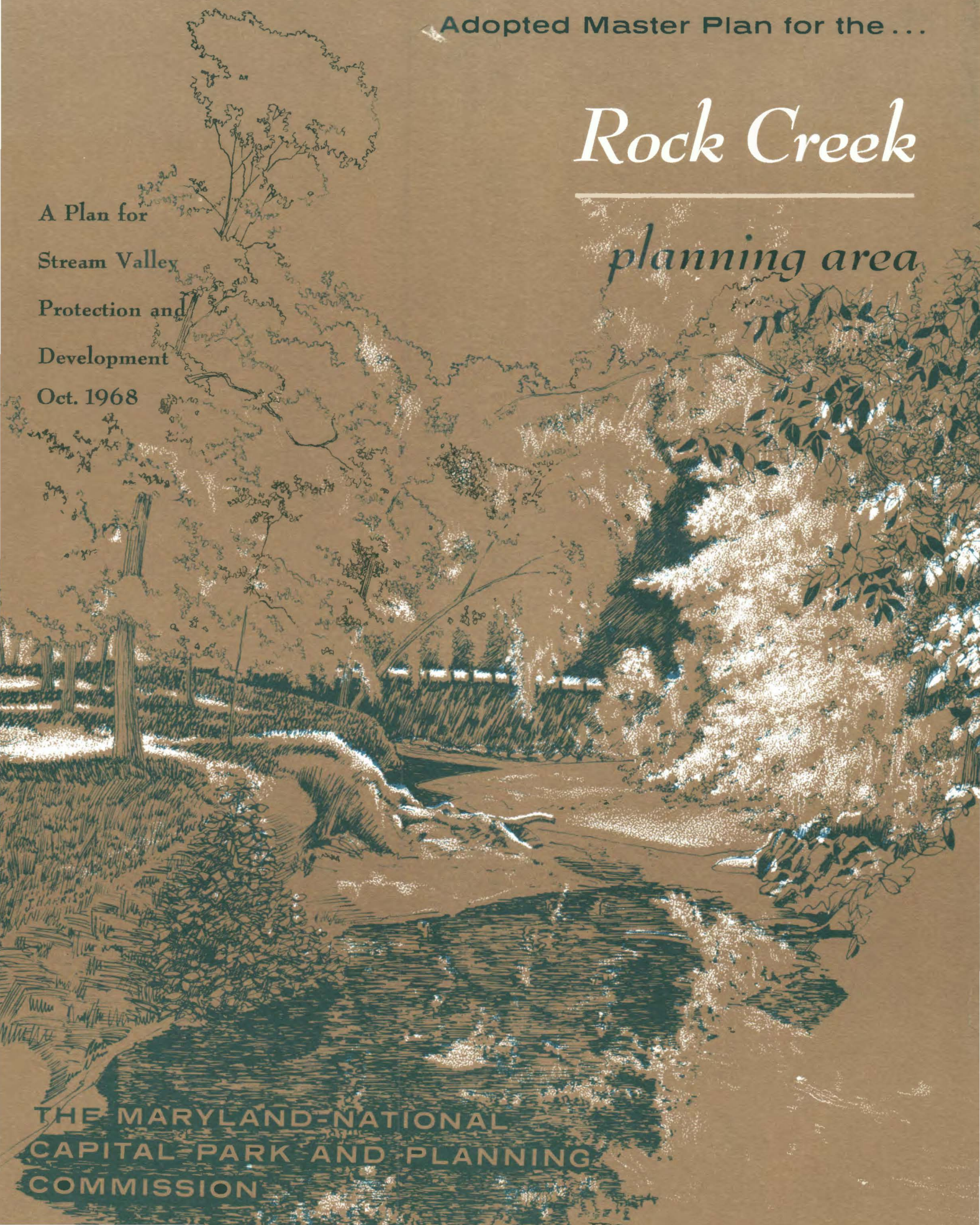
Adopted Master Plan for the . . .

