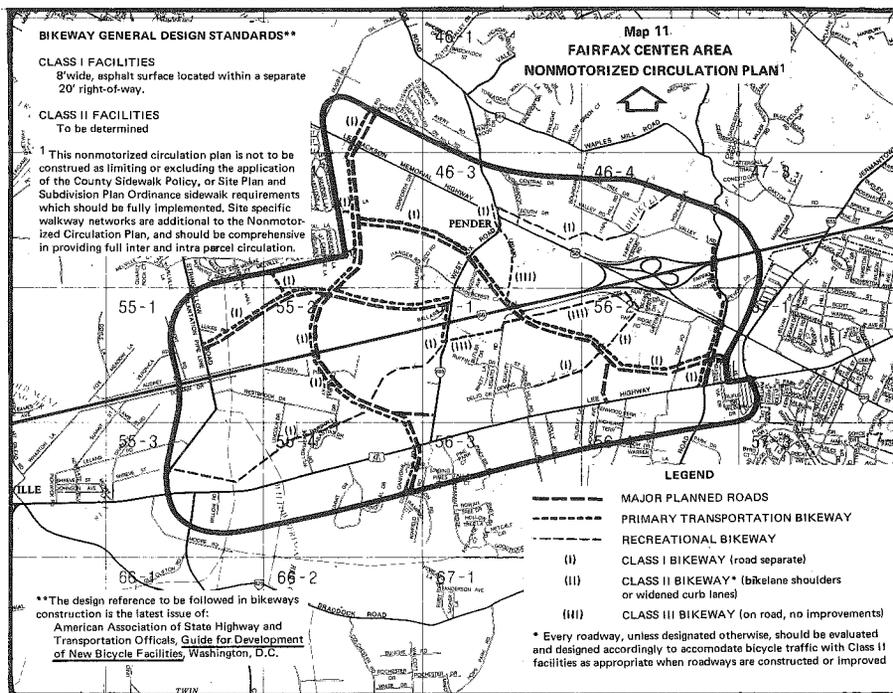
Environmental Systems

A. Area-Wide Environmental Quality Corridor (EQC) System

The EQC system not only provides an open space linkage and buffer system for the Fairfax Center Area and its environs, but also provides substantial environmental protection. The EQC system primarily includes all areas within the 100-year floodplain, floodplain soils, adjacent steep slopes (greater than 15 percent) and a vegetative filter strip along all streams.

Preservation of the EQCs is a high priority of the Plan. A comprehensive EQC network, augmented by additional parks and open space areas, provides an interconnecting system of preserved natural environments which should be maintained and protected for their environmental, recreational and scenic value.

A majority amenity in the area will be the linear park which forms a transition from the natural EQCs to the more urban areas of the site. This pedestrian greenway linkage will connect the Greenbriar open space system to that of the re-



mainder of the area. It also serves as a linkage to, and buffer between, the residential, office, retail and commercial uses within the area. In addition, this linear park functions as the pedestrian connection between the major land use areas—Fair Oaks core, Fair Oaks mall, the proposed Fairfax County Government Center core, the proposed Fairfax County Government Center site and the historic site alongside the east-west subconnector. The park additionally provides a high quality image for the area, accomplished by providing a landscaped entrance sequence to the key areas within the area.

Implementation Aspects. It is expected that private preservation of the basic EQC (with continuity of public access assured) or public dedication of the basic EQC system will be provided by the developer for no density bonus credit. Minor development elements can be credited to the developer by provision of an expanded EQC (above OCP minimum) system as increased on-site open space. Major development elements can be credited to the developer by extraordinary sensitivity to the environment and environmental systems or extraordinary innovations in air, noise or water pollution mitigation techniques.

B. Stormwater Management (BMP)

In an effort to achieve the federal environmental goals of fishable, swimmable waters in Fairfax County, the Board of Supervisors has adopted best management practices (BMPs) criteria in the Occoquan watershed for nonpoint source pollution control. These criteria prescribe land use-based management techniques to achieve water quality goals during the development process. Adherence to these guidelines in site development activities within the Fairfax Center Area will assist in the control of water pollution problems associated with increased development.

Among the goals for the Fairfax Center Area is a recommendation that public facilities be provided cooperatively by the development community. The economics of scale associated with this approach also applies to stormwater management. A systematic evaluation of the stormwater management needs of the entire area should be conducted, in order that an appropriate detention site may be selected. This could result in a smaller number of larger structures, many of which would serve more than one property.

Implementation Aspects. It is expected that the following stormwater management methods will be used (as applicable) by developers for no density bonus: sedimentation control, storm water detention, storm water retention, erosion control, cluster development and the provision of grassy swales (where appropriate) and vegetative filter areas. The use of infiltration trenches, porous pavement usage and paved surface cleaning practices qualify as minor development elements. Use of especially innovative techniques in these areas will result in crediting the developer with a major development element.

C. Preservation of Natural Features and Other Environmental Quality Improvements

Basic environmental quality planning and design standards are applicable throughout the area. Site design that minimizes the disturbance of existing natural features is desired. Road noise impacts should be minimized; road and building siting should maximize solar access potential. Open space should be preserved on-site to the highest degree possible, especially in aquifer recharge areas. Air and water quality pollution control and mitigation measures should be utilized whenever possible.

Implementation Aspects. No density credit will be given for the following basic environmentally sensitive activities: vegetation preservation, surface water preservation (streams, lakes, ponds, etc.), land form preservation, minimization of site disturbance, basic road noise mitigation efforts,

and basic efforts in siting roads and buildings for energy conservation. Substantial increases in on-site open space and the protection of aquifer recharge areas (through measures such as reduced impervious surface areas) and extra efforts in providing an energy conscious plan would offer a minor development element credit to the developer. The use of innovative techniques in the areas of air, noise and water pollution control and mitigation, and/or showing an extraordinary sensitivity to the environment would be considered major development elements for the developer.

Provision of Public Facilities

Increased population requires an increase in public services. These can include parks and recreation facilities, schools, libraries and police and fire facilities. In the Fairfax Center Area, the proposed Fairfax County Government Center will include government offices and facilities. Since a regional reference library is located in Fairfax City, no other regional libraries will be required in the Fairfax Center Area. However, a community library (which would include meeting rooms) may become necessary if the area grows to such an extent as to accommodate 50,000 people.

Construction of additional schools will also be required. Elementary schools are built for either 600 or 900 students; intermediate schools for 1,200 and high schools for 2,400 pupils. It is likely that the area could eventually require an additional intermediate and high school as well as four or five elementary schools.

With the construction of the police district station and fire station at Route 50 and West Ox Road, it is not anticipated that any such additional facilities would be required.

Dedication of additional parks would be required to serve the needs of the anticipated population. Community parks, at a rate of 8.5 useable acres per 1,000 people would become necessary and should be provided. It is also expected that stream valley parks, as part of the EQC system, would be dedicated to the County. The historic site commemorating the Battle of Ox Hill should be expanded and dedicated to the Fairfax County Park Authority as an historic park.

Implementation. It is expected that stream valley parks and public site dedications for schools and police and fire facilities (if needed) will be dedicated without bonus density credit. Elements which qualify for minor development element credits include dedication of natural/passive and neighborhood parks, as well as site dedications for libraries, community centers and government offices and facilities. Elements which might qualify for major development element credit include dedication of community, county, historic and miniparks, as well as construction of public indoor activity spaces including recreation centers, and meeting rooms/auditoriums/theatres.

Buffer/Relationships

Buffer needs between potentially incompatible land uses can occur at various scales—area-wide, key area and land unit specific. At the area-wide scale, the buffer mechanism can be land use types and/or intensities planned in positive relationships to one another. It is expected that transitions and buffers will occur so that the peripheral land uses of the area would be compatible in type and intensity to the adjoining areas outside the area confines so that existing residential neighborhoods will be protected. At a key area scale, both land use buffers and physical buffers can be used effectively. At an individual land unit scale, land use buffering may not be always applicable, but should be encouraged wherever possible. The use of setbacks, land forms (earth berms) and vegetative or structural (walls and fences) screens at this scale is recommended as a buffer treatment.

Land Use

In an area-wide context, all land uses reinforce the overall goals and objectives of the Plan in both their type and arrangement. All land uses should relate positively to the transportation and open space systems (existing and proposed), as well as to one another, in order to achieve the highest collective Plan quality.

The key proposed land use elements in the Fairfax Center Area are the two mixed use cores, the proposed Fairfax Government County Center, the employment center west and the golf course area. These areas exhibit the greatest development potential in the area. When they are developed in concert with their related transportation and open space systems, they can provide the driving force of the Plan as well as create the setting for the proposed Fairfax County Center.

Maximum Residential Density. In the Fairfax Center Area, the overlay level should be considered the maximum allowable density/intensity. Densities/intensities above the overlay level, utilizing PDH bonus provision or other provision shall not be allowed.

Commercial uses along Routes 29 and 50. Some scattered spot commercial uses exist along Routes 29 and 50. These uses are inconsistent with the land use objectives for the Fairfax Center Area. With the exception of land near West Ox Road and the north side of Lee Highway, no additional land should be used for commercial purposes west of the County Governmental Center site. No additional commercial uses should be allowed west of the Mixed Use Core along the south side of Route 50, and the County Police station along the north side of Route 50.

Key Area Recommendations

Due to their strategic locations, and substantial development potential, quality development of the key areas is essential to the success of the Fairfax Center Area.

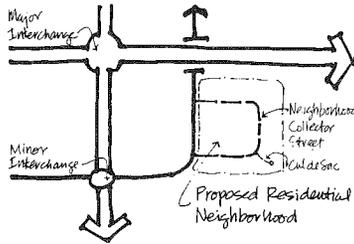
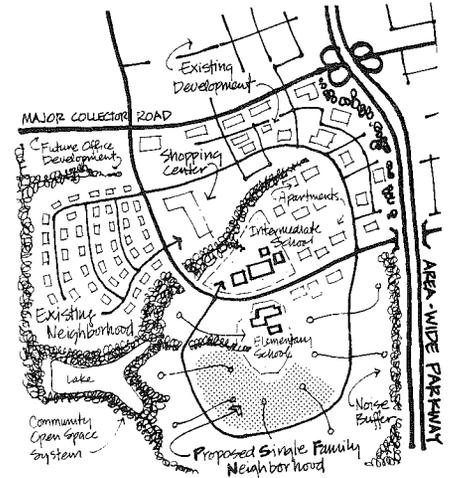
The pertinent performance criteria for specific components of the key areas can be found, by use, in the Use-Specific Performance Criteria section.

Illustrative concept plans which illustrate the desired site relationships, both graphically and by written notation, complement the descriptive text recommendations of this report. It is important to note that these concept plans are schematic in nature and are included for general planning guidance. These plans are not intended to be interpreted literally as site plan constraints. The inclusion of these concept plans is not intended to preclude creativity in site planning and architectural design, but rather to encourage it. It is assumed that the major issues are noted, and that the relationships between existing and proposed development are shown on these plans, in the effort to assist the County in its decision-making process.

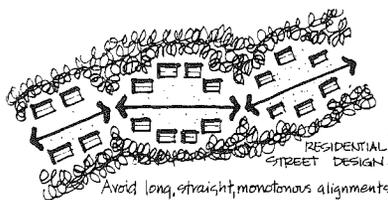
USE-SPECIFIC PERFORMANCE CRITERIA

Residential/Single Family Detached Housing Criteria Site Planning Checklist

- General
 - Integrate new development with existing and future adjacent land uses.
 - Plan development in reasonably-scaled neighborhood modules.
 - Provide appropriate level, scale and location of support services/facilities (e.g., convenience commercial).
 - Provide pedestrian linkages to community-wide amenity areas, services and facilities.
 - Consider potential highway noise impacts in community, neighborhood and dwelling unit design.
 - Utilize energy conservation criteria in planning and design.
- Access/Roads/Parking
 - Provide adequate, safe auto access to neighborhoods from appropriate level roadways.
 - Utilize a hierarchial system of internal roadways; do not access homes directly onto major collector roads.

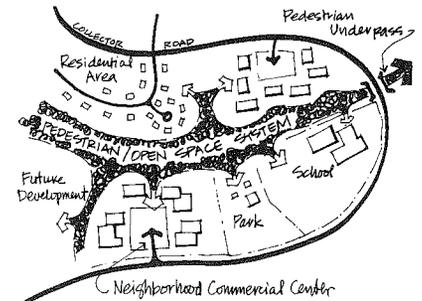


- Minimize natural site amenity disturbance (e.g., quality trees, streams, etc.) through sensitive road design/construction.
- Road alignments should reinforce neighborhood scale; avoid long, straight, monotonous residential streets.



