AREA III

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.

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, industrial, 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

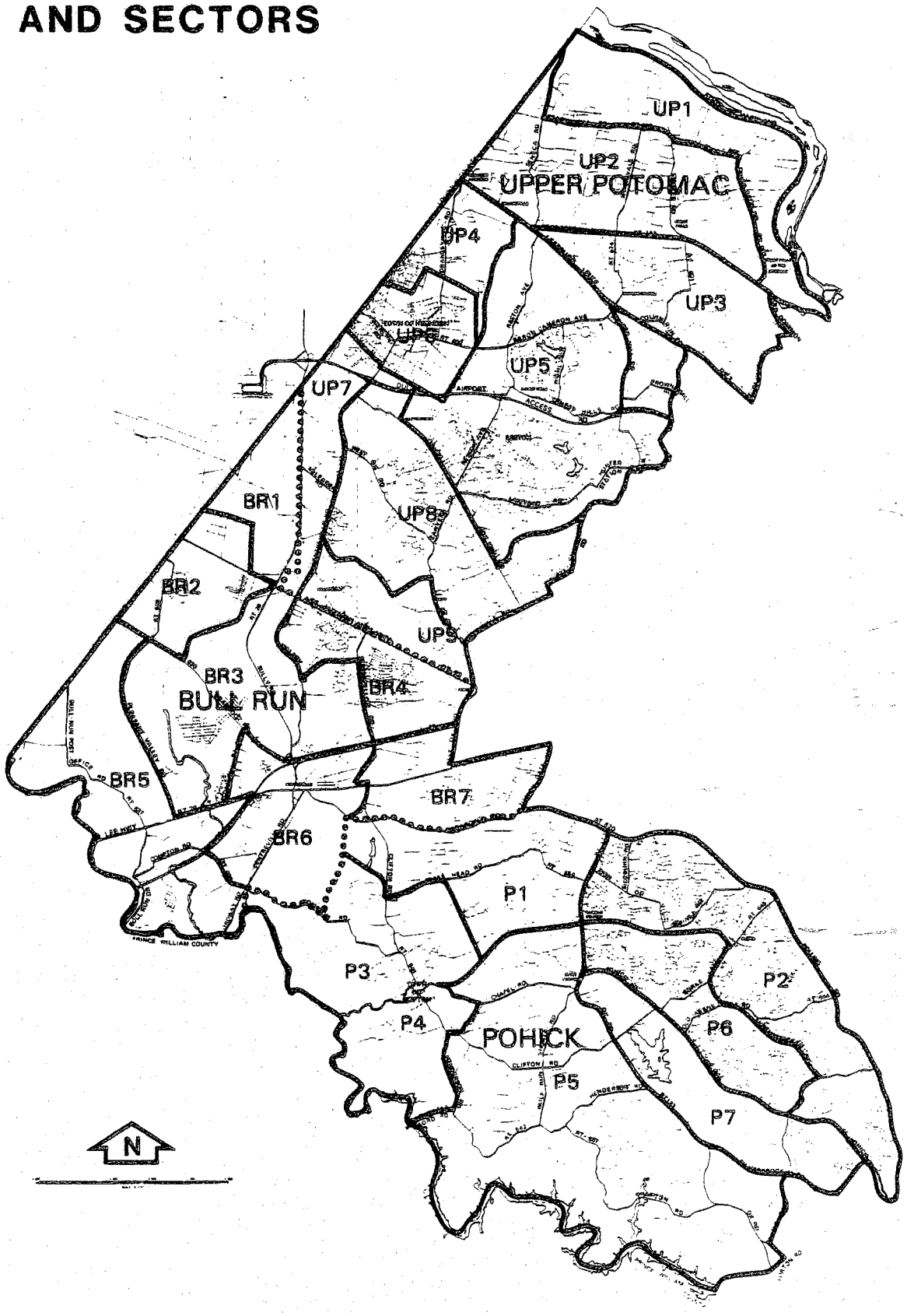
As has been discussed in the introduction section of the Plan, countywide forecasts of population to 1990 have been lowered to 686,000. This new forecast is based on demographic trends which were observed during 1976 and verified in more recent work done for the Metropolitan Washington Council of Governments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

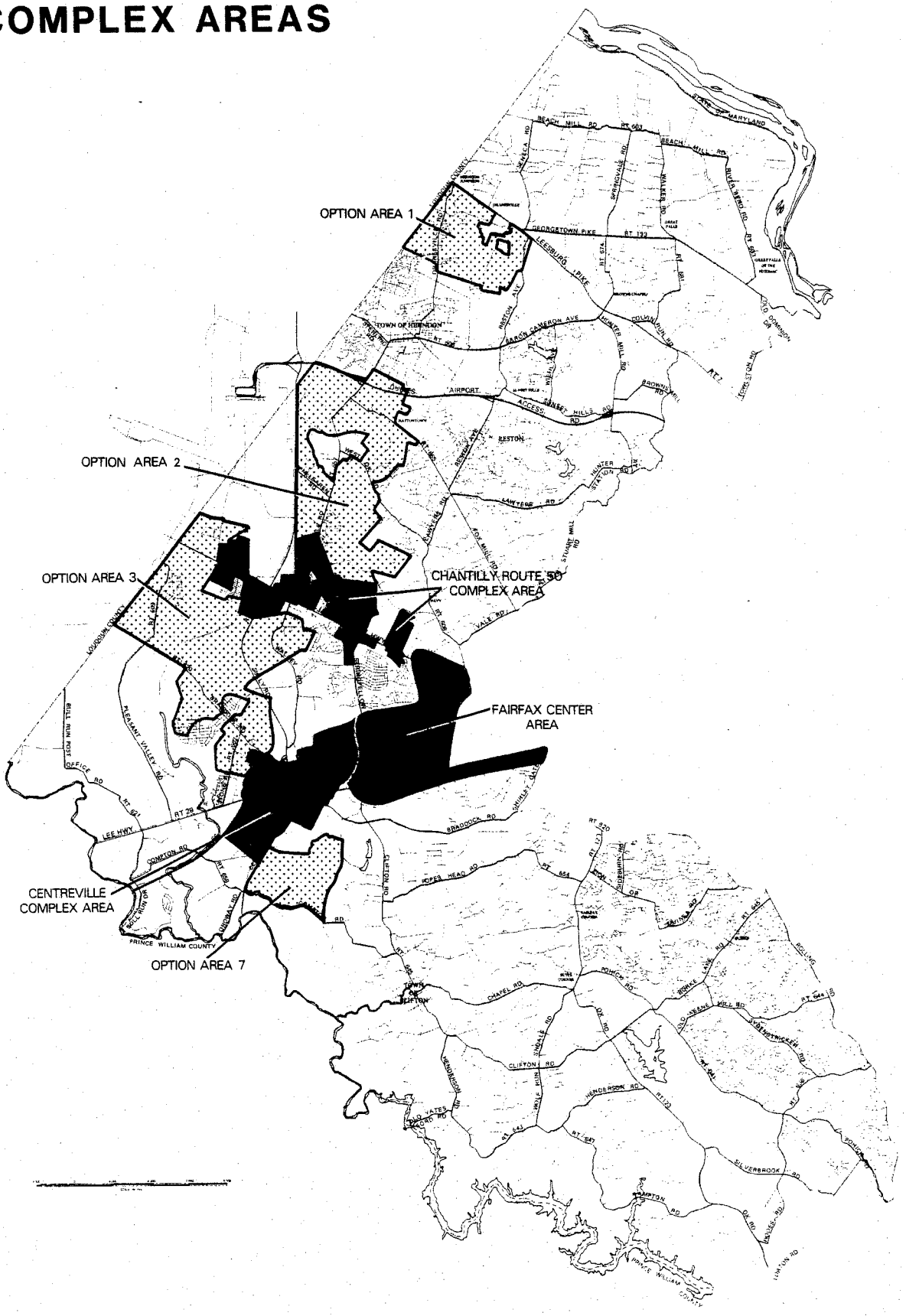
To augment the data found in *Standard Reports*, detailed existing housing estimates as of January 1983, and newly developed data on plan capacities in housing units are presented in the following tables. The tables also include dwelling units as of January 1, 1975. This is approximately the time the 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



AREA III OPTION AND COMPLEX AREAS



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, 3-4	100% SFD
4-5	50% SFD/50% TH
5-8	100% TH
8-12	50% TH/50% GA
12-16, 16-20	100% GA
20 or more	100% EA
(e.g. 20-40 du/ac)	(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	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	13,834	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	142,367	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	2,645	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	6,682	6,649
Sector BR5						
Single Family Detached	126	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	679	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	2,616	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	1,687	1,666
Apartment		6	4		4	6
Total	300	475	483	1,208	1,691	1,672
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	28,626	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	183	351	365	416	781	776
Sector UP2						
Single Family Detached	584	1,192	1,223	1,410	2,633	2,614
Apartment	1					
Total	585	1,192	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	1,263	381	1,644	1,650
Apartment	1,429	1,492	1,492	1,216	2,708	2,742
Total	3,019	4,551	4,603	3,691	8,294	8,352
Sector UP7						
Single Family Detached	137	283	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	567	2,893	3,127	5,827	8,954	9,082
Total	567	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)[1] 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 probably 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*.

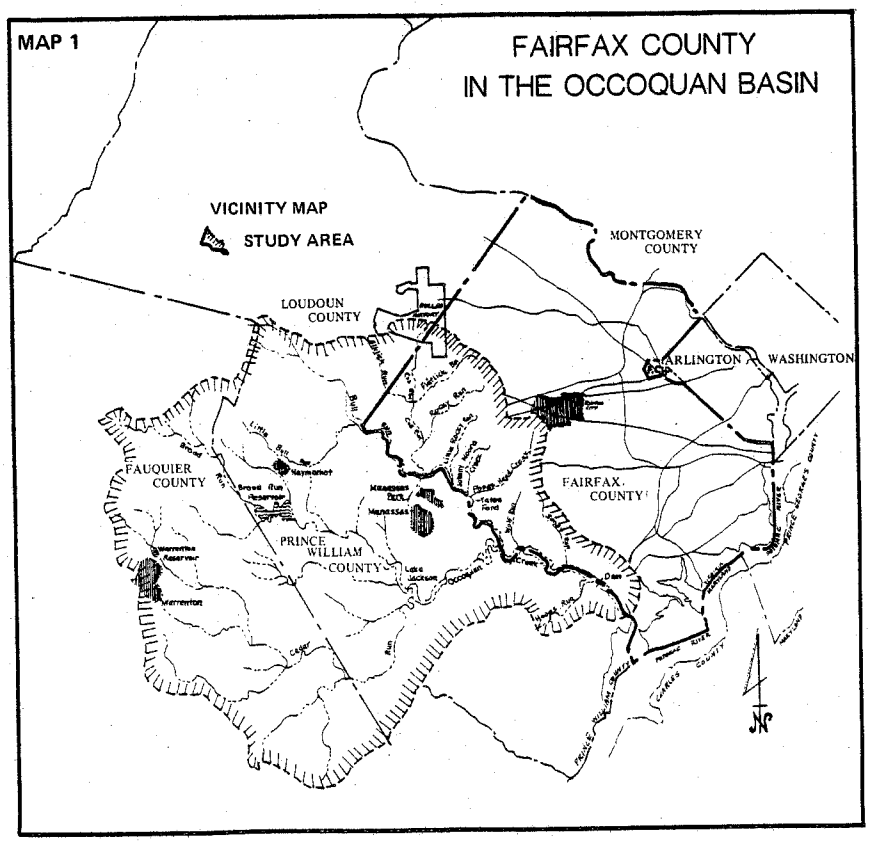
In order to meet the water quality goal adopted pursuant to the *Occoquan Basin Study*, phosphorus runoff from the Fairfax County portion of the Occoquan watershed should not exceed 25,100 pounds per year in a year of average wetness. For the purpose of this strategy, phosphorus has been chosen to represent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



[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.

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

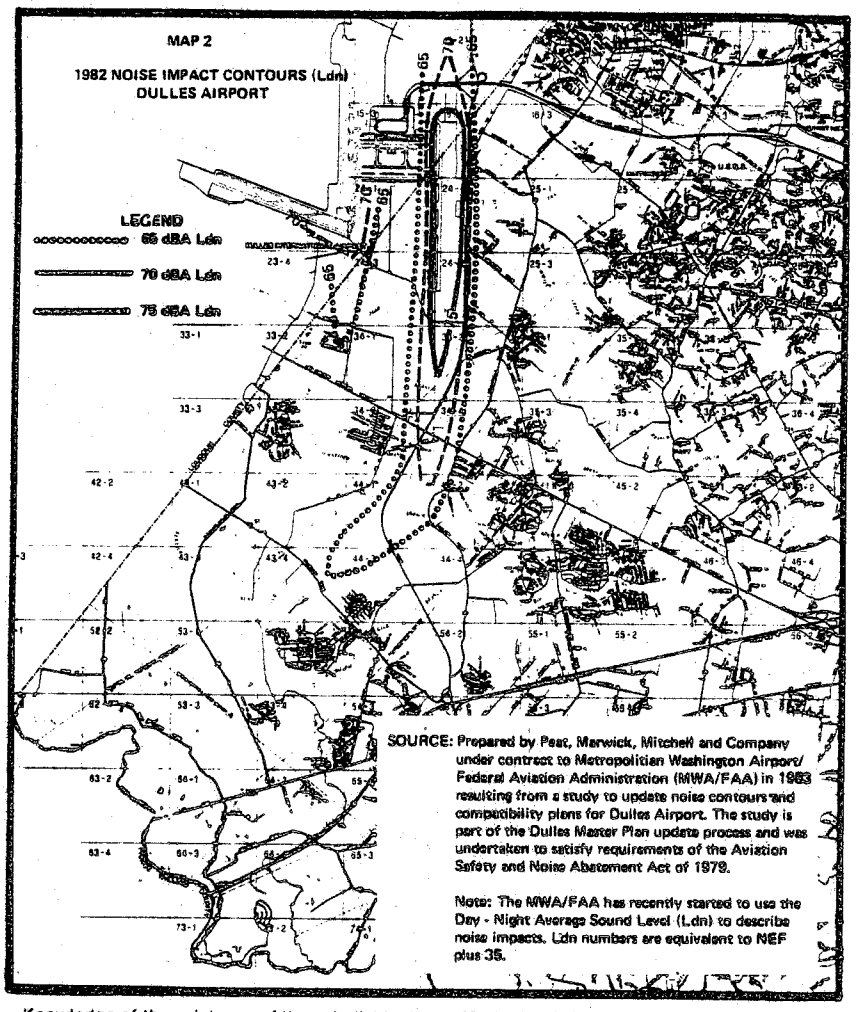
The Adverse Health and Welfare Effects of Aircraft Noise

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.

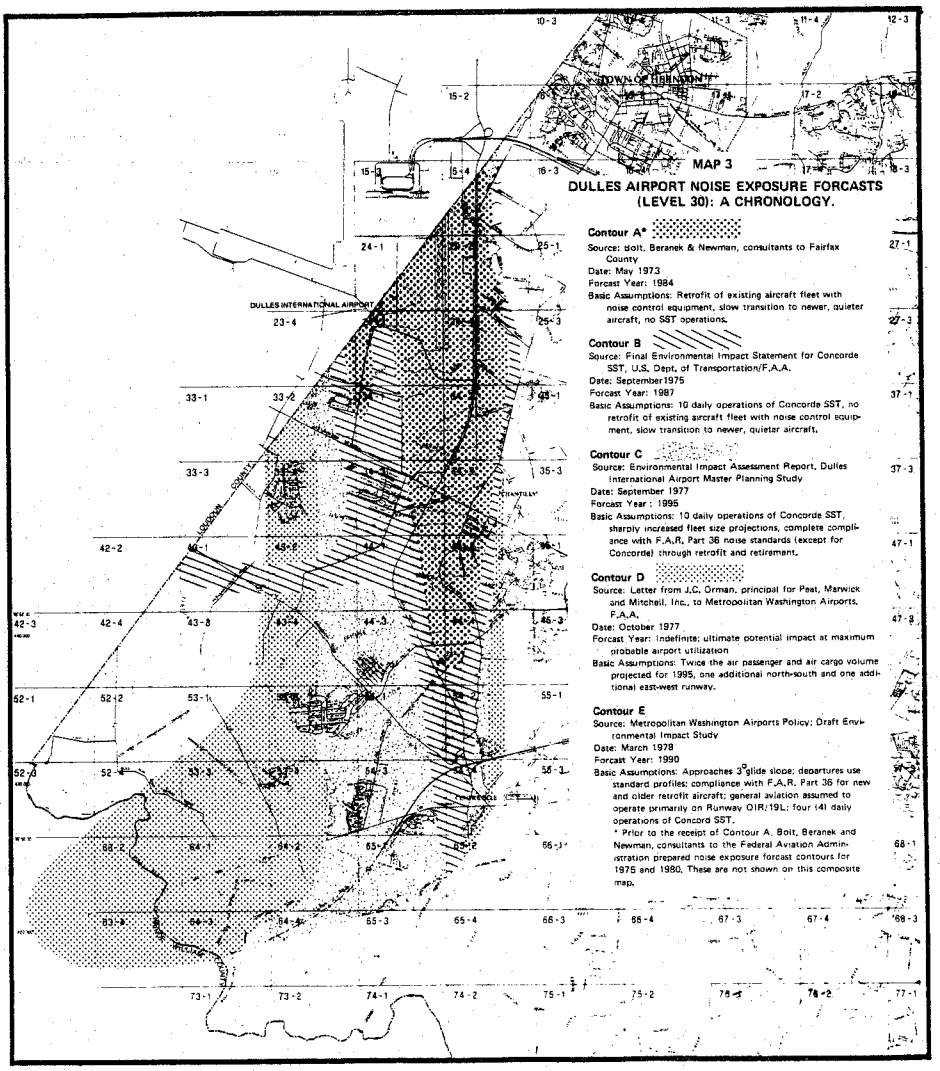
Chronology of Noise Exposure Forecast Contours Developed for Dulles International Airport

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.

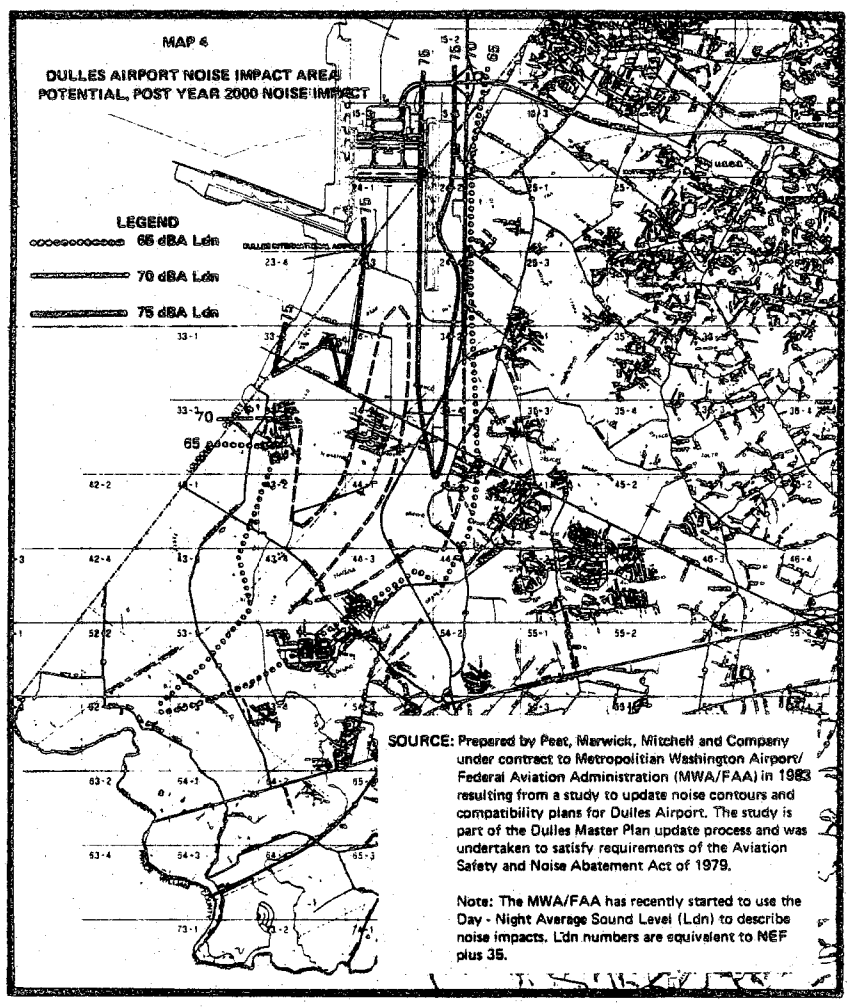
In July of 1978, the County received a set of contours which appeared in the *Final Environmental Impact Statement Noise Regulation and Type Certification Alternatives for Civil Supersonic Aircraft, June 1978*.

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, MWAA-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 MWAA-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 delination 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 othe municipal needs in noise-impacted areas. These standards are intended to 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:

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.

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.

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 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

*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.

*These acoustical treatment requirements are also applicable to "offices, personal business and professional services, retail commercial uses, movie theatres, restaurants" in the 75[5] dBA Ldn, "educational and institutional uses" as well as "hotels and motels" in the 70-75 dBA Ldn range.

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:

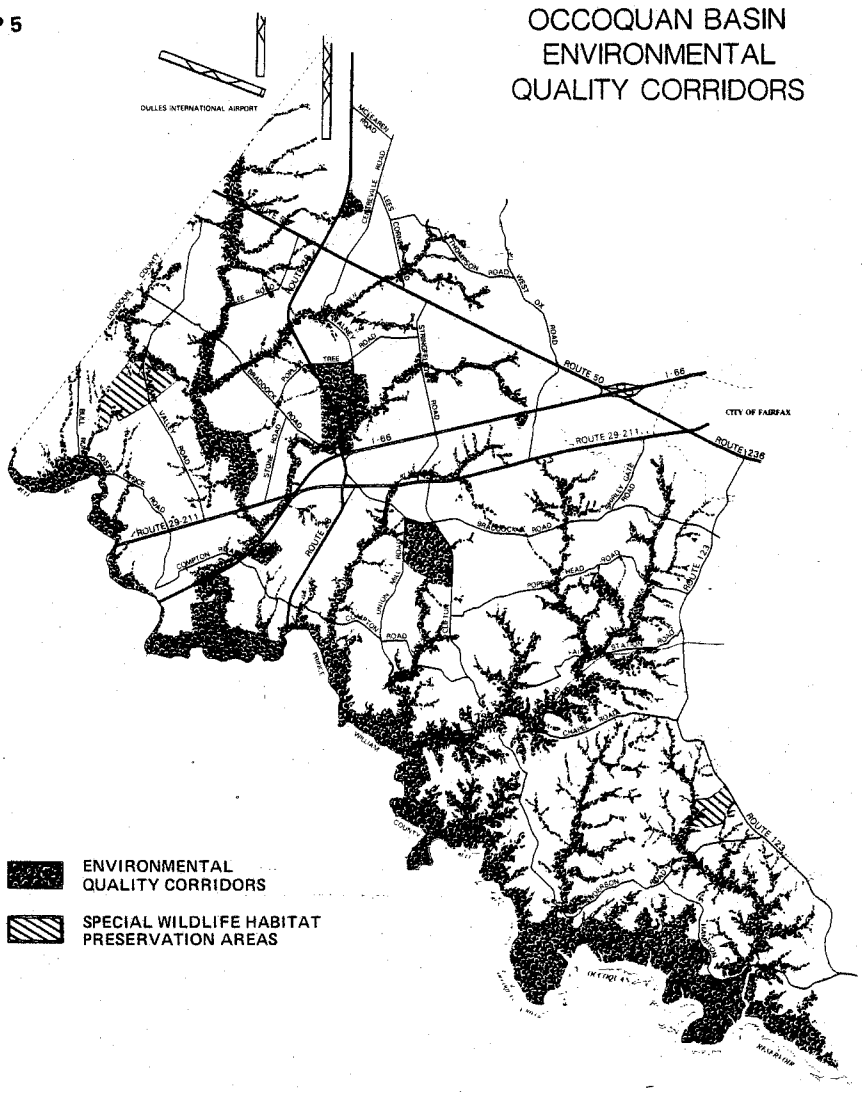
1. full disclosure has been made to the prospective purchaser that the subdivision in which the dwelling is located is near the Dulles International Airport and the projected level of aircraft noise is in the 70-75 dBA Ldn range according to the Dulles Airport Noise Impact contours for the post-year 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.

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.

MAP 5



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); 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:

Buffer width = 50 + (4 x percent slope) in feet

2. Resource Protection EQCs of the Occoquan Basin. Publicly owned parks; private conservation areas; County-designated historic sites; 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 Ellanor 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 un-

disturbed 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. Historic sites should be retained in their historic character as determined by the Architectural Review Board and the Board of Supervisors on a case-by-case basis. 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 solution. 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. Inconvenient 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 between 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

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	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	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.

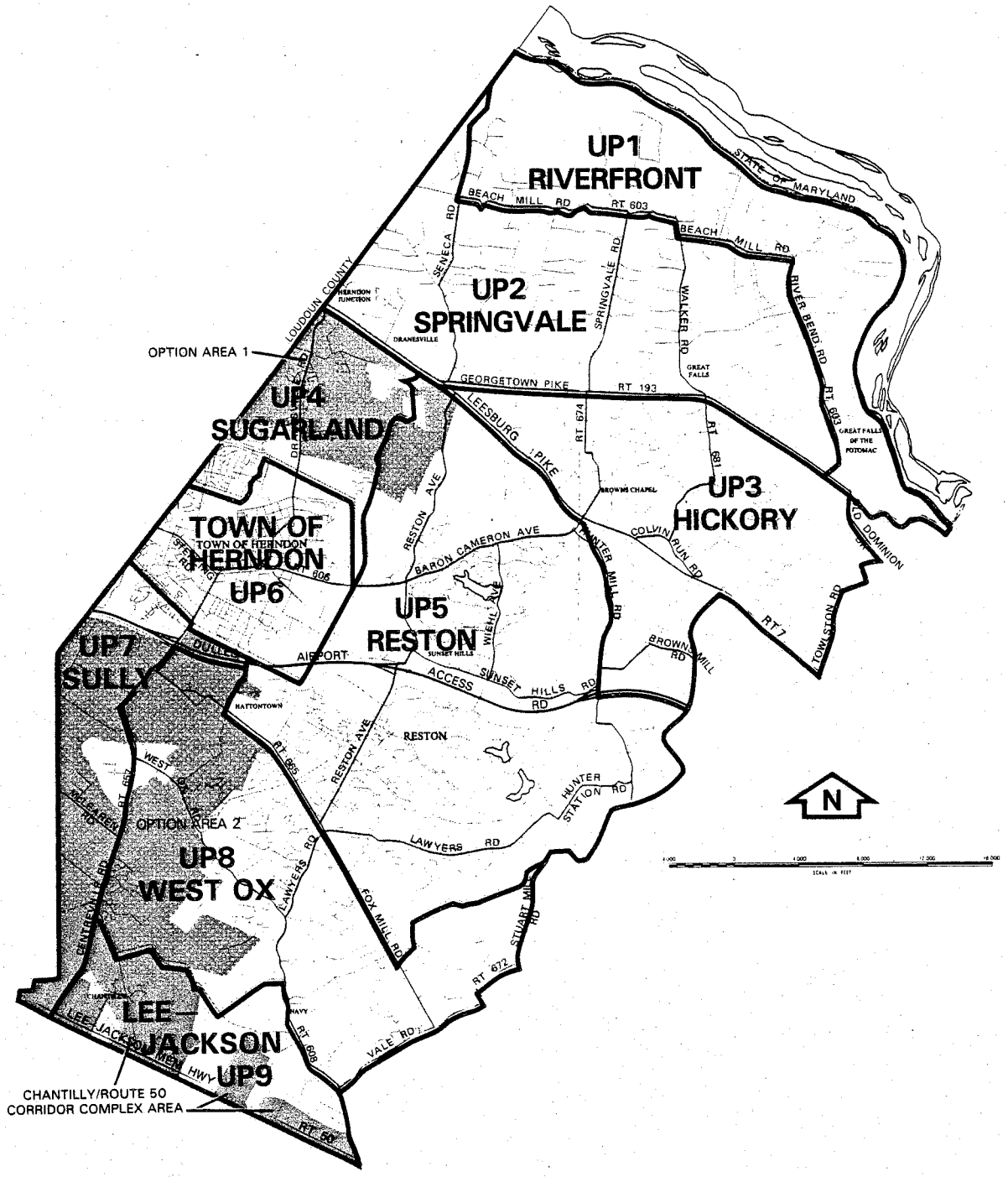
A portion of the stream valley and adjacent land within this Planning District/Planning Sector is within the dam failure impact area for a proposed or existing dam. The extent of development within these impact areas should be minimized in the interest of public welfare and safety. For details on the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

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

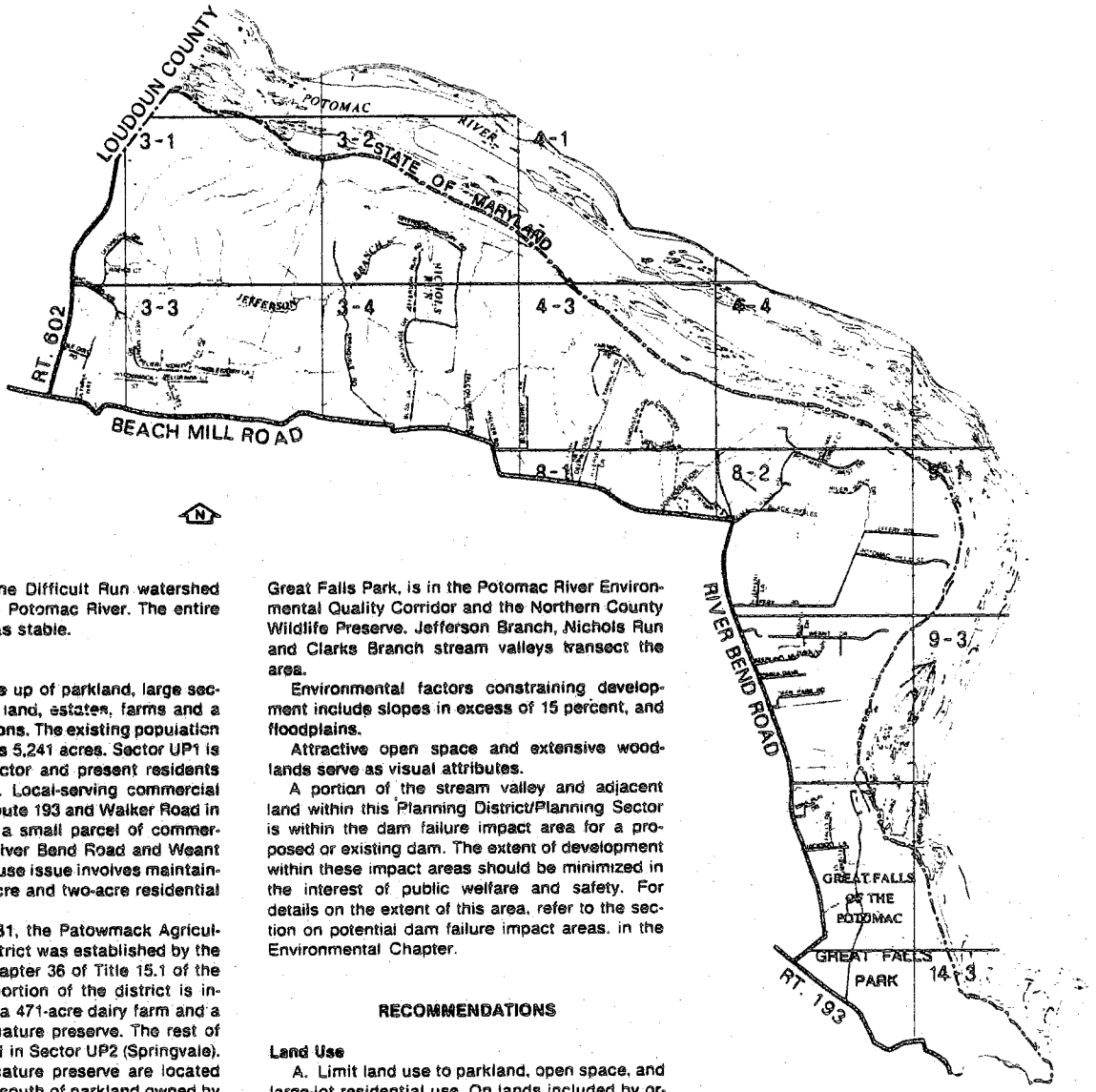
Source: Office of Research and Statistics, January 1983.

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.

Transporation

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 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. 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.

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 existin and planned residential communities in the County.

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

UP2 SPRINGVALE COMMUNITY PLANNING SECTOR

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 consonance 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.