Rock Creek

planning area

A Plan for
Stream Valley
Protection and
Development
Oct. 1968



THE MARYLAND-NATIONAL
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Price $2.00

Adopted Master Plan for the . . .

Rock Creek planning area

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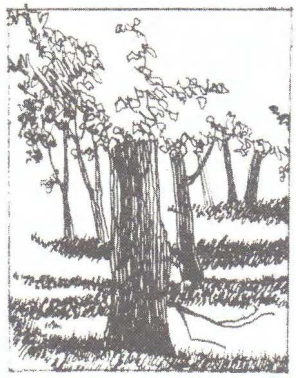

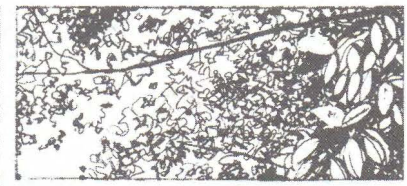

A proposed amendment to the General Plan for the physical development of the Maryland-Washington Regional District.

THE MARYLAND-NATIONAL CAPITAL PARK & PLANNING COMMISSION

CERTIFICATE OF ADOPTION

THIS MASTER PLAN FOR ROCK CREEK PLANNING AREA IS PART OF THE GENERAL PLAN FOR THE PHYSICAL DEVELOPMENT OF THE MARYLAND-WASHINGTON REGIONAL DISTRICT IN MONTGOMERY AND PRINCE GEORGE'S COUNTIES, ADOPTED PURSUANT TO THE PROVISIONS OF CHAPTER 780, LAWS OF MARY LAND, 1959, AS AMENDED, BY RESOLUTION OF DECEMBER 14, 1966, AFTER A DULY ADVERTISED PUBLIC HEARING HELD ON OCTOBER 27, 1966.

B. HOUSTON McCENEY
Secretary-Treasurer

W. C. DUTTON, JR.
Chairman

CERTIFICATE OF ADOPTION OF AMENDMENTS

THE AMENDMENTS TO THE MASTER PLAN FOR ROCK CREEK SHOWN ON THE RESOLUTION IN THE APPENDIX OF THE ATTACHED TEXT, SAID AMENDMENTS BEING INCORPORATED IN THE TEXT AND ON THE MAPS FOR SAID MASTER PLAN, AND BEING AMENDMENTS TO THE GENERAL PLAN FOR THE PHYSICAL DEVELOPMENT OF THE MARYLAND-WASHINGTON REGIONAL DISTRICT IN MONTGOMERY AND PRINCE GEORGE'S COUNTIES, WERE ADOPTED PURSUANT TO THE PROVISIONS OF CHAPTER 780, LAWS OF MARYLAND 1959, AS AMENDED, BY RESOLUTION OF NOVEMBER 29, 1967, PURSUANT TO, AND IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE DISTRICT COUNCIL.