- Avoid on-street parking in low-density neighborhoods; provide adequate off-street spaces.
- In dense developments, provide off-street, screened parking areas for special vehicle storage (e.g. recreation vehicles, boats, trailers, etc.).
- Establish distinct utility and landscaping corridors within street rights-of-ways.
- Orient roadways to maximize southern (solar) exposure for frontage residences, when possible.
- Reduce amount of impervious surfaces (roads, parking, buildings, etc.) through use of cluster design techniques.
- Open Space/Community Facilities
 - Integrate natural open space amenities into overall neighborhood design.

- Provide continuous pedestrian/open space system linking neighborhood activity nodes internally and externally.
- Provide public park and recreational areas/facilities for residents' use; link to the open space system.
- Design safe pedestrian system crossings at roads; provide grade-separated intersections when possible.
- Utilize natural (especially wooded) open space corridors/areas as transition zones, visual amenities and buffers.



- Buffers
 - Utilize varying types and density/intensity of development as buffers for incompatible uses.
 - Take advantage of natural landscape edges and elements in buffering and defining neighborhood units.
- Utility/Service Areas
 - Utilize grass swales for surface drainage, when possible.

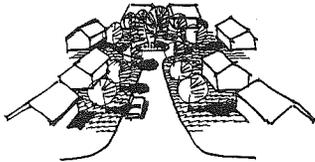


- Provide stormwater detention/retention structures which can be retained as open space amenities.
- Place all electrical utility lines underground; screen utility substations and service areas from public view.

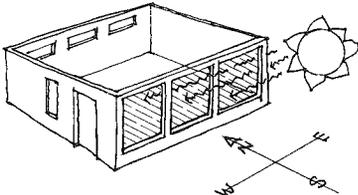
Fairfax Center Area (Continued)

Architectural Design Checklist

- Scale/Mass/Form
 - Provide general consistency in residential dwelling scale within each neighborhood.
 - Create interest through sensitive detailing and use of basic geometric forms for dwelling units.
 - Utilize varied setbacks to create interesting architectural (mass) relationships to the street.
 - Cluster units around courtyard-like areas to reinforce neighborhood scale.
- Functional Relationships/Facade Treatment
 - Select and site appropriate building types with respect to natural topography (e.g., split level vs. slab, etc.)
 - When units are in close proximity, locate windows/doors for maximum privacy between units.



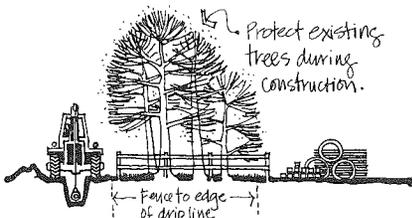
- Site units to maximize potential for shared or paired driveway entrances.
- Segregate primary building entries from service-type entries.
- Minimize solar heat gain in warm weather and maximize solar heat gain retention in cold weather through sensitive design treatment.
- Minimize solar heat gain for cooling and maximize solar heat gain/retention for heating by sensitive design treatment.



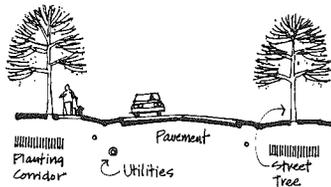
- Establish dwelling cluster architectural theme consistency, while avoiding literal facade repetition.
- Utilize similar architectural materials within a given cluster of dwellings.
- Keep architectural facade material types to a minimum on any single dwelling.
- Carry all attached facade materials (such as wood siding) down to a finished grade elevation or paint to match adjoining facade.

Landscape Architectural Checklist

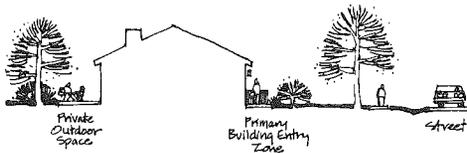
- Landscaping
 - Preserve existing quality vegetation to the greatest extent possible, integrating it into new designs.



- Restore disturbed areas to a visually appealing landscape character through landscape architectural treatment.
- Provide street trees along all roadways; use consistent species groupings to reinforce neighborhood character.
- Locate street trees along roadways in landscape corridors away from underground utilities.



- Utilize special landscape treatments to define primary building entry zones.
- Use plant materials to define private outdoor social spaces for each unit, as needed.
- Use overhead canopy, intermediate focus and ground cover type plants to achieve functional goals.
- Provide well-landscaped special use areas for neighborhood residents (e.g., pool areas, parks, etc.).
- Promote seasonal visual interest at major neighborhood focal points by using flowers and ornamental shrubs, trees, etc.
- Select low-maintenance landscape materials for large neighborhood common areas not likely to receive consistent maintenance.

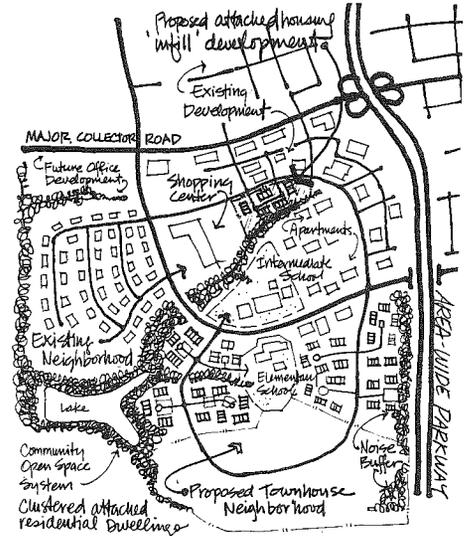


- Protect solar access to buildings when incorporating landscape materials. Specifically: (1) utilize deciduous tree plantings near glass so that the foliage does not obstruct the heat gain in winter; (2) utilize evergreen plantings on the north to protect against the wind; and (3) orient plantings around buildings to allow wind flow during warm weather.



- Site Furnishings/Signage and Lighting
 - Provide a well-designed signage system to identify and direct safe movement throughout the community—vehicular and pedestrian.
 - Provide well-designed neighborhood entry signs at major auto/pedestrian entry areas.
 - Provide roadway and pedestrian lighting systems consistent in style/intensity with each system hierarchy.
 - Provide special neighborhood entry area and identification sign lighting.
 - Ensure neighborhood architectural theme and light fixture style consistency.
 - Provide individual dwelling unit entry zone and street number illumination lighting.

- Site Furnishing/Fencing/Mailboxes
 - Avoid fencing along lot lines between homes; this practice reduces the visual depth and width of individual properties.
 - Utilize fencing materials which relate to the proposed function of the fence (e.g., solid for privacy).
 - Utilize fencing materials and style consistent with dwelling architectural materials and style.
 - Avoid long, monotonous solid walls or fence lines by using jogs or setbacks for visual interest.
 - If roadside mailboxes are used, provide units consistent to neighborhood or cluster architecture/style.
- Site Furnishings/Minor Structures
 - Outdoor utility sheds/buildings should relate to dwelling architecture and style.



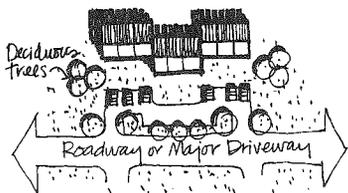
Residential/Single-Family Attached/Multi-Family Low-Rise Housing Criteria Site Planning Checklist

- General
 - Integrate new development with existing and future adjacent land uses.
 - Plan development in reasonably-scaled neighborhood modules.
 - Provide appropriate level, scale and location of support services/facilities (e.g., convenience commercial).
 - Provide pedestrian linkages to community-wide amenity areas, services and facilities.
 - Consider potential highway noise impacts in community, neighborhood and dwelling unit design.
 - Emphasize the placement of clusters of multi-family buildings sensitively in the existing landscape context.
 - Incorporate neighborhood convenience service structures into the development architecturally, spatially and functionally.

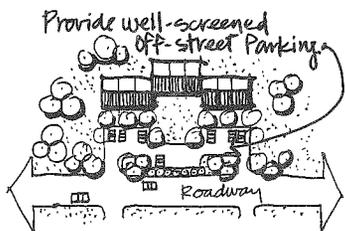


ROADWAY LIGHTING

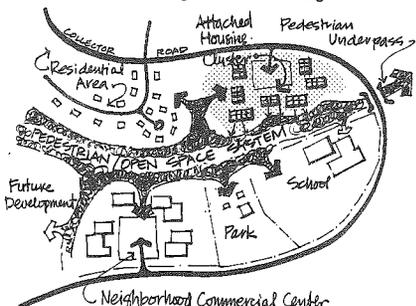
Fairfax Center Area (Continued)



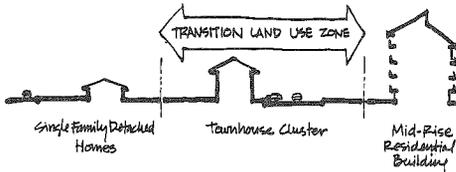
- Access/Roads/Parking
 - Provide adequate, safe auto access to the neighborhoods from appropriate level roadways.
 - Utilize a hierarchial system of internal roadways and drives; do not access units directly onto major collector roads.
 - Minimize natural site amenity disturbance (e.g., quality trees, streams, etc.) through sensitive street/parking design/construction.
 - Road alignments should reinforce neighborhood scale; avoid long, straight, monotonous residential streets.
 - Avoid on-street parking; provide adequate off-street parking areas in scale with architectural masses.



- Provide off-street, screened parking areas for special vehicle storage (e.g., recreation vehicles, boats, trailers, etc.).
- Establish distinct utility and landscaping corridors within street rights-of-way.
- Orient roadways to maximize southern (solar) exposure for frontage residences, where possible.
- Reduce impervious surfaces (roads, parking, buildings, etc.) through use of cluster design techniques.
- Provide adequate, convenient parking, buffered from primary views from streets and dwelling units by setbacks, landscaping, fencing or other architectural elements.
- Provide adequate emergency vehicle turn-around space in close proximity to turning units; incorporate into parking, drive and street layout.
- Adhere to existing Fairfax County development standards for minimum parking space and driveway dimensions, etc.
- Consider use of special paving materials for small-scale parking areas in harmony with site and architectural design materials.
- Consider use of covered parking for primary car spaces in front of units (carports and garages).
- Open Space/Community Facilities
 - Integrate natural open space amenities into overall neighborhood design.



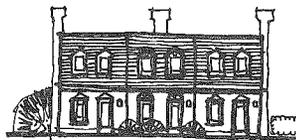
- Provide a continuous pedestrian/open space system linking neighborhood activity nodes internally and externally.
- Provide courtyard, park and recreational areas/facilities (e.g., swimming pools, tennis courts, tot lots, etc.) for use of residents; link to the open space system.
- Design safe pedestrian system crossings at roads; provide grade-separated intersections when possible.
- Utilize natural (especially wooded) open space corridors/areas as transition areas, visual amenities and buffers.
- Relate community and neighborhood-wide facilities functionally (access, proximity, etc.) to other uses within the development.



- Buffers
 - Utilize varying types and density/intensity of development as buffers for incompatible uses.
 - Take advantage of natural landscape edges and elements in buffering and defining neighborhood units.
 - Promote privacy between units with setbacks, plant materials, fences and grade changes.



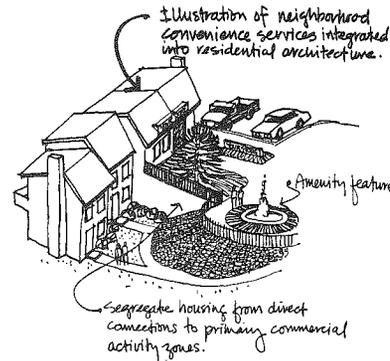
- Utility/Service Areas
 - Utilize grass swales for surface drainage whenever possible.
 - Provide stormwater detention/retention structures which can be retained as open space amenities.
 - Place all electrical utility lines underground; screen utility substations, service areas and heating/ventilation equipment from public view.
 - Screen refuse container (dumpster) areas from view, but maintain good service vehicle access.



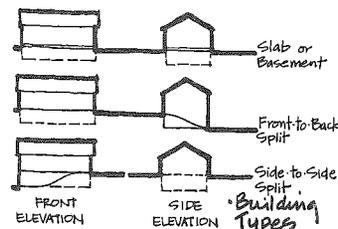
Consistency of unit scale with varied detailing in Attached Unit design.

Architectural Design Checklist

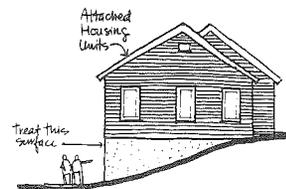
- Scale/Mass/Form
 - Provide general consistency in residential dwelling scale within each neighborhood.
 - Create interest through sensitive detailing and use of basic geometric forms for dwelling units.
 - Utilize varied setbacks to create interesting architectural (mass) relationships to the street.