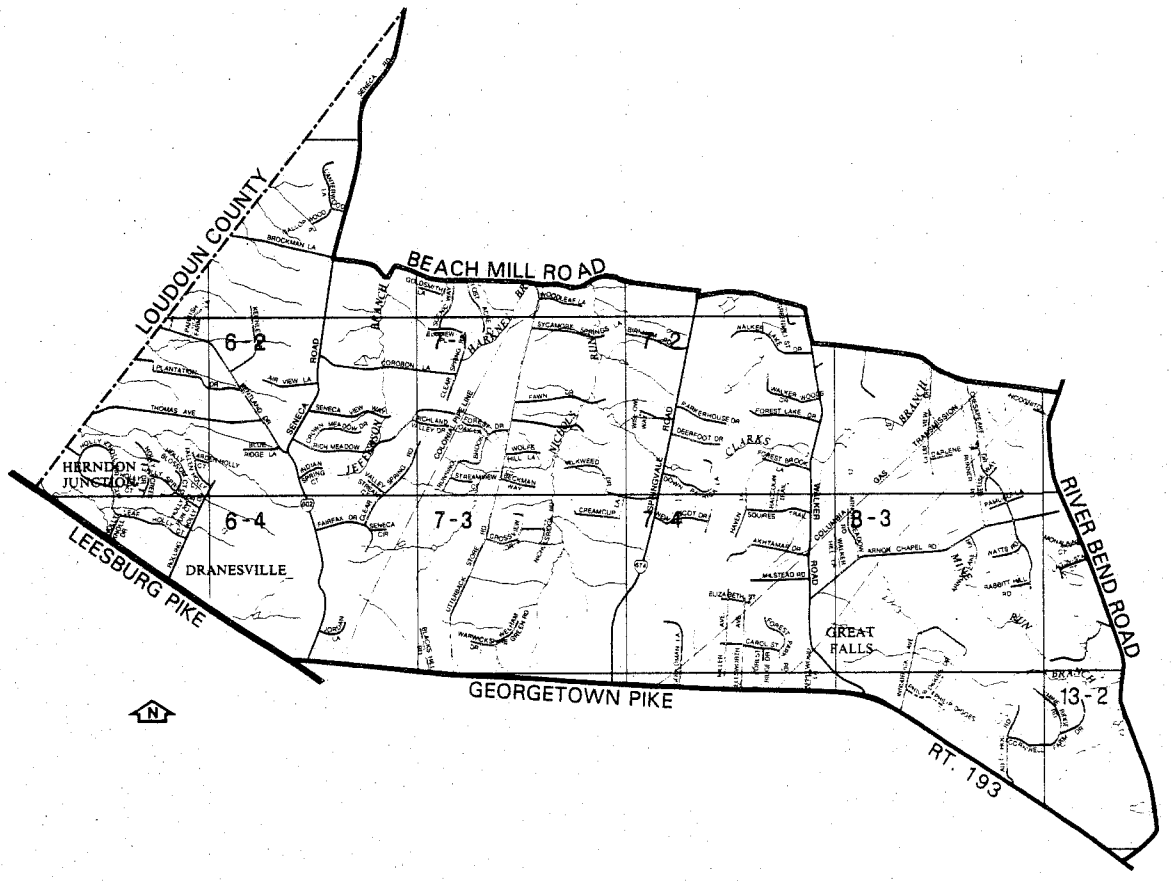
Parks, Recreation and Open Space

The Great Falls Grange and Windermere Parks are located within the sector.

Continued development in this sector will create a need for community parks with active recreation facilities.

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. Prohibit strip commercial uses on Route 7.

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

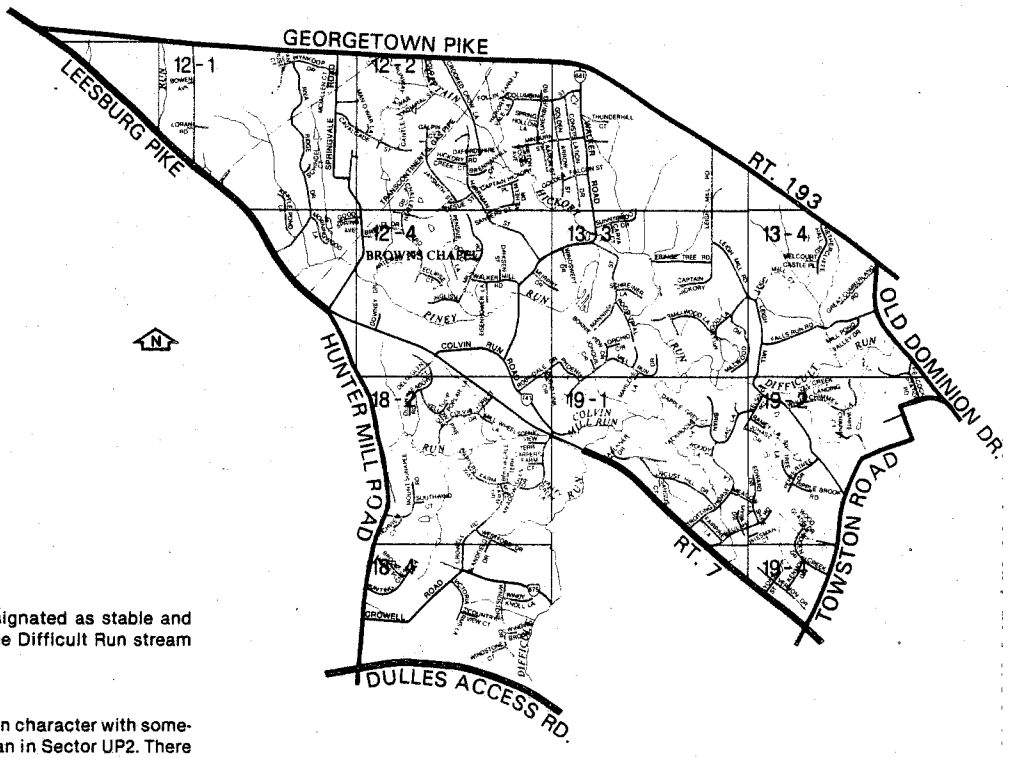
A. In order to provide some low- and moderate-income housing in a semirural environment, it is recommended that land be reserved for low- and moderate-subsidized housing in the vicinity of land zoned for commercial use at Walker Road and Route 193. The amount of land and density needed are not now recommended.

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.

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, Towlston 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.

E. Prohibit strip commercial uses on Route 7.

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

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 and the majority of it is designated as option area. The area adjacent to Herndon is designated as stable.

Land Use

Recent single-family residential development has occurred in the stable area including Kingston Chase and Stuart Ridge. There are older scattered homes in the Sugarland community. 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.

Transportation

Major roads are Route 7 and Route 228, Dranesville Road. Interior circulation is adequate within the recent subdivisions. Stuart Road, providing access to Stuart Ridge, is marginally adequate.

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

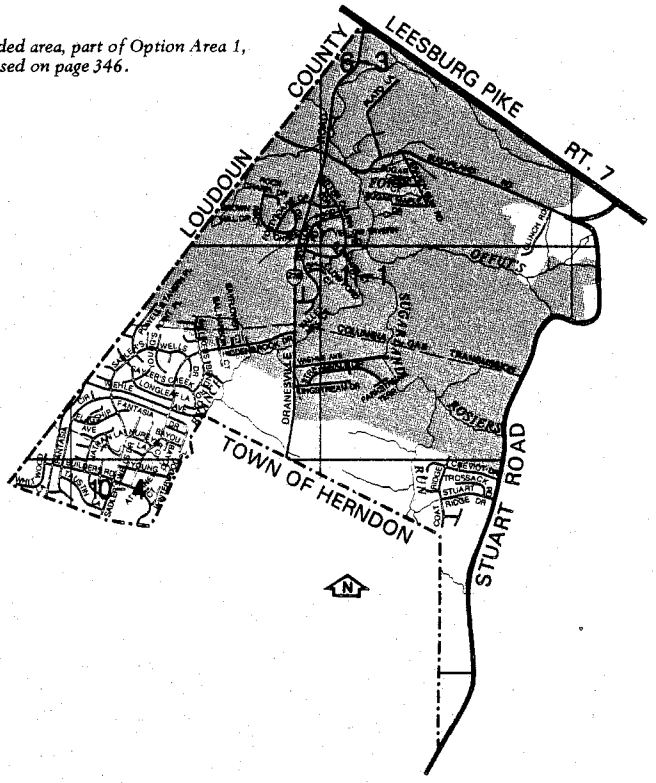
The Dranesville Tavern, Folly Lick Run Stream Valley and Sugarland Run Stream Valley Parks are located within the sector.

Other Public Facilities

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

Environment

The environs of Sugarland Run and its tributaries are the major environmental features in the sector.



The shaded area, part of Option Area 1, is discussed on page 346.

RECOMMENDATIONS

Land Use

A. Residential density no greater than 3 dwellings per acre, which is compatible with existing development. The area in Reston should conform to the Reston Master Plan.

B. Cluster residential development to preserve open space.

C. Commercial uses serving future development in the sector should be located at existing commercial sites in Herndon and Loudoun County at Route 7 and in a planned north Reston village center.

D. Prohibit strip commercial uses on Route 7.

E. 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. Protect the Sugarland Run stream valley, partly by dedication. This stream valley includes Folly Lick 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

Dranesville Tavern Historic District

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 freestanding 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 installd 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

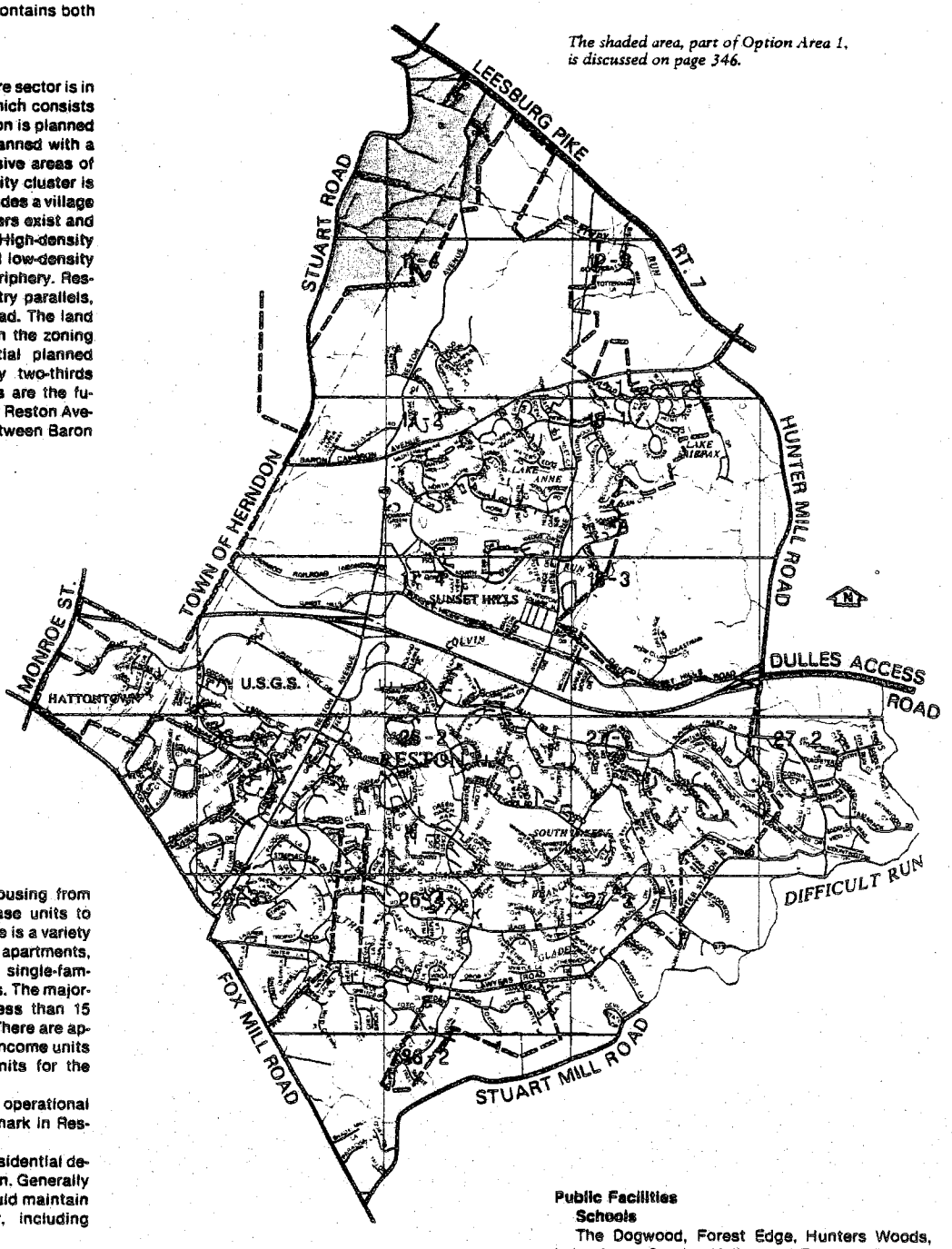
A. The transportation recommendations for this sector are included in the Transportation section of the Plan.

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.



The shaded area, part of Option Area 1, is discussed on page 346.

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,
- constructing the Wiehle Avenue bridge and completing a north-south facility from Route 7.

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.

Parks, Recreation and Open Space

The Baron Cameron, Foxmill, Lake Fairfax, 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.

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 as 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.

Land on the periphery of Reston is recommended as follows:

C. .5-1 dwelling units per acre between Piney Run and Route 7;

D. The area between Reston, Baron Cameron Avenue, Route 7 and Piney Run in two parts:

1. approximately 75 acres fronting on Baron Cameron Avenue between the Reston boundary and Lake Fairfax Drive at 2-3 dwelling units per acre;

2. the remaining part of this area at .5-1 dwelling unit per acre.

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

F. 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 northwesterly 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.

G. 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.

H. 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.

I. The area between the Dulles Airport Access Road, Difficult Run and the eastern edge of Reston (with Hunter Station Road being the appropriate southern boundary) is recommended for .5-1 dwelling unit per acre.

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

K. 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 +), 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

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

RESTON COMPREHENSIVE PLAN

LAND USE

- **LOW DENSITY RESIDENTIAL**
  3.8 Pers. Gross Res. Acre
  Single-family Townhouses
- **MEDIUM DENSITY RESIDENTIAL**
  14 Pers. Gross Res. Acre
  Single-family, Townhouses, Garden Apartments
- **HIGH DENSITY RESIDENTIAL**
  50 Pers. Gross Res. Acre
  Townhouses, Garden Apartments, High-rise Apartments
- **INDUSTRIAL AREA**
- **TOWN CENTER**
- **VILLAGE CENTER**
- **CONVENTION/CONFERENCE CENTER**
- **CONVENIENCE CENTER**
- **SPECIAL STUDY AREAS**
- **OPEN SPACE**

TRANSPORTATION

- **RAPID RAIL TRANSIT LINE**
- **METRO STATIONS**
- **BUS ON FREEWAY**
- **WIDEN OR IMPROVE ARTERIAL ROADWAY**
- **CONSTRUCT ARTERIAL ON NEW LOCATION**
- **CONSTRUCT COLLECTOR ON NEW LOCATION AS DEVELOPMENT OCCURS**
- **FULL OR PARTIAL INTERCHANGE OR INTERCHANGE IMPROVEMENT**

PUBLIC FACILITIES

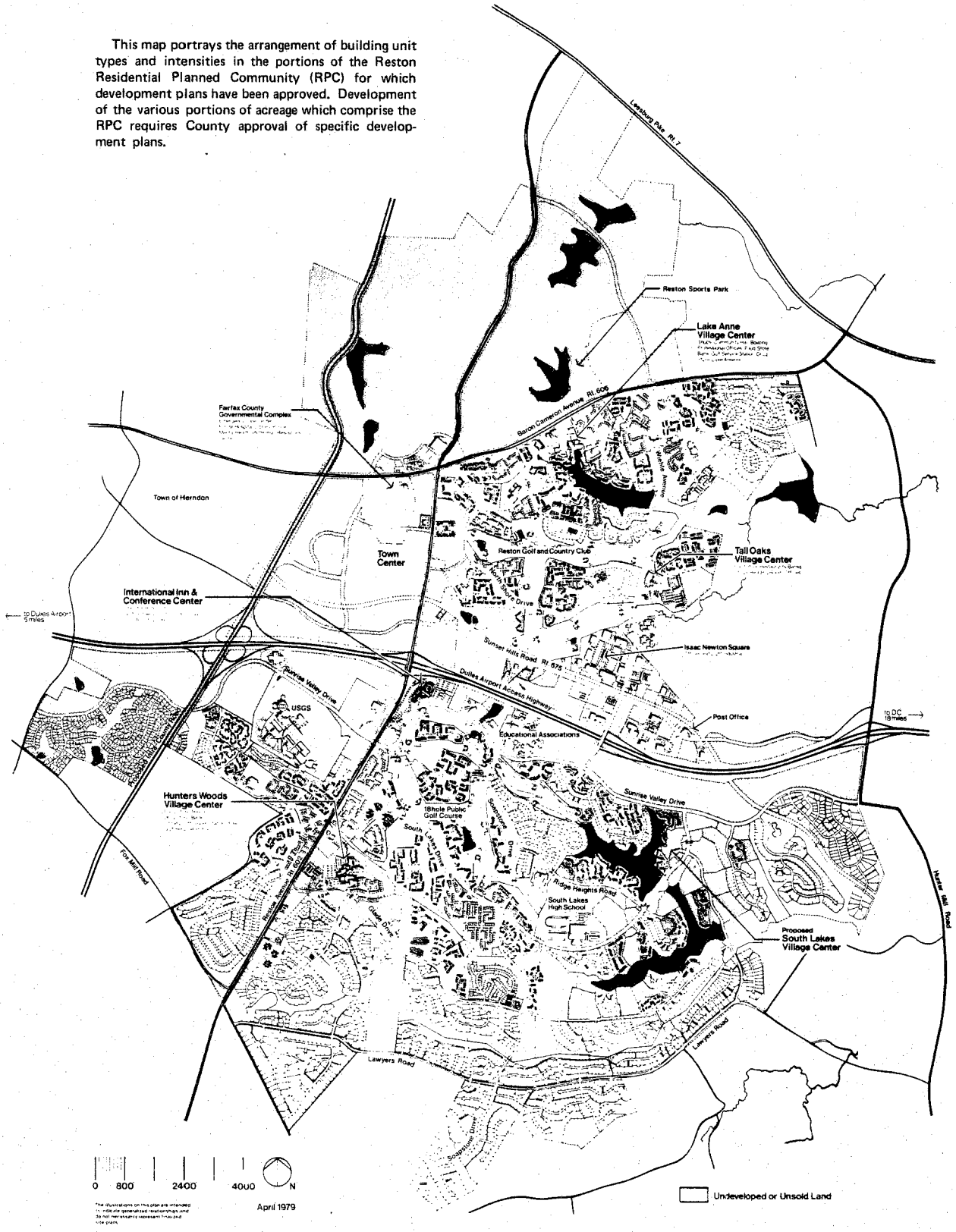
	EXISTING	PROPOSED*
PARK	[P]	(P)
FIRE STATION	F	(F)
LIBRARY	L	(L)
GOVERNMENT CENTER	G	(G)
COMMUNITY CENTER	CC	
COUNTY HEALTH FACILITY		(CH)
HISTORIC SITE	H	
SCHOOLS		
ELEMENTARY	●	○
INTERMEDIATE	■	□
HIGH	▲	△
POST OFFICE	PO	

*Proposed facilities not specifically located. The letters indicate needed facilities in the area.

The Reston 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.

RESTON DEVELOPMENT PLAN

This map portrays the arrangement of building unit types and intensities in the portions of the Reston 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.



Courtesy of Reston

compatible with the established development patern 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.

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

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

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

O. 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.

P. 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.

Q. 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.

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.

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.

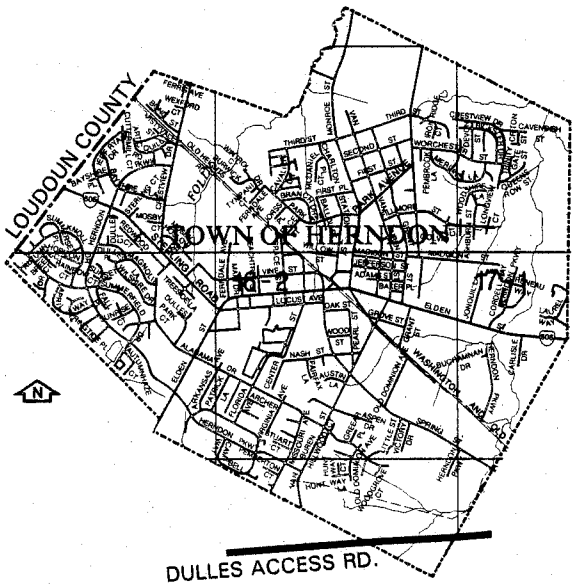
6. The use of adequate buffers, landscaping and substantial building setbacks should be provided to preserve the present character of this area when viewed from collector and minor arterial roads.

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

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.

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, option and complex areas.

Land Use

Previous plans indicate that 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 stable area 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.

Transportation

Major access roads in the sector are Centreville Road and McLearen Road. Growing through-traffic on Centreville Road impacts residential areas, especially Floris.

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.

Environment

The major environmental features in the sector are the Horsepen Run and Frying Pan Branch stream valleys.

RECOMMENDATIONS

Land Use

A. 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 nonlocal 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.

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

C. Residential development should be clustered in order to preserve open space.

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

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

F. See the Introduction to the Area III section of the Plan for land use planning policies for the Dulles Airport Noise Impact Area.

Public Facilities

Parks, Recreation and Open space

A. Complete development of Sully Plantation Park.

B. Develop active park recreation facilities at Floris Park.

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. Preserve open space by clustering residential development.

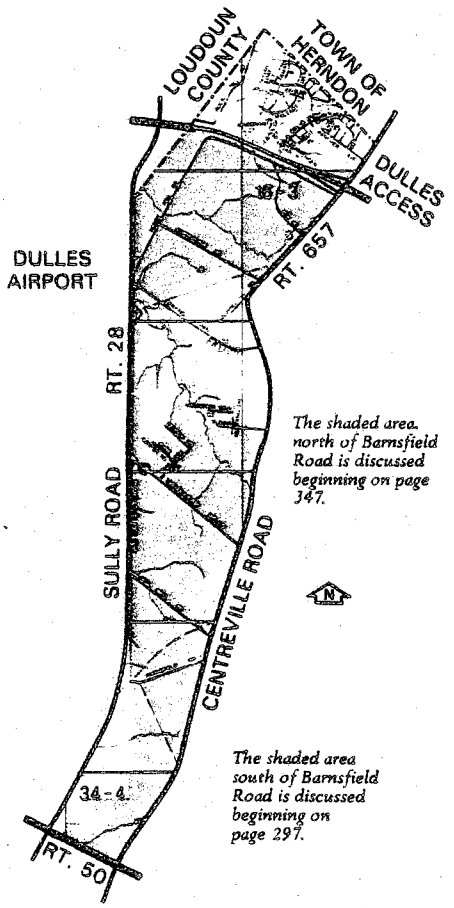
C. A historic district should be studied for the area around Frying Pan Church, so that development in the immediate environs of the site will be subject to special provisions and review of the Architectural Review Board.

History

Sully Historic District

A. 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.

B. 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.



Additional land use policies for the area along Sully Road and Centreville Road are discussed on page 352.

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). The area south of Reston and in the Difficult Run stream valley is designated stable and the area near Dulles Airport and Chantilly is designated as an option area.

Land Use

A pattern of moderate-density residential use has been established in most parts of the stable area, 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. 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 in the stable area of this sector to preserve the existing development and to prevent encroachment of higher density development from Reston and Chantilly.

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 has been considered in the past for improvement to four lanes to provide a major north-south artery between Reston and Route 50/I-66. However, a four-lane facility could have an adverse impact on residential development which is close to the right-of-way. Realignment of some segments (e.g., from Vale Road to Route 50) could ameliorate this impact.

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: 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.

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.

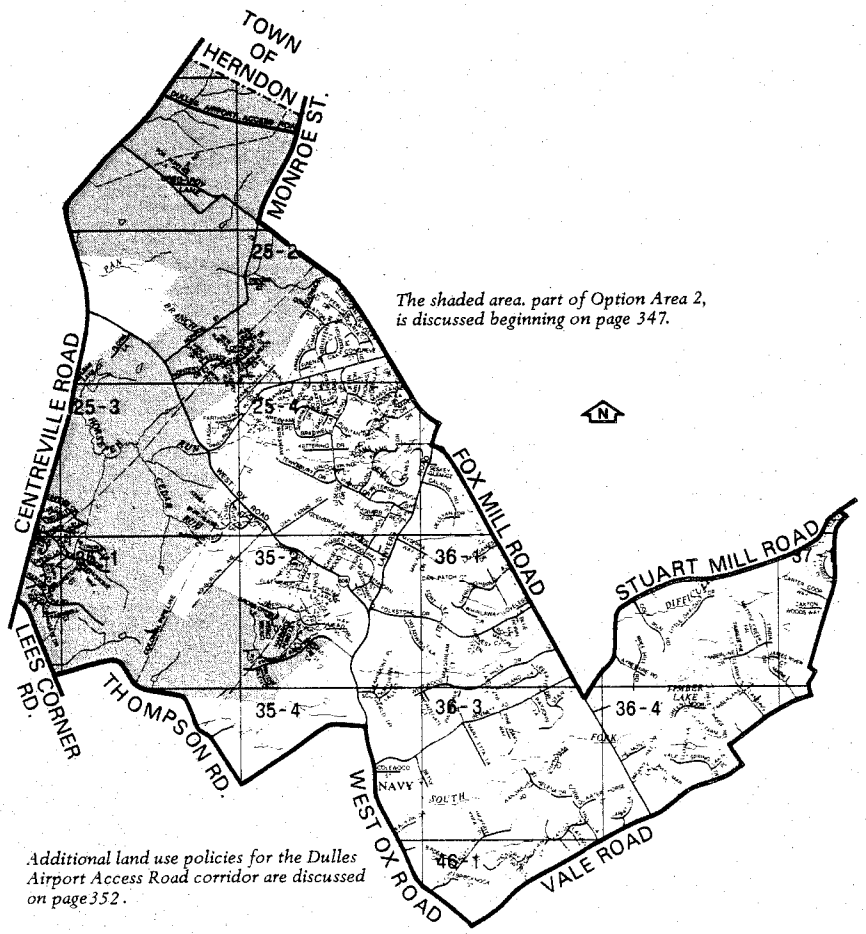
Floodplains and associated shallow bedrock depth pose some constraints to development. The area contains soils with relatively good bearing capacity but severe erodibility.

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.



The shaded area. part of Option Area 2, is discussed beginning on page 347.

Additional land use policies for the Dulles Airport Access Road corridor are discussed on page352.

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 Plan. These apply to affected lands in this sector in addition to the sector recommendations listed below.

Land Use

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

A. The area between Fox Mill Road, Option Area 2, Lawyers Road, and West Ox Road is recommended for 1-2 dwelling units per acre.

B. The area bounded by Fox Mill Road, Bennett Road, West Ox Road, Thompson Road, Option Area 2, and Lawyers Road is recommended for .5-1 dwelling unit per acre.

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.

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

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 Pinecrest 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/Pinecrest 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, including special exception uses and special permit uses should not be permitted.

F. Upon 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.

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 Clarkes Landing Park (formerly Timberlake Park) with recreational facilities to serve Clarkes 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. 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. 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.

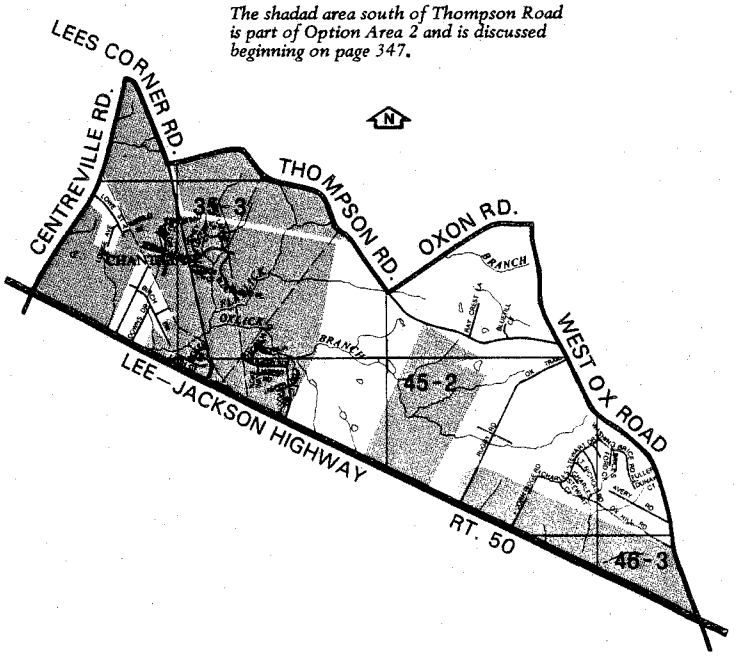
Transportation

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

UP9 LEE-JACKSON COMMUNITY PLANNING SECTOR

The shaded areas to the left along Route 50 are part of the Chantilly-Route 50 Corridor Complex Area which is discussed beginning on page 297.

The shadad area south of Thompson Road is part of Option Area 2 and is discussed beginning on page 347.



Additional land use policies for the area at Route 50 and Centreville Road are discussed on page 352.

The shaded area on the right is part of the Fairfax Center Area and is discussed beginning on page 299.

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.

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.

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 arteries 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 historic sites, 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

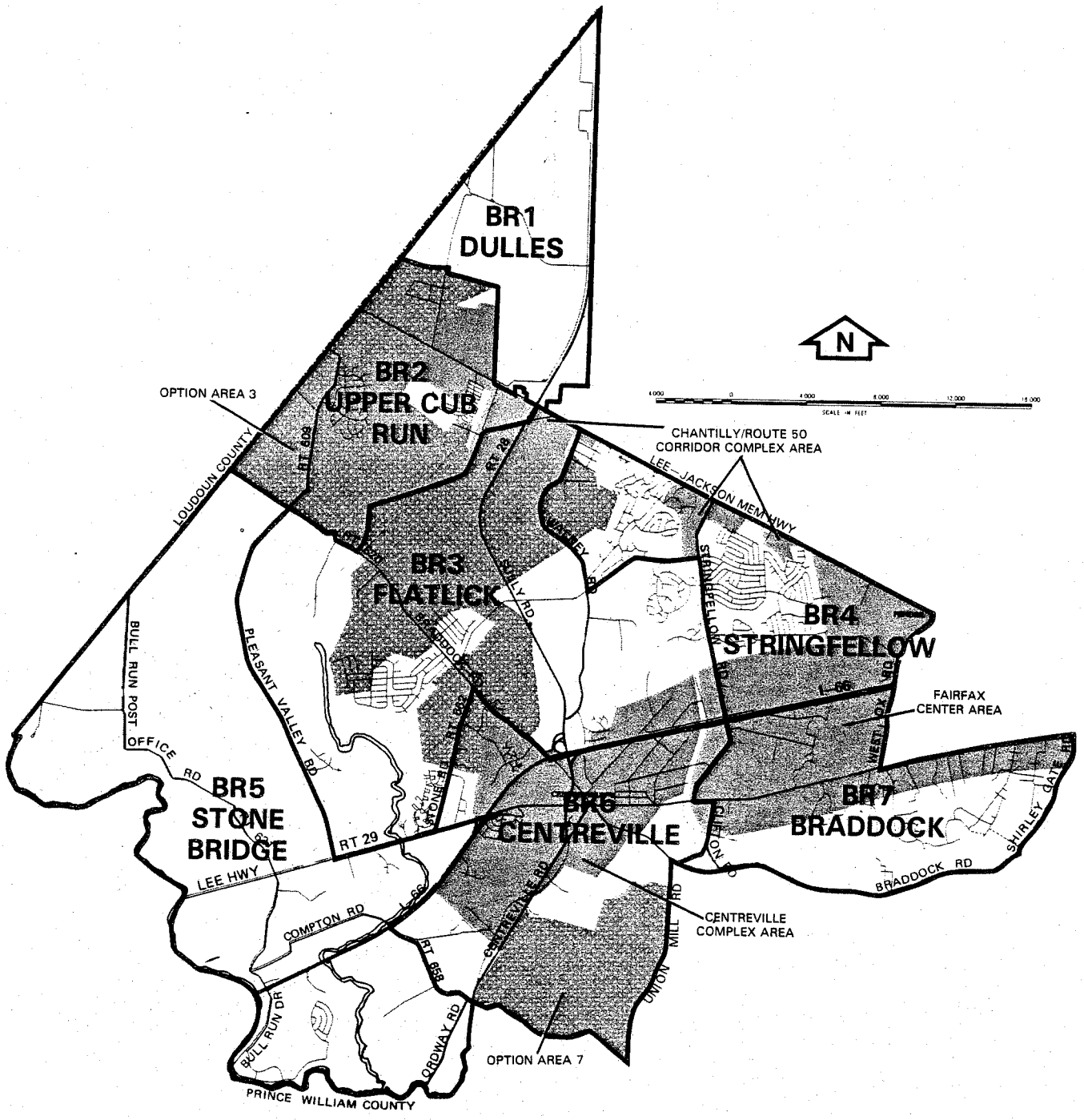
Unit Type	Existing (1983)		Estimated Additional		At Buildout	
	Number	Percent	Number	Percent	Number	Percent
Single-family	6,233	71.5	17,374	55.8	23,607	59.2
Townhouse	2,186	25.1	7,026	22.5	9,212	23.1
Apartment	296	3.4	6,766	21.7	7,062	17.7
Total	8,715	100.0	31,666	100.0	39,881	100.0

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



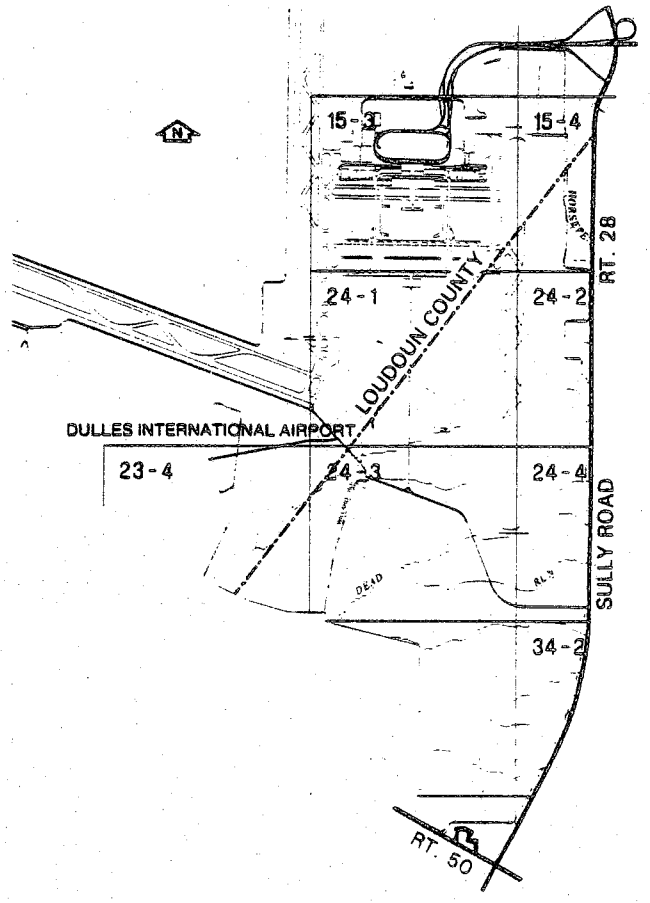
BULL RUN PLANNING DISTRICT

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.