B. HOUSTON McCENEY
Secretary-Treasurer

W. C. DUTTON, JR.
Chairman

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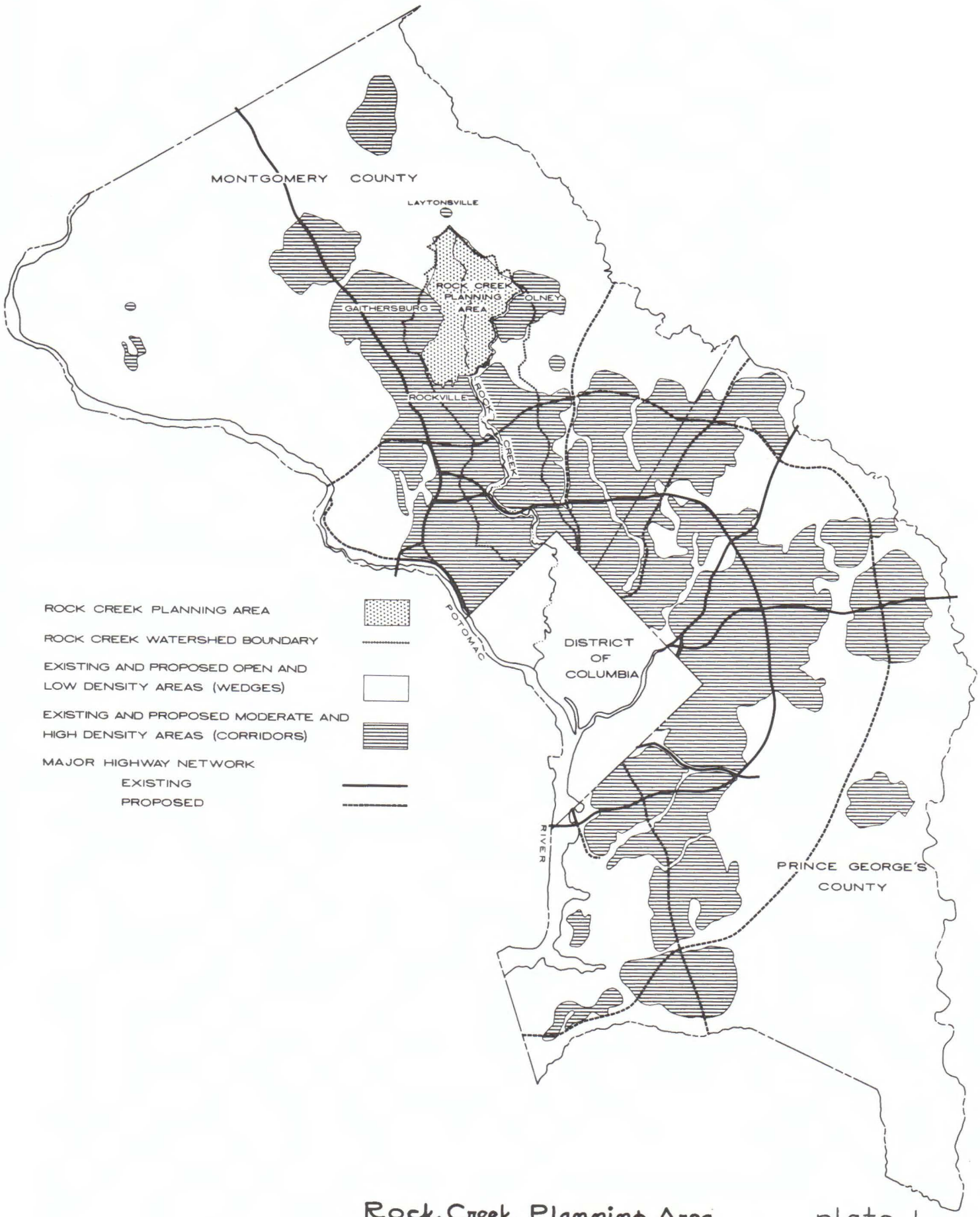


Rock Creek Planning Area
in relation to General Plan Concept
Adopted January 22, 1964

plate 1

I. INTRODUCTION

The Rock Creek Planning Area, embracing approximately 18 square miles of the Upper Rock Creek Valley, extends northerly from the Rockville city limits about seven miles to a point above the source of Rock Creek just south of Laytonsville. To the east and west, respectively, lie the Olney and Gaithersburg Planning Areas. (See Plate 1, facing.)

HISTORIC BACKGROUND

On the General Plan for Montgomery and Prince George's Counties, known generally as the "Wedges and Corridors Plan", adopted by The Maryland-National Capital Park and Planning Commission on January 22, 1964, the Rock Creek Planning Area is indicated by the legend and the scale of residential densities as an area to be devoted to conservation uses, such as natural resources, agricultural lands, large-lot residential (less than 0.5 dwelling units per acre), private open space and recreation.