- Cluster units around courtyard-like areas (landscaped parking or plaza) to reinforce neighborhood scale.
- Create generally low-scaled masses for buildings; do not make buildings excessively long.
- Functional Relationships/Facade Treatment
 - Select and site appropriate building types with respect to natural topography (e.g., split level vs. slab, etc.)
 - When end units are in close proximity, locate windows/doors for maximum privacy between units.
 - Segregate primary building entries from service-type entries.
 - Utilize current energy conservation technology in architectural and heating/cooling systems design.
 - Minimize solar heat gain for cooling and maximize solar heat gain/retention for heating by sensitive design treatment.
 - Establish dwelling cluster architectural theme consistency while avoiding literal facade repetition among units.
 - Utilize similar architectural materials within a given cluster of dwellings.
 - Keep architectural facade material types to a minimum on any single dwelling.



- Carry all attached facade materials (such as wood siding) down to a finished grade elevation, or paint to match adjoining facade.
- Incorporate special, landscaped transition areas at dwelling unit entry areas into building/site design.
- Consider the inclusion of covered unit entry areas in architectural design.



Fairfax Center Area (Continued)

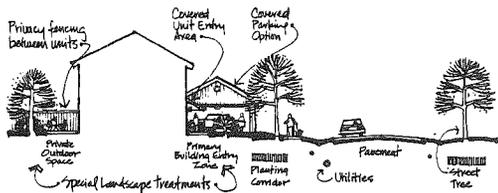
Landscape Architectural Checklist

• Landscaping

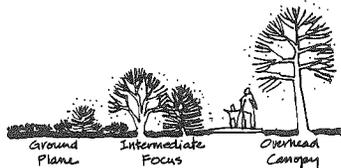
- Preserve existing quality vegetation to the greatest extent possible, integrating it into new designs.
- Restore disturbed areas to a visually appealing landscape character through landscape architectural treatment.
- Provide street trees along all roadways; use consistent species selection per street to reinforce neighborhood character.
- Locate street trees along roadways in landscape corridors away from underground utilities.



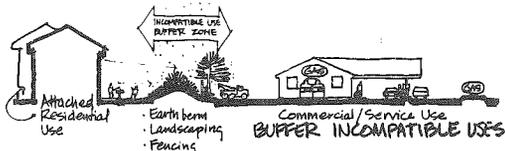
- Ensure neighborhood architectural theme and light fixture style consistency.
- Provide individual dwelling unit entry zone and street number illumination lighting.
- Site Furnishing/Fencing/Mailboxes
 - Utilize walls and fencing along lot lines between units to provide privacy for outdoor activity areas in front and rear of units when possible. This should be done in a manner which does not prevent solar access.
 - Utilize fencing materials which relate to the proposed function of the fence (e.g., solid for privacy).
 - Utilize wall or fencing materials and style consistent with dwelling architectural materials and style and in a manner which does not prevent solar access.



- Utilize special landscape treatments to identify and reinforce community, neighborhood and building cluster entry areas.
- Utilize special landscape treatments to define primary building entry zones.
- Use plant materials to define private outdoor social spaces for each unit, as needed.
- Buffer incompatible uses with land forms and/or landscape materials as needed.
- Use overhead canopy, intermediate focus and ground cover type plants to achieve functional goals.

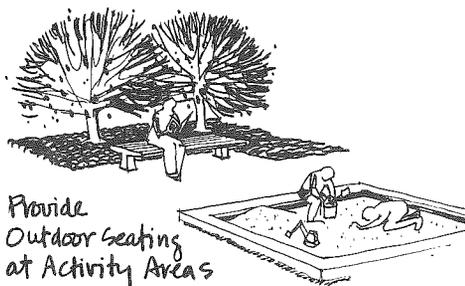


- Provide well-landscaped special use areas for neighborhood residents (e.g., pool areas, parks, etc.).
- Promote seasonal visual interest at major neighborhood focal points by using flowers and ornamental shrubs, trees, etc.
- Select low-maintenance landscape materials for large neighborhood common areas not likely to receive consistent maintenance.
- Shade and visually break up large parking areas by planting canopy shade trees in planting islands.
- Protect solar access to buildings when incorporating landscape materials.



• Site Furnishings/Signage and Lighting

- Provide a well-designed signage system to identify and direct safe movement throughout the community—vehicular and pedestrian.
- Provide well-designed neighborhood entry signs at major auto/pedestrian entry areas.
- Provide roadway and pedestrian lighting systems consistent in style/intensity with each system hierarchy.
- Provide special neighborhood entry area and identification sign lighting.

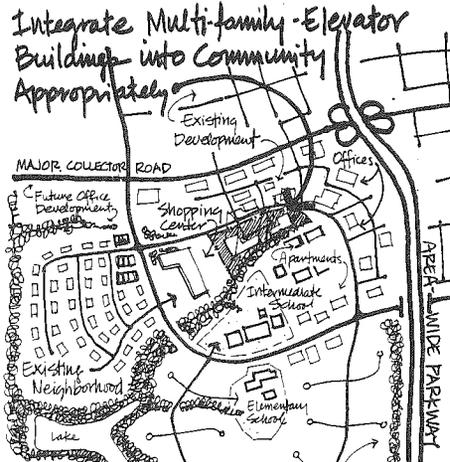


Residential/Multi-Family-Elevator Housing Criteria

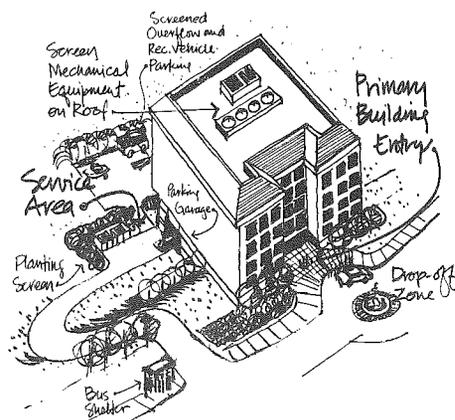
Site Planning Checklist

• General

- Integrate new development with existing and future adjacent land uses appropriately; locating it near employment/shopping cores and mass transit access points.
- Plan development using reasonably-scaled architectural masses, which relate positively to site and adjacent use conditions through siting, setbacks and landscaping.



- Provide appropriate level, scale and location of support services/facilities (e.g., convenience commercial) integrated into overall architectural design.
- Provide pedestrian linkages to community-wide amenity areas, services and facilities.
- Consider potential highway noise impacts in community, neighborhood and dwelling unit design.
- Utilize energy conservation-based criteria in planning and design.
- Provide a quality visual image to all (off-site) public views, as the structure will be considered an area-wide visual amenity.
- Take care in siting tall structures to avoid (sun) shading of structures on adjacent lots.

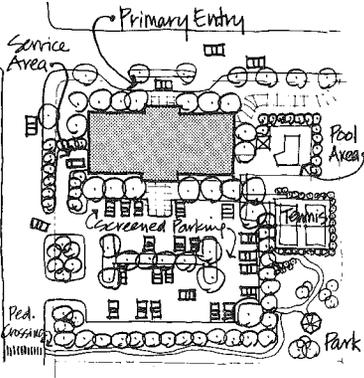


• Access/Roads/Parking

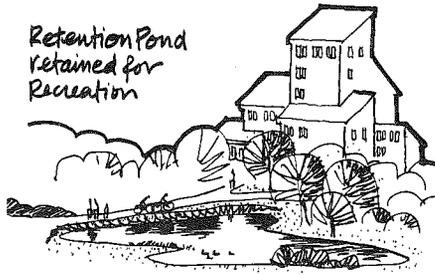
- Provide adequate, safe auto access into the site from appropriate level roadways.
- Utilize a hierarchical system of internal streets and drives; do not access buildings directly onto major roads.
- Minimize natural site amenity disturbance (e.g., quality trees, streams, etc.) through sensitive street/parking lot design/construction.

Fairfax Center Area (Continued)

- Segregate resident and service entry areas; provide adequate area for service/emergency vehicle access and operation.
- Avoid on-street parking; provide high-image off-street parking areas in scale with pedestrians.
- In dense developments, provide off-street, screened parking areas for special vehicle storage (e.g., recreation vehicles, boats, trailers, etc.).
- Utilize structured parking whenever possible; integrate parking decks into overall building architecture.
- Provide a well-landscaped, high-image auto passenger drop-off zone at major residential building entry.



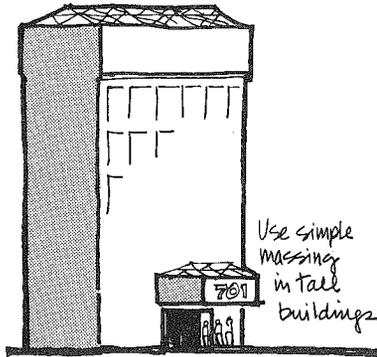
- Reduce impervious surfaces (roads, parking, buildings, etc.) through use of cluster design techniques and deck parking provision.
- Establish distinct utility and landscaping corridors within street rights-of-way and parking areas.
- Adhere to existing Fairfax County development standards for minimum parking space and drive dimensions, etc.
- Open Space/Community Facilities
 - Integrate natural open space amenities into overall site plan development.
 - Provide a continuous pedestrian/open space system linking on- and off-site activity nodes.
 - Provide courtyard, park and recreational areas/facilities (e.g., pools, tennis courts, tot lots, etc.) for use of residents; link to the open space system.
 - Design safe pedestrian system crossings at roads; provide grade-separated intersections when possible.
 - Utilize natural (especially wooded) open space corridors/areas as transition zones, visual amenities and buffers.
 - Integrate on-site service and amenity features into overall functional and design scheme.
- Buffers
 - Utilize varying scale and arrangements of structures on-site to act as buffers for incompatible use relationships.
 - Take advantage of natural landscape edges and elements in buffering and defining architectural elements.
 - Utilize architectural elements (walls, buildings, etc.) as visual and roadway noise buffers.
- Utility/Service Areas
 - Utilize curb and gutter systems within the primary building and parking zone for auto and drainage control.
 - Away from the major architectural/parking core, utilize grass swales for surface drainage whenever possible.



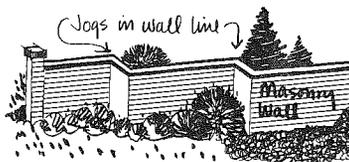
- Provide stormwater detention/retention structures which can be retained as open space amenities.
- Place all electrical utility lines underground; screen utility substations and service areas from public view.

Architectural Design Checklist

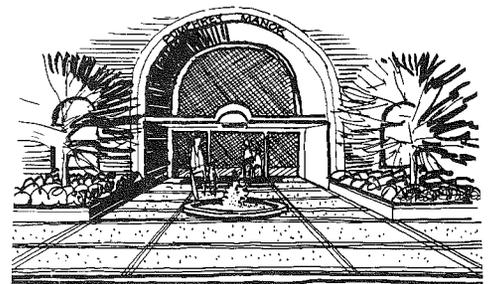
- Scale/Mass/Form
 - Maintain relatively simple massing in tall structures, with openings and entries clearly articulated through building offsets and texture/material changes.
 - Adhere to established Fairfax County building bulk and setback requirements.
 - Utilize varied setbacks to create interesting architectural (mass) relationships to the street.
 - Cluster buildings around courtyard-like areas to reinforce neighborhood scale.
 - Integrate architectural masses/forms into natural topography of site.



- Functional Relationships/Facade Treatment
 - Select and site appropriate building types with respect to natural topography.
 - When buildings are adjacent, orient primary facades for maximum privacy between buildings.
 - Segregate primary building entries from service-type entries.
 - Utilize current energy conservation technology in architectural and heating/cooling systems design.
 - Minimize solar heat gain for cooling and maximize solar heat gain/retention for heating by sensitive design treatment.
 - Dwelling unit number and arrangement for each building should reinforce feeling of security and neighborhood among residents.

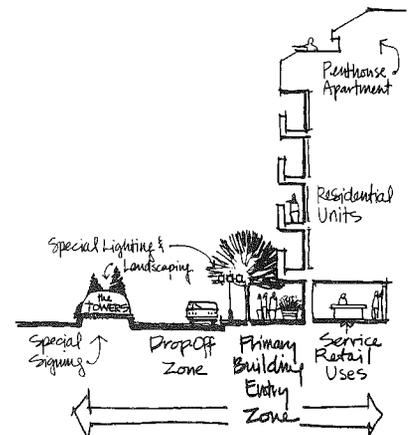


- Avoid false facade treatments which are unrelated to building form/ function.
- Carefully select and restrict the variety of architectural facade materials for each building, but avoid monolithic facade treatments.
- Integrate community and resident service uses into building architecture.
- Incorporate major landscaped plazas at major building entrances, featuring special paving, seating, plantings and water features such as fountains.