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

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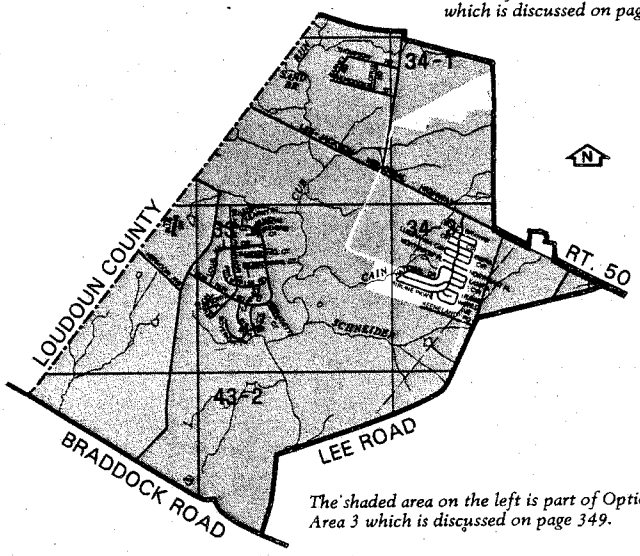


The shaded area on the left is part of Option Area 3 which is discussed on page 349.

Additional land use policies for the area south Dulles Airport are discussed on page 352.

This secctor is designated entirely as an option area except for the Friendly Village mobile home park which consists of approximately 100 acres south of Dulles Airport.

Land Use

Dulles Friendly Village mobile home park was established in the late 1960s and is located in the Dulles Airport Noise Impact Area, mostly within the 35 NEF and above contour area.

Local-serving 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.

Environment

This sector is located in the Cub Run watershed. It is transected by Flatlick 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. Dulles Friendly Village should not be expanded because it is located within the 35 NEF and above noise contour area, in which residential use should not be permitted.

B. In the long term, the land which now is the Dulles Friendly Village mobile home park should be planned for industrial use because of the projected severe noise impact and the proximity of the land to the airport and major transportation facilities, Route 50 and Route 28.

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

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.

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.

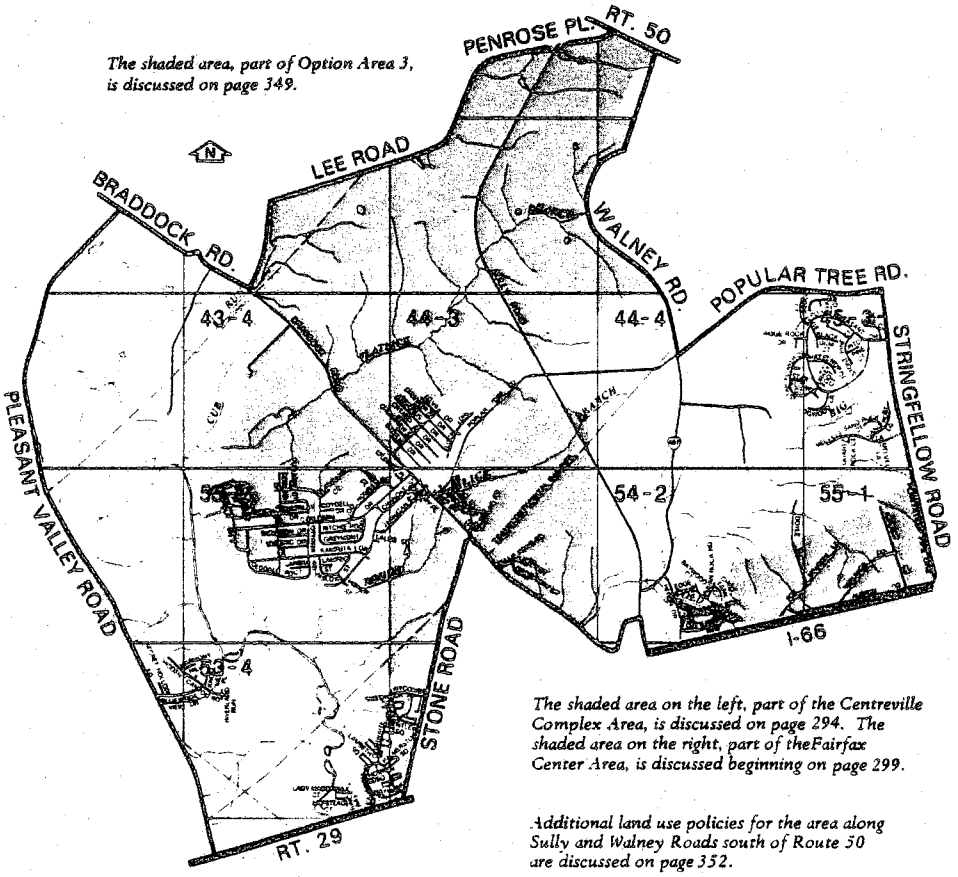
Historic Sites

A. There are numerous prehistoric archaeological sites in the vicinity of Upper Cub Run and Route 50 which should be investigated for inclusion in the EQC system or a historic district for archaeological preservation.

Transportation

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

BR3 FLATLICK COMMUNITY PLANNING SECTOR



The shaded area, part of Option Area 3, is discussed on page 349.

The shaded area on the left, part of the Centreville Complex Area, is discussed on page 294. The shaded area on the right, part of theFairfax Center Area, is discussed beginning on page 299.

Additional land use policies for the area along Sully and Walney Roads south of Route 50 are discussed on page 352.

This sector includes stable areas, portions of Option Area 3, the Fairfax Center Area, the Centreville Complex 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 option and complex areas lying within and adjacent to the sector.

It is important to stabilize residential areas in the immediate vicinity of Country Club Maner 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

The 44 unit Barros Circle community is designated for below-market housing under the public housing program.

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 Ellanor 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 generally located 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.

B. 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.

C. 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 .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 .2 dwelling unit per acre because growth should be concentrated in Centreville and the areas east of Cub Run.

D. 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.

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

F. 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 Chalet 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.

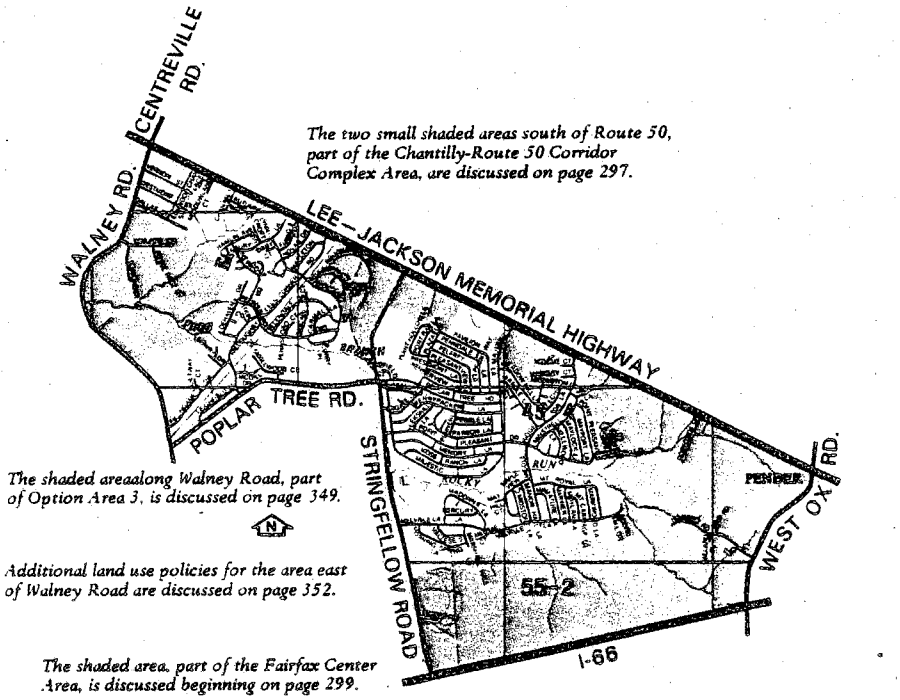
D. Preserve the environmental quality corridor system as described at the beginning of the Area III section of the Plan, including those EQC lands along Flatlick Branch, Roundlick Run, Cold Scent Spring Branch, Cub Run, Big Rocky Run and their tributaries through a variety of implementation methods.

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 Option Area 3, 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: 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

Fifty units of the Chantilly Mews development were provided as below-market housing under the section 8 housing program.

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.

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

B. 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.

C. 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.

D. 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.

E. 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 the Mitchell-Weeks house and original outbuildings 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.

F. 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.

G. 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.

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.

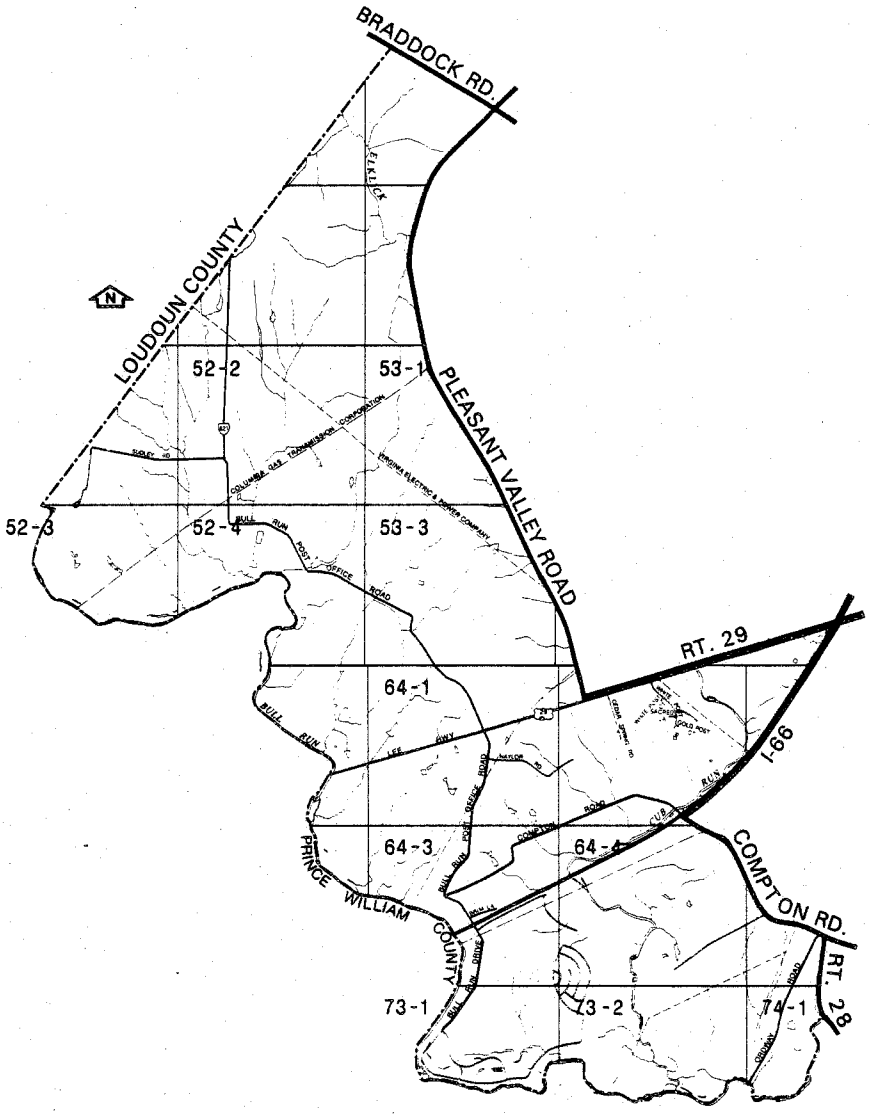
C. Provide highway noise mitigation for noise sensitive land uses so as to ensure a healthful living and working environment in which speech and activity interference is minimized in both interior and exterior areas.

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 beginn ing 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.

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 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 Herndon. 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.

E. The land bounded by Route 29, I-66 and Cub Run opposite London Towne and Center Heights should be planned for residential use at a density of 5-8 dwelling units per acre commensurate with the density of London Towne. This location has excellent access to I-66 and is appropriate for higher density residential development. The upper end of the density range is appropriate only with substantial land consolidation.

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 Elklick 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

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.

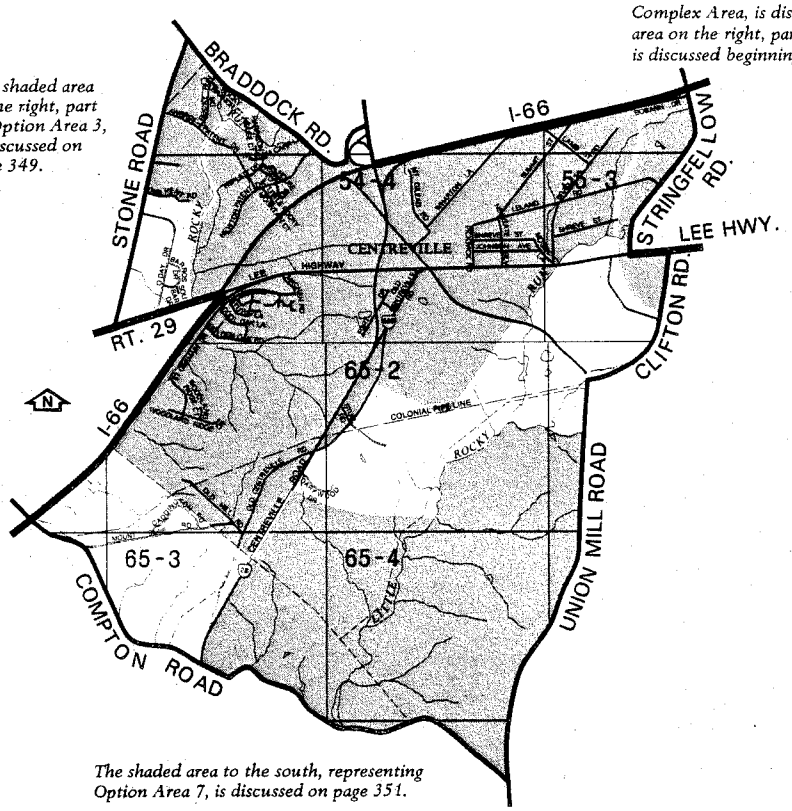
Transportation

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 left, part of the Centreville Complex Area, is discussed on page 294. The shaded area on the right, part of the Fairfax Center Area, is discussed beginning on page 299.

The shaded area to the right, part of Option Area 3, is discussed on page 349.



The shaded area to the south, representing Option Area 7, is discussed on page 351.

This sector includes stable areas, the major portion of the Centreville Complex Area, and portions of Option Area 3, Option Area 7 and 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 Park is 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

Land for 27 units of below-market housing has been proffered in the Newgate development.

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.

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 generally located 1) between I-66, Old Mill Road, Newgate Forest and Route 28 and 2) between 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 higher density uses in the Centreville mixed land use areas.

B. The land between Stone Road, Big Rocky Run and Route 29, which contains Center Heights should be planned for residential use at a density of 5-8 dwelling units per acre commensurate with the density of London Towne. This location has excellent access to I-66 and is therefore appropriate for higher density residential development. The upper end of the density range is appropriate only with substantial land consolidation.

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.

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. Preserve Little Rocky Run stream valley partly through dedication.

B. Acquire parkland along the Big Rocky Run stream valley in accordance with the Fairfax County stream valley policy.

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

D. 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.

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 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.

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.

RECOMMENDATIONS

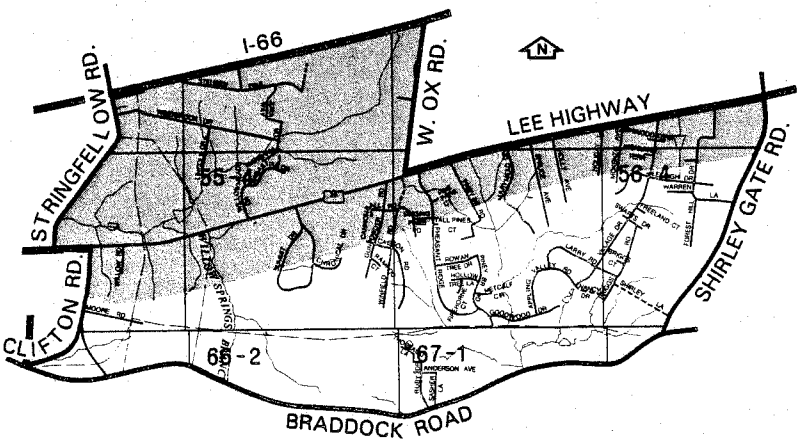
All of this sector is within the watershed of the Occoquan Reservoir. Special recommendations, resulting from the *Occoquan Basin Study*, are presented at the beginning of the Area III section of the Plan. These apply to affected lands in this sector in addition to the sector recommendations listed below.

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.



The shaded area, part of the Fairfax Center Area, is discussed beginning on page 299.

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: Elementary	Schools: Intermediate	Schools: High School	Parks, Recreation and Open Space	Other Public Facilities
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.

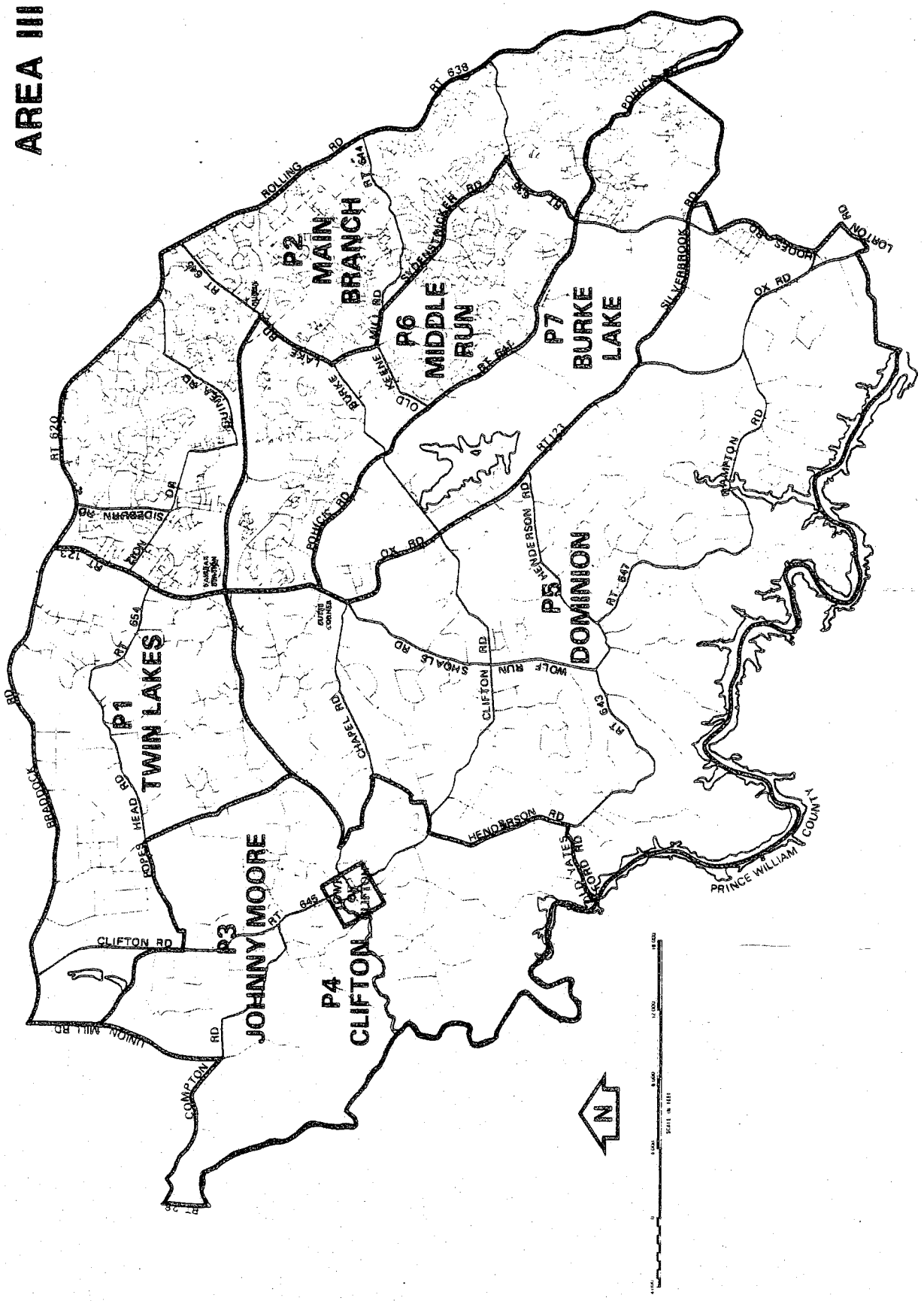
The Pohick Planning District is extremely important from a water quality perspective. The Metropolitan Washington Area 208 Plan specifies that the Occoquan watershed is a critical watershed which should be protected from degradation and indeed public law 92-500 stipulates that by 1985, the nation's rivers 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.

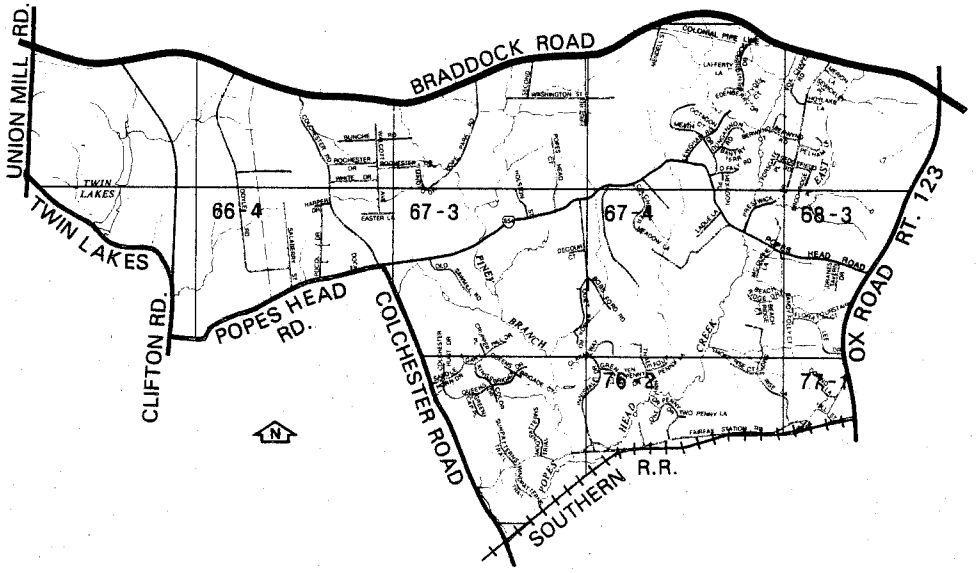
PLANNED RESIDENTIAL INFILL—POHICK PLANNING DISTRICT

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
P1 TWIN LAKES
P2 MAIN BRANCH
P3 JOHNNY MOORE
P4 CLIFTON
P5 DOMINION
P6 MIDDLE RUN
P7 BURKE LAKE
POHICK PLANNING DISTRICT
ROLLING RD
RT 644
RT 638
POHICK RD
SILVERBROOK RD
LORTON RD
OX RD
BURKE LAKE RD
OLD KEENE MILL RD
RT 641
RT 620
SIDEBURN RD
NOKE DR
RT 123
HENDERSON RD
BRAMPTON RD
RT 642
SHOALS RD
WOLF RUN
CLIFTON RD
RT 643
BRADDOCK RD
ROBEY HEAD RD
RT 654
CHAPEL RD
HENDERSON RD
LEE JACKSON MEMORIAL HWY
RT 645
CLIFTON RD
UNION MILL RD
COMPTON RD
RT 28
PRINCE WILLIAM COUNTY
N

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.

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 unit 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. Special permit and special exception uses should not be allowed, except for planned public service needs, 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.

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

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.

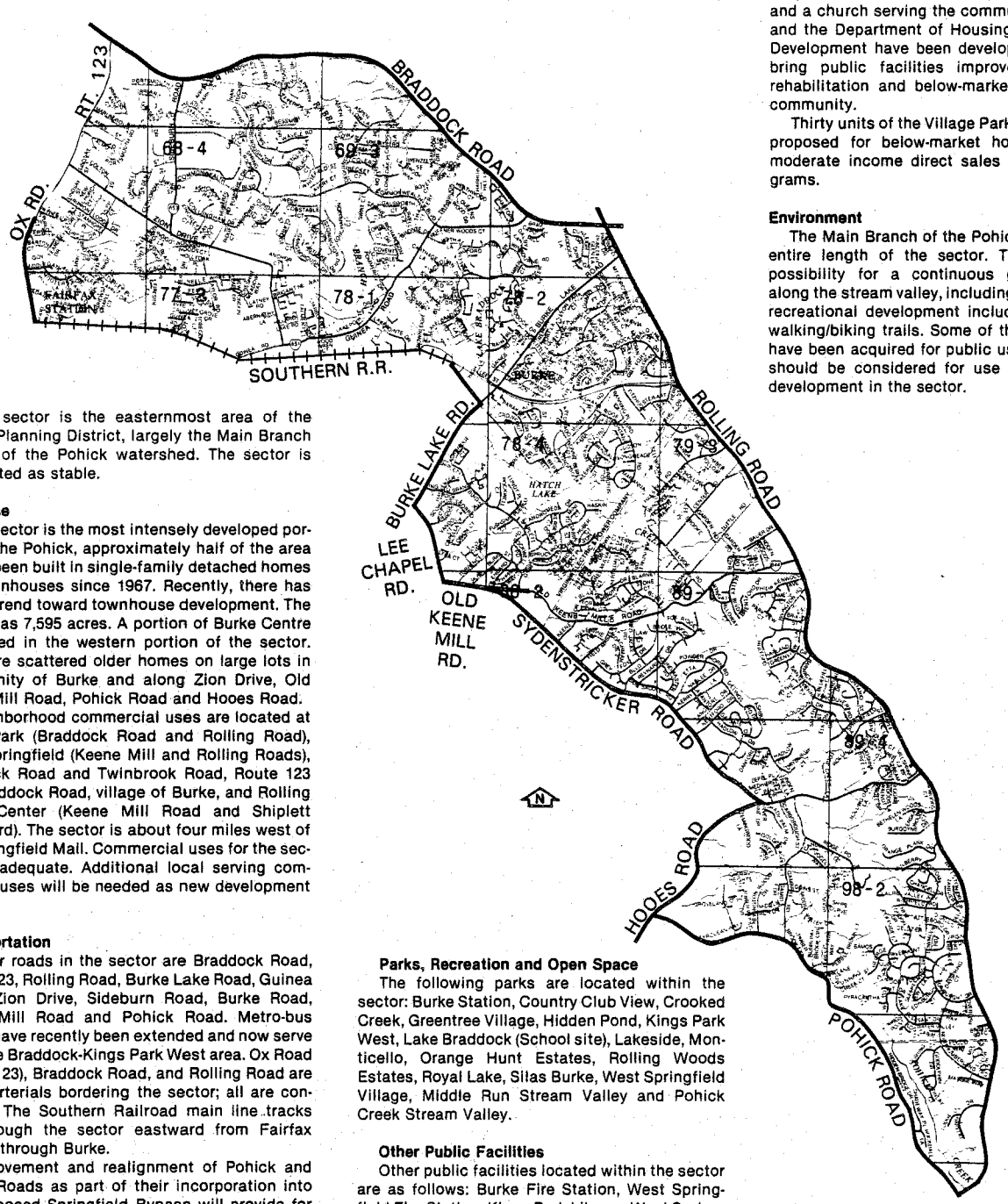
B. Within the historic district, development should be limited to single-family detached dwellings with the exception of the mill which may be used for its historical commercial purpose. All improvements within the district shall be compatible with the historic structures in terms of mass, scale, color 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 Shiplett 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, Greentree Village, Hidden Pond, Kings Park West, Lake Braddock (School site), Lakeside, Monticello, Orange Hunt Estates, Rolling Woods Estates, Royal Lake, Silas Burke, West Springfield Village, Middle Run Stream Valley and Pohick Creek Stream 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.

Thirty units of the Village Park development are proposed for below-market housing under the moderate income direct sales or section 8 programs.

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

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. 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 parcel 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.

Parcels 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.

C. 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.

D. Planned unit development is an option that may be used to achieve a mixture of housing types and to preserve open space.

E. Land between the VEPCO 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.

F. 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.

G. Parcels 79-3 ((4)) 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.

H. 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)) parcel 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.

I. 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.

J. 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 Middleridge 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 living residential environment; and

2. some land must be dedicated for developed recreation/open space uses to serve the area and surrounding development, including Middleridge. 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.

K. 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.

L. 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 parcel 88-2 ((1)) 3 opposite the intersection of Shiplett 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 —Shiplett 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 Shiplett 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 (88-2 ((1)) 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.

M. The tract in the northwest quadrant of the intersection of Old Keene Mill Road and Shiplett 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.

N. 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 parcel 78-1 ((1)) 19 because the parcel is zoned for commercial use.

4. low-rise office use on 78-1 ((1)) 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 existing 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.

O. 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.

P. The Homewood subdivision near Burke Road and Rolling Road should be planned for compatible residential infill at 1-2 dwelling units per acre.

Q. Land between the Pohick Creek floodplain and Burke Road east of Burke Lake Road opposite Cardinal Estates (7 acres—78-1 ((1)) pt. 20, 21; 78-4 ((1)) 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. Special use permit uses and special exception uses that are permitted under zoning categories that are otherwise within the planned 2-3 dwelling units per acre range should be prohibited because of the probable detrimental effect on the Cardinal Estates. 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.

R. 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.

S. 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.

T. 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.

U. 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 designated:

1. existing Greenfield Farm at 4-5 dwelling units per acre.

2. land bounded by Lakepointe townhouse subdivision, Greenfield Farm townhouse subdivision, Burke Road and the Southern Railroad tracks should be 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-1, (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.

3. Parcels 78-1 ((1)) 4 and the adjacent portion of 4A and 5 are planned for residential use not to exceed 10 dwelling units per acre. The remainder of parcel 4A adjacent to Lakepointe is planned for either public park or private open space use.

4. Parcels 78-1 ((1)) 2 and 2c which includes part of the Burke Centre planned for RPC—industrial uses and the land westward to the second Burke Centre parcel (planned for residential use) on Sideburn Road, also for industrial uses.

5. Adequate buffering should be provided between residential development and all commercial and industrial development in this area.

6. Parcels 77-2 ((1)) 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 nose impact.

In the event that parcel 12 is not consolidated with parcels 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.

7. Parcel 77-2 ((1)) 13, north of Guinea Road relocated is planned for medium-density residential development at 8-12 dwelling units per acre.

8. Parcel 77-2 ((1)) 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 rezoning of a comparable amount of retail zoned land (on parcel 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.

V. 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.

W. Planned unit development is an option that can be used to achieve a mixture of housing types and preserve open space.

X. 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.

Y. Additional infill development within existing, stable residential communities shall occur at a density comparable to that established within the community.

Z. Recommendations for Burke Centre and its perimeter are found in Sector P6.

Public Facilities

Parks, Recreation and Open Space

A. Develop Country Club View Park.

B. Develop Royal Lake and Lakeside Parks.

C. Develop walk-to-park facilities on County land adjacent to Burke Station Square (Section 4).

D. Develop recreation facilities on or near the Saratoga elementary school site.

E. Develop Rolling Valley West Park.

F. Develop Middleridge Park with active recreation facilities in accordance with the adopted park master plan.

G. Acquire community parks from new residential developments.

H. Focus park development attention on facilities for young children particularly in parks closely surrounded by homes, and provision of similar facilities (including private) in new subdivisions.

I. Provide a community park as an extension of stream valley parkland in the vicinity of Pohick Creek and Old Keene Mill Road.

J. Improved access should be made to parks in this sector, particularly pedestrian access.

K. Acquire and develop a community park which utilizes the vacant County-owned land previously designated for the Monticello Freeway.