This general plan was based, essentially, on the principles set forth in "A Policies Plan for the Year 2000" published in May 1961 by the National Capital Planning Commission and the National Capital Regional Planning Council. The Year 2000 Plan proposed, for the National Capital Region, a radial corridor pattern of development along most of the major growth lines already established with the intervening, largely undeveloped, areas to be "preserved as wedges penetrating the urban areas between the corridors of development." [1] (See Appendix "A" for all references.)

The plan report urged that "vigorous efforts" be made to preserve large amounts of open space which otherwise would be covered by growth that would "spread across the entire countryside." [1] The Year 2000 Plan was endorsed by the late President John F. Kennedy who, on November 27, 1962 directed federal agencies to support the corridor city concept as the basic development scheme for the National Capital Region.

The Commission's General Plan of 1964, consistent with the aims of the Year 2000 Plan, superseded the concept for development of the Rock Creek Planning Area established by the adoption on April 26, 1961 of the Master Plan for the Upper Rock Creek Watershed. This earlier plan, embracing and extending beyond the Rock Creek Planning Area, although proposing all of the residential land therein for detached single-family dwellings, did little more than "perpetuate the existing zoning pattern" [2] inherited from the Upper Montgomery County Planning Commission which had jurisdiction over the area until June 1, 1958. Residential land lying generally north of a proposed relocation of Muncaster Mill Road (within the Rock Creek Planning Area) was proposed for Rural Residential (R-R) use, and that land south of this highway was classified as Agricultural Residential (R-A) with the exception of lands lying east of the proposed industrial lands along the east side of Southlawn Lane and south of Rock Creek and its North Branch which, also, were proposed for the Rural Residential Zone. (See Plate II, page 3.)

Although formally rejected by the Montgomery County Council on October 24, 1961, the plan of April 26, 1961 continued as the Commission's adopted Master Plan for the area. The fact that the General Plan adopted in 1964, superseding the 1961 plan, proposed a **much lower density** has been obscured by the important reality of the existing, legally adopted Zoning Map for the area which,

generally, carried into effect the land use concept portrayed in the 1961 Watershed Plan.

The 1961 plan, although recommending an intensity of land use that the Commission later found inconsistent with the Wedges and Corridors objectives, did highlight the need for concerted action in the Rock Creek Valley in respect to flood control and, through this, the protection of important park and recreation areas in which public funds were being heavily invested.

Under the urging of the Rock Creek Watershed Association, the Montgomery County Soil Conservation District in 1956, with the co-sponsorship of the Montgomery County Council and with the endorsement of The Maryland-National Capital Park and Planning Commission, the Washington Suburban Sanitary Commission and other public and civic bodies in Montgomery County and the District of Columbia, had applied to the Soil Conservation Service of the U.S.D.A. to undertake a study of Rock Creek for the purpose of constructing dams to alleviate periodic downstream flooding.[3]

This study, undertaken by authorization of the Watershed Protection and Flood Prevention Act (Public Law 566, 83rd Congress, 68 Stat. 666, as amended) resulted in the selection of two dam sites, one on the North Branch north of its confluence with Rock Creek in an area east of the intersection of Southlawn Lane and Avery Road, and the other on Rock Creek just north of its confluence with Crabbs Branch, west of Avery Road.

The major purposes of the dams and their related impoundment areas are to prevent or reduce the frequency of park flooding and the consequent destruction or impairment of park facilities, inundation and damage to park roads, interruption of traffic, damage to flood plain utilities and bridges, erosion and sedimentation damages accelerated by subdivision development, and the accumulation of debris.[4] It should be noted, however, that this protection is effective only downstream from the dam sites.