Landscape Architectural Checklist

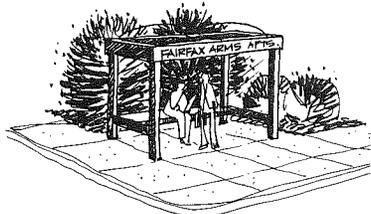
- Landscaping
 - Preserve existing quality vegetation to the greatest extent possible, integrating it into new designs.
 - Restore disturbed areas to a visually appealing landscape character through landscape architectural treatment.
 - Provide street trees along all roadways and shade trees in parking areas; encourage the use of groupings which reinforce the residential development character and identity.
 - Provide well-landscaped special use areas for neighborhood residents (e.g., pool areas, parks, etc.).
 - Utilize special landscape treatments to define primary building entry zones.
 - Buffer incompatible uses with land forms and/or landscape materials as needed.
 - Use overhead canopy, intermediate focus and ground cover type plants to achieve functional goals.
 - Locate street trees along roadways and parking areas in landscape corridors away from underground utilities.
 - Utilize special landscape treatments to identify and reinforce community and neighborhood entry areas.



- Promote seasonal visual interest at major neighborhood focal points by using flowers and ornamental shrubs, trees, etc.
- Select low-maintenance landscape materials for common areas not likely to receive consistent maintenance.

Fairfax Center Area (Continued)

- Protect solar access to buildings when incorporating landscape materials.
- Site Furnishings/Signage and Lighting
 - Provide a well-designed signage system to identify and direct safe vehicular and pedestrian movement throughout the site.
 - Provide well-designed site entry signs at major auto/pedestrian entry areas.
 - Provide street, parking and pedestrian lighting systems consistent in style/intensity with each system's needs.
 - Ensure site-wide architectural theme and light fixture style consistency.
 - Utilize special lighting techniques, such as up-lighting, to accentuate primary entry plazas and high-image architectural elements.

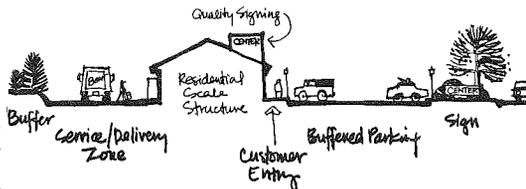


- Site Furnishings/Walls and Minor Structures
 - Utilize concrete or masonry walls in conjunction with building style and materials for screening and grade-change accommodation.
 - Avoid long, monotonous walls by incorporating jogs or setbacks for visual interest.
 - If entry gates are used, ensure that design is high quality and integrated into adjacent wall architecture.
 - Provide bus shelters at major site entries as needed to serve residents utilizing existing or proposed transit services; integrate structure design into project architectural theme, if possible.
 - Consider the provision of gazebos, information kiosks or other outdoor structures for use of residents
 - Provide outdoor seating, some covered, at major on-site activity areas.
 - Provide hard surfaced recreational areas on-site (e.g., tennis courts, play courts, pool-side areas, etc.).

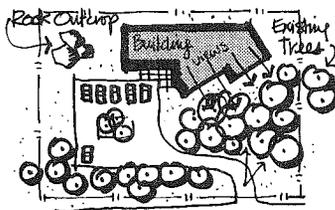


Commercial/Low-Density Office and Neighborhood Center Criteria Site Planning Checklist

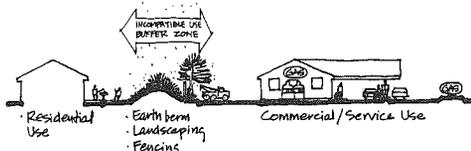
- General
 - Integrate new development with existing and future adjacent land uses appropriately; locate new centers with quality vehicular and pedestrian access.



- Select type and scale of commercial office uses within each development which will serve local area needs.
- Utilize criteria for shared parking and open space between uses in site development, if feasible.
- Provide pedestrian linkages to residential neighborhoods and community-wide amenity areas, services and facilities.
- Utilize energy conservation based criteria in planning and design.
- Access/Roads/Parking
 - Provide adequate, safe auto access into the center from appropriate-level roadways.
 - Provide well-screened off-street parking areas for customers; keep these parking lots in scale with the development and neighborhood.
 - Minimize natural site amenity disturbance (e.g., quality trees, streams, etc.) through sensitive parking and building design/construction.
 - Establish distinct utility and landscaping corridors within street rights-of-way and parking areas.

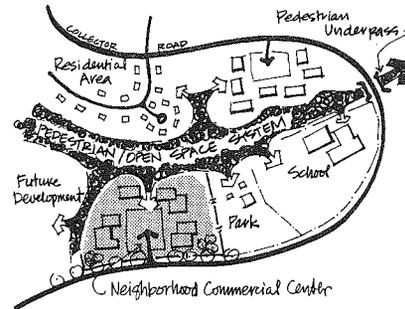


- Segregate service and maintenance drives and parking areas from customer entry and parking zones.
- Reduce impervious surfaces (drives, parking, buildings, etc.) through use of cluster design techniques.
- Provide a well-landscaped, high-quality image toward the street, and buffer service areas from public view.
- Adhere to existing Fairfax County development standards for minimum parking space and driveway dimensions.
- Open Space/Community Facilities
 - Integrate natural open space amenities into overall site design.
 - Provide on-site pedestrian system links to neighborhood and community-wide pedestrian systems.
 - Consider inclusion of neighborhood-level facilities as part of a mixed use program for neighborhood centers (e.g., recreation uses and small commercial, office and service uses, etc.)
 - Design safe pedestrian systems on-site; incorporate handicapped-access elements, such as ramps, into system design.
 - Utilize natural (especially wooded) open space corridors/areas as transition areas, visual amenities and buffers.



• Buffers

- Utilize varying scales and arrangement of buildings on-site as buffers for incompatible use relationships.
- Take advantage of natural landscape edges and elements in buffering and defining neighborhood center components.
- Utilize architectural elements (walls, buildings, etc.) as visual and roadway noise buffers.



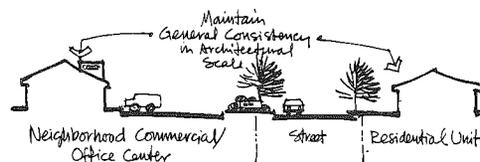
• Utility/Service Areas

- Utilize curb and gutter drainage systems adjacent to buildings and main parking areas, but use grass swales, when possible, in other areas on-site.
- Provide stormwater detention/retention structures, as needed, which can be retained as open space amenities.
- Place all electrical utility lines underground; screen utility substations and service areas from public view.
- Screen all service/maintenance areas from public view.
- Provide for safe on-site storage and off-site disposal of refuse and wastes generated by commercial/service uses.

Architectural Design Checklist

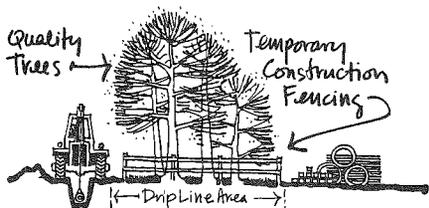
• Scale/Mass/Form

- Provide general consistency between neighborhood residential unit scale and proposed neighborhood/commercial/office complex scale.
- Create interest through sensitive detailing and use of basic geometric forms for commercial structures.
- Utilize varied building facade setbacks to create interesting architectural (mass) relationships to the street.



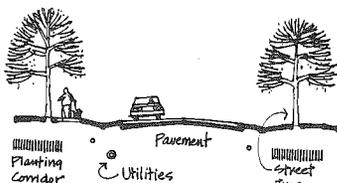
- Cluster buildings around courtyard-like areas to reinforce neighborhood scale.
- Functional Relationships/Facade Treatment
 - Select and site appropriate building types with respect to natural topography.
 - Utilize current energy conservation technology in architectural and heating/cooling systems design.
 - Minimize solar heat gain for cooling and maximize solar heat gain/retention for heating by sensitive design treatment.
 - Establish center-wide architectural theme consistency.
 - Utilize similar architectural materials within the center development.

Fairfax Center Area (Continued)

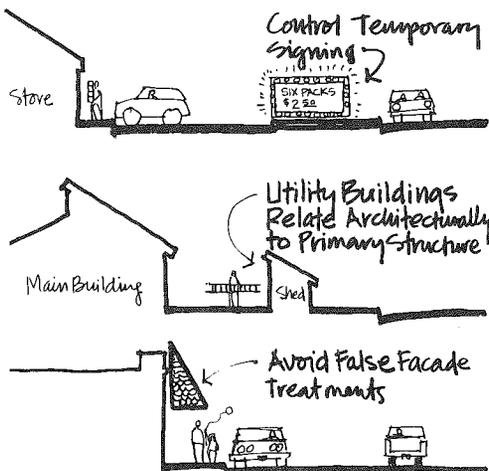


Landscape Architectural Checklist

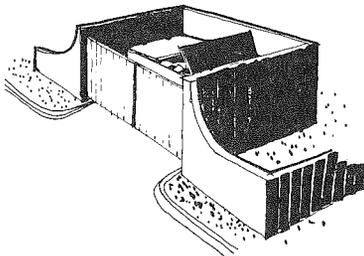
- Landscaping
 - Preserve existing quality vegetation to the greatest extent possible, integrating it into new designs.
 - Restore disturbed areas to a visually appealing landscape character through landscape architectural treatment.
 - Provide shade trees in all parking lots; use consistent species groupings to reinforce development character.
 - Locate street trees along roadways and parking areas in landscape corridors away from underground utilities.



- Utilize special landscape treatments to identify and reinforce the center's entry areas.
- Utilize special landscape treatments to define primary building entry zones.
- Buffer incompatible uses with land forms and/or landscape materials as needed.
- Use overhead canopy, intermediate focus and ground cover type plants to achieve functional goals.
- Promote seasonal visual interest at major neighborhood focal points by using flowers and ornamental shrubs, trees, etc.
- Select low-maintenance landscape materials for areas not likely to receive consistent maintenance.
- Protect solar access to buildings when incorporating landscape materials.
- Site Furnishings/Signage and Lighting
 - Provide a well-designed signage system to identify buildings and direct safe movement for ingress and egress (vehicular and pedestrian).
 - Provide well-designed project entry signs at major auto/pedestrian entry areas.



- Ensure quality design for commercial signs on-site and on building facades; all buildings (within the same development) should portray consistency in signing criteria adherence.
- Control the use of temporary commercial advertising signs; do not use movable signs with flashing lights along street edges.
- Ensure neighborhood architectural theme and light fixture style consistency.

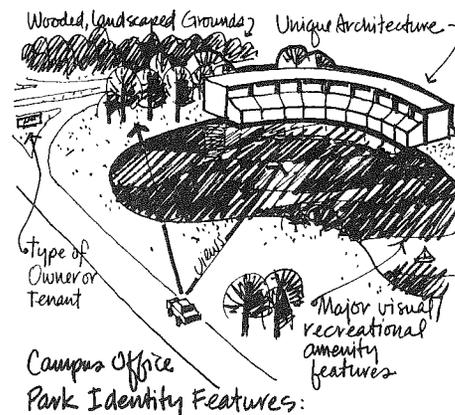


Screen refuse container ('dumpster') areas.

- Site Furnishing/Fencing/Walls/Minor Structures
 - Utilize materials which relate to the proposed function of the fence or wall (e.g., solid for privacy).
 - Utilize wall and fence materials and style consistent with the center's architectural materials and style.
 - Avoid long, monotonous solid wall or fence lines by using jogs or setbacks for visual interest.
 - Outdoor utility sheds/buildings should relate to major building architecture and style.
 - Provide walled enclosures to screen outdoor storage and refuse (dumpster) areas.
 - Keep architectural facade material types to a minimum on any single building facade.
 - Carry all attached facade materials (such as wood siding) down to a finished grade elevation, or paint exposed walls to match such facades.
 - Avoid false facade treatments which are unrelated to building form/function.
 - Carefully select and restrict the variety of architectural facade materials for each building.

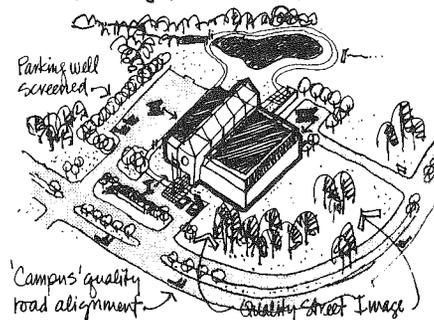
Commercial/Campus Style Office Park Criteria Site Planning Checklist

- General
 - Integrate new development with existing and future adjacent land uses appropriately.
 - Plan development in relatively large-scaled tracts to assure substantial open space provision.
 - Establish a strong sense of identity for each particular office campus or park.
 - Provide appropriate level, scale and location of support services/facilities (e.g., eating establishments, business support and convenience commercial) to serve employees/businesses locally.
 - Utilize energy conservation-based criteria in planning and design.
- Access/Roads/Parking
 - Provide adequate, safe auto access into the development from appropriate-level roadways.
 - Utilize a hierarchical system of internal drives and roadways; do not access parking directly onto major collector roads.
 - Minimize natural site amenity disturbance (e.g., quality trees, streams, etc.) through sensitive road, building and parking design/construction.