L. Provide recreation improvements on the vacant Rollingwood school site.

M. Vacant land previously dedicated to the Board of Supervisors for the Monticello Freeway is appropriate for public park uses. Any such land used for park purposes must reserve sufficient right-of-way for any future widening of Guinea Road.

Other Public Facilities

A. Construct the programmed upgrading of Hooes Road to provide improved westward response for Springfield Fire Company No. 22.

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

C. Continue to upgrade and improve the facilities and equipment available at the Burke Fire Station.

D. Construct a regional library to serve the existing and future residents on the site at Old Keene Mill Road and Sydenstricker Road (Sector P6).

Environment

A. Acquire, primarily by dedication, portions of the Pohick Creek and Sideburn Branch stream valleys from the headwaters of Sideburn Branch to southern boundary of the planning district. This will help preserve open space and areas with ecological significance.

B. Acquire parkland along the Middle Run stream valley in accordance with the Fairfax County stream valley policy.

C. For land use density and environmental protection policies in the South Run watershed, refer to Pohick Planning District, Sector P7, Land Use Recommendation A, and Environment Recommendations A, B, and C.

History

St. Mary's Church Historic District

A. Part of the Saint Mary's Church Historic District lies within this area. Regulations for this district are discussed in Sector P1.

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. Provide bus lanes on Guinea Road and Braddock Road between Zion Drive and I-495. Construction of the additional pavement for bus lanes along Braddock Road is to occur within the defined median of the present roadway.

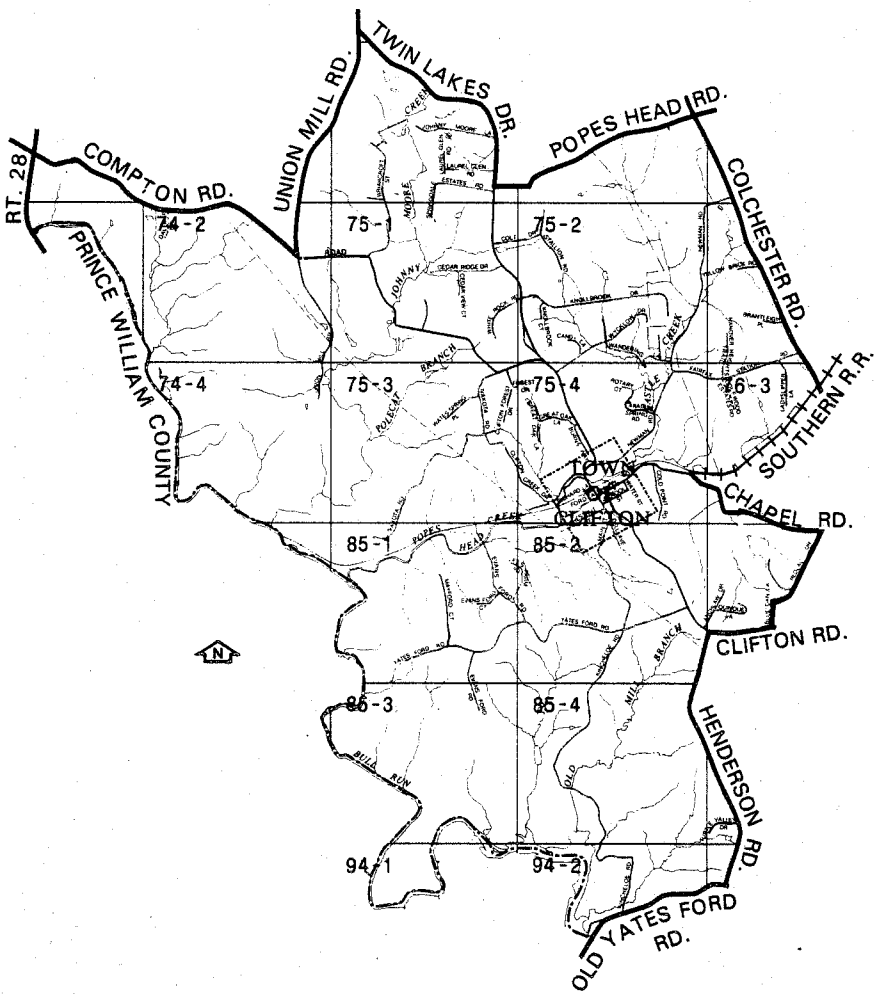
C. Improve Burke Lake Road to a four-lane facility between Pohick Road and Rolling Road near Braddock Road to provide access from the developing portions of the Pohick to I-495.

D. Consider Burke as a stop for the proposed commuter rail project.

Transportation

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

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.

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 maximum 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.

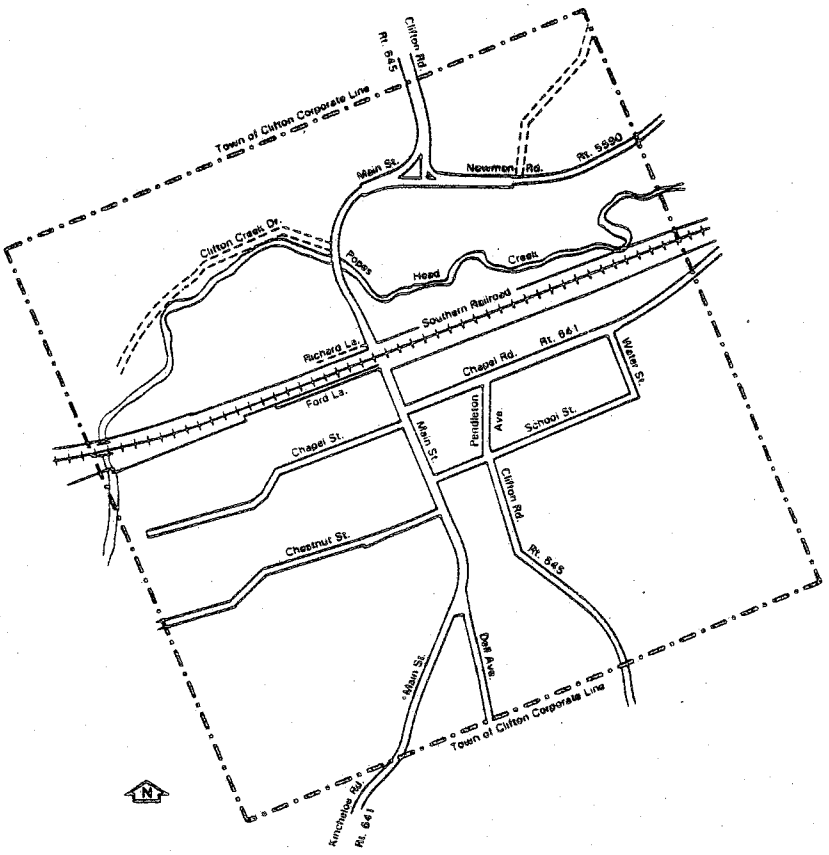
D. Protect the visual and natural environment from extensive and disruptive public utility improvements, e.g., VEPCO line expansion and gas pipeline expansion.

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 sewering 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.

Historic Sites

Clifton is well-known for its unique historic character. There are many structures dating from the late nineteenth century when Clifton was a rural retreat for Washington's wealthy and powerful. A hotel structure and many residences remain from the era. Some have been restored. Clifton is a valuable cultural resource, and for this reason historic preservation and environmental enhancement are appropriate.

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.

Historic Sites

A. Determine the jurisdiction of Fairfax County in an effort to develop a historic district in and around Clifton. The County should make a cooperative effort to have the entire Town of Clifton placed on the Virginia Landmarks Register, which can open the way for a historic district to extend one-quarter mile from the town boundaries into Fairfax County.

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

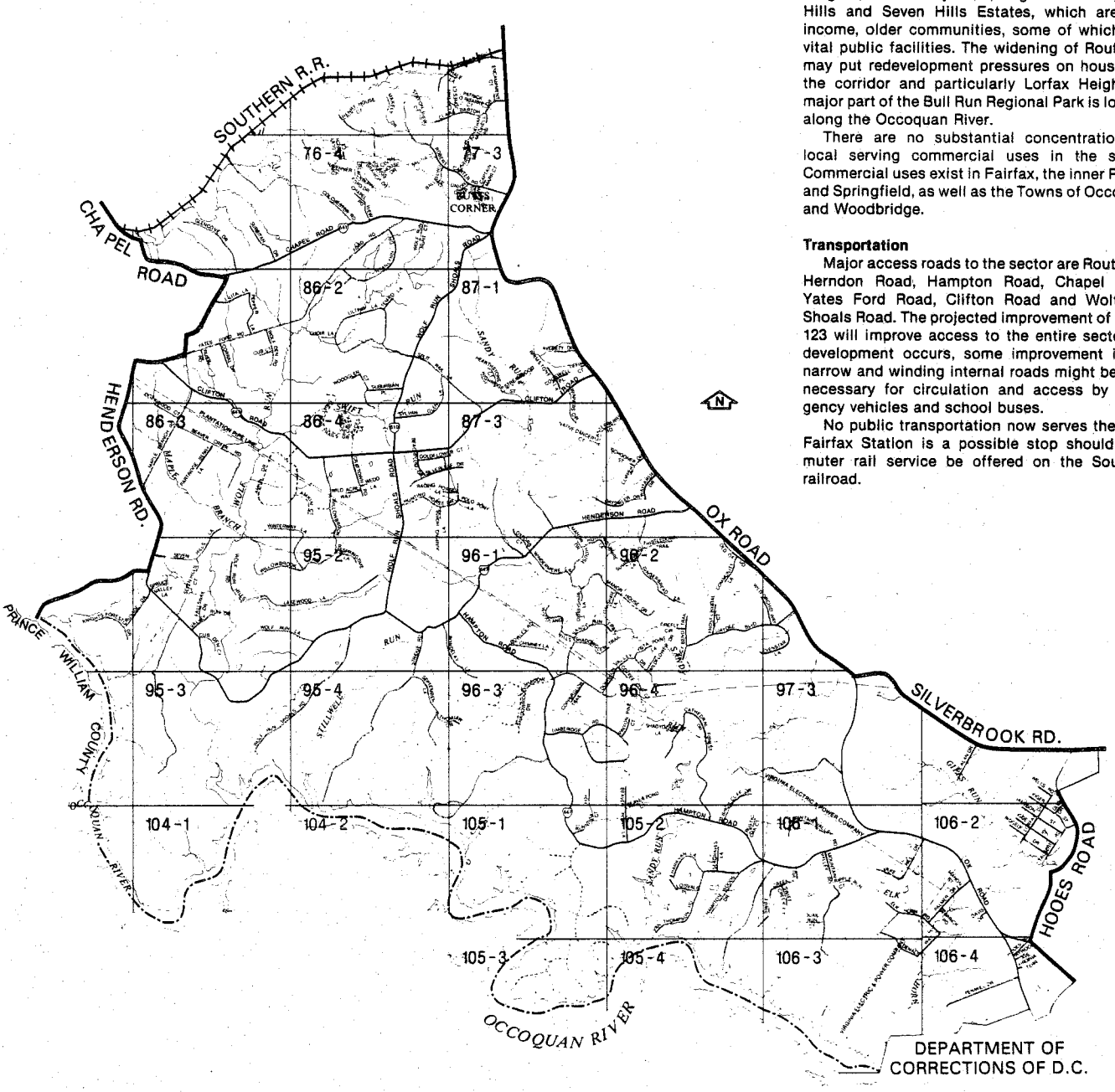
The northern part of the sector from the railroad tracks to Chapel Road is largely undeveloped open land. The sector has 16,485 acres. The central half, from Chapel Road to the westward projection of Lee Chapel Road, consists largely of subdivisions of large lots of five acres or more. The southeastern 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, 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.

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.

Other Public Facilities

A. Ensure the availability of adequate facilities and equipment at the Clifton, Burke and Lorton stations.

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

Housing

A. The Lorfax Heights area should be considered in the course of the County's community development program for provision of public facilities and rehabilitation loans financed through this program. Development density should not exceed one dwelling per acre.

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.

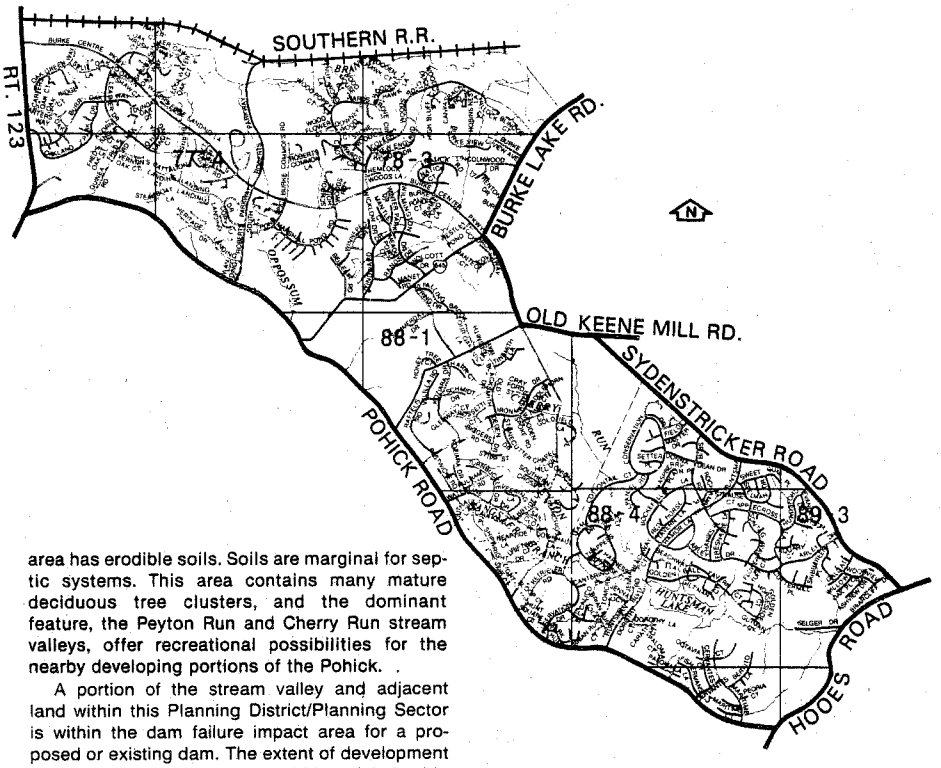
E. Preserve the identified wildlife habitat preservation areas southwest of Route 123 across from Burke Lake Park through either acquisition or restriction to low-density residential development (five acre lots or greater) where tree preservation is maximized.

F. Preserve the environmental quality corridors of Giles Run and Elk Horn Run.

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

There are 99 units of below-market housing proposed for the northwestern quadrant of Old Keene Mill Road and Lee Chapel Road under the section 202 and section 8 programs. In addition, 255 units of below-market housing are proposed along Roberts Parkway in Burke Centre under the section 8 program.

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.

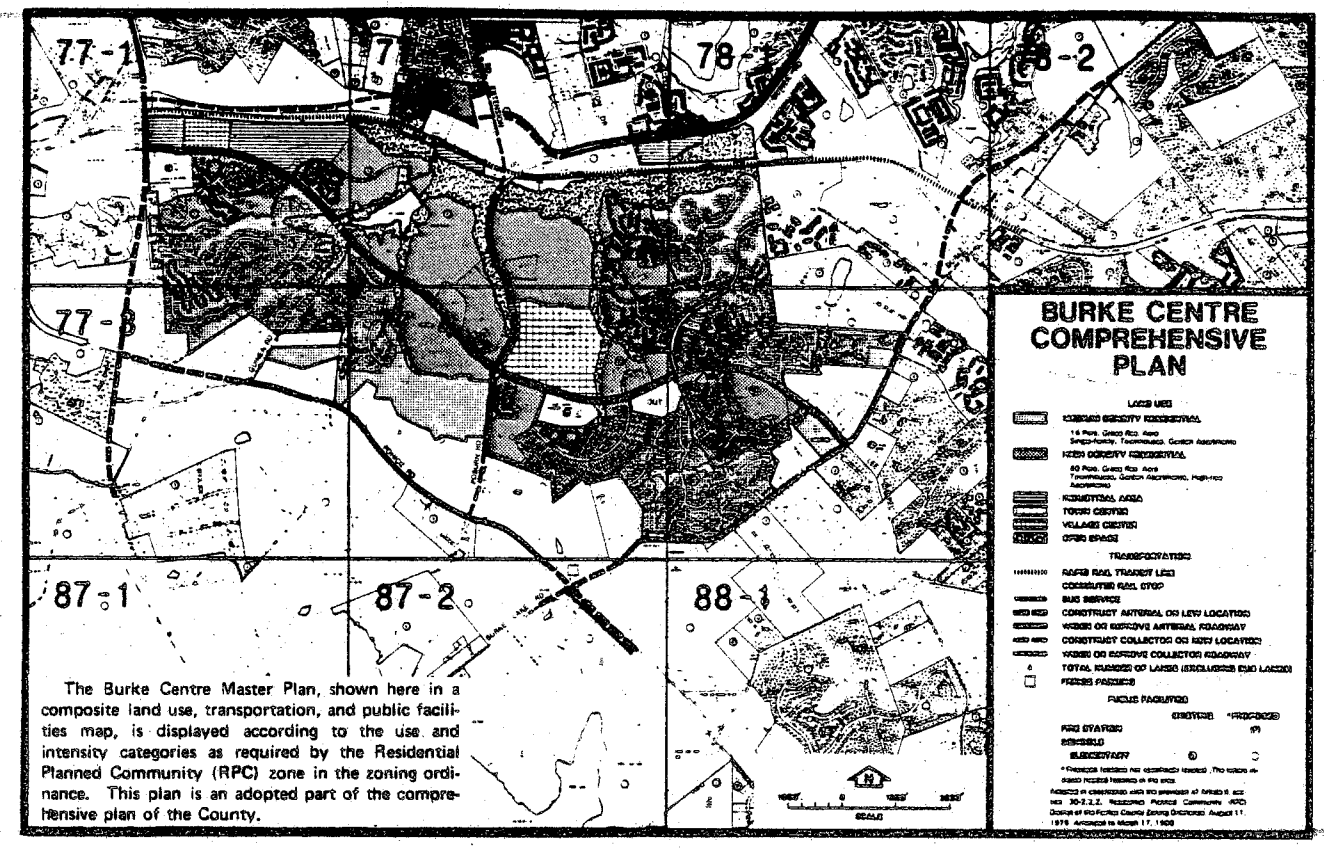
D. Parcel 77-4 ((1)) 23 is not presently included in the Burke Centre residential planned community. Should this parcel be developed, it would be desirable to include it within the adjacent residential planned community. However, whether the parcel is developed as part of Burke Centre or under conventional zoning, residential use, utilizing single-family detached dwellings at a density of 2-3 dwelling units per acre, is appropriate.

Burke Centre Perimeter Area

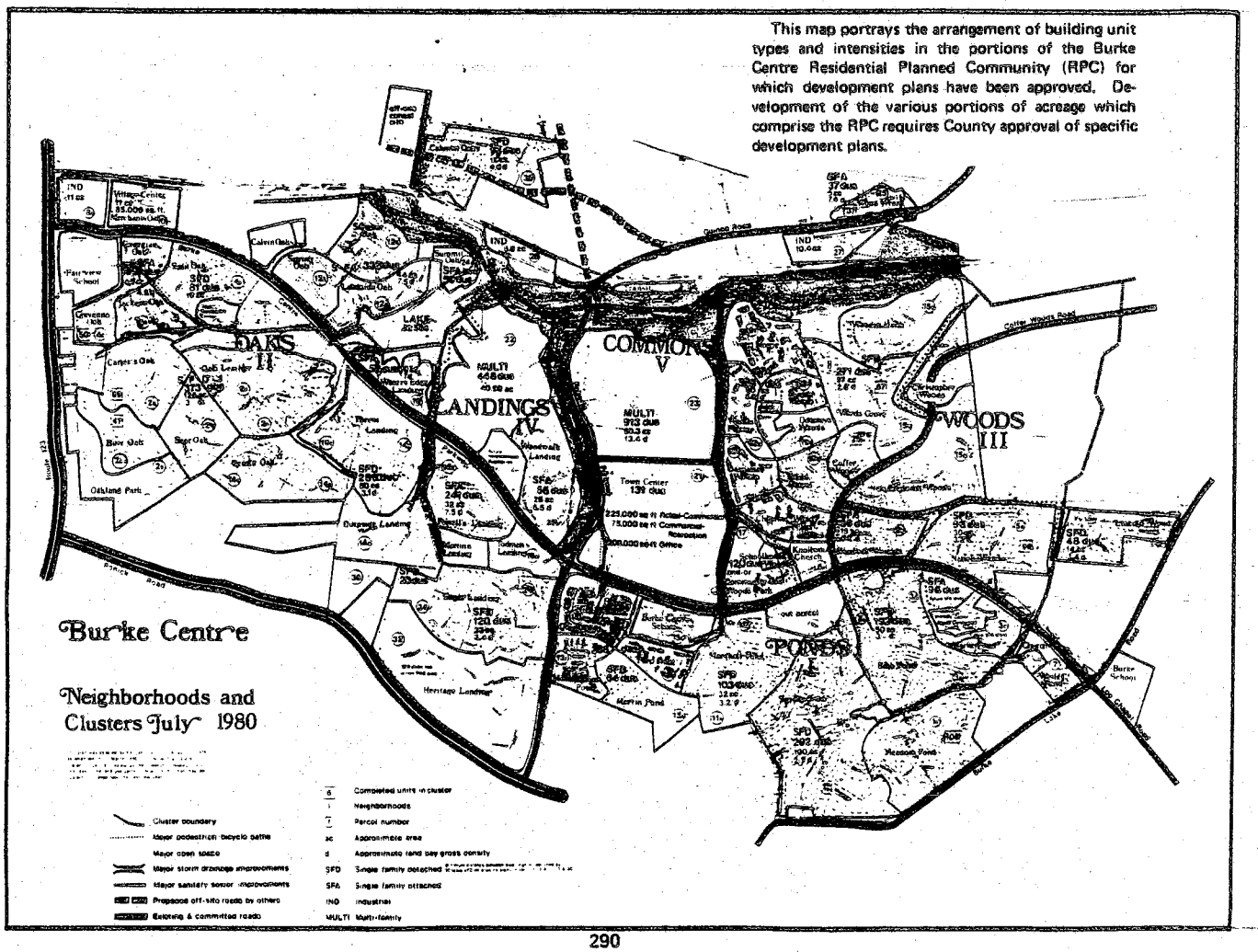
A. The area between Guinea Road, Pohick Road, Route 123 and the Burke Centre RPC to include parcels 6A, 7, 8, 9, 10, 11, 12, 13, 14, and 14A on map 77-3 is appropriate for industrial use because of existing industrial zoning and use on some of these parcels and because a creek forms a natural boundary 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.



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 proposal to provide housing for the elderly in the northwest quadrant of the intersection is a suitable method of achieving this goal. However, 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. Such development 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 not generally be permitted due to their detrimental effects on the surrounding area.

Public Facilities

Parks, Recreation and Open Space

A. Acquire community parkland for new development.

B. Develop Burke Ridge Park.

C. Develop Rolling Valley West Park.

D. Develop the South Run District Park.

E. Acquisition of parkland should be considered at Dam Site #8 (Middle Run). Pedestrian access should be provided if parkland is acquired. Consideration should be given to acquiring dedicated or reserved rights-of-way for the old Northern Virginia Expressway or the Pohick Access Road as linear parks to provide this access.

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: Poburn Woods, Burke Lake, Recreation Lake, South Run District, and South Run Stream Valley.

Housing

There are 142 units of below-market housing under the moderate income direct sales program located at Newington Forest.

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.

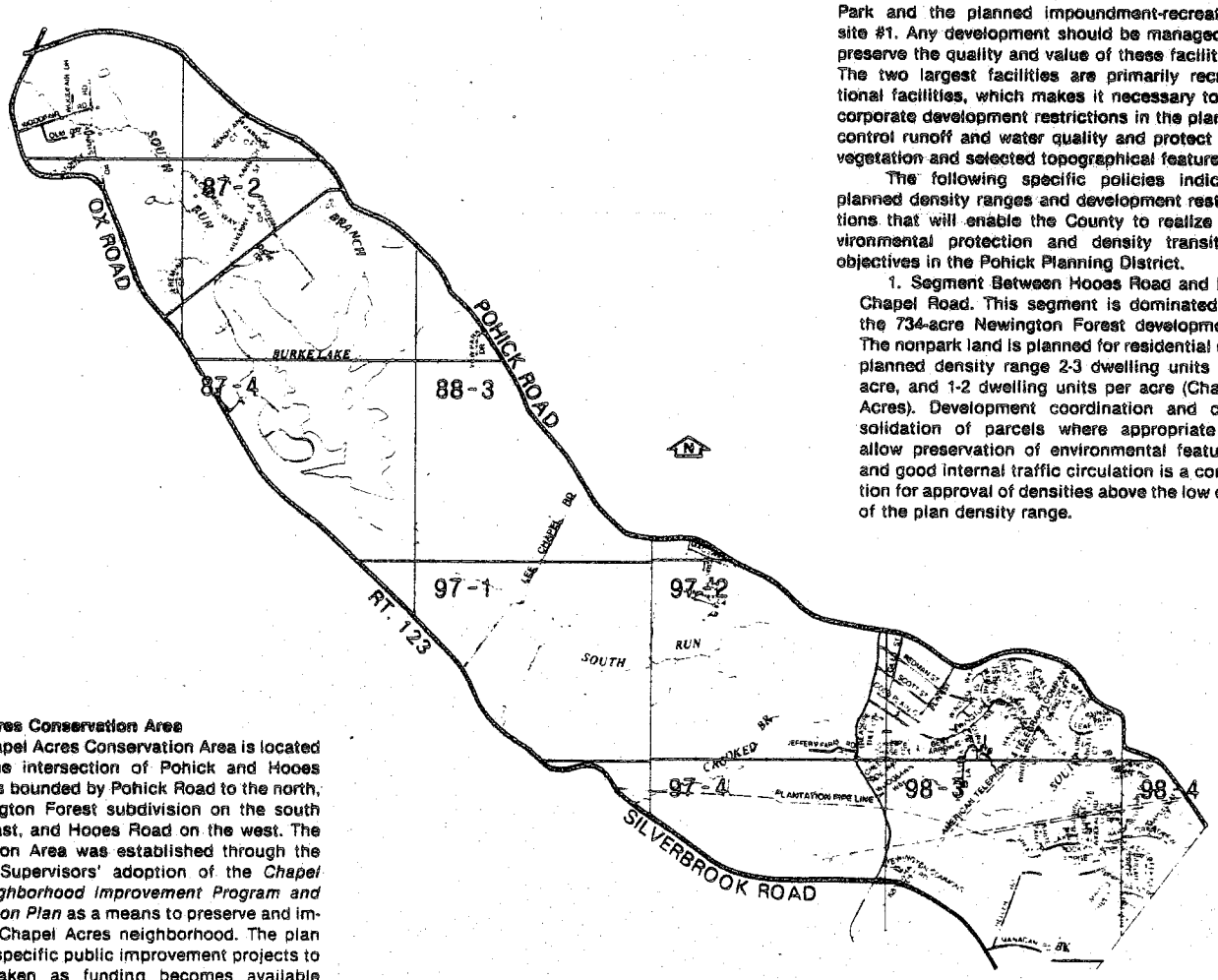
RECOMMENDATIONS

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.

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 predominant 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 important 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.

CENTREVILLE COMPLEX AREA

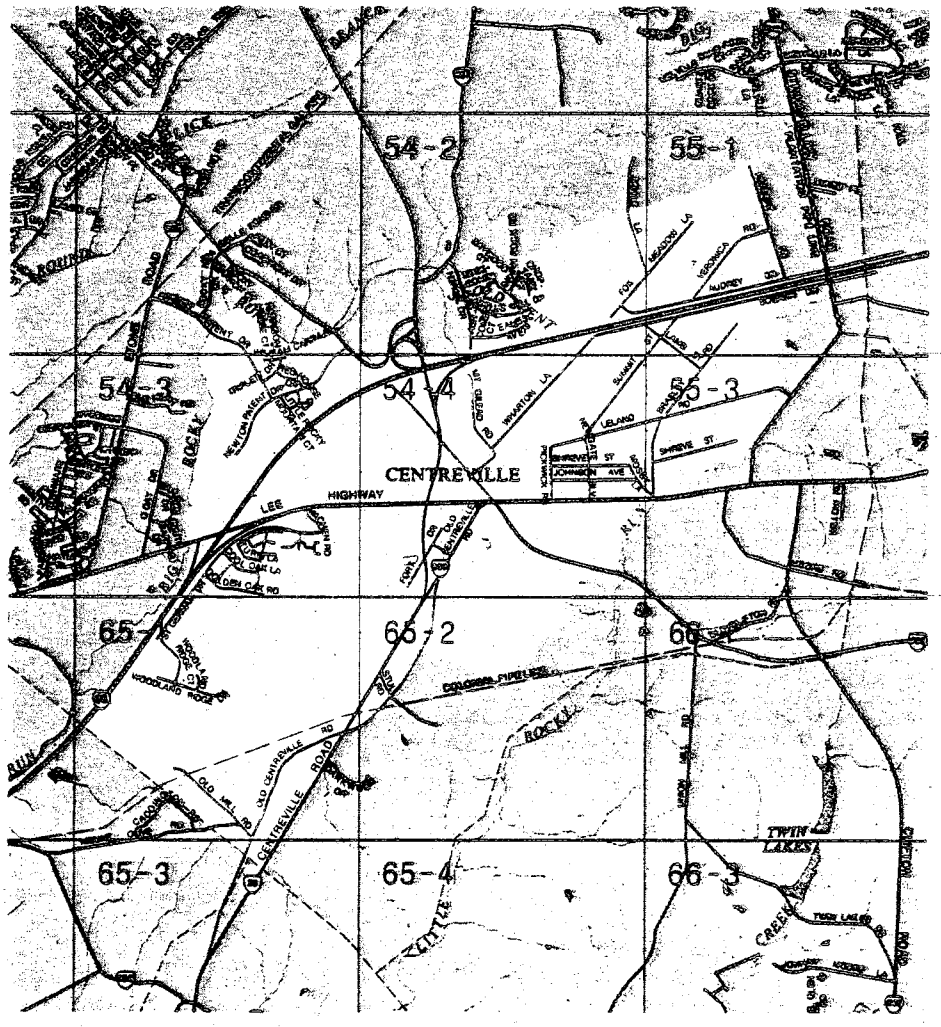
Description

The Centreville Complex Area consists of approximately 1,750 acres in the vicinity of I-66, Route 28 and Route 29. Within the complex area, there are several areas with stable development including the Meadows of Newgate apartment/multiplex development (population: 2,000), the Newgate Shopping Center, and existing commercial establishments on Route 29.

Within a mile of Centreville there are several recent subdivisions. Country Club Manor, Belle Pond Farm and Chalet Woods are single-family subdivisions on Braddock Road. London Towne is a townhouse development on Stone Road and Center Heights is an older one-acre subdivision on Stone Road.

Two large parks lie on the boundary of the complex area—the 640-acre Ellanor C. Lawrence Park and the 454-acre Twin Lakes Park.

The Big Rocky Run and Little Rocky Run stream valleys are important environmental features in Centreville. The view of the Blue Ridge Mountains is the outstanding feature in the cultural landscape.



ISSUES

Land Use and Population

The 1969 Bull Run comprehensive plan and the 1971 Bull Run sewerage plan designated Centreville as a future regional center because of good regional access and an abundance of undeveloped land. The capacity of the five existing Sanitary District #12 treatment plants was the primary constraint and major growth in Centreville was not projected until after 1975 when additional capacity was planned. The Upper Occoquan Sewage Authority plant was completed in 1978 and provided additional capacity for development in this area.

Growth in Centreville depends on public sewer because of soil conditions. Intense regional level development depends on adequate public facilities and major transportation improvements. The effect of intense development must also be evaluated in terms of environmental features.

There are seven historic sites in Old Centreville (Level Green is south on Route 28) which remain from the original village of Newgate. Preservation of these sites should be accomplished in the context of future urban development.

Transportation

Improvement of Route 28 to a four-lane facility from I-66 to Prince William County is programmed in the VDH&T 6-10-year plan. This will facilitate increased development in Centreville. There are, however, substantial improvements necessary to serve regional level development. These include, but are not limited to, the following:

- major improvements to interchanges, including grade separations at I-66 and Route 28, at Route 28 and Route 29, and at I-66 and Routes 29;
- widen I-66 to six lanes between Route 123 and Loudoun County;
- limit access to the major regional access roads and construct service roads for local circulation; and
- circulation in the I-66/Route 28/Route 29 triangle.

Improvement and realignment of Braddock Road throughout Centreville, especially at its intersections with Route 28 and its intersection with Route 29. In the southern part of Centreville, Braddock Road can be used both as an access road and for a circulation road if it is realigned to intersect with Route 28 near Old Centreville Road and then extended west and north to connect with Stone Road.

- Coordinated internal circulation roads should be built when future development occurs. This will be facilitated by the fact that land is held in large tracts east on Route 28 in Centreville. This will be more difficult east of Route 28 in the Route 29 corridor and between Route 29 and I-66 because of fragmented parcels and proliferation of small-scale development and irregular street alignments.
- Public transportation will be necessary to serve a regional center. Express bus service should be provided on I-66.

Availability of Sanitary Sewer

The Upper Occoquan Sewage Authority has built a regional treatment plant on Cub Run south of Centreville. The plant was completed in 1978 and the County's current capacity is 5.5 million gallons per day.