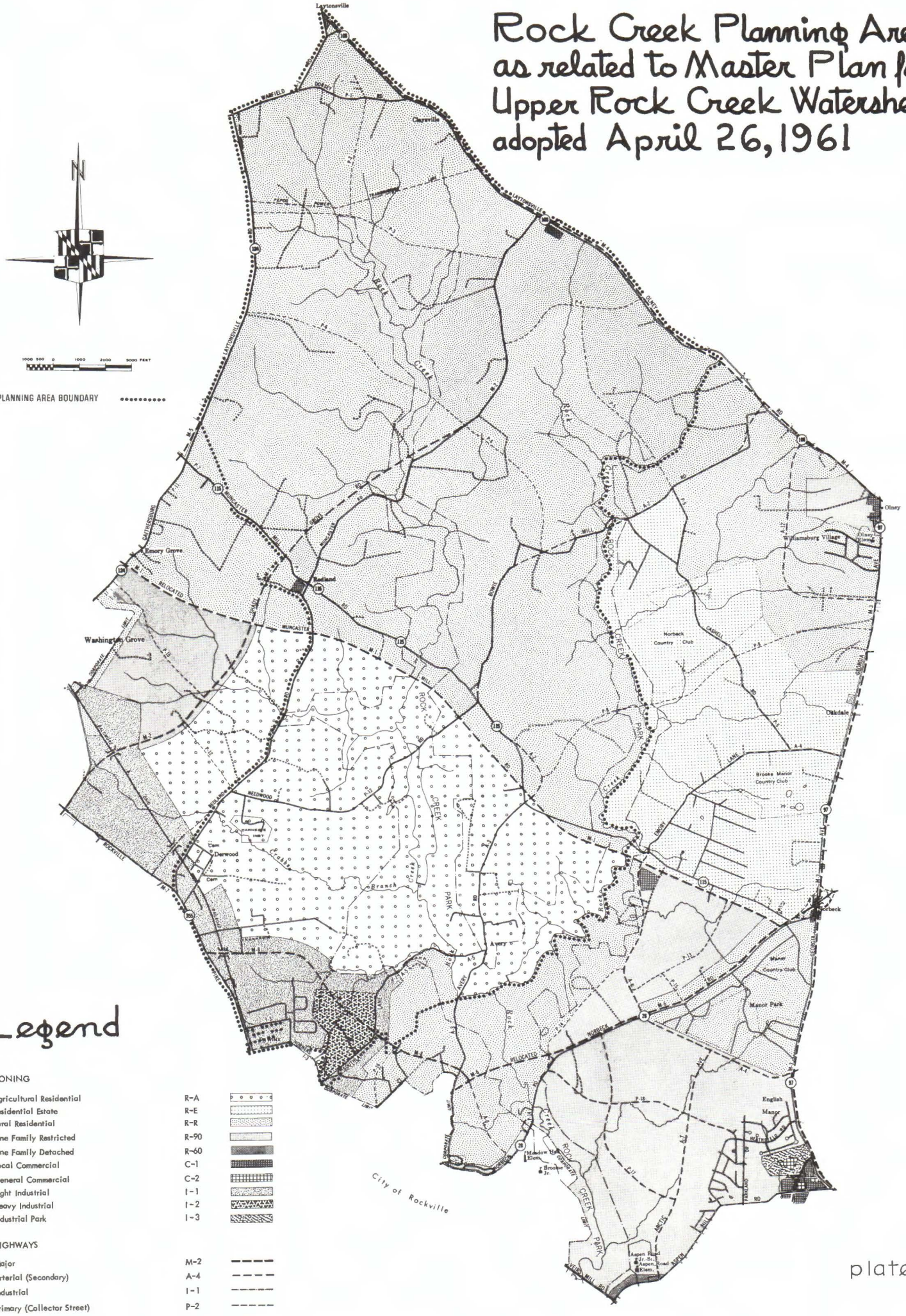
As a positive means of implementing the flood control program, the County Council and the Montgomery Soil Conservation District, supported by endorsing resolutions of The Maryland-National Capital Park and Planning Commission and the Washington Suburban Sanitary Commission, established a policy of providing for control of soil erosion by the adoption of a sediment control program for Montgomery County.[5]

Despite the avowed intent of the 1961 plan to "slow up siltation of the lakes and to protect the immediate area of the flood control project,"[3] the fact is that if the land encompassed by the Rock Creek Planning Area is allowed to develop in accordance with the half-acre zoning pattern proposed for private use, the objective of the 1964 General Plan to maintain a wedge devoted to low-density residential and other open-space uses will have been defeated. This destruction of general plan concept will be accelerated it even higher densities are allowed, as has been proposed in the past by a number of applications for Zoning Map amendment.