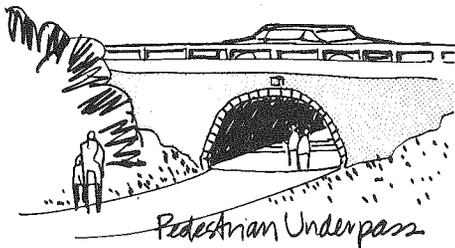
- Provide well-screened off-street parking areas for employees/visitors.
- Road alignments should reinforce campus quality and scale; avoid long, straight, monotonous street layouts.
- Provide some parking areas for compact cars in order to reduce the area of impervious site cover.
- Provide screened parking areas for special vehicle parking/storage (e.g., maintenance vehicles, trailers, equipment, etc.).
- Establish distinct utility and landscaping corridors within street rights-of-way and parking areas.
- Segregate service, maintenance and loading zones from employee/visitor vehicle areas.

Segregation of visitor (I), employee (II) and service (III) vehicle areas:



- Orient roadways to maximize southern (solar) exposure for office buildings, when possible.
- Provide a well-landscaped high-quality image toward the street.
- Reduce impervious surfaces (roads, parking, buildings, etc.) through use of cluster design techniques.
- Adhere to existing Fairfax County development standards for minimum parking space and driveway dimensions.
- Open Space/Community Facilities
 - Integrate natural open space amenities into overall site design.
 - Provide a continuous pedestrian/open space system linking activity nodes internally and externally.
 - Design safe pedestrian system crossings at roads; provide grade-separated intersections at these points when possible; incorporate handicapped-access elements, such as ramps, into system design.

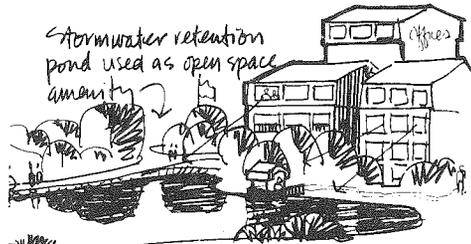
Fairfax Center Area (Continued)



- Utilize natural (especially wooded) open space corridors/areas as transition zones, visual amenities and buffers.
- Buffers
 - Utilize varying scales and arrangements of building masses as buffers for incompatible use relationships.
 - Take advantage of natural landscape edges and elements in buffering and defining building and parking zones.
 - Utilize existing vegetation masses along with earth berms and architectural walls as visual and roadway noise buffers.



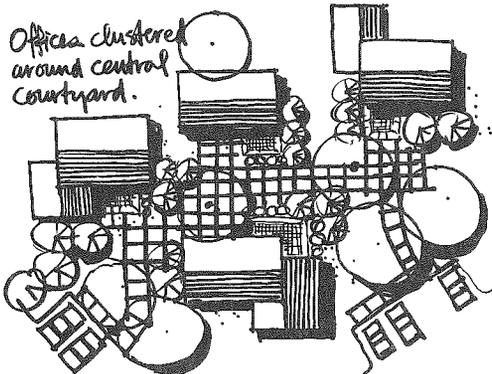
- Utility/Service Areas
 - Utilize grass swales for surface drainage whenever possible.
 - Provide stormwater detention/retention structures which can be retained as open space amenities.
 - Place all electrical utility lines underground; screen utility substations and service areas from public view.
 - Provide for safe on-site storage and off-site disposal of refuse and wastes generated by commercial/service uses.
 - Consider common solar energy systems serving entire office park developments, when feasible.



Architectural Design Checklist

- Scale/Mass/Form
 - Provide general consistency in architectural scale within each development cluster.
 - Create interest through sensitive detailing and use of basic geometric forms reflecting building function.
 - Utilize varied building/facade setbacks to create interesting architectural (mass) relationships to the street.
 - Cluster buildings around courtyard-like amenity areas to create a strong sense of arrival for pedestrians.

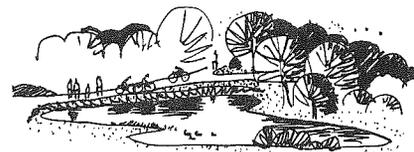
- Buildings with large-area structural modules should be located on flat or gently sloping sites only.
- Functional Relationships/Facade Treatment
 - Select and site appropriate building types with respect to natural topography.
 - Segregate primary building entries from service-type entries.
 - Utilize current energy conservation technology in architectural and heating/cooling systems design.
 - Minimize solar heat gain for cooling and maximize solar heat gain/retention for heating by sensitive design treatment.
 - Establish architectural theme consistency throughout each office complex.
 - Utilize similar architectural materials within a given cluster of office buildings.
 - Keep architectural facade material types to a minimum on any single building facade.
 - Carry all attached facade materials down to a finished grade elevation, or paint exposed walls to match such facade materials.
 - Avoid false facade treatments which are unrelated to building form/function.
 - Carefully select and restrict the variety of architectural facade materials for each building or building cluster.
 - Utilize special landscape treatments to define primary building entry zones.
 - Buffer incompatible uses with land forms and/or landscape materials as needed.
 - Use overhead canopy, intermediate focus and ground cover-type plants to achieve functional goals.
 - Promote seasonal visual interest at major architectural and site focal points by using flowers and ornamental shrubs, trees, etc.



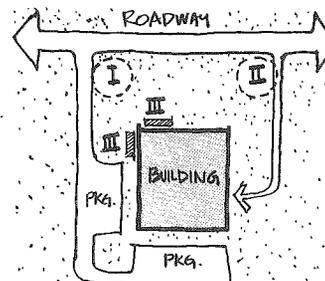
- Select low-maintenance landscape materials for areas not likely to receive consistent maintenance; maintain landscape materials in all entry and streetscape areas.
- Protect solar access to buildings when incorporating landscape materials.
- Site Furnishings/Signing and Lighting
 - Provide a well-designed office park and site entry signs at major auto/pedestrian entry areas.
 - Provide roadway and pedestrian lighting systems consistent in style/intensity with each system hierarchy.

Landscape Architectural Checklist

- Landscaping
 - Preserve existing quality vegetation to the greatest extent possible, integrating it into new designs.
 - Restore disturbed areas to a visually appealing landscape character through landscape architectural treatment.
 - Provide shade trees in all parking lots; use consistent species groupings to reinforce development character.



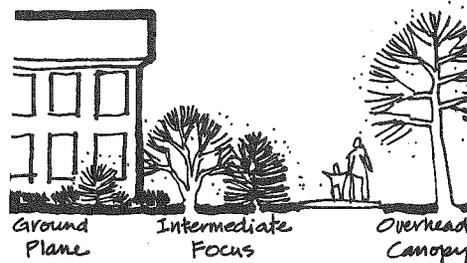
- Locate street trees along roadways in landscape corridors away from underground utilities.
- Utilize special landscape treatments to identify and reinforce major office park and site entry areas.



BASIC SIGN CATEGORIES:

- I Entrance Identification
- II Service Entrance
- III Building/Corporate Logo

- Ensure quality design for commercial office signs on-site and on building facades; all buildings within a development should reflect consistent signing criteria adherence.
- Provide design guidelines for all commercial signing within the office campus development, including temporary advertising, construction and informational signing.
- Provide special site entry area and identification sign lighting.
- Ensure development-wide architectural theme and light fixture style consistency.
- Provide individual building entry zone and corporate name/logo illumination lighting.
- Site Furnishing/Fencing/Walls/Minor Structures
 - Utilize walls as architectural linkage elements between related but separate buildings, when possible.
 - Utilize materials which relate to the proposed function of the fence or wall (e.g., solid for privacy).
 - Utilize wall and fence materials and style consistent with each development's architectural materials and style.
 - Avoid long, monotonous solid walls or fence lines by using jogs or setbacks for visual interest.
 - Outdoor utility sheds/buildings should relate to building architecture and style.
 - Provide walled enclosures to screen outdoor storage/service/refuse (dumpster) areas.



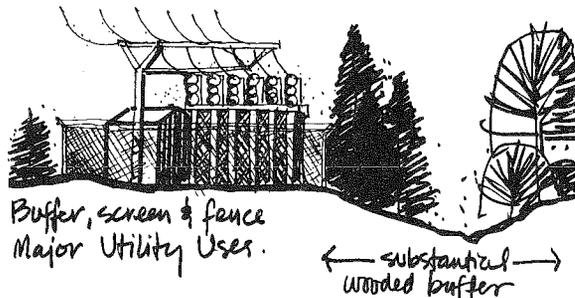
Fairfax Center Area (Continued):

Research and Development/Utility and Light Industrial Criteria

Site Planning Checklist

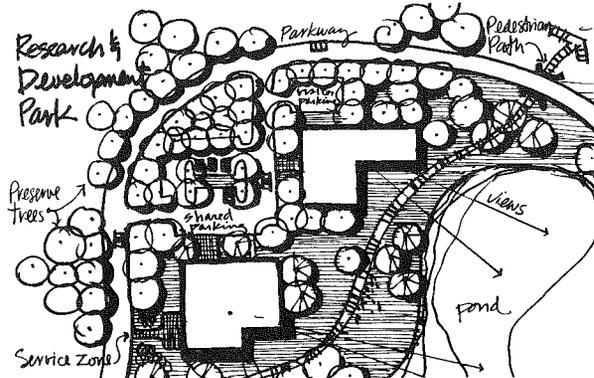
- General
 - Consider appropriateness of each particular use to the image/environment of the Fairfax Center Area.
 - Integrate new development with existing and future adjacent land uses appropriately.
 - Plan development in relatively large-scale tracts to assure substantial open space provision, especially for buffering.
 - Establish a strong sense of identity for each development.
 - Locate utility uses (such as power substations, water pump stations and waste water treatment plants) away from conflicting land uses, if feasible.
 - Provide pedestrian linkages to community-wide amenity areas, neighborhood services and facilities, as needed.

- Reduce impervious surfaces (roads, parking, buildings, etc.) through use of cluster design techniques.
- Adhere to existing Fairfax County development standards for minimum parking, loading and driveway space requirements.
- Open Space/Community Facilities
 - Integrate natural open space amenities into overall site design.
 - Provide a continuous pedestrian/open space system linking activity nodes internally and externally.
 - Design safe pedestrian system crossings at roads; provide grade-separated intersections when possible; utilize handicapped-access design criteria.
 - Utilize natural (especially wooded) open space corridors/areas as transition zones, visual amenities and buffers.
 - Utilize utility right-of-way corridors as potential pedestrian systems.



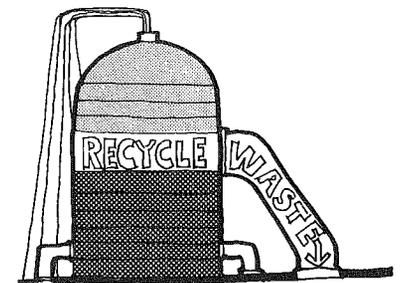
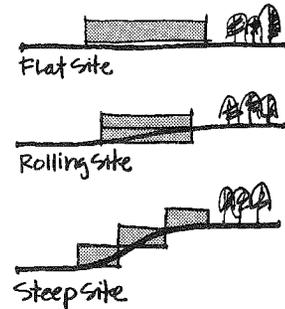
- Utilize energy conservation-based criteria in planning and design.
- Access/Roads/Parking
 - Provide adequate, safe auto and truck access into the development from appropriate level roadways.
 - Utilize a hierarchical system of internal roadways; do not access parking/service areas directly from major collector roads.
 - Minimize natural site amenity disturbance (e.g., quality trees, streams, etc.) through sensitive utility right-of-way, road, building and parking design/construction.
 - Road alignments should reinforce development quality and scale; avoid long, straight, monotonous street layouts.
 - Provide off-street, screened parking areas for special vehicle parking/storage (e.g., maintenance vehicles, trailers, utility equipment, etc.).
 - Establish distinct utility and landscaping corridors within street rights-of-way and parking areas.
 - Segregate service, utility equipment, maintenance and loading zones from employee/visitor vehicle areas.
 - Orient roadways to maximize southern (solar) exposure for office/industrial buildings, when possible.

- Buffers
 - Provide safety fencing or walls around potentially dangerous service, industrial or utility uses.
 - Utilize varying scales and arrangements of building masses as buffers for incompatible use relationships.
 - Take advantage of natural landscape edges and elements in buffering and defining building, utility equipment and parking zones.
 - Make special efforts to screen utility complexes from public view; consider off-site visual impact of tall utility structures in design and siting of such elements.
- Utility/Service Areas
 - Utilize grass swales for surface drainage whenever possible.
 - Provide stormwater detention/retention structures which can be retained as open space amenities.
 - Place all electrical utility lines underground; screen utility substations and service areas from public view.
 - Provide for safe on-site storage and off-site disposal of refuse or wastes generated by research and development, industrial or utility uses.