Other Public Facilities

Other public facilities will be required as development occurs in Centreville. Fire services and library facilities will need expansion or modernization. A library site has been acquired at Lee Highway and Machen Drive.

Environment

Centreville is located in the Occoquan Reservoir watershed. Big Rocky Run, Cold Scent Spring Branch, and Little Rocky Run are the major streams flowing through the area. The major sources of noise are aircraft noise from Dulles Airport and highway noise.

Historic Sites and the Cultural Landscape

Seven historic sites, including Mount Gilead, St. John's Church, the stone church, the Havener and Harrison houses, Civil War earthworks and Level Green (c. 1750), are located in Centreville. Most of the structures were built in the village of Newgate prior to the Civil War. Preservation of some or all of these sites is an issue because as development pressure increases in Centreville, pressure to destroy the sites will increase. Policies should be developed to determine the extent and nature of preservation desirable for Old Centreville.

Centreville has a unique and beautiful view of the Blue Ridge Mountains. As development occurs measures should be considered to take advantage of this landscape feature and not destroy it altogether.

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. Centreville has been planned as a focal point for urban activity in the southwest part of the County for about 25 years. With the expected completion of I-66 into downtown Washington, the growth potential for Centreville has increased. Water quality findings indicate that it is possible to maintain the growth center concept for Centreville. Because Centreville has experienced a low level of development to date, there is an opportunity to plan coordinated land development and public facilities using sophisticated planning and urban design techniques. Centreville (see *Occoquan Basin Study* Map 17, Centreville mixed land use areas) should be the subject of a detailed land use and urban design study to develop refined land use, transportation, public facilities, environmental and zoning plans.

Although a final detailed plan for Centreville has not been undertaken, some general land use assumptions have been made in the *Occoquan Basin Study* water quality modeling process (based in part on the findings of the *Analysis of Economic Development Potential in the I-66 Corridor of Fairfax County, Virginia*) to provide guidance for a detailed study and for land use decisions that have to be made for completion of a detailed study. Map 17 (*Occoquan Basin Study*) identifies the areas within Centreville where mixed land use is appropriate and Table 28 (*Occoquan Basin Study*) following, indicates the land use estimates made for each mixed land use segment.

B. The following interim land use policies should be adopted for Centreville before a detailed plan is completed so that there is a uniform

MAP 17

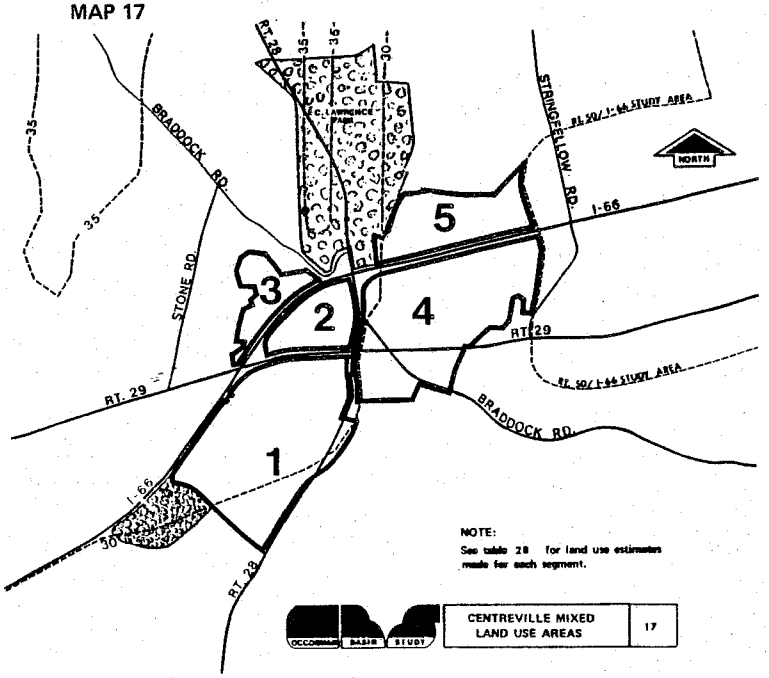


Table 28

Centreville Mixed Land Use Segments
Preliminary Land Use Estimates (in acres)[1]

Land Use[2]	Mixed Use Segment #1	#2	#3	#4	#5	Total
Residential						
2 du/ac	50	—	—	—	—	50
3 du/ac	50	—	—	50	50	150
4 du/ac	—	—	—	50	50	100
5-10 du/ac	25	—	80	325	140	570
Garden Apartment						
15 du/ac	130	—	30	65	—	225
Elevator Apartment						
30 du/ac	35	—	—	65	—	100
Commercial	75	25	—	—	—	100
Office	285	105	20	70	20	500
TOTAL	650	130	130	625	260	1,800

[1]Figures are estimates used for water quality testing purposes and do not reflect final land use plan proposals. A detailed land use study is recommended as a follow-up to the *Occoquan Basin Study* to develop a detailed land use plan for Centreville.
[2]Land for public facilities and EQCs are included in these figures. Dwelling unit and population projections are based on gross acres.

Source: Office of Comprehensive Planning

basis for making land use decisions that cannot be deferred:

1. The scale of development. Any proposal should conform to the general level and type of development assumed for the mixed use areas in Centreville as reflected on Map 17 and Table 28, and it should not constitute an obstacle to the overall future coordination of the area. For example, the configuration of individual projects must not be so irregular that it becomes difficult to establish a satisfactory physical relationship with adjacent land (e.g., a "Swiss cheese" parcel configuration). Another example would be a poorly planned development on a shallow strip of land located along an arterial highway creating access and visibility problems for adjacent land.

2. The character of development. Low-density commercial and office uses should be discouraged until a detailed land use plan is established because such uses may preclude high-density office or commercial development at a later time. Strip commercial use should not be permitted, for example. Lower density residential use should be discouraged until a complete land use plan is developed because it will tend to set a trend which may be difficult to reverse and consume large acreages more suited to other uses. The area should be thought of as a growth center where lower density residential use is ancillary to more intense uses. All development should be designed as if it were part of a larger whole, with sensitivity to the visual and physical environment which will develop around it.

3. Location of development. Development should not interfere with possible highway interchanges or new road alignments that might appear in a final land use plan. These can only be estimated until a plan for Centreville is finalized. Lower density residential development should not occur near major interchanges in order to preserve these sites for higher intensity uses that benefit from good access.

4. Environmental amenities. In addition to providing environmental protection according to Plan policies such as for EQCs, environmental amenities should be incorporated into the proposal for aesthetic enhancement. This aspect of development is particularly important if the size and density of structures increase beyond the usual human scale.

Transportation

A. Improve the intersections of I-66 and Route 28, and Route 29 and Route 28, to provide for regional access and serve internal circulation. There are, however, substantial improvements, most of which should be prerequisite for development in the area, necessary to serve regional level development.

B. Improve access to the proposed regional commercial facility and provide internal circulation in conformance with an integrated circulation plan.

Note: Elements in a circulation plan are included in these transportation recommendations, but are not limited to them.

C. Realign Braddock Road and Old Centreville Road at Route 29. Discontinue the intersection of Braddock Road and Route 28, south of I-66. Realign Braddock Road and its intersection with Route 28 north of I-66.

D. Realign Braddock Road from Clifton Road west of Route 28 at Old Centreville Road and extend it west across I-66 and north to connect with Stone Road.

E. I-66 should be widened from the Prince William County line to Route 50 to serve planned growth in Prince William County and portions of the Bull Run Planning District. Median bus lanes should be constructed on I-66 between the Vienna Metro Station and Lee Highway (Route 29) in Centreville.

Public Facilities

A. Schools should be provided as development occurs.

B. Recreation facilities at Braddock Park, Ellanor C. Lawrence Park and Twin Lakes Park should be developed as planned.

C. Local-serving parks should be provided as development occurs, preferably through private development.

D. Other public facilities should be provided to serve regional level development.

E. Construct a library on the site at Lee Highway and Machen Road.

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 Big Rocky Run, Cold Scent Spring Branch, Little Rocky Run and their tributaries, should be preserved through a variety of implementation methods.

Historic Sites and the Cultural Landscape

A. Establish a historic district to protect the historic structures and their environs in Old Centreville.

B. Consideration of the scenic vista at Centreville should be included in urban design studies done prior to major growth in Centreville.

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.
- Historic sites 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.

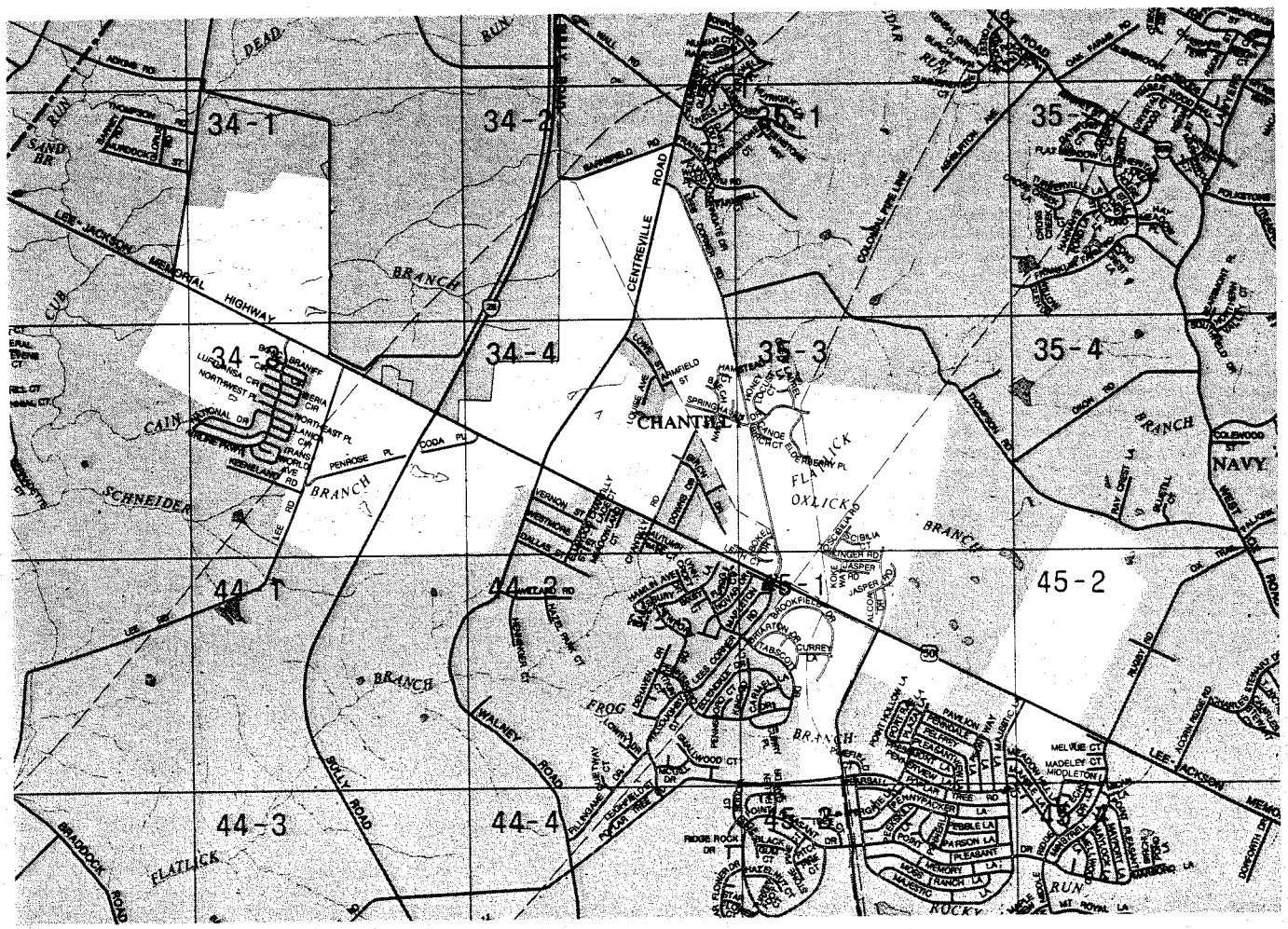
Availability of Sanitary Sewer

(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.

Historic Sites

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 archaeological sites in the vicinity of Upper Cub Run and Route 50 which could be destroyed as urbanization occurs if not protected. 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);
3. the two areas on Route 50 adjacent to existing development in Greenbriar for 3-4 dwelling units per acre;
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. Consider the feasibility of a branch library for residents in the Chantilly area.

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.

Historic Sites

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. There are numerous prehistoric archaeological sites in the vicinity of Upper Cub Run and Route 50 which should be investigated for inclusion in the EQC system or a historic district for archaeological 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 population. 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.

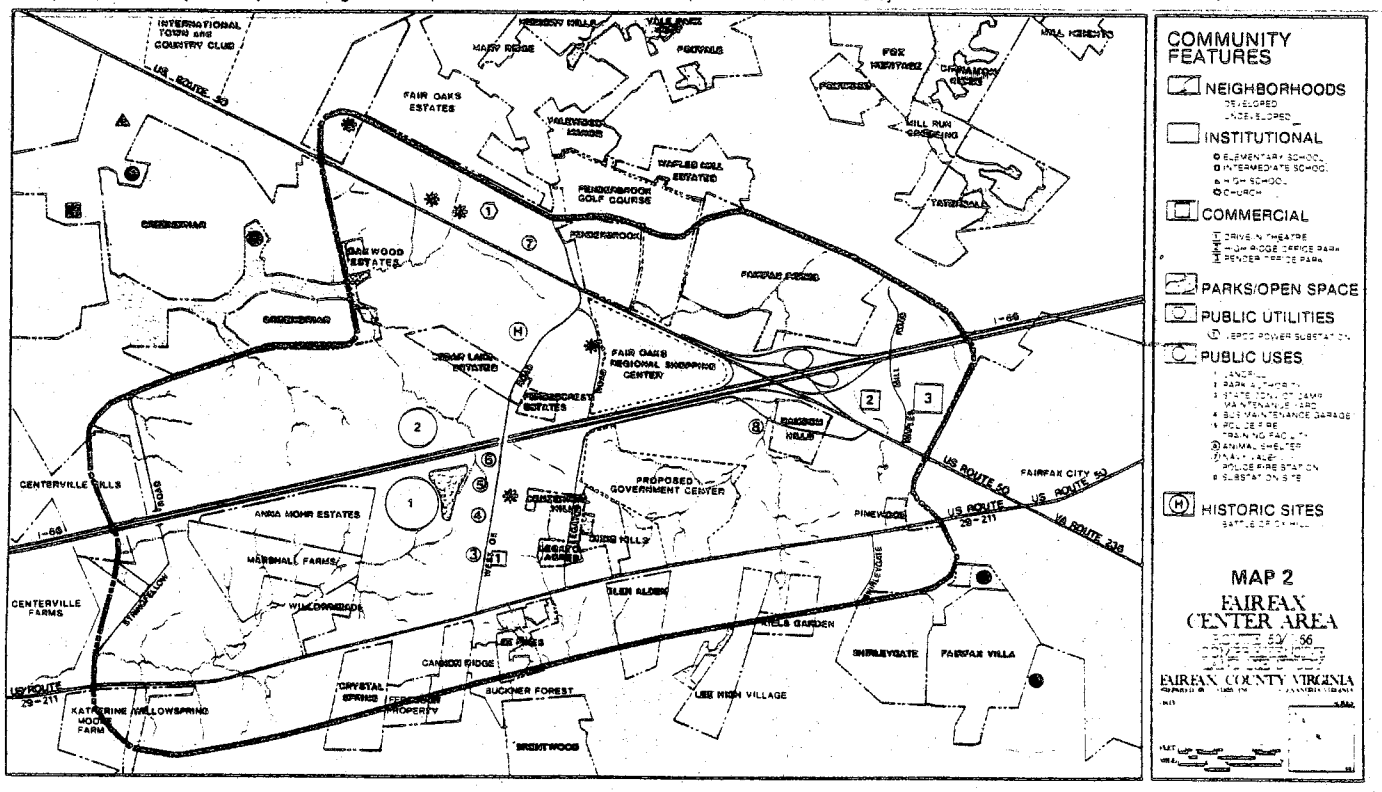
C. Overlay Level Requirements. The applicant has the option to apply for the overlay level as specified in the land unit summary charts. To qualify for the overlay level, the applicant shall submit to the County a proposal for development fulfilling at least:

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
- Nonmotorized Transportation
  - pedestrian activated signals
  - bicycle support facilities (showers, lockers)

2. Environmental Systems
- 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 nonmotorized 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 features/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:

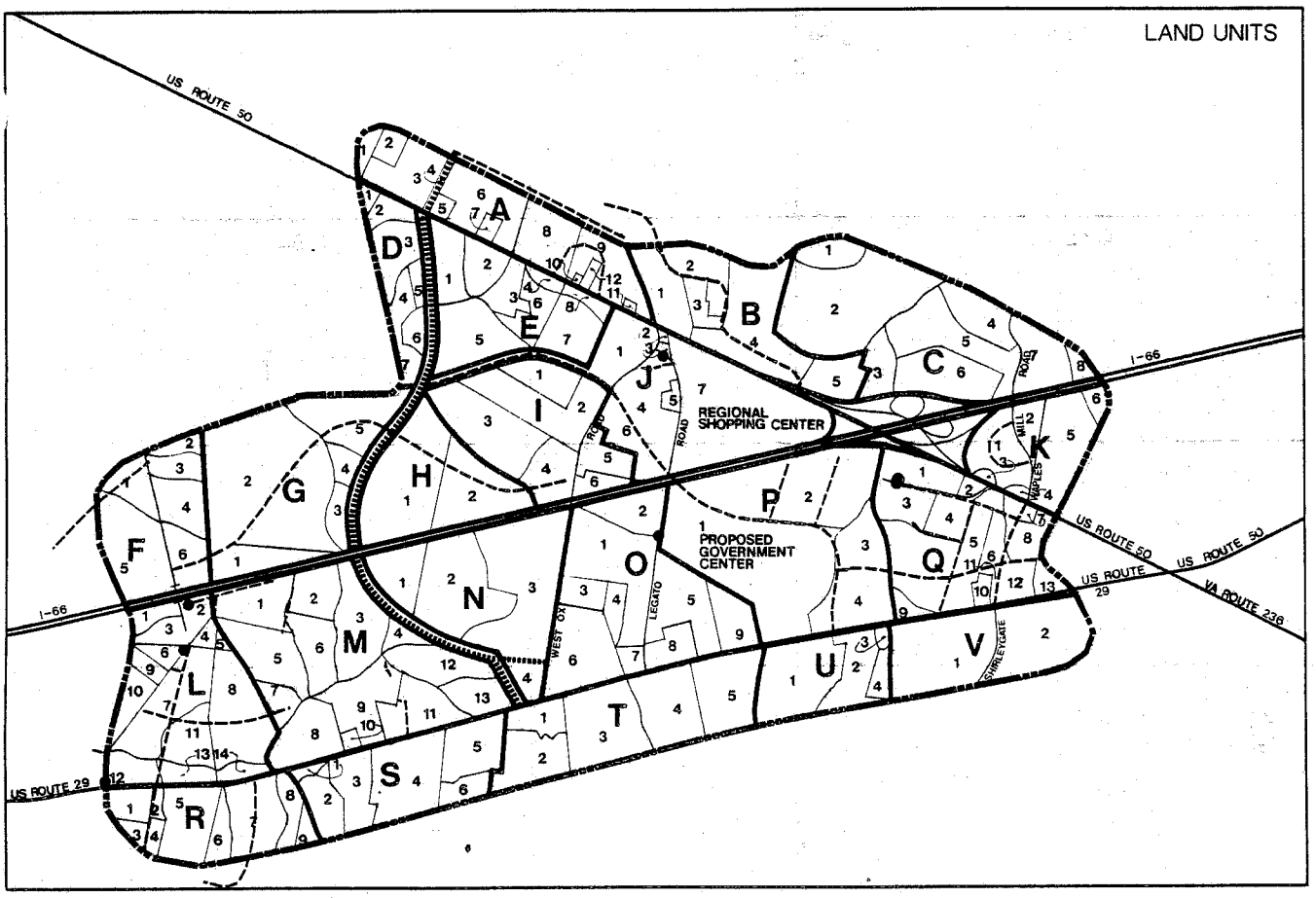
1. Land Use Summary Chart. This chart represents the key linkage mechanism between the Plan and the proposed performance criteria for the development of that Plan. The data in the chart is illustrative of the use and intensity quantities recommended for each land unit for the three levels of the Plan (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.	Residental Units	Support Commercial Sq. Ft.
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 colocated in this unit.

B

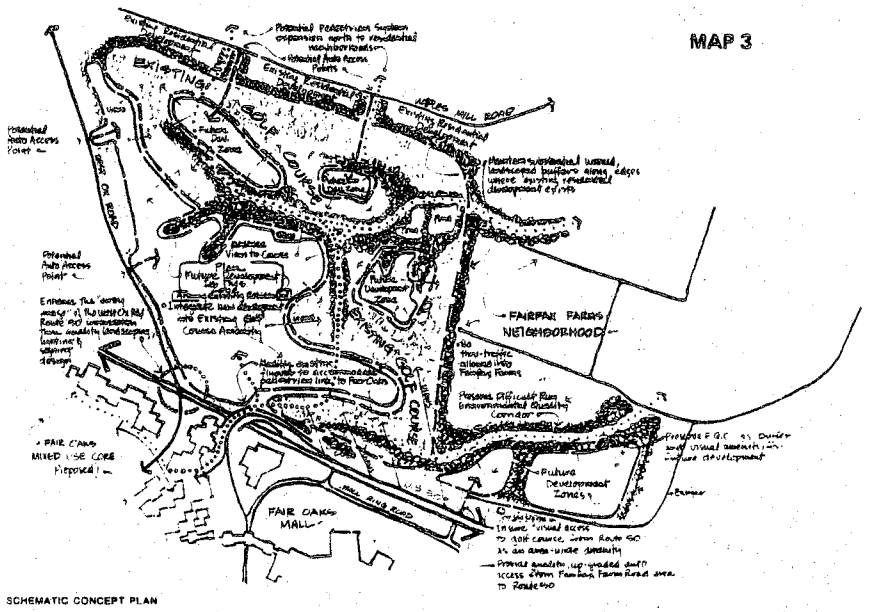
LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage Net	Gross
B1, B2, B3, B4,B5	141	163 283*

* 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		1,4		535	
Intermediate Level—Development Intensity Potential						
B1, B2, B3, B4, B5	RES/MIX		1,4		535	
Overlay Level—Development Intensity Potential						
B1, B2, B3, B4, B5	RES		1,4		535	

MAP 3



SCHEMATIC CONCEPT PLAN
GOLF COURSE AREA

B1, B2, B3, B4, B5 (Key Area—Golf Course)

The preservation of the Penderbrook Golf Course as an area-wide amenity is extremely desirable. Future development by golf course owners, or others, should strive to accommodate the preservation of the golf course. Due to the difficulty in determining development density needed to make retention of the golf course economically feasible, as an interim measure, the continued application of currently allowed densities is recommended. However, it was recognized that the Plan recommendation for the golf course would probably have to change to assure its continued viability. One suggestion was to consolidate the Plan density currently recommended for the golf course into one building area. If this approach were followed, it would, in essence, consolidate density in one area thus leaving the balance of the tract in open space or in its current golf course use. Future development should be evaluated within the context of the Fairfax Center Area philosophy, goals, and objectives. Access is a critical issue, especially as it relates to potentially increased congestion of West Ox Road and Route 50, and as it affects the Fairfax Farms residential community. The Difficult Run EQC area should be preserved. See Map 3 for a schematic concept plan for the golf course area.

The following qualities will contribute to the successful high quality development of this area:

- good visual relationship to Route 50;
- ownership pattern—minimum number of owners for implementation control;
- mixed open and wooded vegetative conditions;
- sewer partially available;
- other utilities available;
- golf course is a high-image amenity for surrounding development.

An additional area of concern includes the economic feasibility of retaining the golf course as an area-wide and site specific amenity.

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.	Residental Units	Support Commercial Sq. Ft.
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 .75		15	
C6	RES		.15 .75		16	
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. Access problems to Fairfax Farms at Route 50 should be mitigated through intersection treatment, potential new outlets to Waples Mill Road (to north, west or east), or access through the golf course to West Ox Road (potentially at Avery Road). A detailed analysis of access problems to Fairfax Farms and the golf course should be undertaken in the near future.

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.

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.

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.	Residental Units	Support Commercial Sq. Ft.
Baseline Level—Development Intensity Potential						
D1, D2, D3, D5, D6	RES		2		156	
Intermediate Level—Development Intensity Potential						
D1, D2, D3, D5, D6	RES		2.5		195	
Overlay Level—Development Intensity Potential						
D1, D2, D3, D5, D6	RES		3		234	

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 Acreage Net	Gross
E1	6	34
E2, E4, E5, E6	75	110
E7	24	39
E8	5	8

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR	Density/Intensity Units/Ac.	Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
Baseline Level—Development Intensity Potential						
E1	RES		2		68	
E2, E4, E5, E6	RES		2		220	
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, E4, E5, E6	RES/MIX		4		440	52,800
E7	RES/MIX		5		195	17,550
E8	RES/MIX		5		35	
	RETAIL	.7				30,504
Overlay Level—Development Intensity Potential						
E1	RES/MIX		4		136	16,320
E2, E4, E5, E6	RES/MIX		6		660	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, E4, E5, E6

Land Unit E1 is proposed to be a residential mixed use development of four units per acre, while E2, E4, E5 and E6 are proposed to be residential mixed use at six units per acre at the overlay level. 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 amenity for buffering and views. The Big Rocky Run EQC and neighborhood to the west to the proposed Fair Oaks mixed use village core, Fair Oaks mall and the proposed County Government Center. Since this linear park is essential to 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.

E3

This land unit consists of an existing small cluster of low-density residential lots along Dorforth Drive. This land unit is planned for residential use at 2-3 dwelling units per acre.

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.	Residental 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.
Baseline Level—Development Intensity Potential						
G1, G2, G3, G4, G5	RES		1		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.

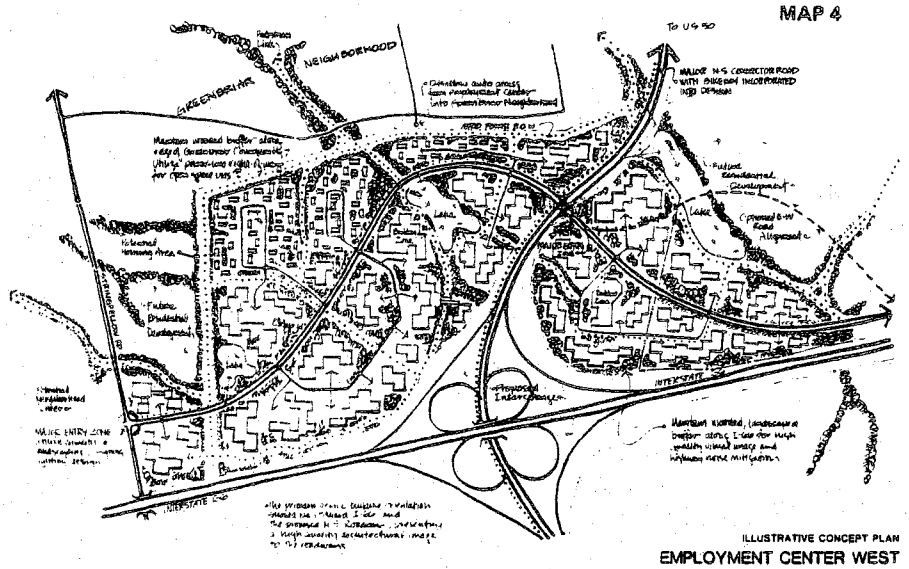
H1 (Key Area—Employment Center West)

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 and is used as a Park Authority maintenance yard. 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 the G and H1 land units. The County has the option of selling or leasing this land to private developers or possibly acting as the developer itself.

MAP 4



ILLUSTRATIVE CONCEPT PLAN
EMPLOYMENT CENTER WEST

LAND USE SUMMARY CHART

Developable Land Units (Map Key)	Approximate Acreage Net	Gross
I1	24	24
I3, I4	76	93

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR	Units/Ac.	Primary Commercial Sq. Ft.	Residental Units	Support Commercial Sq. Ft.
Baseline Level—Development Intensity Potential						
I1	RES		2		48	
I3, I4	RES		1		93	
Intermediate Level—Development Intensity Potential						
I1	RES/MIX		5		120	10,800
I3, I4	RES/MIX		2.5		232	27,840
Overlay Level—Development Intensity Potential						
I1	RES/MIX		8		192	17,280
I3, I4	RES/MIX		4		372	44,640

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.

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 units per acre 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.

I5

The existing residential community of Pendercrest Acres forms this land unit. This neighborhood should be preserved and enhanced. Buffering and compatible adjacent land uses should be planned to and in transition from this area to the more intense development of the Fair Oaks core. The area is planned for 1-2 dwelling units per acre.

I6

This land unit, formed by West Ox Road, I-66 and the Pendercrest Acres neighborhood contains the Moose Lodge. This is a private club/institution which is expected to remain. The area is planned for compatible residential infill at 1-2 dwelling units per acre.

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 FAR	Units/Ac.	Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
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:

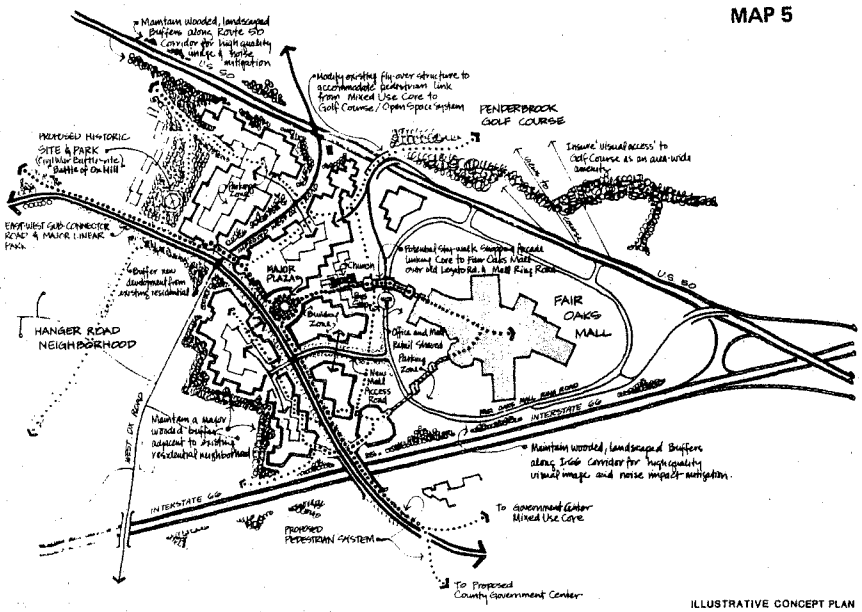
- impact on existing Hanger Road residential area (mitigation measures);
- improvements of West Ox Road from east-west subconnector to Route 50;
- stormwater run-off impact (mitigation);
- quality linkages to residential areas, Penderbrook Golf Course, proposed government center and Fair Oaks mall (critical 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



ILLUSTRATIVE CONCEPT PLAN

FAIR OAKS MIXED USE CORE

J6

This land unit is proposed for a predominantly office mixed use development. Access should occur in a controlled manner from the proposed east-west subconnector. 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 Net	Gross
K1, K3, K4	27	38
K2	12	12
K5, K6	60	63

Developable Land Units (Map Key)	Proposed Land Use	Density/Intensity FAR	Units/Ac.	Primary Commercial Sq. Ft.	Residental Units	Support Commercial Sq. Ft.
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	.6		1,646,568		
Intermediate Level—Development Intensity Potential						
K1, K3, K4	OFF	1.0,I7, .5		1,489,752		
K2	OFF	1.0,.5		348,480		
K5, K6	OFF	.6		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	.6				

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 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	Density/Intensity Units/Ac.	Primary Commercial Sq. Ft.	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 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	Density/Intensity Units/Ac.	Primary Commercial Sq. Ft.	Residential Units	Support Commercial Sq. Ft.
Baseline Level—Development Intensity Potential						
M1, M2, M3	RES		1		102	
M4, M5, M6, M7, M8, M10	RES		1		193	
M12, M13	RES		1		69	
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.	Residental Units	Support Commercial Sq. Ft.
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

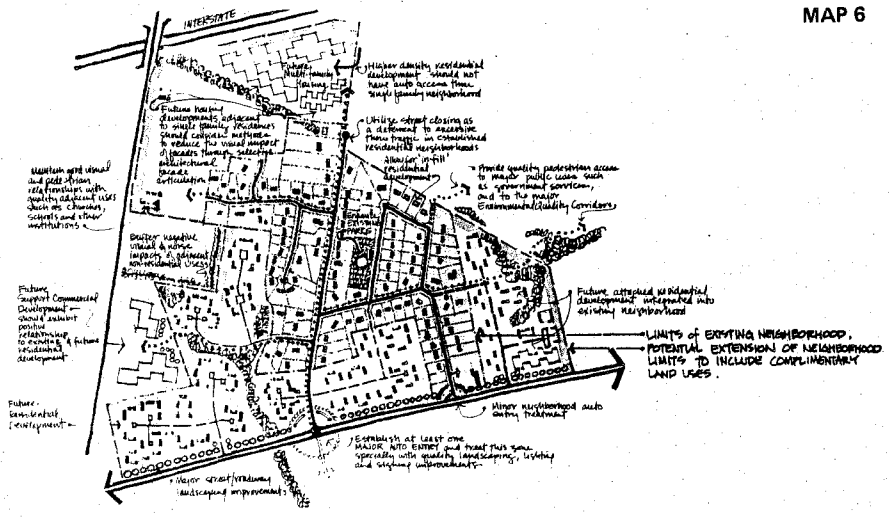
This land unit consists of a variety of public/institutional uses, including the West Ox Road Park, the Fairfax County Animal Shelter, the County Fire Training Center, and the State Convict Camp (#30). It is anticipated that these land uses will remain. This tract is planned for institutional use.