Breakdowns of a zoning pattern occur gradually, almost imperceptibly at first, and this has already occurred in the Rock Creek Planning Area. Along the east side of Laytonsville Road (Route 124) about a half mile of road frontage north of Laytonia has been reclassified from the R-R to the I-1 Zone. This industrial strip has a depth of about 800 feet. Behind it, thrusting into the Rural Residential Zone, the land has been zoned R-30 for an average depth of 500 feet by 2,500 feet in length in common with the rear line of the land in the I-1 Zone. Although now used for agricultural purposes (wholesale fresh poultry and eggs), the land has a potential on its approximately 29 acres of about 400 R-30 dwelling units housing an estimated 1,200 persons.

The R-A Zone, established, hopefully, to "slow up siltation of the lakes," has been invaded by the

Rock Creek Planning Area as related to Master Plan for Upper Rock Creek Watershed adopted April 26, 1961



Legend

ZONING

Agricultural Residential	R-A	
Residential Estate	R-E	
Rural Residential	R-R	
One Family Restricted	R-90	
One Family Detached	R-60	
Local Commercial	C-1	
General Commercial	C-2	
Light Industrial	I-1	
Heavy Industrial	I-2	
Industrial Park	I-3	

HIGHWAYS

Major	M-2	
Arterial (Secondary)	A-4	
Industrial	I-1	
Primary (Collector Street)	P-2	
State Route		(28)

plate 11

Needwood Estates and Candlewood Park subdivisions which together embrace 161 acres of land rezoned R-R having a population potential of 1,043 persons as opposed to the estimated 237 persons had the land been retained in the R-A Zone.

The threat of more intensive development of the Rock Creek Valley became increasingly apparent to the Commission when, in the summer of 1965, the Washington Suburban Sanitary Commission issued its proposed sewerage program for the five-year period from 1966 through 1970.

This program proposed two projects, one (No. 38) to extend the North Branch Rock Creek sewer, and the other (No. 49) to extend a trunk sewer upstream in the Rock Creek Valley from a point near Needwood Road to Muncaster Road. Although acknowledging the fact that the proposal for sewerage was not in accordance with the General Plan concept but designed to meet the development contemplated in accordance with existing R-R zoning, the Sanitary Commission pointed to the undesirable situation which would result if extensive sepic tank development continued.[6]

In reviewing the sewerage program, the Planning Commission's staff pointed out that the deletion of the projects (as had been proposed in the previous year) would not solve the problem and that without a Zoning Map amendment to place the land in a category consistent with General Plan objectives the Commission would be confronted inevitably with the alternatives of (a) upholding the Upper Rock Creek Master Plan, reaffirming the existing R-R Zone (thereby amending the General Plan) and approving the sewerage extension; or (b) upholding the General Plan, proposing a sectional Zoning Map amendment to implement the density concept shown thereon and disapproving the sewerage extension.

The Commission chose the latter course and in its letter of September 1, 1965 to the County Council stated:

> "The need for a prompt and clear-cut decision with respect to the future development of the land drained by Rock Creek north of the confluence with Mill Creek is pointed up in the Sanitary Commission's explanation of this project in their staff report and in the attached remarks of our Director of Planning. The time has come to determine if we are to follow the General Plan and have orderly development of the County.
>
> "The Rock Creek Basin, stretching north from Mill Creek to the southern outskirts of Laytonsville, is zoned half-acre. If it is to be developed that way, it should be sewered.
>
> "Yet, if such development is allowed to happen, two very drastic results will ensue:
>
> "1. A mortal blow will have been struck at the General Plan of 1964. If the vital green wedge in the triangle between Gaithersburg, Laytonsville and Olney is filled in with houses on half-acre lots, the General Plan will be dead. We feel strongly that such action would not be in the public interest.
>
> "2. The taxpayers have made a large investment in the water sports aspect of a large lake in Rock Creek between Crabbs Branch and Mill Creek. As described in the attached staff report, upstream development in half-acre lots would greatly increase sedimentation which, in turn, would have very harmful effects on water sports and on the general appearance of the lake.
>
> "Consequently, we feel that the choice is clear. We recommend most earnestly that Project No. 49 be deleted. To remove the threat of septic villages, we propose to initiate a sectional map amendment for R-A zoning of the basin upstream from Mill Creek."