Architectural Design Checklist

- Scale/Mass/Form
 - Provide general consistency in architectural scale within each development cluster.
 - Create quality architectural statements through the use of basic geometric forms reflecting each building's function.
 - Utilize varied building setbacks to create interesting architectural (mass) relationships to the street.
 - Cluster buildings around courtyard-like areas to reduce overall visual impact of large scale architectural masses.
 - Buildings with large floor module needs should be located on flat or gently sloping sites.
- Functional Relationships/Facade Treatment
 - Select and site appropriate building types with respect to natural topography.
 - Segregate primary building entries from service-type entries, when applicable.
 - Utilize current energy conservation technology in architectural and heating/cooling systems design and for industrial process power sources.
 - Minimize solar heat gain for cooling and maximize solar heat gain/retention for heating by sensitive design treatment.
 - Utilize similar architectural materials within a given cluster of buildings.
 - Keep architectural facade material types to a minimum on any single structure.
 - Carry all attached facade materials down to a finished grade elevation or paint exposed walls to match such facade materials.



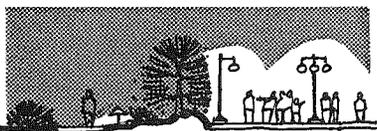
'Super-graphics' utilized on Utility Structures

- Avoid false facade treatments which are unrelated to building form/function.
- Consider the use of special paint and graphic treatment to industrial and utility structures and elements (e.g., super graphics or color coded utility tanks, pipes and structures).
- Carefully select and restrict the variety of architectural facade materials for each building or structure.

Fairfax Center Area (Continued)

Landscape Architectural Checklist

- Landscaping
 - Preserve existing quality vegetation to greatest extent possible, integrating it into new designs.
 - Restore disturbed areas to a visually appealing landscape character through landscape architectural treatment.
- Site Furnishing/Fencing/Walls/Minor Structures
 - Utilize walls and fences as unifying architectural elements between related, but separate, buildings when possible.
 - Utilize materials which relate to the proposed function of the fence or wall.
 - Provide adequate safety fencing or walls around industrial or utility uses, as needed.
 - Utilize wall or fence materials and style consistent with building architectural materials and style.
 - Avoid long, monotonous solid walls or fence lines by using jogs or setbacks for visual interest.
 - Outdoor utility sheds/buildings should relate to major building architecture and style.
 - Provide walled enclosures to screen outdoor utility/storage/service areas.
 - Provide shade trees in parking lots; use consistent species groupings to reinforce development character.
 - Locate street trees along roadways in landscape corridors away from underground utilities.
 - Utilize special landscape treatments to identify and reinforce major development entry areas.
 - Utilize special landscape treatments to define primary building entry zones.
 - Buffer incompatible uses with land forms and/or landscape materials, as needed.
 - Use overhead canopy, intermediate focus and ground cover-type plants to achieve functional goals.
 - Promote seasonal visual interest at major focal points by using flowers and ornamental shrubs, trees, etc.



Intimate Space

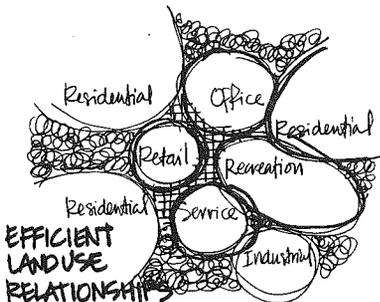
Plaza Space

- Select low-maintenance landscape materials for areas not likely to receive consistent maintenance.
- Protect solar access to buildings when incorporating landscape materials.
- Site Furnishings/Signage and Lighting
 - Provide a well-designed signage system to identify buildings and direct safe vehicular and pedestrian movement throughout the development.
 - Provide well-designed entry signs at major auto/pedestrian entry areas.
 - Provide design guidelines for all commercial/industrial signage within the development, including temporary, advertising, construction and information signage.
 - Provide roadway and pedestrian lighting systems consistent in style/intensity with each system hierarchy.
 - Ensure on-site architectural theme and light fixture style consistency; utilize simple, functional lighting design.

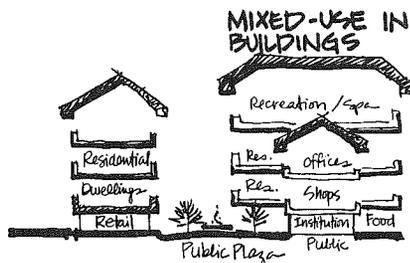
SPECIAL CONDITIONS
DEVELOPMENT CRITERIA

Energy Efficient Planning and Design

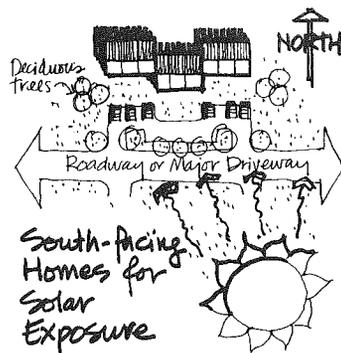
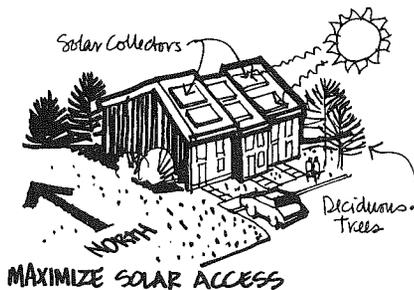
Planning with energy efficiency as a priority is no longer a luxury. Energy considerations should be incorporated in all land use decisions in an effort to reduce dependency upon purchased energy. Energy conservation can be achieved in two major ways—through land use mixes that minimize the need for transportation between uses, and through the siting and construction of buildings and street to provide solar access and energy conservation.



Encouraging mixed-use development saves energy. Locating employment, commercial, residential and recreational uses within close proximity to one another is highly energy efficient, especially with densities sufficiently high as to support mass transportation. Consequently, mixed use and concentrated developments are encouraged within the Fairfax Center Area for their energy saving potential.

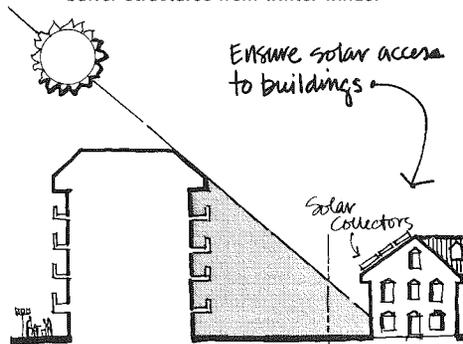


Careful site planning is not only cost efficient in regard to energy consumption, but also cost effective for developers in regard to site work. This cost benefit results from working with existing land forms, minimizing the need for extensive earthwork. Retention of natural features and flexible site planning should be encouraged for their energy saving potentials. Heating and cooling needs of residential and commercial structures can be greatly reduced through the employment of various siting and construction techniques. A well-insulated and sited house can reduce energy needs by as much as 70 percent.



Various siting considerations should be considered when locating structures to use most efficiently alternative energy sources and systems. Solar energy can be used in both active and passive systems. Techniques that should be encouraged include the following:

- Buildings should be clustered. This reduces the amount of roads required as well as length of power and sewer lines needed to serve the development. Cluster development should be encouraged not only for these potentials, but also for its ability to preserve the natural environment by reducing land requirements.
- In most conventional developments, streets should be designed to run from east to west so that building lots run from north to south and thus maximize the extent of solar access (glass oriented to the sun).
- South facing slopes allow greatest potential for solar access. Development of these slopes first should be encouraged.
- The opportunity for buildings and accessory units to receive solar access must be assured and protected.
- Use of active and passive solar heating and cooling systems should be permitted and encouraged.
- Standardized setback and orientation requirements are not always energy efficient. Flexibility in siting and building orientation is strongly encouraged.
- Arrangement of buildings should take advantage of access to natural cooling breezes in the summer.
- Vegetation, landforms and structures should be used to channel summer breezes and to buffer structures from winter winds.



- Parking lots, paved areas, streets and buildings should be shaded by trees or structures to reduce temperatures in the summer.
 - Cold air drains toward low topographic spots. Buildings should be discouraged in these areas as they would require excess energy for winter heating.
- In addition, employment of various construction techniques can greatly reduce energy consumption. Included in these are the following:
- Certain building types are innately more energy efficient than others. These include multi-family housing, structures which share

a common wall, and earth-integrated structures. Energy efficient building types should be encouraged.

- Window placement and the extent of exterior wall surface can also affect energy consumption. Specifically, there should be minimal placement of glass on the northwestern sides of buildings. Consideration should be given to the use of double- and triple-glazed glass in order to reduce energy consumption. These issues should be considered in building design.
- The reaction of different colors and materials to heat and light varies. Use of those materials and colors which are most energy efficient should be encouraged.
- Sufficient insulation, weather stripping and thermal glazing must be encouraged.

Currently in Fairfax County, the overwhelming majority of travel is done via automobile. This is particularly wasteful of energy. To provide for more efficient travel, certain energy saving options should be encouraged. These include:

- A mass transportation system should be introduced into the Fairfax Center Area. A bus system connecting the area to the Vienna Metro Station should be an integral part of the overall plan.
- Park-and-ride commuter parking lots including one at the landfill site should be provided. Parking availability in other locations should be kept at a minimum, encouraging the use of mass transit or car- or van-pooling.
- This system should be served by and coordinated with local bus service connecting various residential neighborhoods and commercial developments within the area. Sheltered waiting areas are also necessary.
- The road network should provide service at such a level as to promote efficient traffic flow, yet not be overdesigned so as to encourage usage.
- A network of pedestrian and bicycle trails should be incorporated as an integral part of the transportation system.

The following energy conservation measures are inherent in sensitive site planning and design practices, and can be achieved to a great extent under existing *Zoning Ordinance* and other land use regulations.

- Provide pedestrian access to activity centers such as community center, recreational areas.
- Locate maximum number of units in warm slope areas. Warm slopes include eastern, western, southeastern, southern and

southwestern slopes. These slopes provide better habitats for people since they receive more solar heat in the winter and cooler breezes in the summer. For these reasons it is suggested that maximum number of units and higher intensity development be located on the warm slopes, particularly on southeastern, southern and southwestern slopes. Cold slopes include northern, northeastern, and northwestern slopes, and are more appropriate for less intensive development. If a site has limited or no warm slopes, this criteria would not be applicable. See Figure 1 for slope orientation.

- Provide proper solar orientation for majority of units. Proper solar orientation is a basic requirement for proper solar access and is necessary for buildings incorporating active or passive solar technologies. Proper solar orientation is equally important for a properly weatherproofed conventional building to obtain significant energy savings.

In Fairfax County, proper solar orientation occurs when the main axis of a building is perpendicular to a line no more than 22-30 degrees from due south. Figure 2 shows the optimal range of orientation.

The use of east-west street alignments (within a range of 25 north or south of a due east-west direction) will facilitate the provision of proper solar oriented lots and is suggested as the first attempt in site layout to achieve proper solar orientation for a majority of units.

- Protect solar access for all units. Solar access is necessary for buildings incorporating active or passive solar technologies. It is also important for a conventionally designed building to have access to winter sunlight.

To develop solar access and shadow diagram, one may refer to information in the *Architectural Graphic Standards* and other energy site planning related books. The Office of Comprehensive Planning has developed a computer program to calculate the shadow length of a building, and is available to assist the public.

- Encourage greater use of active and passive solar energy. The use of active solar energy equipment, facilities and devices should be encouraged to the extent possible. Their design and location should be well considered so as not to create an unsightly view.

Passive architectural design measures such as glazing methods and shading devices should be encouraged.

- Provide energy-conscious planting. There are two major aspects of this kind of planting:
 - Shading of parking lots and other large paved areas to reduce the cooling demands of adjacent buildings. The shaded parking lots are also welcomed by motorists in the summer.
 - Providing summer shade and winter warmth with the utilization of deciduous trees, and protecting north facade with an evergreen windbreak.

The following guidelines should be used to evaluate the fulfillment of these development elements;

1. Area-Wide Basic Development Element
 - Siting roads and buildings for increased energy conservation (including solar access).

This development element would be satisfied when all of the following conditions occur:

- available warm slope areas are used for maximum number of units or higher intensity development, and
- 50 percent of units have proper solar orientation.