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, as well as the residential neighborhoods of Centennial Hills and Legato Acres. These uses should be expanded and enhanced within the philosophy and goals for the Fairfax Center Area. Consistent with these existing uses, the area is planned for institutional use and residential uses at a density of 1-2 dwelling units per acre and 3-4 dwelling units per acre in accordance with the Plan map.

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.

O

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 FAR	Units/Ac.	Primary Commercial Sq. Ft.	Residental Units	Support Commercial Sq. Ft.
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.

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.	Residental Units	Support Commercial Sq. Ft.
Baseline Level—Development Intensity Potential						
P2	OFF	.25		392,040		
	RES		4,8		510	
P3	RES		5		105	
P4	OFF	.2		243,936		
	RES		5		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	
	Hotel	300	Rooms			
P3	RES/MIX		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 intersection of the two subconnectors should serve as the primary access to the site. Secondary access should be oriented to the subconnector leading up to West Ox Road. 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*.

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.

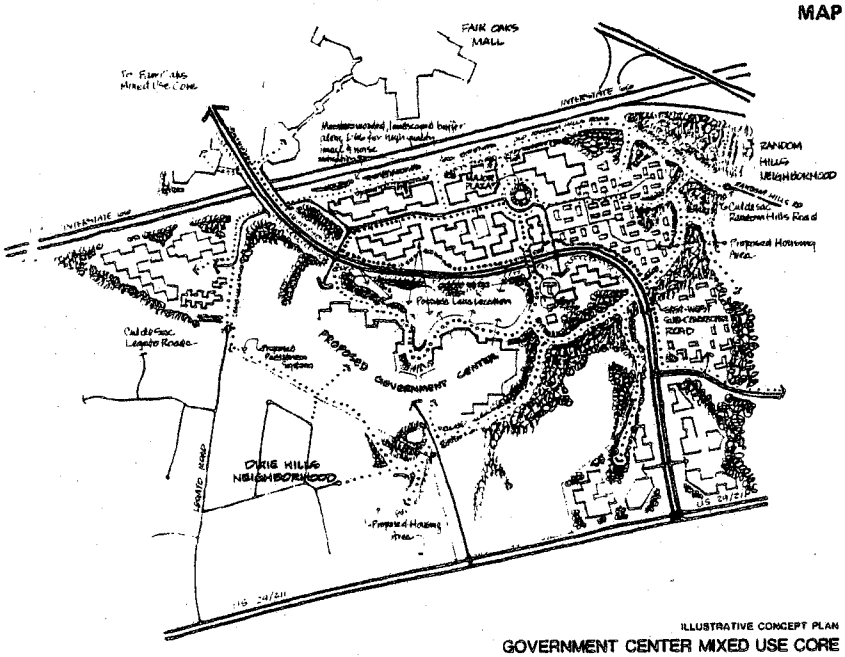
The qualities that contribute to the development potential of this area include:

- 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 FAR $\leq$ .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 FAR	Units/Ac.	Primary Commercial Sq. Ft.	Residental Units	Support Commercial Sq. Ft.
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 .5		339,768	113	
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 .5		339,768	113	

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.
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.
Baseline Level—Development Intensity Potential						
S1, S2, S3, S5, S6	RES		1		99	
Intermediate Level—Development Intensity Potential						
S1, S2, S3 S5, S6	RES		1.5		148	
Overlay Level—Development Intensity Potential						
S1, S2, S3 S5, S6	RES		2		198	

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.	Residental Units	Support Commercial Sq. Ft.
Baseline Level—Development Intensity Potential						
T1, T4	RES		1		66	
Intermediate Level—Development Intensity Potential						
T1, T4	RES		1.5		99	
Overlay Level—Development Intensity Potential						
T1, T4	RES		2		132	

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.	Residental Units	Support Commercial Sq. Ft.
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			
	OFF/MIX	.25		98,010	33	
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		1		91	
	OFFICE	.4		69,696		
V2	RES		.2, 1		58	
	OFFICE	.4		435,600		
Intermediate Level—Development Intensity Potential						
V1	RES		1.5, 3		201	
	OFFICE	.4		69,696		
V2	RES		.2, 2		58	
	OFFICE	.4		435,600		
Overlay Level—Development Intensity Potential						
V1	RES		.2, 5		311	
	OFFICE	.4		69,696		
V2	RES		.2, 3		145	
	OFFICE	.4		435,600		

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

The parcels which front on Lee Highway or are zoned for commercial use are planned for office use at a .4 FAR. Parcels along Rust Road are planned for residential development at 2-3 dwelling units per acre. The southern portion of this land unit (Parcel 56-4 ((6)) 1, 2, 36, 37) is planned for .2 dwelling unit per acre, consistent with the planned residential density to the south. The remainder of the land unit is planned for residential use at 3 dwelling units per acre as an appropriate transition between the low-density residential uses to the south and planned office use to the north. Access to this area should be from Shirley Gate Road.

SUMMARY OF RECOMMENDATIONS

Recommended Levels of Development

The recommended levels of development are summarized below:

Development Level Options	Commercial Square Feet (Rounded in Thousands) Primary	Support	Total	Dwelling Units
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 bet ween 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 whwere 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) Primary	Support	Total	Dwelling Units
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.
Miniwarehouse 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

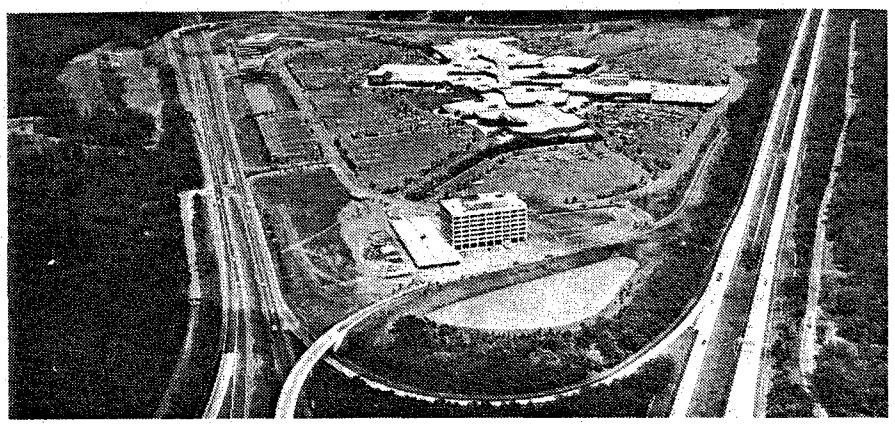
At the area-wide level, the Plan will be described in terms of systems—transportation, environmental, public facility sites, buffer relationships and land use.

Transportation Systems

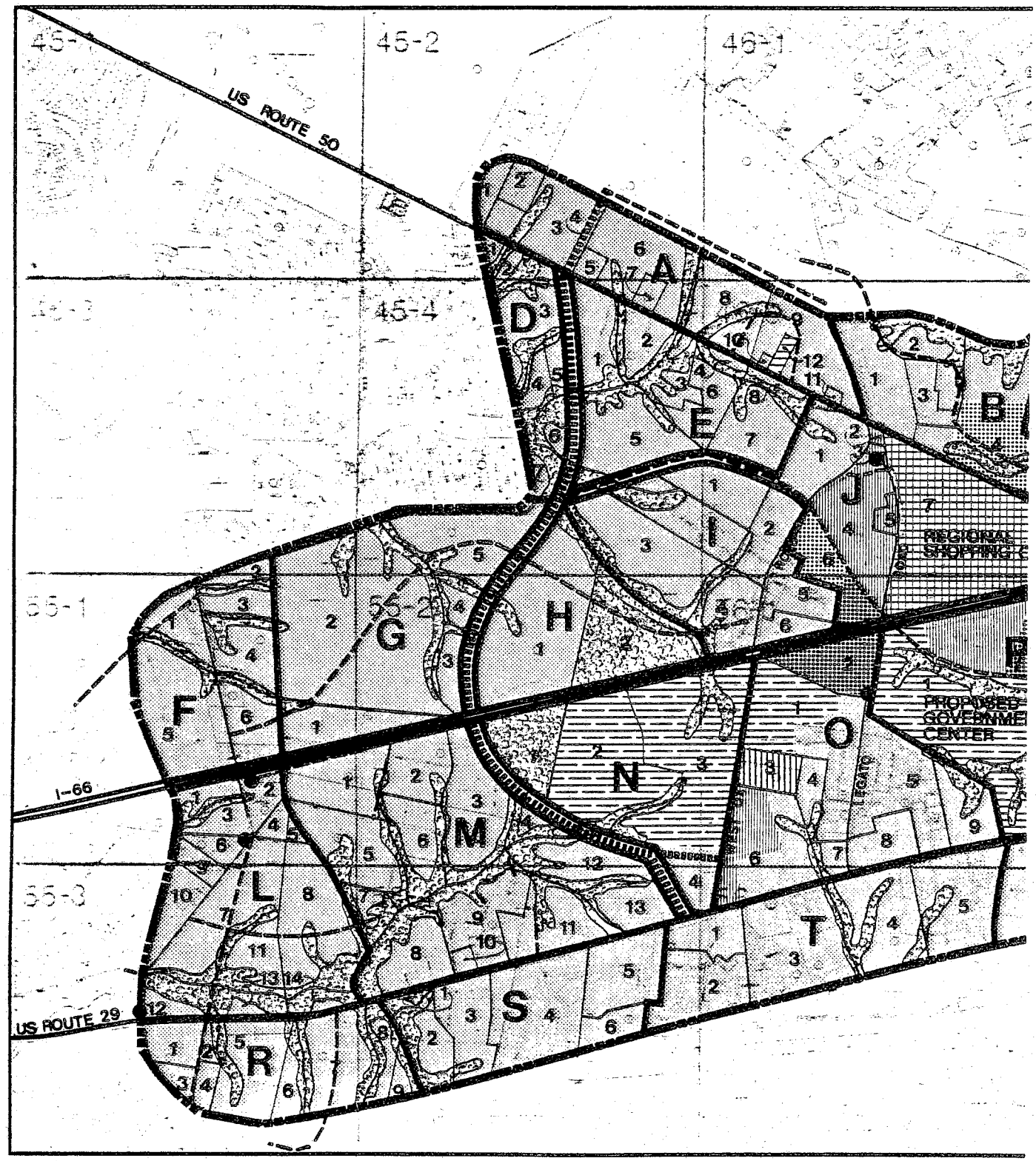
A. New Transportation Infrastructure Improvements. The automobile circulation system is hierarchical. The character of service provided is related to the hierarchy of land use types and intensities. The road system hierarchy can be outlined generally as follows:

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


46-2
46-1
US ROUTE 50
45-4
55-1
55-2
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REGIONAL
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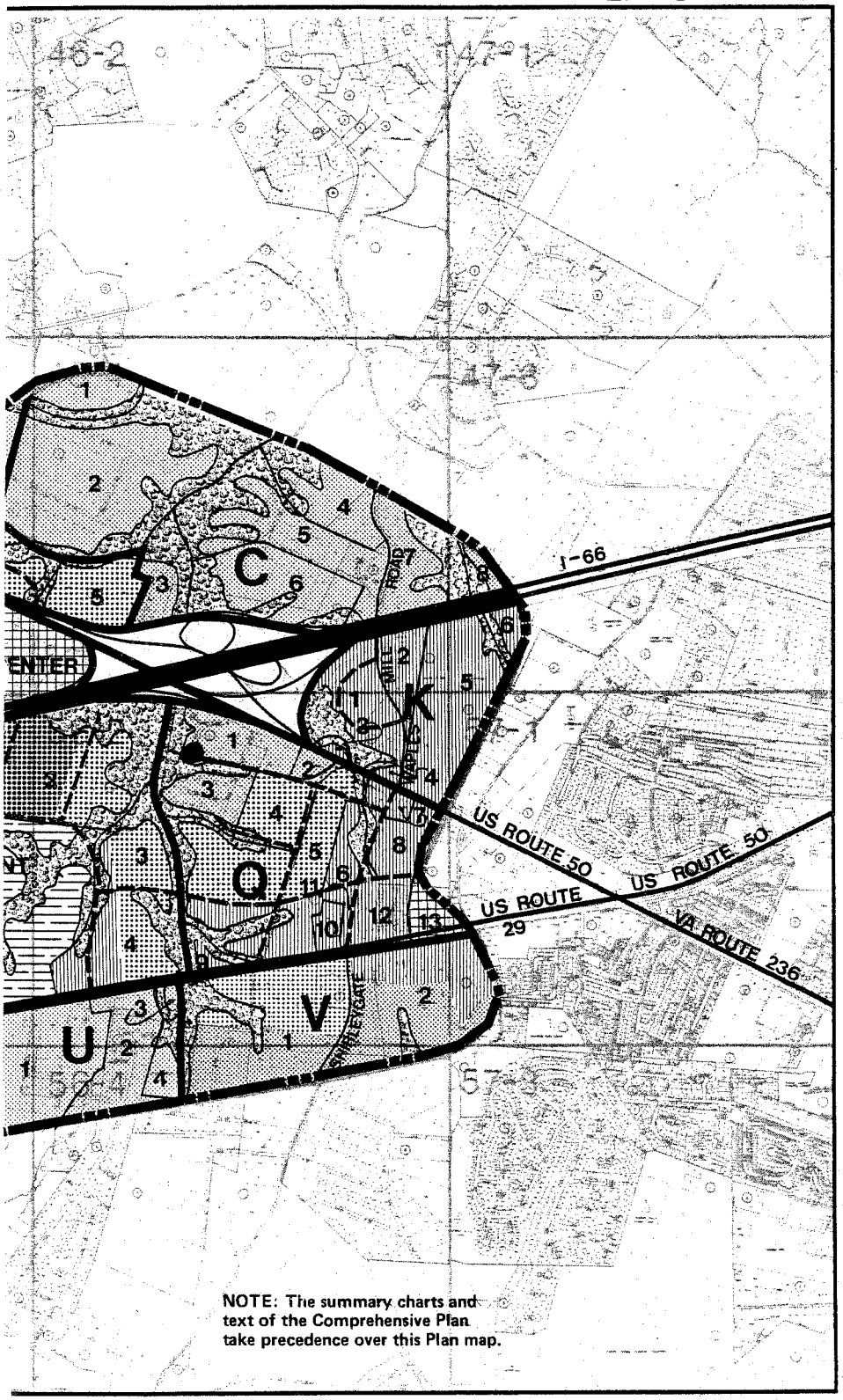
PROPOSED
GOVERNME
CENTER

LAND UNITS



BASELINE LEVEL

- RESIDENTIAL: .1-4 DU/AC.
- RESIDENTIAL: 4-8 DU/AC.
- RESIDENTIAL: 8-12 DU/AC.
- RESIDENTIAL: 12-16 DU/AC.
- RESIDENTIAL: 16 + DU/AC.
- OFFICE
- RETAIL
- INSTITUTIONAL
- INDUSTRIAL
- PARK
- ENVIRONMENTAL QUALITY CORRIDOR

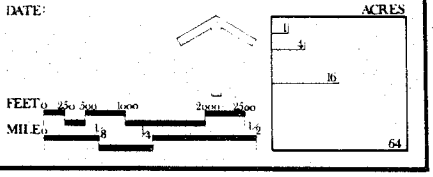
FAIRFAX CENTER AREA

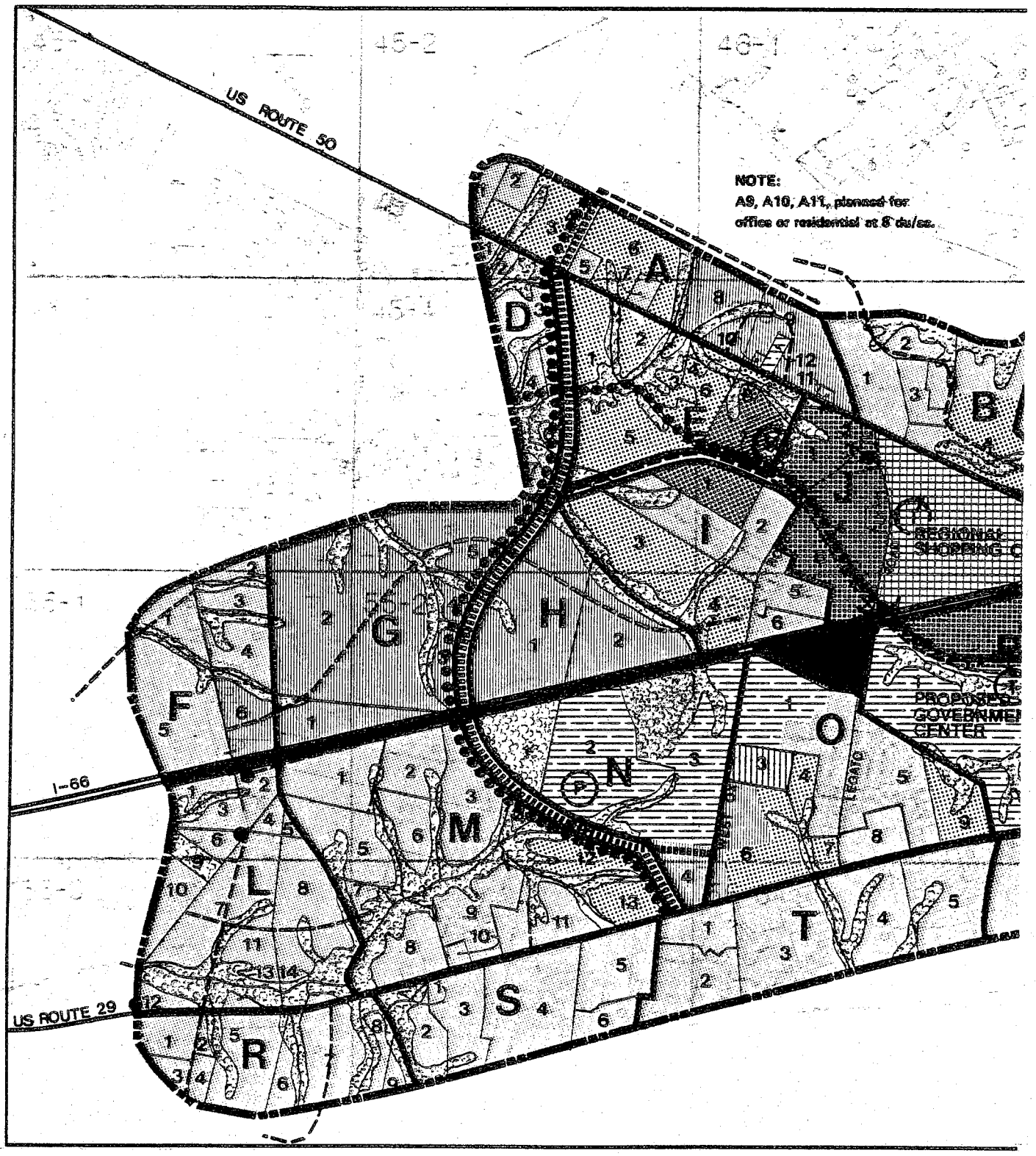
ROUTE 50/I-66
COMPREHENSIVE
LAND USE STUDY

FAIRFAX COUNTY VIRGINIA

PREPARED BY: EDAW INC. ALEXANDRIA VIRGINIA

DATE:




US ROUTE 50
NOTE:
A9, A10, A11, planned for office or residential at 8 du/ac.
REGIONAL SHOPPING C
PROPOSED GOVERNME CENTER
I-66
US ROUTE 29
A
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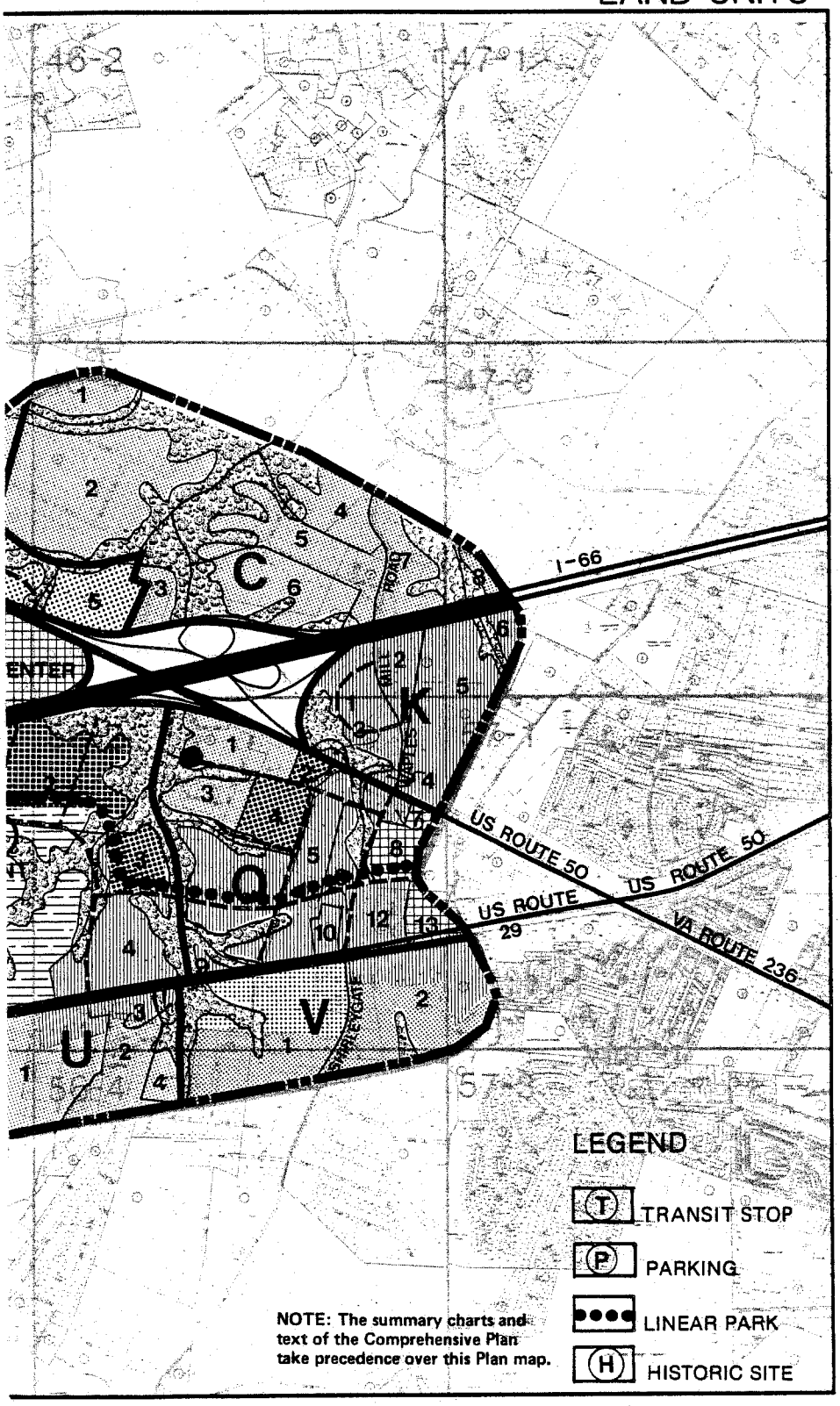
LAND UNITS



OVERLAY LEVEL

- RESIDENTIAL .1-4 DU/AC
- RESIDENTIAL 4-8 DU/AC
- RESIDENTIAL 8-12 DU/AC
- RESIDENTIAL 12-16 DU/AC
- RESIDENTIAL 16 + DU/AC
- OFFICE
- RETAIL
- INSTITUTIONAL
- INDUSTRIAL
- PARK
- ENVIRONMENTAL QUALITY CORRIDOR
- MIXED USE VILLAGE CORE

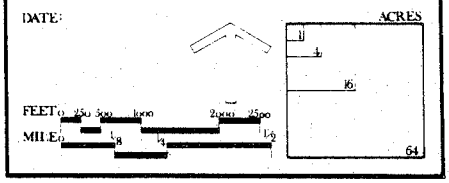
FAIRFAX CENTER AREA

ROUTE 50/I-66
COMPREHENSIVE
LAND USE STUDY

FAIRFAX COUNTY VIRGINIA

PREPARED BY: EDAW INC. ALEXANDRIA VIRGINIA

DATE:



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 entrance to the County 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, and West Ox Road.
- 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:
  - — 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. Major intersection improvements will be necessary at the Route 50 intersection. 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 Route 50 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 four-lane subconnector roadways on new location within the Fairfax Center Area. The major east-west subconnector road should connect with the north-south connector, 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.
- Legato Road. Cul-de-sac south of I-66, preserving the residential character of the neighborhood to the north of Route 29. Realign Legato Road north of I-66, to connect with West Ox Road farther south between Route 50 and the subconnector (immediately south of J1).
- Fairfax Farms Road. Construct extension to West Ox Road.

The recommended roadway improvements, including construction of roadways on new locations, widenings of existing roadway alignments, realignments, and interchange improvements, are shown on Map 10. Additional access considerations are addressed in previous sections discussing each of the major land use parcels.

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.

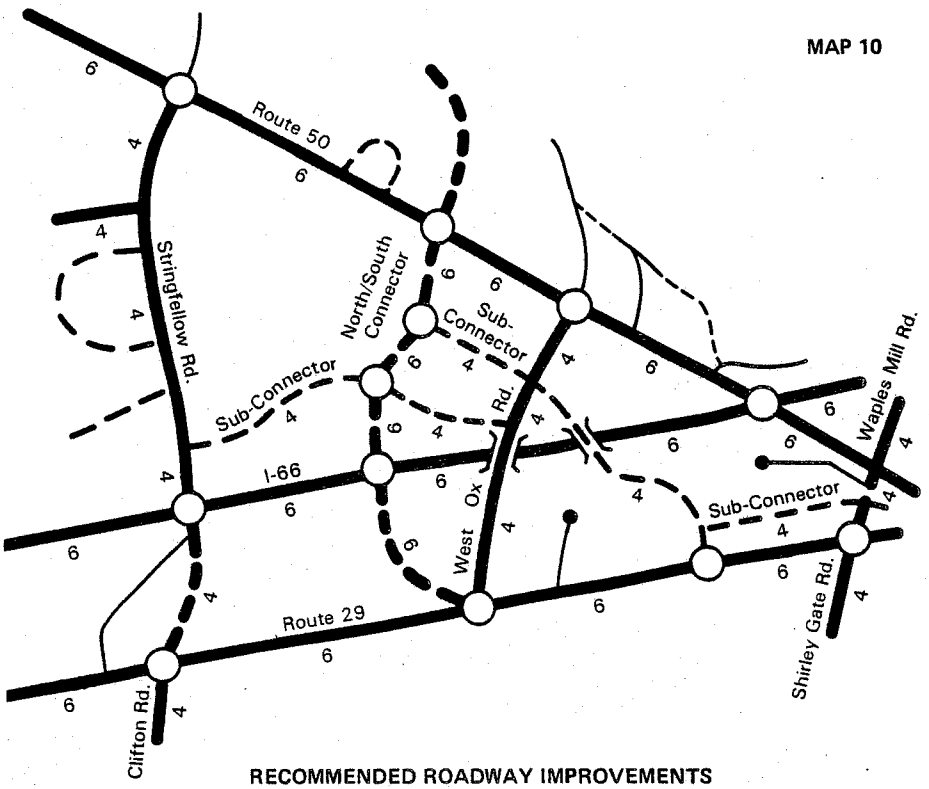
Commitments by either the public or private sector will include but not be limited to funding for construction of roadway projects, construction of roadway projects and dedication of rights-of-way. The commitments will be predicated on the proposed development per parcel and the resultant traffic utilization 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 grade separation of West Ox Road and Route 50. (This project is a high priority project depending on the circumstances of other improvements which would tend to relieve traffic congestion.)
- Complete the interchange at Route 50/I-66 with the addition of two ramps in order to accommodate the northbound Route 50 to eastbound I-66 traffic and the westbound I-66 to southbound Route 50 traffic.
- 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.
- Construct the four-lane 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 Route 50 and Route 29.
- Complete the construction of the four-lane subconnector between Stringfellow Road and West Ox Road with a 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 for Fairfax Farms to West Ox Road.

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.

MAP 10



RECOMMENDED ROADWAY IMPROVEMENTS

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 along 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.

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.

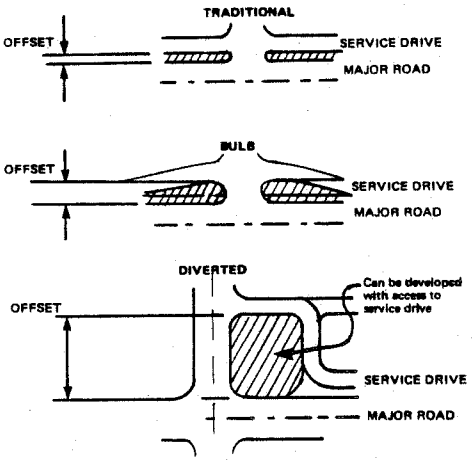
Service drive locations on Route 50:

- A service drive should be provided on the north side of Route 50 between the two median breaks where the loop road meets Route 50. No access between the service drive and Route 50 should be allowed except for access by emergency vehicles.
- 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 nonmotorized 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.

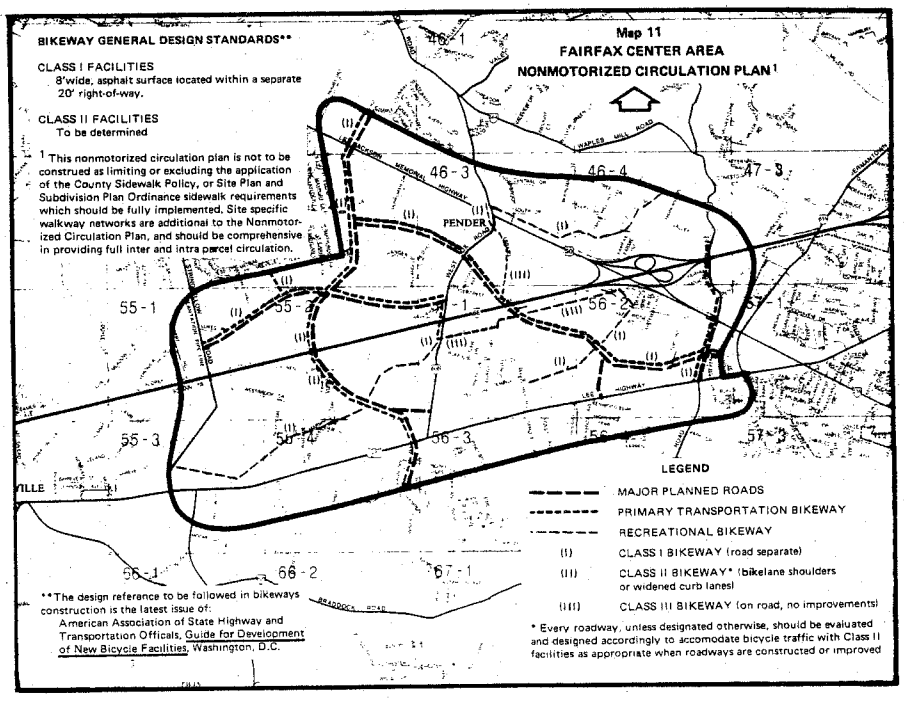
Environmental Systems

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 remainder 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.

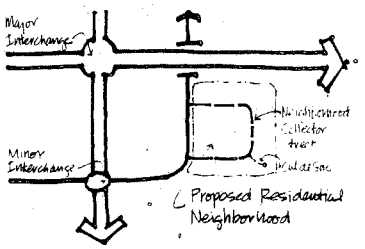
Illustrative concept plans which illustrate the desired site relationships, both graphically and by written notation, complement the descriptive text recommendations of this report. It is important to note that these concept plans are schematic in nature and are included for general planning guidance. 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

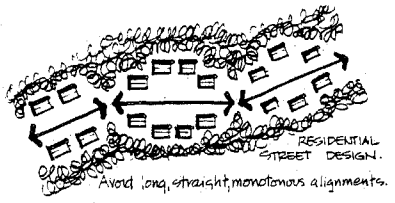
Residential/Single Family Detached Housing Criteria

Site Planning Checklist

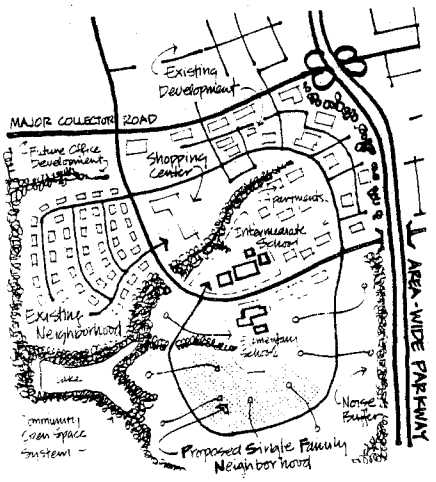
- General
  - Integrate new development with existing and future adjacent land uses.
  - Plan development in reasonably-scaled neighborhood modules.
  - Provide appropriate level, scale and location of support services/facilities (e.g., convenience commercial).
  - Provide pedestrian linkages to community-wide 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.



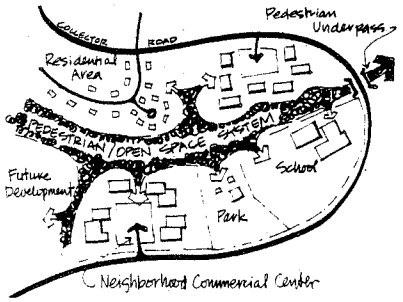
  - Minimize natural site amenity disturbance (e.g., quality trees, streams, etc.) through sensitive road design/construction.
  - Road alignments should reinforce neighborhood scale; avoid long, straight, monotonous residential streets.



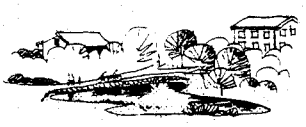
  - Avoid on-street parking in low-density neighborhoods; provide adequate off-street spaces.
  - In dense developments, provide off-street, screened parking areas for special vehicle storage (e.g. recreation vehicles, boats, trailers, etc.).
  - Establish distinct utility and landscaping corridors within 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.

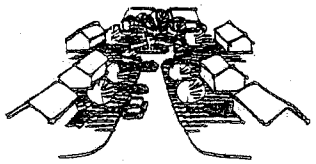


  - Provide stormwater detention/retention structures which can be retained as open space amenities.
  - Place all electrical utility lines underground; screen utility substations and service areas from public view.

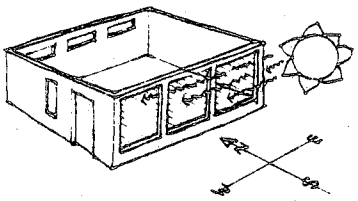
Fairfax Center Area (Continued)

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.



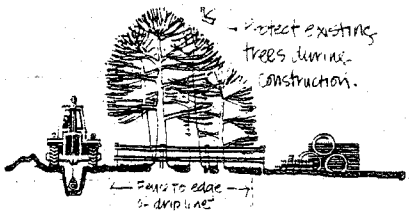
- Site units to maximize potential for shared or paired driveway entrances.
- Segregate primary building entries from service-type entries.
- Minimize solar heat gain in warm weather and maximize solar heat gain retention in cold weather through sensitive design treatment.
- Minimize solar heat gain for cooling and maximize solar heat gain/retention for heating by sensitive design treatment.



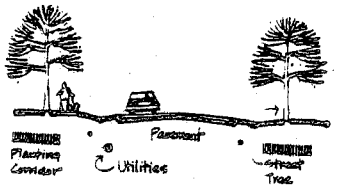
- Establish dwelling cluster architectural theme consistency, while avoiding literal facade repetition.
- Utilize similar architectural materials within a given cluster of dwellings.
- Keep architectural facade material types to a minimum on any single dwelling.
- Carry all attached facade materials (such as wood siding) down to a finished grade elevation or paint to match adjoining facade.

Landscape Architectural Checklist

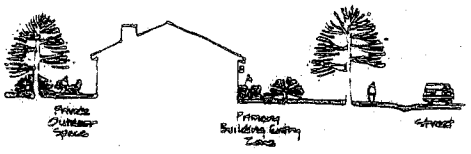
- Landscaping
  - Preserve existing quality vegetation to the greatest extent possible, integrating it into new designs.



- 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.



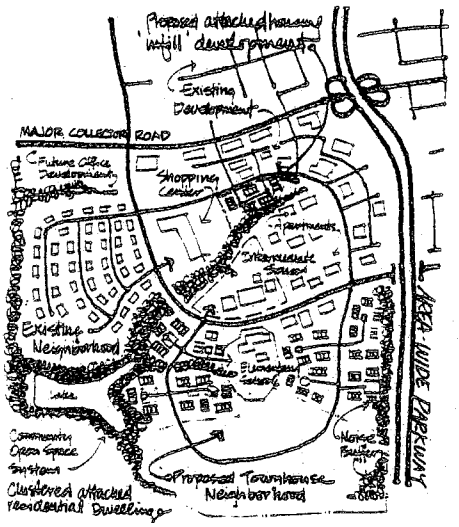
- Utilize special landscape treatments to define primary building entry zones.
- Use plant materials to define private outdoor social spaces for each unit, as needed.
- Use overhead canopy, intermediate focus and ground cover type plants to achieve functional goals.
- Provide well-landscaped special 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/Signing 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.

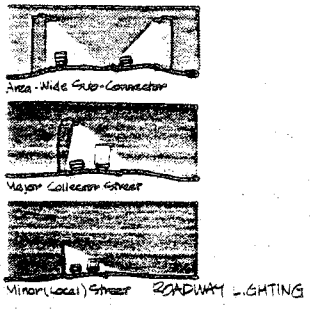
- Site Furnishing/Fencing/Mailboxes
  - Avoid fencing along lot lines between homes; this practice reduces the visual depth and width of individual properties.
  - Utilize fencing materials which relate to the proposed function of the fence (e.g., solid for privacy).
  - Utilize fencing materials and 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.



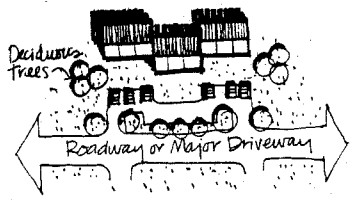
Residential/Single-Family Attached/Multi-Family Low-Rise Housing Criteria

Site Planning Checklist

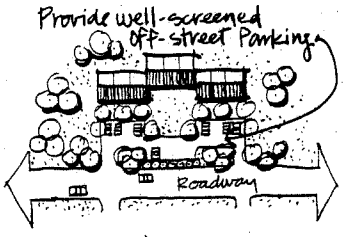
- General
  - Integrate new development with existing and future adjacent land uses.
  - Plan development in reasonably-scaled neighborhood modules.
  - Provide appropriate level, scale and location of support services/facilities (e.g., convenience commercial).
  - Provide pedestrian linkages to community-wide 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.



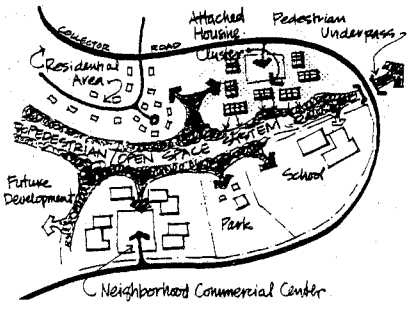
Fairfax Center Area (Continued)



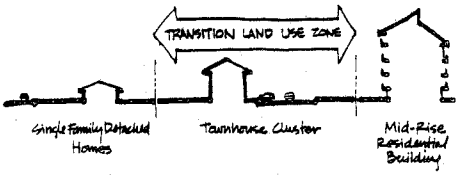
- Access/Roads/Parking
  - Provide adequate, safe auto access to the neighborhoods from appropriate level roadways.
  - Utilize a hierarchial system of internal roadways and drives; do not access units directly onto major collector roads.
  - Minimize natural site amenity disturbance (e.g., quality trees, 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 turnaround space in close proximity to dwelling 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.



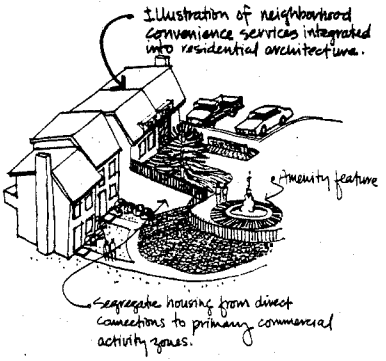
- Buffers
  - Utilize varying types and density/intensity of development as buffers for incompatible uses.
  - Take advantage of natural landscape edges and elements in buffering and defining neighborhood units.
  - Promote privacy between units with setbacks, plant materials, fences and grade changes.

- 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.

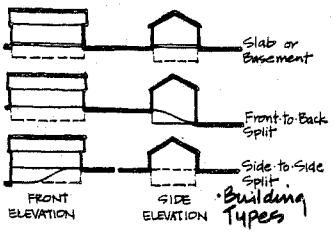
Consistency of unit scale with varied detailing in Attached Unit design.

Architectural Design Checklist

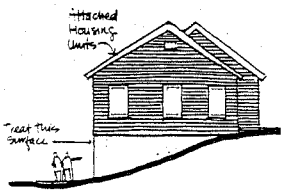
- Scale/Mass/Form
  - Provide general consistency in residential dwelling scale within each neighborhood.
  - Create interest through sensitive detailing and use of basic geometric forms for dwelling units.
  - Utilize varied setbacks to create interesting architectural (mass) relationships to the street.



  - 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.



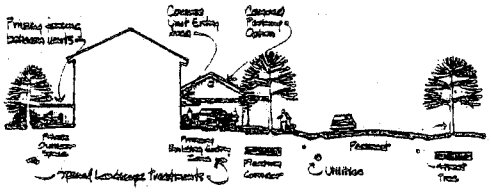
  - Carry all attached facade materials (such as wood siding) down to a finished grade elevation, or paint to match adjoining facade.
  - Incorporate special, landscaped transition areas at dwelling unit entry areas into building/site design.
  - Consider the inclusion of covered unit entry areas in architectural design.



Fairfax Center Area (Continued)

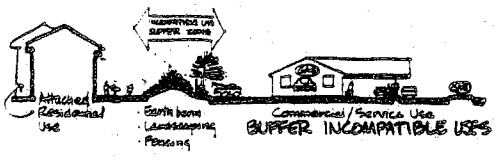
Landscape Architectural Checklist

- 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.



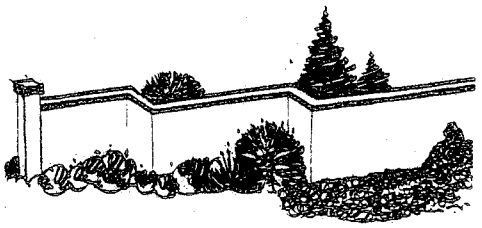
  - Utilize special landscape treatments to identify and reinforce community, neighborhood and building cluster entry areas.
  - Utilize special landscape treatments to define primary building entry zones.
  - Use plant materials to define private outdoor social spaces for each unit, as needed.
  - Buffer 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/Signing 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
  - 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.

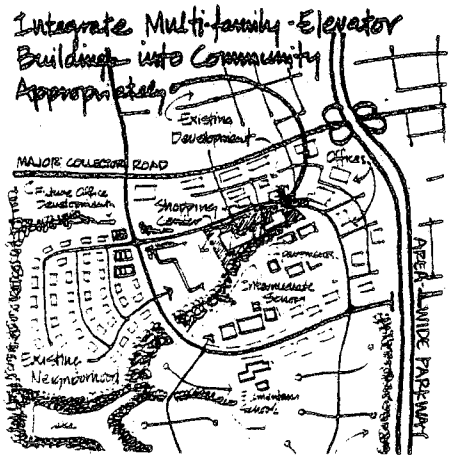


  - Avoid long, monotonous solid fence lines by using jogs or setbacks for visual interest.
  - If curbside mailboxes are used, provide multibox units consistent to the building cluster architecture/style.
- Site Furnishings/Minor Structures/Seating
  - Outdoor utility sheds/buildings should relate to dwelling architectural materials and style.
  - Provide bus shelters at major roadway entries as needed to serve residents utilizing existing or proposed transit services.
  - Consider the provision of gazebos or other outdoor shelters with architectural design compatible to residential building design.
  - Consider provision of other outdoor architectural elements, such as trellises or kiosks.
  - Provide outdoor seating at appropriate activity areas (e.g., tot lots, pool area, etc.).
  - Provide hard-surfaced landscaped recreational areas, especially around swimming pool/clubhouse areas.

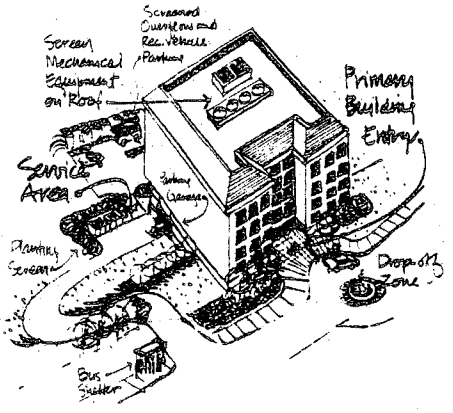
Residential/Multi-Family-Elevator Housing Criteria

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.



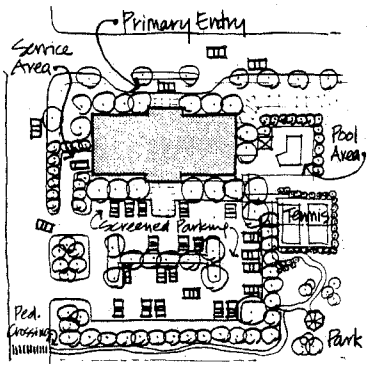
  - Provide appropriate level, scale and location of support services/facilities (e.g., convenience commercial) integrated into overall architectural design.
  - Provide pedestrian linkages to community-wide amenity areas, services and facilities.
  - Consider potential highway noise impacts in community, 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 hierarchial 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.



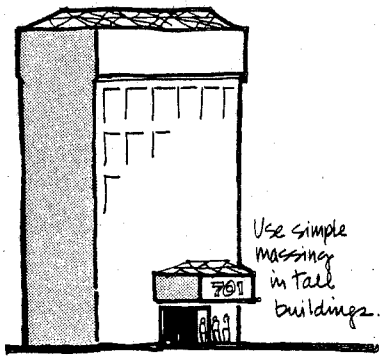
- Reduce impervious surfaces (roads, parking, buildings, etc.) through use of cluster design techniques and deck parking provision.
- Establish distinct utility and landscaping corridors within street rights-of-way and parking areas.
- Adhere to existing Farifax County development standards for minimum 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.

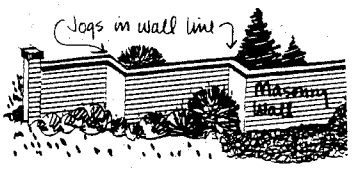
- Provide stormwater detention/retention structures which can be retained as open space amenities.
- Place all electrical utility lines underground; screen utility substations and service areas from public view.

Architectural Design Checklist

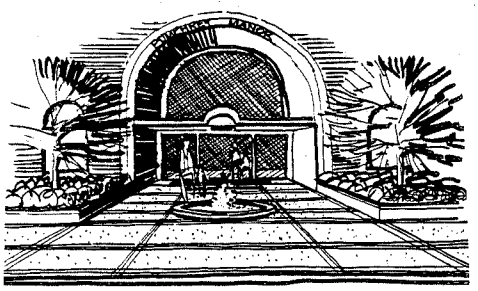
- Scale/Mass/Form
  - Maintain relatively simple massing in tall structures, with openings and entries clearly articulated through building offsets and texture/material changes.
  - Adhere to established Fairfax County building bulk and setback requirements.
  - Utilize varied setbacks to create interesting 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.

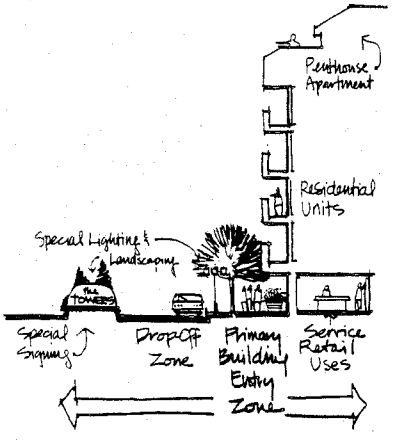


- Avoid false facade treatments which are unrelated to building form/ function.
- Carefully select and restrict the variety of architectural facade materials for each building, but avoid monolithic facade treatments.
- Integrate community and resident service uses into building architecture.
- Incorporate 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.

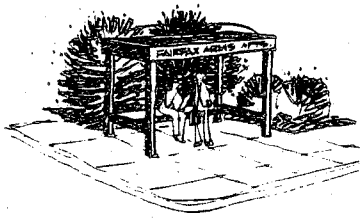


- Promote seasonal visual interest at major neighborhood focal points by using flowers and ornamental shrubs, trees, etc.
- Select low-maintenance landscape materials for common areas not likely to receive consistent maintenance.

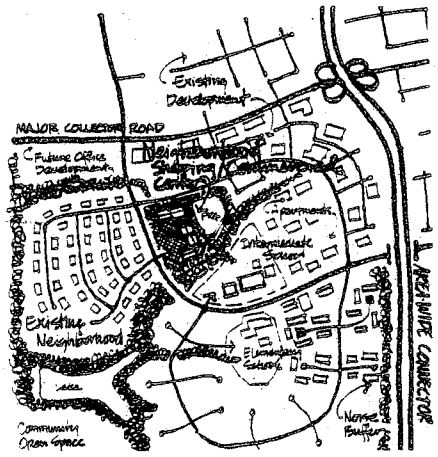
Fairfax Center Area (Continued)

- Protect solar access to buildings when incorporating landscape materials.

• Site Furnishings/Signing 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.



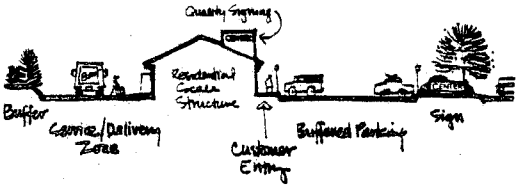
• Site Furnishings/Walls and Minor Structures
- Utilize concrete or masonary walls in conjunction with building style and materials for screening and grade-change accommodation.
- Avoid long, monotonous walls by incorporating jogs or setbacks for visual interest.
- If entry gates are used, ensure that 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

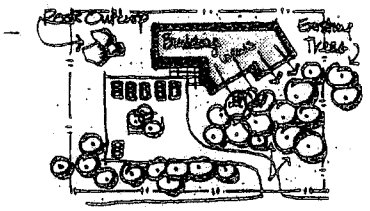
Site Planning Checklist

• General
- Integrate new development with existing and future adjacent land uses appropriately; locate new centers with quality vehicular and pedestrian access.



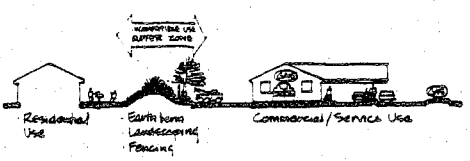
- Select type and scale of commercial office uses within each development which will serve local area needs.
- Utilize criteria for shared parking and open space between uses in site development, if feasible.
- Provide pedestrian linkages to residential neighborhoods and community-wide amenity areas, 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.

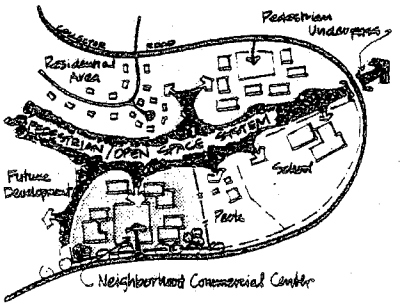


- Segregate service and maintenance drives and parking areas from customer entry and parking zones.
- Reduce impervious surfaces (drives, parking, buildings, etc.) through use of cluster design techniques.
- Provide a well-landscaped, high-quality image toward the street, and buffer service areas from 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.



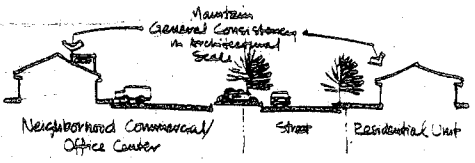
• Buffers
- Utilize varying scales and arrangement of buildings on-site as buffers for incompatible use relationships.
- Take advantage of natural landscape edges and elements in buffering and defining neighborhood center components.
- Utilize architectural elements (walls, buildings, etc.) as visual 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

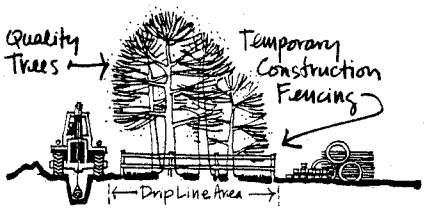
• Scale/Mass/Form
- Provide general consistency between neighborhood residential unit scale and proposed neighborhood/commercial/office complex scale.
- Create interest through sensitive detailing and use of basic geometric forms for commercial structures.
- Utilize varied building facade setbacks to create interesting architectural (mass) relationships to the street.



- Cluster buildings around courtyard-like areas to reinforce neighborhood scale.

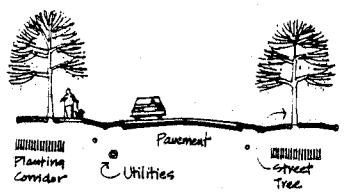
• Functional Relationships/Facade Treatment
- Select and site appropriate building types with respect to natural topography.
- Utilize current energy conservation technology in architectural and heating/cooling systems design.
- Minimize solar heat gain for cooling and maximize solar heat gain/retention for heating by sensitive design treatment.
- Establish center-wide architectural theme consistency.
- Utilize similar architectural materials within the center development.

Fairfax Center Area (Continued)

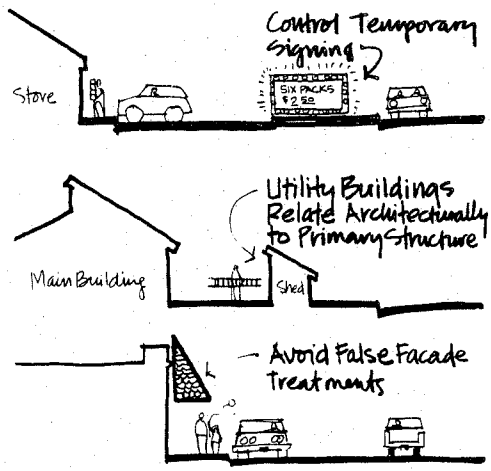


Landscape Architectural Checklist

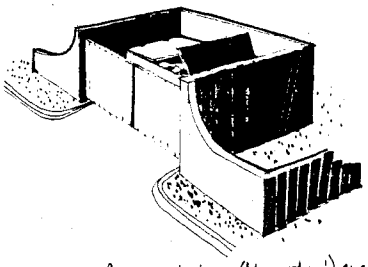
- Landscaping
  - Preserve existing quality vegetation to the greatest extent possible, integrating it into new designs.
  - Restore disturbed areas to a visually appealing landscape character through landscape architectural treatment.
  - Provide shade trees in all parking lots; use consistent species 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/Signing 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.



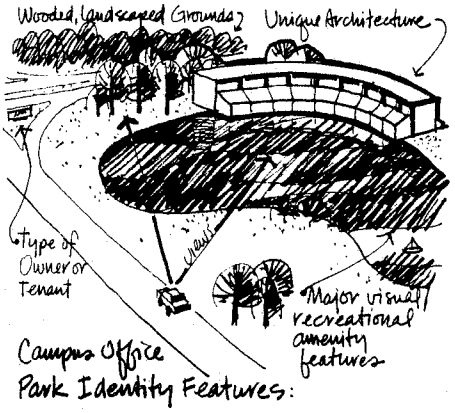
Screen refuse container ('dumpster') areas.

- 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

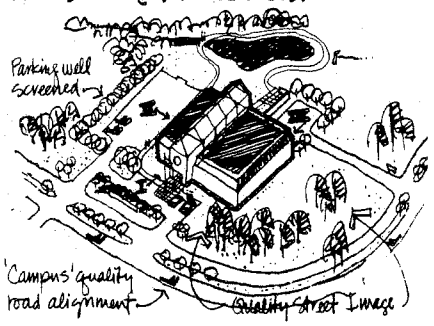
Site Planning Checklist

- 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 hierarchial 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.



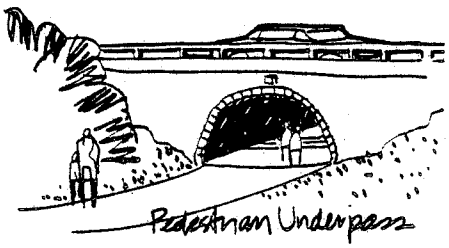
  - Provide well-screened off-street parking areas for employees/visitors.
  - Road alignments should reinforce campus quality and scale; avoid long, straight, monotonous street layouts.
  - Provide some parking areas for compact cars in order to reduce the area of impervious site cover.
  - Provide screened 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)

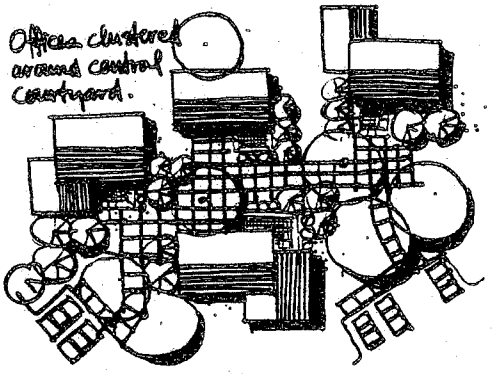


- Utilize natural (especially wooded) open space corridors/areas as transition zones, visual amenities and buffers.
- Buffers
  - Utilize varying scales and arrangements of building masses as buffers for incompatible use relationships.
  - Take advantage of natural landscape edges and elements in buffering 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

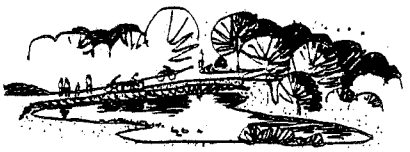
- Scale/Mass/Form
  - Provide general consistency in architectural scale within each development cluster.
  - Create interest through sensitive detailing and use of basic geometric forms reflecting building function.
  - Utilize varied building/facade setbacks to create interesting architectural (mass) 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.



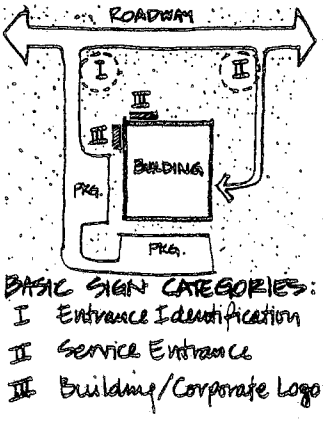
  - Select low-maintenance landscape materials for areas not likely to receive consistent maintenance; maintain landscape materials in all entry and streetscape areas.
  - Protect solar access to buildings when incorporating landscape materials.
- Site Furnishings/Signing and Lighting
  - Provide a well-designed 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

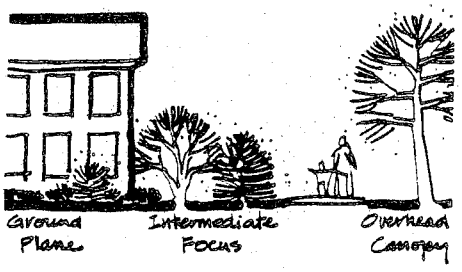
- Landscaping
  - Preserve existing quality vegetation to the greatest extent possible, integrating it into new designs.
  - Restore disturbed areas to a visually appealing landscape character through landscape architectural treatment.
  - Provide shade trees in all parking lots; use consistent species 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.



  - 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.

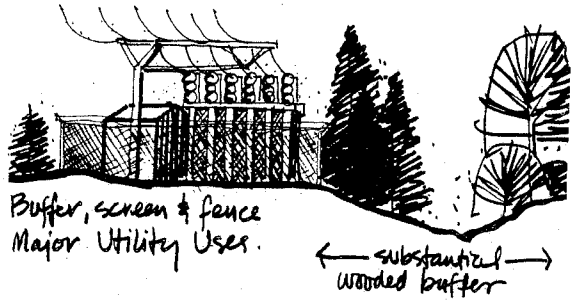


Fairfax Center Area (Continued)

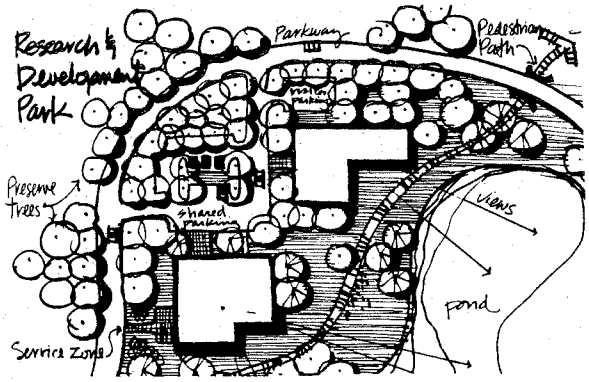
Research and Development/Utility and Light Industrial Criteria

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.

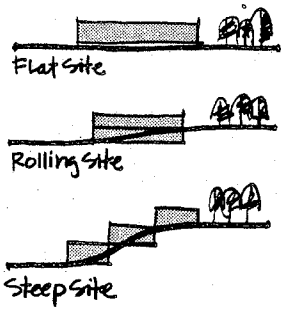


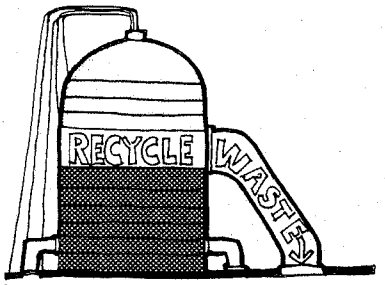
  - Utilize energy conservation-based criteria in planning and design.
- Access/Roads/Parking
  - Provide adequate, safe auto and truck access into the development from appropriate level roadways.
  - Utilize a hierarchial system of internal roadways; do not access parking/service areas directly from major 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.





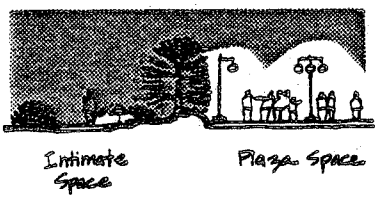
'Super-graphics' utilized on Utility Structures

  - 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.

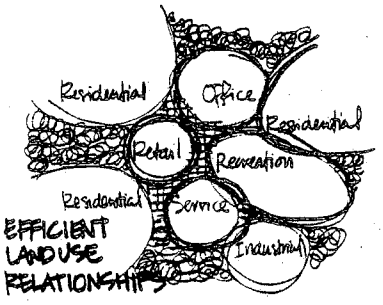


  - Select low-maintenance landscape materials for areas not likely to receive consistent maintenance.
  - Protect solar access to buildings when incorporating landscape materials.
- Site Furnishings/Signing and Lighting
  - Provide a well-designed signage system to identify buildings and direct safe vehicular and pedestrian movement throughout the development.
  - Provide well-designed entry signs at major auto/pedestrian entry areas.
  - Provide design guidelines for all commercial/industrial signing within the development, including temporary, advertising, construction and information signing.
  - 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.

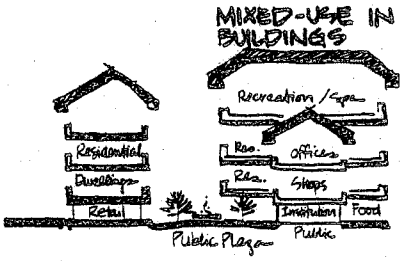
SPECIAL CONDITIONS
DEVELOPMENT CRITERIA

Energy Efficient Planning and Design

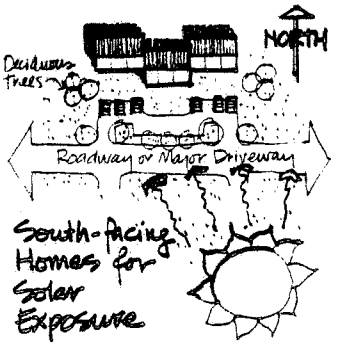
Planning with energy efficiency as a priority is no longer a luxury. Energy considerations should be incorporated in all land use decisions in an effort to reduce dependency upon purchased energy. Energy conservation can be achieved in two major ways—through land use mixes that minimize the need for 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.

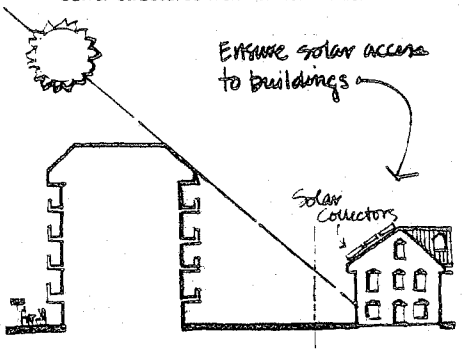


Careful site planning is not only cost efficient in regard to energy consumption, but also cost effective for developers in regard to site work. This cost benefit results from working with existing land forms, minimizing the need for extensive earthwork. Retention of natural features and flexible site 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 inately 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.

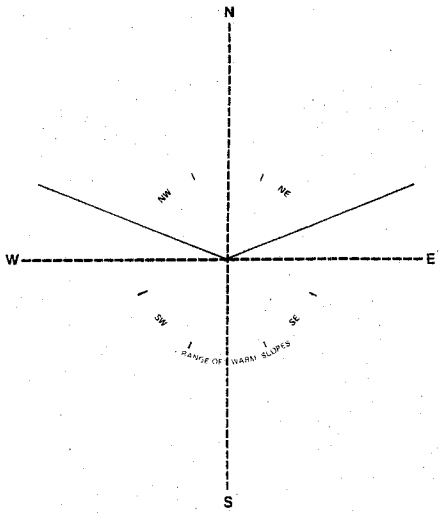


FIGURE 1: RANGE OF WARM SLOPES

- 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 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.

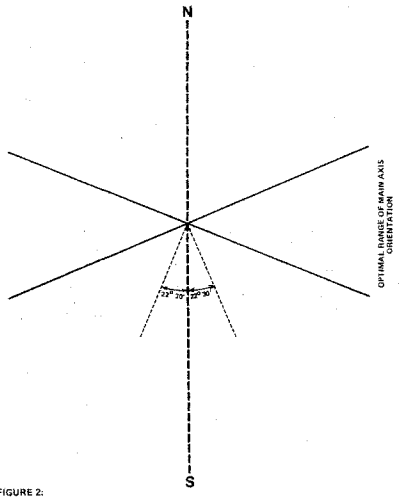


FIGURE 2:
OPTIMAL SOLAR ORIENTATION OCCURS WHEN THE MAIN AXIS OF A BUILDING IS PERPENDICULAR TO A LINE NO MORE THAN 22° 30' FROM DUE SOUTH.