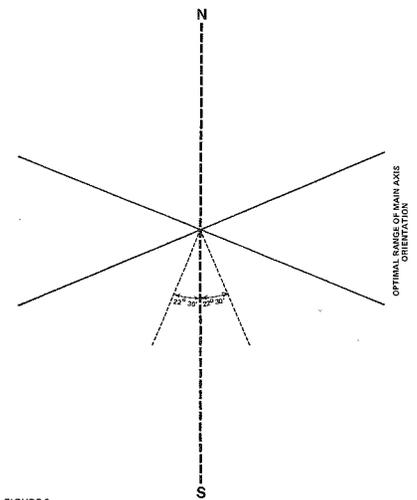


FIGURE 2: OPTIMAL SOLAR ORIENTATION OCCURS WHEN THE MAIN AXIS OF A BUILDING IS PERPENDICULAR TO A LINE NO MORE THAN 22°-30° FROM DUE SOUTH.

2. Area-Wide Minor Development Element

- Provision of energy conscious site plan.
 - This development element would be satisfied when all the following conditions occur:
 - 75 percent of units have proper solar orientation,
 - activity centers of the development are well located to maximize pedestrian access, and
 - provision of energy conscious planting as demonstrated by a planting plan.

3. Key Area Minor Development Element

- Use of energy conservation techniques in structure.
 - This development element would be satisfied when one of the following conditions occur:
 - passive architectural design measures are used, or
 - passive or active solar system is used for heating or cooling purposes.

4. Key Area Major Development Element

- Extraordinary innovation in energy conservation.
 - This development element would be satisfied when:
 - large scale use of active or passive solar system is proposed, or
 - on-site generation system (such as district heating) is proposed, or
 - other innovative techniques are implemented.

Considering Noise Impact in Planning and Design

Excessive noise has been recognized as detrimental to the public health and welfare by the federal government in the *Noise Control Act of 1972*. Through research and scientific consensus, the Environmental Protection Agency has determined the levels of noise requisite to protect the public health and welfare with an adequate margin of safety. Considering these findings, as well as the costs and technical feasibility of achieving reductions in community noise levels, the Federal Interagency Committee on Noise has published *Guidelines for Considering Noise in Land Use Planning and Control* (June, 1980) for use by state and local governments.

Neither railroad nor airport noise significantly impact the Fairfax Center Area. There are no rail lines which cross through or pass near the area. The ultimate noise exposure forecast (NEF) zones for Dulles Airport, where noise levels are expected to be high enough to require mitigation measures, do not affect the area.

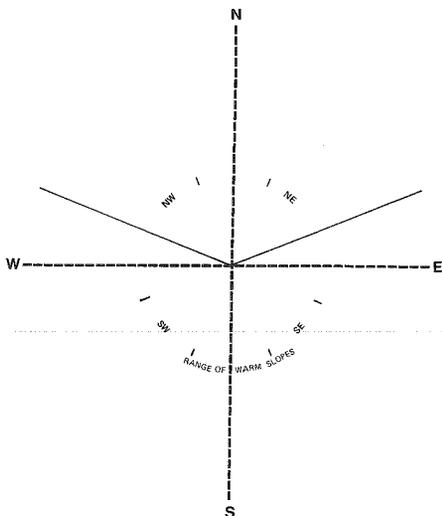


FIGURE 1: RANGE OF WARM SLOPES

In the Fairfax Center Area, highway traffic is the major noise generator. A preliminary analysis of the present traffic noise level contours was prepared by the County staff to determine the significance of noise impacts. This was a case analysis which took into account the effects of topography and other physical barriers on a site specific basis. Through this analysis it was determined that a significant portion of the area is presently affected by excessive levels of noise, particularly for noise-sensitive uses such as residential use. The roads which presently generate significant levels of highway noise include I-66, Routes 50 and 29 and West Ox Road.

The recommended interagency noise standards guidelines indicate that exterior noise levels greater than 65 dBA Ldn and interior noise levels greater than 45 dBA Ldn are not recommended for residential use. However, reasonable and acceptable mitigation measures are available for residential structures exposed to exterior noise levels of between 65 and 75 dBA Ldn so that an interior noise level of less than 45 dBA Ldn can be achieved. Exposure of residential uses to greater than 75 dBA Ldn is unacceptable according to the guidelines.

The preliminary staff noise analysis indicates that present 75 dBA Ldn contours generally are located very close to the roads. Interstate 66 between Route 50 and Route 123 represents the worst case where the 75 dBA Ldn noise contour extends approximately 210 feet from the centerline of the roadway. The distance from the road centerline affected by noise levels greater than 75 dBA Ldn is quite narrow. In addition, residential uses along I-66 and Routes 50, 29 and 608 can be developed so as to not be located within the present 75 dBA Ldn contour. Mitigation measures to achieve a 45 dBA Ldn interior noise level include setbacks with plantings, acoustical treatment of buildings, berms and other acoustic barriers. Similar mitigation measures can also be applied to other land uses, though the recommended maximum noise exposure levels are not as stringent as those for residential uses.

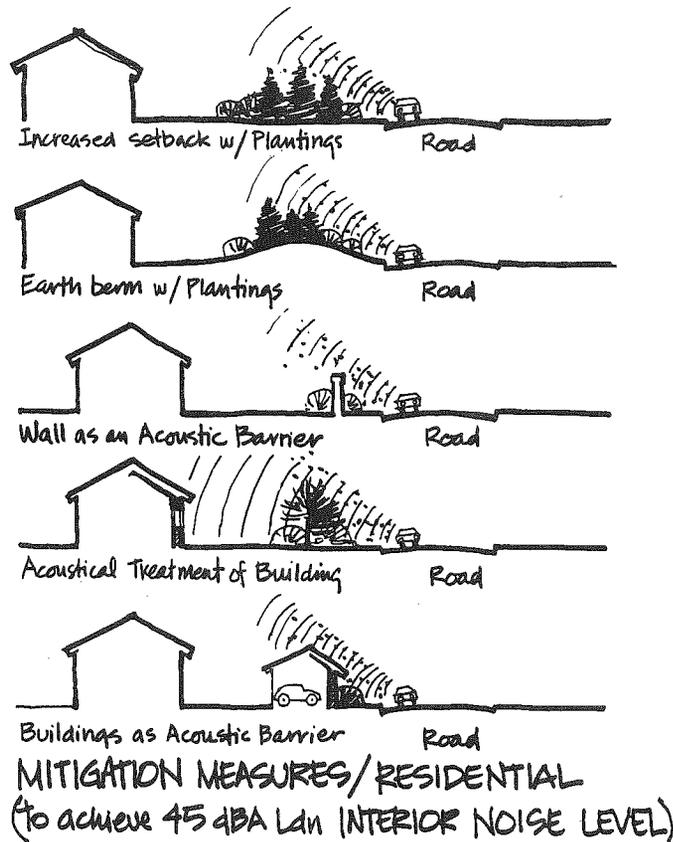
This discussion has centered on present noise levels. Predictions of future noise levels resulting from the Plan recommendations, when developed, are not available. It is expected, however, that any excessive noise level problems can be mitigated, though measures may need to be more stringent than those currently required since traffic levels (and their accompanying noise levels) are expected to increase. Wider setbacks along roads, in addition to the other mitigation measures listed, may be required for residential uses. This may require the consolidation of some small parcels along the roads to create a more easily developed project.

General Exterior Noise Level Guidelines for Residential Development

- Less than 65 dBA
Acceptable
- From 65 dBA to 75 dBA
Acceptable with mitigation
- Greater than 75 dBA
Not recommended

Planting Guidelines

In addition to preserving natural vegetation through EQC implementation and enforcement of the Tree Preservation and Planting requirements of the Erosion and Sedimentation Control and Conservation Ordinance, the Fairfax Center Area should utilize planting guidelines that will enhance the quality of development and make this



area unique. To assure quality plantings, the following considerations are appropriate:

1. Provide an appropriate design

Planting design must be appropriate in the choice of plant materials and their uses. The size, form, texture and color of plants should relate to the surrounding plants and architecture. They should also relate to the functional use of the plant.

The functional uses of a plant generally include:

- Architectural uses—such as privacy control, screening objectional views, and space articulation.
- Engineering uses—such as glare, reflection, traffic, sound, and soil erosion controls.
- Climate control—such as sunlight, wind and temperature controls which are related to energy conservation measures.
- Aesthetic uses—such as softening hard architecture, framing a view, and emphasizing a place (such as site entry zone, building entry area).

Planting design should strive to achieve fulfillment of the above listed functional uses, so that appropriate choice of plants can be made.

2. Create a theme for the area

Dominant tree species in greater quantity than any other may be used in all major spaces to ensure unity and continuity in a planting design. Smaller trees and shrubs, particularly flowering species may be repeated throughout the entire area. Through this repetition of plant use, a main theme may be created for the Fairfax Center Area, which will provide an effective impression and project a positive image of the area. However, to set certain areas apart or to create desired emphasis or to relieve monotony, some variation of species and special landscape treatment is encouraged. This may occur, for instance, at a site entry zone or building entry area.

3. Achieve immediate effects of planting

Large plants should be used to achieve reasonably immediate effects of planting particularly for screening and buffering purposes. All evergreen trees for screening and buffering purpose should be at least 6 feet tall. Deciduous trees should be at least 2" caliper. In the area of commercial and office uses, the planting of a few trees of 4" caliper or more at important locations should be encouraged.

An applicant should submit a planting plan incorporating the above considerations for review. Planting plans should be provided for the following specific areas where applicable:

- Major streets
- Minor streets
- Parking lots
- Screening/Buffering
- Site entry zone/Building entry area
- Major plaza/Minor plaza
- Other public open spaces

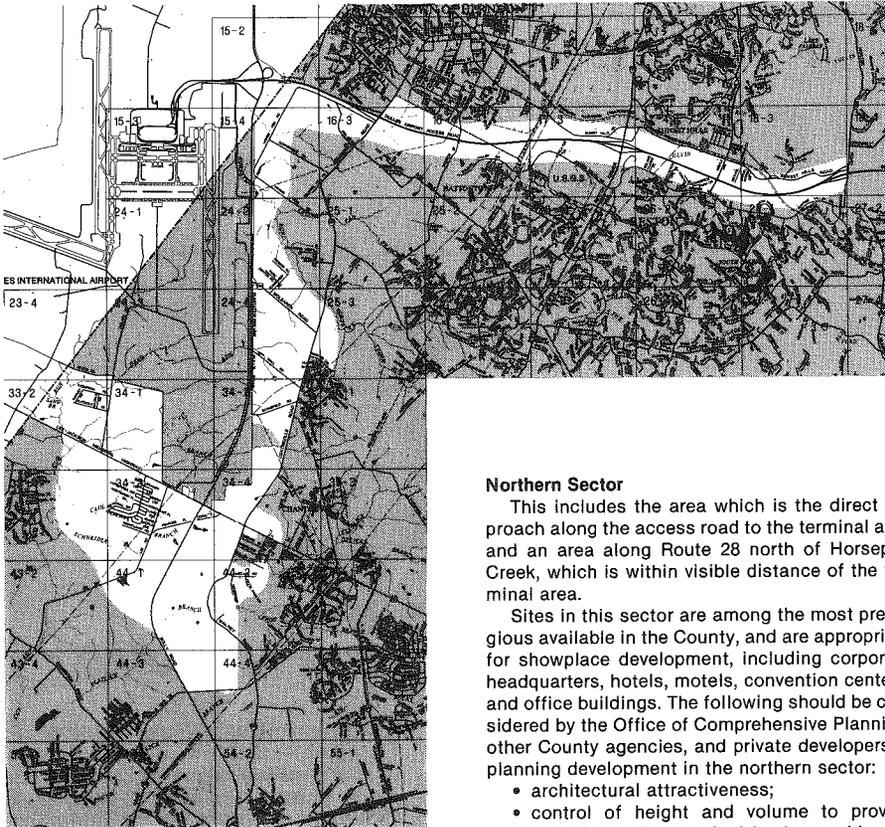
Planting design for major streets and minor streets should use major shade trees which have the following characteristics: high branching, fast growing, tolerant of city conditions and four seasonal interest, particularly good fall color. The plantings of flowering trees are encouraged along minor streets. All plantings within future VDH&T rights-of-way must conform to VDH&T standards.

Planting design for parking lots and screening/buffering should be in accordance with the Landscaping and Screening Ordinance. Shade trees should be used in parking lots for energy conservation purposes.

Planting design for site entry zones, building entry areas, and plazas requires special landscape treatments. Seasonal visual interest should be emphasized by using ornamental plant materials.

Federal Highway Administration RD-77-108 Highway Traffic Noise Protection Model (FHWA Technical Advisory T 5040.5)

AREAS RELATED TO DULLES AIRPORT AND ACCESS ROAD



Background

The 1969-70 preliminary comprehensive plan for the Bull Run Planning District described the planned uses for the airport-oriented areas in the Upper Potomac and Bull Run Planning Districts. The entire area of over 7,000 acres was differentiated by the following three areas:

- Area I—prestige locations in the Dulles Access Road corridor;
- Area II—development park locations; and
- Area III—general airport-oriented locations

Brief mention was also made of a foreign trade zone in the vicinity of the airport. Extensive detail for planned uses in each area was provided, including appropriate zoning categories.

RECOMMENDATIONS

The planning policies in the Bull Run plan of 1969 are still basically sound and should provide a guide for future development in the areas related to the airport and access road. The elements are reorganized as follows:

Northern Sector

This includes the area which is the direct approach along the access road to the terminal area and an area along Route 28 north of Horsepen Creek, which is within visible distance of the terminal area.

Sites in this sector are among the most prestigious available in the County, and are appropriate for showplace development, including corporate headquarters, hotels, motels, convention centers, and office buildings. The following should be considered by the Office of Comprehensive Planning, other County agencies, and private developers in planning development in the northern sector:

- architectural attractiveness;
- control of height and volume to provide visibility to the terminal in the corridor between the Sheraton Center (Reston Avenue) and the terminal area. Heights must conform to FAA safety requirements, and the County should ascertain from the FAA what these appropriate heights are for various locations and prepare an overlay map to guide future development.
- An improved access and circulation system, which incorporates use of the Dulles Access Road and Route 28 as major roads serving the area.
- Agriculture may be considered an appropriate interim use in the portion of the Northern Sector west of Centreville Road.

Throughout the sector, commercial services should be available as ancillary uses to the major employment-commercial uses only. In no case should these services be provided in a shopping center. Mall or plaza designs may be used to incorporate commercial services as an integral part of the major uses.

In order to make best use of the access corridor near the airport, the structure(s) on the property nearest the terminal area should be planned for

higher visibility than others in the corridor because of the unique location. Other structures in this five-mile section of the corridor should be oriented so that each has some sight line to the terminal. The object is to use the topography along the Dulles Airport Access Road to provide excellent sites for most development projects.

Because of the proximity of this area to the Dulles terminal which is an architectural structure under the purview of the National Capital Fine Arts Commission, and because of visibility to both national and international travelers from the Dulles Airport Access Road, the design of buildings and structures in this area should maintain the same high aesthetic standards and quality of excellence as the Dulles terminal, and should be subject to appropriate review with these objectives in mind.

Southern Sector

This area is located south of Horsepen Run, generally west of Centreville Road, and east of Route 28 to the north of Route 50. On the south side of Route 50, it includes some of the area within the most severe noise exposure forecast contours, which are oriented toward Route 50. The area has good regional access but does not have the degree of visibility from the Dulles Airport Access Road which exists for sites of the northern sector.

The following should be considered in planning development in the southern sector:

- A comprehensive access and circulation plan should be developed to organize transportation serving the sector.
- A variety of industrial uses are appropriate in the southern sector, including light manufacturing, warehousing, freight distribution and office uses because of the airport proximity.
- Agriculture may be considered an appropriate interim use in the Southern Sector.

RESIDENTIAL INFILL

The methodology described in this section was used for population and housing projections during preparation of the Plan in 1974.

The Area III Plan recommendations for and estimates of future residential development are discussed in this section. Approach, criteria, methods, density definitions and area-wide estimates of development to 1990 are noted. Of course, economic factors or other conditions may affect the actual time frame of the realizations of the estimates.

Approach

The estimates developed for housing and population growth and supportive land uses to 1990 are designed to meet the following needs for information:

- to reflect land use and approximate density recommendations by map vicinity location for the Plan;
- to provide population growth figures and incremental dwelling units by type by planning sector for functional area impact analysis and feedback to land use recommendations; and
- to relate overall Area III development levels and growth distributions to countywide growth estimates and distribution alternatives.

The residential development estimates thus are primarily for convenience but are also broadly indicative of recommended and anticipated levels of development to occur in the middle-term (10-15 years) future in the various subareas of Area III.

Criteria for Residential Development

The Area III section of the Plan emphasizes the appropriate utilization of vacant land in the outer County to meet the following objectives:

- protect significant environmental resources and ecologically sensitive areas;
- reduce auto dependence;
- increase opportunities for mass transit use;
- utilize existing infrastructure;
- protect the established character of stable communities;
- provide a range of choice in housing and residential environment; and
- lower housing costs.

These objectives are reflected in the approaches, policies and recommendations for stable, option, and complex area discussed in prior sections of the Plan.

Residential Development Estimation Method

This methodology, which includes some variations for stable, option, and complex areas, has three major steps which work to determine the available land for residential uses, appropriate development density ranges, and estimates for the middle term (10-15 years) or 1990 time frame. The major steps are:

1. Estimation of Land Available for Residential Use. The total available vacant land acreages were determined using data from the County's Urban Development Information System and parcel files and maps. This available land supply was reduced to provide land for anticipated nonresidential uses such as:
 - floodplains, easements, other environmentally based nondevelopable areas including agricultural preservation areas;
 - land reserve to provide for public facilities;
 - commercial use land area needed to support residential development;
 - land necessary to provide for public facilities; and

- estimates of private recreational and institutional/semipublic acreage requirements based upon population to land ratios in the County for these uses.

The resulting amounts of land available for residential development are treated in step two.

2. Residential Development Estimates. In stable, complex and option areas amounts of land available for residential development were identified and assessed for potentially appropriate development density ranges. Land already committed to residential development projects for which building permits have been issued was taken into account. In stable areas future infill development densities and character are implied by the existing pattern of development. Completion of development is keyed to preserve and enhance the established character of the area. In option and complex areas a wider range of potentially appropriate uses and densities are considered. The potentials for achieving desirable levels of residential use depend upon such factors as access, transit possibilities, environmental considerations, surrounding land uses, locations of employment and commercial facilities, public infrastructure, trends in housing and potentials for the development of planned development centers.

Based upon evaluations of these factors, estimates of overall development of the residential potential land were made on a sector-by-sector basis in the stable areas and ranges of development identified for option and complex areas.

3. Step Back to 1990 (or Middle Term) Development Levels. Having estimated development on all available land, a level of development to 1990 (or for a 10-15 year future) was estimated based upon rough evaluation of the likelihood of development in each subarea during the period based upon the effects of infrastructure constraints, probable and existing market pressures, probable relative economic demand for single-family large acreage development, sites with less than ideal development possibilities, and other localized considerations.

Only the lower end of the range is planned as a presumptive appropriate density. Densities at the upper end of the range may be consistent with the land use map, but such densities may be approved only with the usage of necessary and desirable development criteria and controls as a part of the rezoning process.

Necessary and desirable development criteria may include, but are not limited to, attention to the following:

1. sensitivity of design to the natural features of the land;
2. progressive conservation techniques;
3. provision of open space for active and passive recreational purposes;
4. provision of amenities and special features;
5. provision of low- and moderate-income housing;
6. provision of supportive public facilities;
7. innovative design;
8. preservation and/or restoration of buildings, structures, or other features of architectural, historic, or environmental significance; and
9. phasing of development to most nearly coincide with the provision of public facilities.

Controls to ensure compliance with these criteria include, but are not limited to, the submission of development plans for categories consistent with the plan and the proffering of reasonable conditions effectuating such development plans, or through the use of P category districts consistent with the Plan. Planned development zones are often recommended as offering the best means of providing for desirable development flexibility and controls to ensure environmentally sensitive and well-designed development. (These zones include the PDH and RPC categories.) Rural conservation, rural agricultural, and resource preservation zones are appropriate in many areas of Area III, which should be developed at only very low-density.

Summary of Residential Development Estimates for Area III

The tables given summarize the estimated residential development for the planning period (10 to 15 years) expected under the Plan recommendations. These estimates reflect the methodology described above and should be understood to represent likely approximate magnitudes of development; some fluctuations of magnitude and timing of development are to be expected as further plan refinement implementing actions are undertaken. The following table gives estimates of development by planning district, unit type and stable, option and complex areas.

Residential Density Ranges

Residential density ranges recommended in the Plan and shown on the maps are defined in terms of units per acre. These density ranges are related in the table below to both the 1958 zoning ordinance as amended and the zoning ordinance adopted in principle in 1974.

RESIDENTIAL DENSITY RANGES				
Plan Density Ranges	1958 Zoning Ordinance		1974 Zoning Ordinance	
	Base Density	Possible Under Criteria With Development Controls	Base Density	Possible With Development Controls
.1-.2	RA	RA	RP	RA or RC
.2-.5	RA	RE-2	RA or RC	RE
.5-1	RE-2	RE-1	RE	R-1
1-2	RE-1	RE-0.5	R-1	R-2
2-3	R-17	R-12.5	R-2	R-3
3-4	R-12.5	R-10	R-3	R-4
4-5	R-10	RTC-5 or R-5	R-4	R-5
5-8	RTC-5	RTC-10 *	R-5	R-8
8-12	RTC-5 or RTC-10 **	RTC-10 or RM-2G *	R-8	R-12
12-16	RTC-10	RM-2G *	R-12	R-16
16-20	RTC-10	RM-2G	R-16	R-20

* Conditions must include density limitation to high range plan density.
 ** RTC-5 or RTC-10 may be appropriate without additional development controls depending on complexity of parcel.

Estimates of Residential Population Growth

Future population added to Area III by 1990 as a result of residential infill development in stable areas and ranges of development in option and complex areas can be estimated using household size factors for various types of units. In Fairfax County current household size factors have been determined using a 1974 survey of County households. Changing social norms and economic factors affect the household composition in complex ways so that any future population estimates based on household sizes are tentative. The current 1974 average household sizes for different types of housing indicated in the following table, nonetheless, provide the best available information for estimating the population to be attracted to Area III by the estimated residential development.

Using these factors, in conjunction with estimates of stable area infill development and complex area growth by unit type, the population to be added in each of the planning districts in Area III is estimated to be as shown in the population table.

1974 COUNTYWIDE AVERAGE HOUSEHOLD SIZE BY HOUSING TYPE

Housing Type	Household Size (Persons)
Single-family detached	3.57
Townhouse	2.81
Garden Apartment	2.50
Elevator Apartment	1.52

Source: Office of Research and Statistics

As shown in the table, Upper Potomac Planning District is expected to realize the largest population increase due largely to the anticipated completion of Reston during the period. Overall, Area III is expected to grow by over 143,000 persons more than doubling the 1974 estimated population of more than 109,000 persons.

All housing development proposals should conform to the densities shown on the Plan. The option may be taken to provide low- and moderate-income units or use planned unit development in order to increase the actual density of any specific residential development. The Board will consider requests to use these options on an individual basis.

ESTIMATED ADDITIONAL HOUSING UNITS BY 1990									
PLANNING DISTRICT	STABLE AREAS			COMPLEX AREAS			OPTION AREAS		
	1990 Committed Units	1990 Addl. Units	1990 Total Units	1990 Committed Units	1990 Addl. Units	1990 Total Units	1990 Committed Units	1990 Addl. Units	1990 Total Units
Upper Pot.									
SF	2,400	6,345	8,745	0	350	350	250	2,080	2,330
TH	1,490	8,562	10,052	0	—	—	0	—	—
Apt.	890	13,169	14,059	0	—	—	0	—	—
Total		28,076	32,856		350	350	250	2,080	2,330
Bull Run									
SF	90	450	540	0	840	840	10	3,060	3,070
TH	130	1,535	1,665	0	3,330	3,330	0	—	—
Apt.	90	470	560	0	1,730	1,730	0	—	—
Total		2,455	2,765		5,900	5,900	10	3,060	3,070
Pohick									
SF	1,460	4,190	5,650	0	2,535	2,535	0	810	810
TH	970	2,070	3,040	0	5,230	5,230	0	290	290
Apt.	290	580	870	0	1,280	1,280	0	—	—
Total		6,840	9,560		9,045	9,045	0	1,100	1,100
Area III									
SF	3,960	10,985	14,945	0	3,725	3,725	260	5,950	6,210
TH	2,590	12,167	14,757	0	8,560	8,560	0	290	290
Apt.	1,260	14,219	15,479	0	3,010	3,010	0	—	—
Area Total	7,810	37,371	45,181	0	15,295	15,295	260	6,240	6,500

ESTIMATED ADDITIONAL POPULATION BY 1990						
PLANNING DISTRICT	Estimated 1974	Stable Area Additional	Complex Area Additional	Option Area Additional	Total Additional	Total Est. Population
Upper Pot.	48,000	79,608	1,250	7,430	88,288	136,288
Bull Run	21,000	7,085	16,680	10,910	34,675	55,675
Pohick	37,000	22,255	27,930 or 19,930*	3,700	53,885 or 45,885	90,885 or 82,885
TOTAL	106,000	108,948	45,860 or 37,860*	22,040	176,848 or 168,848	282,848 or 274,848

* Use lower figure if parkland is acquired for 1,000 acres.