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.

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.[1] 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.

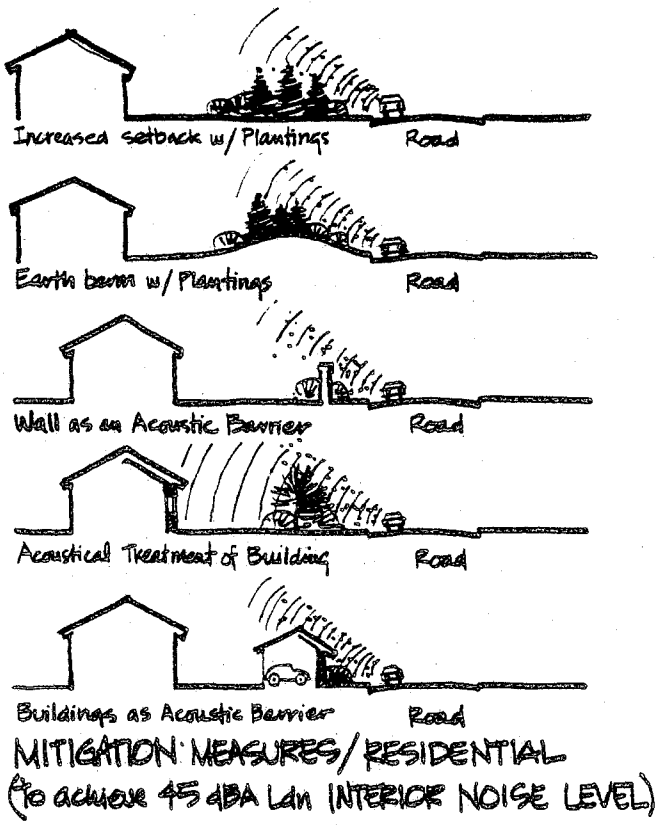
An applicant should submit a planting plan incorporating the above considerations for review. Planting plans should be provided for the following specific areas where applicable:

- 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.



[1] Federal Highway Administration RD-77-108 Highway Traffic Noise Protection Model (FHWA Technical Advisory T 5040.5)

OPTION AREAS

Option areas make up the remainder of developable land after stable and complex areas have been identified and delineated. Only the western portion of the County contains substantial amounts of option area, so Area III is the only group of district plans in which option areas figure prominently.

There are four option areas in Area III. Two are in the Upper Potomac Planning District and two in Bull Run. Generally, these areas are not highly developed. Although there seems to be an extreme amount of vacant option land, the environmental constraints, such as floodplains, account for as much as 15 percent in some areas.

The majority of this land is located on the fringe of existing development; e.g., Herndon, Fairfax City and Centreville. An exception is the option area in the vicinity of Dulles Airport. The land directly adjacent to the airport offers little choice in land use alternatives, as the category of airport-oriented uses is generally considered the best choice. The option lies in the extent and composition of these uses; e.g., industrial; commercial, recreational, and industrial; varied commercial and residential development.

In most of the option areas, there is a conflict between a preference for overall low densities and higher densities because of the facilities available at adjacent growth centers; e.g., Herndon and Centreville. Where alternatives are available, the lowest density is generally selected, with the exception of Option Area 2 where the nearby location of Dulles Airport is of prime importance. Although all four option areas have major roads penetrating their boundaries, any substantial development would require considerable expenditure on improved public facilities, internal roads, and shopping facilities.

A major feature of land use policy is to preserve as much of the environmental quality corridors as possible, especially land associated with the major stream valleys, thereby encouraging futher overall low densities. These areas of conservation and low densities tend to act as buffers against expanding development after 1990, when the growth pattern can be more easily determined.

IDENTIFICATION CRITERIA FOR OPTION AREAS

Besides the complementary characteristic of being the residual after other areas are removed from consideration, option areas are likely to show the following attributes:

- Relatively little development has already taken place, leaving the character of the area open to a range of possibilities.
- Intensive development is not contemplated within the ten-year time horizon.
- Low to moderate average residential densities are most appropriate, consistent with the maintenance of environmental quality.
- Serious problems in option areas are not imminent, so the depth of analysis and the urgency of attention are lower than is true for complex areas.

OPTION AREA ANALYSIS AND POLICY APPROACH

From the demand side, pressures on option areas depend upon the extent to which infill takes place in eastern portions of the County and growth occurs in planned development centers. On the supply side, environmental constraints and the provision of public facilities will be used to guide development. Industrial development can take place in locations which are served by transportation and reserved for industrial purposes, such as near Dulles Airport, but commercial development on a large scale is not expected in option areas.

Policies that are applicable to option areas include:

- Environmental impacts should be minimized and insofar as possible self-contained within option areas, creating no problems for other portions of the County.
- Commercial development, if any takes place, should be primarily to serve additional growth within the option area in which it is located.
- Moderate-density growth should be guided and paced by transportation, sewer, schools and other public facilities.
- Low density development should be primarily for the purposes of environmental protection, as in the case of the Occoquan watershed.
- Average density ranges will be recommended for option areas. The low end of the range is assumed to govern as a general rule, unless the developer can demonstrate that the County will benefit from (not simply tolerate) densities toward the upper end of the range.
- It is not expected that average densities can be maintained uniformly across all parcels. The preferred pattern of development within option areas is to cluster more dwelling units in locations which have soil, slope, vegetation, transportation, services and other characteristics which will support more dwelling units, keeping development out of the sensitive or unsuitable areas (e.g., cannot meet septic sewage disposal standards).
- If it is desirable to retain the option for intensive development at a future date, then either low-density development should be permitted or no development at all. Moderate-density development would tend to preclude redevelopment within the foreseeable future.
- If it is desirable to retain agriculture as a functioning land use, then contractual arrangements should be made with owners of specific farms; general incentives such as tax rollbacks will tend to benefit those who do not need the subsidy and produce relatively little positive results for the cost to the County taxpayers.
- Option areas suitable for industrial development should be set aside for that purpose and the timing of development guided by the provision of services and transportation facilities.

ISSUES AND RECOMMENDATIONS

Land Use and Population Density

Much of the land is strategically located, especially Option Area 2 which is adjacent to Dulles International Airport. However, they do not have the growth pressure and complex planning issues associated with the complex areas. In all cases, more than one land use pattern and density policy is feasible, although the range is narrow when compared to complex areas, and depends upon the following factors:

- economic potential, if any, of the option areas;
- extent of commitment to public facilities, especially sewer;
- extent of commitment to transportation improvements;
- compatibility with proposals for complex and stable area development;
- constraints and amenities of local environment;
- growth policy in these areas (i.e., whether recommended use is planned for 1990 or whether flexibility is allowed for long-range development); and
- estimates of 1990 development levels within complex and stable areas.

Reference to high, medium, and low densities are made to comply with the definitions adopted for all four planning areas in the County, and are described in the Residential Infill section which follows.

Generally, option areas in Area III tend to be in the low-density range and the degree of choice does not normally extend beyond six dwelling units per acre. Higher densities are recommended when transportation, environmental constraints, and proximity to existing and proposed development make this classification beneficial, and even then they are very selectively located. An exception to the low-density policy is found in Option Area 2, especially to the north, where a higher level of development is deemed necessary.

Apart from Option Areas 2 and 3, industrial activity is expected to be minimal. Any commercial increase needed to service the additional population would be located either within the actual option areas (e.g., Option Area 3) or in nearby locations (e.g., Option Area 1 would be served by facilities in Herndon or in nearby Loudoun County).

Environment

Environmental constraints and amenities play a major role in the determination of density control. To varying degrees, the characteristics of noise, air quality, hydrology, and soils in option areas determine the land use densities in these areas. Flood plains, permanent parks, excessive slopes, and high soil erodibility potential prohibit growth, totally or in part. Stream valleys, commercial farms, recreational open space, wildlife habitats, historic districts, and scenic vistas either limit or condition the location and density of development. Environmental factors have a different impact in particular areas (e.g., the noise factor plays a prominent part in the residential distribution in Option Areas 2 and 3). Stream valley preservation is of particular importance in Option Areas 1 and 7. Option Areas 3 and 7 are within the Occoquan watershed critical environmental area. There density is kept low and where a higher density is recommended, stringent engineering controls are to be enforced to prevent siltation and pollution.

Transportation

Option area densities should be planned in such a manner that major highway transportation facilities and the proposed improvements to them are not jeopardized by unplanned rapid expansion in these areas. These highways are I-66, Route 50, Dulles Access Road, Route 28, and the proposed Springfield Bypass. Their capacities will be largely determined by regional and County demands and the densities recommended for complex and stable areas. Access points with grade separation will be required and recommended where entry into major highways is anticipated. When development occurs, existing and new internal roads must be made to comply with safety standards. The layout and integration of the internal roads, especially those with connections to the Dulles Access Road and Route 28, are

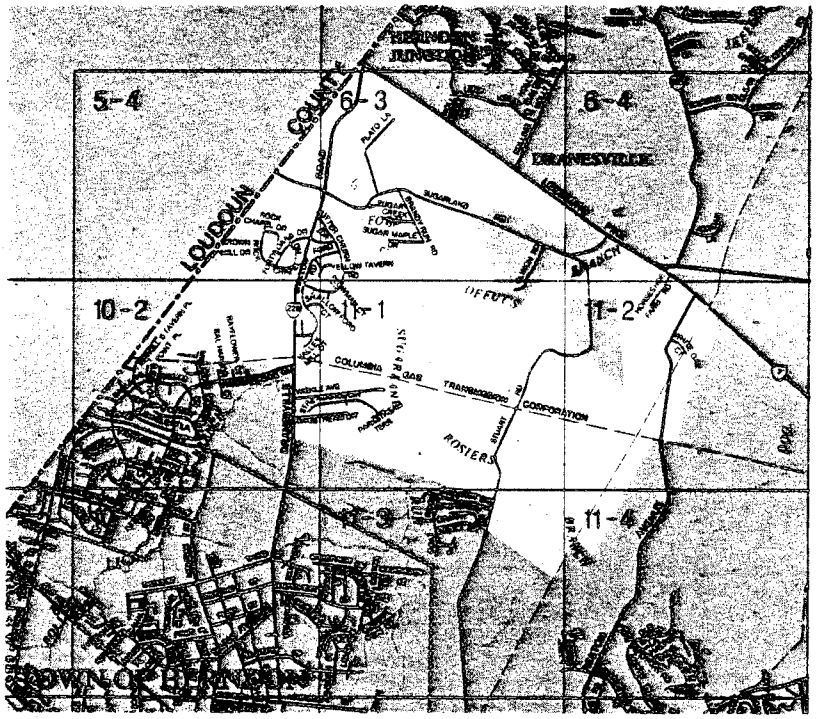
of particular importance in Option Area 2. The option areas in Area III are also prime locations for innovating pedestrian and bike systems.

Metro rapid-rail extension in Area III is not expected prior to 1990, although bus travel will be considerably improved and option areas will benefit from nearly transportation terminals. This is especially significant with regard to the proximity of Option Area 2 to Dulles Airport.

Other Facilities

Schools, libraries, and similar facilities are usually found in contiguous areas of greater densities or proposed growth areas. Parks and recreational facilities are generally located either in the actual option area or in nearby low-density conservation areas.

OPTION AREA 1



Land Use

Option Area 1 is contained in Sectors UP4 and UP5. 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.

The only local-serving commercial uses in the option area are at Reston Avenue and Route 7. Shopping is available in Herndon, Reston, and along Route 7 in Loudoun County. Regional commercial uses are located at Tysons Corner.

Transportation

Access is adequate from Route 7, but good interior circulation is provided only by Dranesville Road and recent roads necessitated by new construction. Any new development will have to be served by improved interior roads.

The 1970-71 Upper Potomac Plan included in its recommendations an alignment for a major north-south link from Route 50 to Baron Cameron Avenue. No connection between Baron Cameron Avenue and Route 7 was included until a satisfactory Potomac River crossing could be found, because the facility was originally conceived as a regional outer beltway. Fairfax and Loudoun Counties have both established a policy against a Potomac River crossing and an outer beltway. There is, however, still a need to provide a north-south link from Route 7 to a major radial highway (Dulles Access Road with access or parallel lanes, Route 50 or I-66) south of Route 7, so that regional access to Reston and its future town center can be provided. A north-south facility located to serve the Reston town center would also serve as a bypass for the Town of Herndon, which is needed because north-south regional traffic now uses a local-serving street through the center of town. The Springfield Bypass will provide north-south access in this area.

Public Facilities

Sugarland Run stream valley and its tributaries provide both a scenic and recreation resource. Parts of Folly Lick and Sugarland Run stream valleys have already been acquired by the County.

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. The entire option area lies within the Sugarland Run drainage basin.

The Fairfax County Water Authority's Potomac River treatment plant is located on the west side of Stuart Road and north of the Atlantic Seaboard pipeline easement.

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, Option Area 1 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.

History

Part of the Dranesville Tavern Historic District lies within this area. Regulations for this area are described in Sector UP4.

OPTIONS

Alternative choices for this rapidly changing area vary from maximum utilization of the available land for medium-density housing to conservation of undeveloped land, with special consideration being given the stream valley of Sugarland Run.

- Option A. Protection of Sugarland Run and stream valley and the open space in the contiguous areas.
- Option B. Residential development of a density similar to that established north of the Herndon boundary (2-3 dwelling units per acre), and in contiguous Loudoun County, and reinforced by the Allman court decision.
- Option C. Low density residential development similar to that existing near Herndon (2-3 dwelling units per acre) and that granted for the Allman tract, west of Sugarland Run, and low-density residential development (.5-1 dwelling unit per acre) 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. *This option is the adopted recommendation.*

RECOMMENDATIONS

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 in 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 recent Allman court decision granting 2-3 dwelling units per acre. *Option C is recommended.*

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

B. Preserve the ford on Sugarland Run.

C. 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.

D. 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.

E. Prohibit strip commercial uses on Route 7.

OPTION AREA 2

Land Use

This area lies within Sectors UP7 and UP8. The area is relatively flat and partially covered by trees, mainly of the deciduous variety.

With few exceptions, such as the Floris residential area, previous plans have called for airport-oriented uses. The protection of the Floris development from encroachment by proposed airport-oriented uses is a significant issue.

There is only one small convenience shopping area near the intersection of West Ox Road and Centreville Road. Local-serving commercial uses are located in Herndon, Chantilly and Reston.

Some of the land in this option 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. Old Centreville Road bisects the area and connects Herndon to Chantilly and Route 50. Internal circulation is generally adequate for existing development, but any substantial new development will require considerable road improvements.

Public Facilities

Sully Plantation Park is located on Route 28 adjacent to Cain Branch. Frying Pan Park is the only model farm owned and operated by the Fairfax County Park Authority.

Other public facilities such as libraries, health, and social services are not located in this option area. The completion of the nearby North County Governmental Center will help provide numerous public services.

Environment

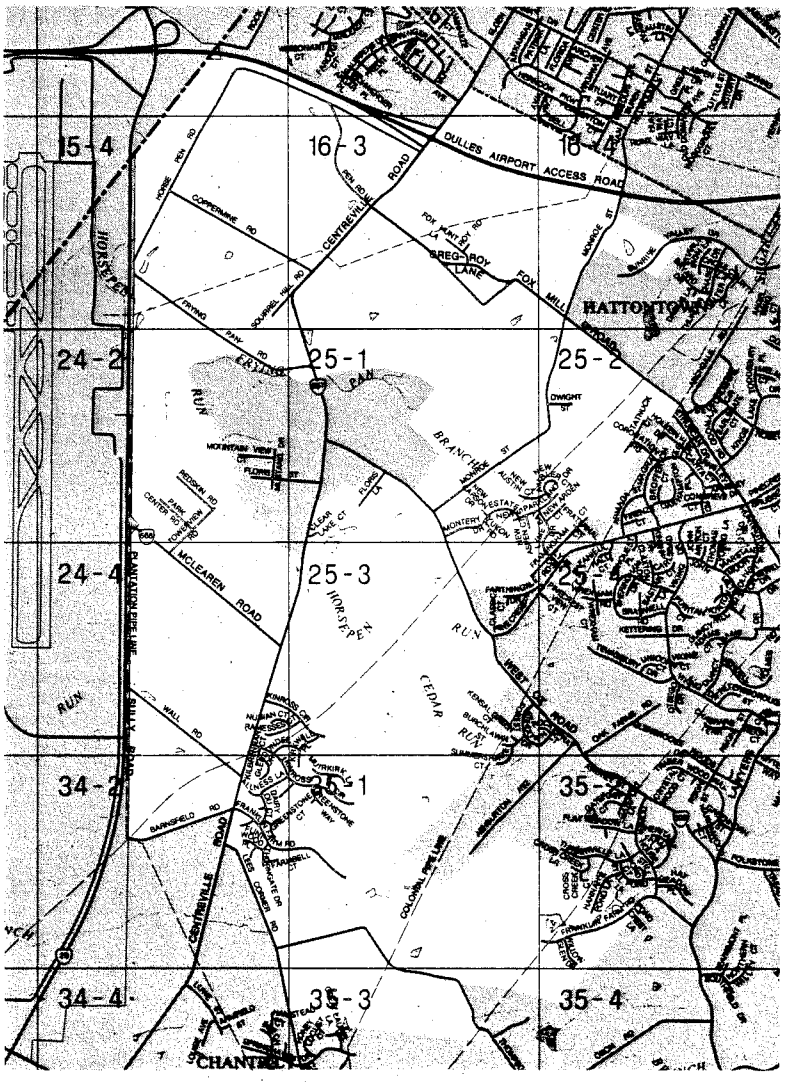
Most of this sector is drained by Horsepen Creek and its tributaries which provide the greatest amount of environmental quality corridor land. Cain Branch, Dead Run and their tributaries also extend into this sector. Since these streams are in the upper watershed of the Occoquan Basin, few sections of the stream valleys will meet the environmental quality corridor definition. This sector is affected by the Dulles Noise Impact Area as well as by highway noise.

This option area is in the Triassic zone groundwater recharge area and 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.

OPTIONS

This large area has two dominant influences—Dulles Airport to the west and Reston to the east. With proposed road improvements to the north (parallel lanes on Dulles Airport Access Road) and the south (Route 50), and an improved Route 28 facility, this area is potentially very accessible. The environment, although important, is not so critical as in many of the undeveloped portions of Area III.

- Option A. Airport-oriented uses west of Centreville Road; residential uses at a variety of densities east of Centreville Road to provide housing near basic employment. *This option is the adopted recommendation.*



- Option B. Airport-oriented uses in severe noise zones only and residential uses on the remainder of developable land to provide housing near basic employment in Herndon/Reston, Centreville and Dulles Airport.
- Option C. Airport-oriented uses west of Centreville Road and conservation and low-density residential development on the remainder of developable land to protect existing farmland and the Horsepen Run and Frying Pan Branch stream valley area.

RECOMMENDATIONS

Part of this option 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 option area 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. 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. It is desirable to accomplish a qualitative difference in development between this area and Reston to enhance the attractiveness of the new town environment.

The airport-oriented uses, however, present a special situation in which moderate-density residential uses are desirable to provide housing near this basic employment resource. *Option A is recommended.*

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 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. 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.*

D. 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.

E. 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.*

F. 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.*

G. 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.*

H. Density should generally be between 2-3 dwelling units per acre east of Centreville Road except for the southeast portion of Option Area 2, which should be 1-2 dwelling units per acre west of Ashburton Avenue extended and 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, and .5-1 dwelling unit per acre for the land east of Ashburton Avenue and Ashburton Avenue extended.

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.

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

J. 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.

K. 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.

L. See the introduction to the Area III section of the Plan for land use planning policies in the Dulles Airport Noise Impact Area.

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

N. 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 as 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.

O. 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.

P. 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.

Q. 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.

R. The environmental quality corridor system as described at the beginning of the Area III section of the Plan, including those EQC lands along Dead Run, Cain Branch and their tributaries, should be preserved through a variety of implementation methods.

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

*See Areas Related to Dulles Airport and Access Road, which follows the Option Area section.

OPTION AREA 3

Land Use

This area includes part of Sectors BR2, BR3, BR4, and BR6. The area is mostly undeveloped forest and meadowland with some farms and large-acreage homes scattered throughout. Development is difficult on septic systems because of soil conditions. There are no local serving commercial uses in this area. Commercial uses are located in Centreville, Fairfax City, and along Route 50 in Chantilly.

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.

Transportation

Major access is provided by Route 50, Route 29, and I-66. Route 28 provides north-south access. Route 28 is planned for improvement to a four-lane divided facility with limited access. Rural secondary roads provide internal circulation within the area. Braddock Road, which serves the southern portion, is in poor condition and has alignment and intersection deficiencies at Route 28. There is no public transportation.

Public Facilities

Projected development will generate demand for additional elementary school space. An elementary school site in the Country Club Manor subdivision has been approved through the development process.

There are no community parks within the area. However, Eilanor C. Lawrence Park adjoins the southeast boundary and will provide recreational facilities when it is developed. Stream valleys provide the potential for park land and open space. The undeveloped nature of the area provides unlimited physical potential for parks and open spaces to serve additional development.

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.

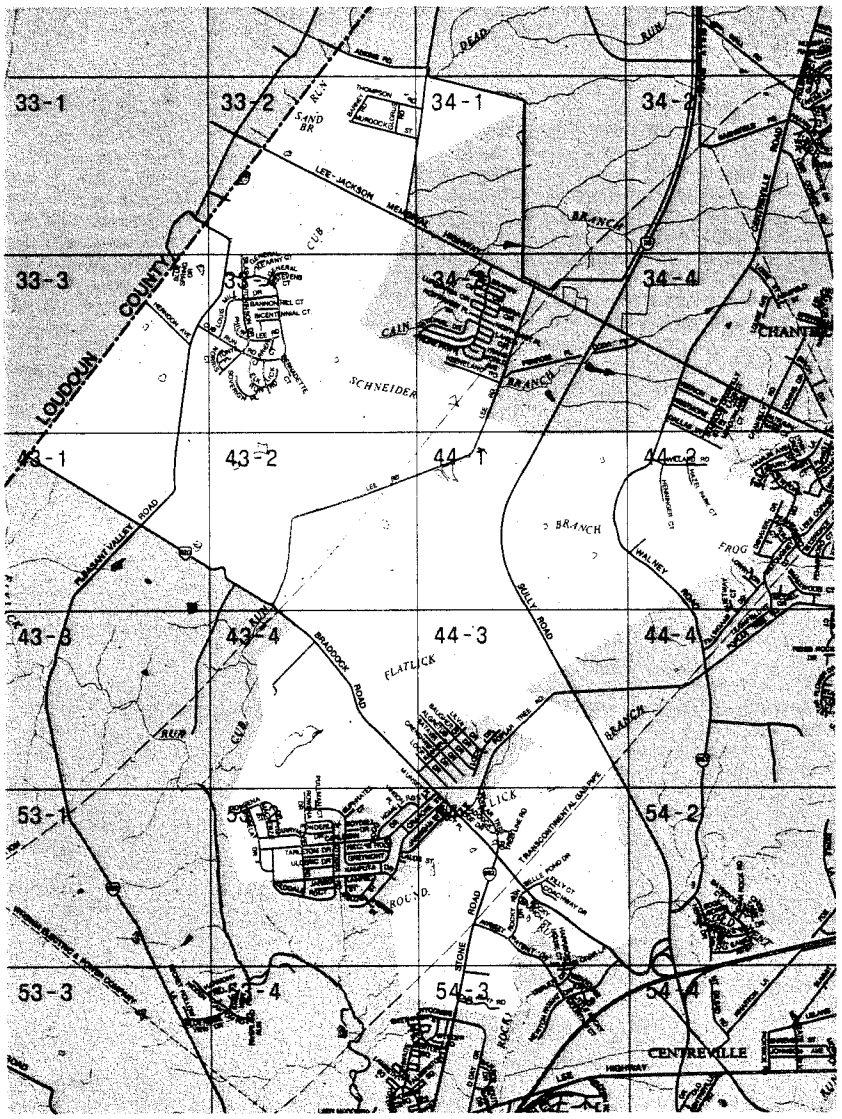
Environment

The entire option area is located in the Occoquan Reservoir watershed. Major streams include Cub Run, Flatlick Branch, Frog Branch, Roundlick Branch, Rocky Run, Schneider Branch, Cain Branch, Sand Branch, Dead Run and Elklick Run.

This hydrologic system forms the basis for the Cub Run Environmental Quality corridor, which is augmented by the Cub Run Stream Valley Park, the Cub Run wildlife habitat, and several farms and historic sites.

The area is located in the Triassic zone groundwater recharge area and preliminary geologic evaluation indicates the presence of crushed rock mineral resources. Soils in the eastern part of the area are subject to severe erodibility and soils in the entire area are poor for septic.

Noise is another environmental concern in this option area. Most of the area is greatly impacted by aircraft noise from Dulles Airport. Highway noise is also an environmental concern that should be addressed by all affected new developments.



OPTIONS

This area will involve more than one land use, due to the complex factors influencing future density and growth patterns. Employment use is appropriate near Dulles Airport; conservation is appropriate in the Cub Run stream valley vicinity and residential/commercial development already exists in adjacent parts of Chantilly. Development in the option area should be coordinated with development in the Chantilly complex area and stable areas.

- Option A. Airport-oriented uses north of Route 50 and in severe noise zones south of Route 50 in the Route 28 corridor. Because of the extensive basic employment use and the planned Centreville regional center, substantial residential development is appropriate in areas with access provided by Braddock Road, Pleasant Valley Road, Lee Road and Poplar Tree Road. The Cub Run and Flatlick Branch stream valleys can be protected by dedication.
- Option B. Airport-oriented uses are appropriate in severe noise zones (essentially the same as in Option A). Protection of floodplain and the Cub Run and Flatlick Branch stream valley is desirable through large-lot development and limited planned unit development (which is optional) because of the sensitivity of these headwater areas. (See the Area III Plan map for land use and density designations.) *This option is the adopted recommendation.*

RECOMMENDATIONS

All of this option 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 option area in addition to the option area recommendations listed below.

Airport-oriented uses are appropriate under either option in severe noise zones and some areas contiguous to Route 28. Environmental protection of the Cub Run stream valley system is paramount, using low-density and/or the planned unit development option. This density pattern serves to create a distinction between high- and medium-high-density in Centreville and Chantilly-Route 50. *Option B is recommended.*

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. Certain areas south of the airport and Route 50 in the Route 28 corridor are also appropriate for industrial and employment uses. This includes land now zoned for these uses.

C. Land in the westernmost portion of the option area should be 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.

D. 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 aids the feasibility of low-density residential development in the area, which has public sanitary sewer.

E. Land between Brookfield subdivision and the Dulles Airport Noise Impact Area should be planned for residential use in the 2-3 dwelling units per acre density range to be compatible with the density of single-family detached development adjacent to the east.

F. 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.

G. The land generally located between Flatlick Run and Big Rocky Run (see Plan map) should be planned for residential use in the 2-3 dwelling units per acre density range commensurate with the density of existing residential development and recent rezonings.

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

I. 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.

J. 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 Noise Impact Area.

K. 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.

L. 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, Frog Branch, Roundlick Branch, Rocky Run, Schneider Branch, Cain Branch, Sand Branch, Dead Run, Flatlick Run and their tributaries, should be preserved through a variety of implementation methods.

M. The Cub Run Stream Valley Park should be acquired according to the stream valley policy.

N. There are numerous prehistoric archaeological sites in the vicinity of Upper Cub Run and Route 50 which should be investigated for inclusion in the EQC system or a historic district for archaeological preservation.

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

OPTION AREA 4

Option Area 4 has been deleted. Land use recommendations are included within the appropriate community planning sectors and the Fairfax Center Area sections of the Plan.

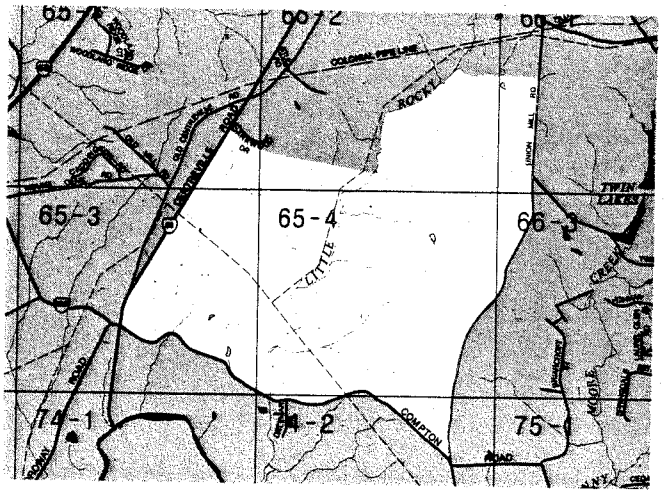
OPTION AREA 5

Option Area 5 has been deleted. Land use recommendations are included within the appropriate community planning sectors and the Fairfax Center Area sections of the Plan.

OPTION AREA 6

Option Area 6 has been deleted. Land use recommendations are included within the appropriate community planning sectors.

OPTION AREA 7



This option area includes Little Rocky Run and is bounded by the Centreville Complex Area and Sector BR5.

Land Use

The option area is located within the Upper Occoquan Sewage Authority sanitary sewer system near Centreville. A large proportion of the land has been recently zoned for medium-density residential uses at densities ranging from 2-8 dwelling units per acre.

Transportation

Major access to the area is Route 28, Union Mill Road and Compton Road. Only Route 28 is an urban facility.

Public Facilities

An elementary school site west of Union Mill Road has been approved through the development process. There is a branch library and fire station in Centreville.

When sewer becomes available, every effort should be made to provide service to those areas which do not have adequate sanitation facilities.

Environment

This entire option area is drained by Little Rocky Run, a tributary to the Occoquan Reservoir. Soils that are poor for septic systems are found in portions of this area. Highway noise presents minor development constraints.

RECOMMENDATIONS

All of this option 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 option area in addition to the option area recommendations listed below.

A. 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.

B. 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.

C. The area bounded by Little Rocky Run on the west, Compton Road on the south, Union Mill Road on the east on parcels 65-4 ((1)) 7 and 8 and on the north, should be developed at a density no higher than one acre (.5-1 dwelling unit per acre) as a transition between planned .1-.2 and 2-3 dwelling units per acre.

D. 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.

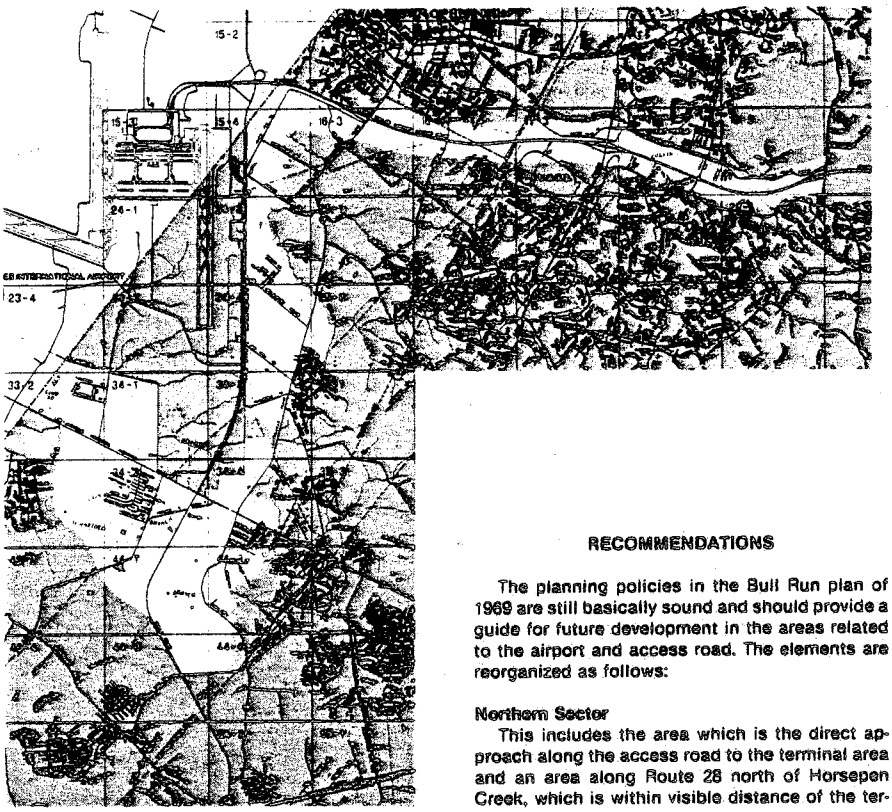
E. The land bounded generally by Little Rocky Run on the west, Compton Road on the south and Union Mill Road on the east and designated as parcels 65-4 ((1)) 9 and 11, and parcels 74-2 ((1)) 19, 3, 4, 5, 7 and 10 should be designated in the 1-2 dwelling units per acre planned density range with the limitation 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.

F. 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.

G. 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.

H. 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 and its tributaries, should be preserved through a variety of implementation methods.

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.

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.

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 proferring 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

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 / Unit Type	STABLE AREAS Committed Units	STABLE AREAS 1990 Addl. Units	STABLE AREAS Total Units	COMPLEX AREAS Committed Units	COMPLEX AREAS 1990 Addl. Units	COMPLEX AREAS Total Units	OPTION AREAS Committed Units	OPTION AREAS 1990 Addl. Units	OPTION AREAS 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	108,000	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.