By resolution on September 23, 1965 the Montgomery County Council, acting in accordance with the Commission's recommendations, disapproved Projects 38 and 49; and, in subsequent action (September 30, 1965) adopting the 1966-1970 Sewerage Program, the Washington Suburban Sanitary Commission deleted these projects.

On the same day, the Planning Commission took positive action by filing Proposed Sectional Map Amendment Petition E-499 requesting reclassification from the R-R Zone to the R-A Zone of 7,973.4 acres and from the R-R to the R-E Zone of 535.2 acres of land in the Rock Creek Planning Area.

Hearings before the County Council were held on December 1, 1965 and on January 19, 1966. The Planning Board's views were expressed succinctly by its chairman, Byron Sedgwick, who said in part: [2]

". . . steps must be taken if we are to have growth within the concept of wedges and corridors as outlined in the . . . adopted General Plan . . . any massive rezoning . . . should be preceded by a strong master plan . . . the Planning Board has signed a contract for an outside consulting firm to prepare a comprehensive master plan for the Upper Rock Creek Watershed . . .

". . . application—E-499—does have several factors in its favor. It encompasses a beautiful, essentially undeveloped, section of Montgomery County which deserves the best kind of planned development. . . . The area does lie in an open space wedge as proposed by the Commission's General Plan.

". . . I would like to point out . . . the . . . favorable effect low density zoning could have on the Rock Creek Watershed and the recreational facilities . . . planned for the area.

". . . there soon will be two lakes in . . . the Upper Rock Creek . . formed by two impoundment dams, one of which is already completed and filling has begun. A contract has been signed for the construction of the second dam, so we are well on our way toward the acquisition and development of a 2,700-acre regional park . . . the first in this entire area to feature water recreation.

"When formed, the two lakes—one 74 acres in size and the other covering 54 acres—can either be a real source of enjoyment for our residents or somewhat less . . . depending upon the kind of water run-off we generate in the open space area above them.

". . . a large percentage of storm run-off from streets, gutters, all commercial and industrial establishments, et cetera, from a developed urban area will eventually find its way through storm sewers to the lakes. The less intensely this area is developed . . . the less problem is created for the preservation of the lakes.

"The public funds invested in the dams and surrounding parkland are cause for serious consideration. Construction of the first dam cost $374,960. Expenditures to date for major work around the dam site total $688,498.55—a figure which includes the relocation of a trunk sewer to avoid the inundated area ($160,000) and the reconstruction of Needwood Road and the bridge which crosses . . . the northern tip of the first lake ($153,352.79). Both . . . projects were paid for with funds allocated by Montgomery County.

"We have already acquired 2,070 acres of parkland in the area at a total cost of $4,514,503 and plan to acquire about 680 more acres at an estimated cost of nearly $2,390,000 to round out the planned regional park. On top of this the estimated cost of the final development of the area will be in the neighborhood of three million dollars. Total investment in the area when all acquisition and development is completed, . . . will be an impressive $10,883,461.

"That kind of public investment deserves protection.

". . . the strongest way to provide that kind of protection is through realistic master plans that logically relate to orderly controlled development."

Commissioner Blair Lee III in his testimony recommended that the County Council grant Application E-499:

". . . not as a final planning solution in this area, but rather as an absolutely essential holding action to regain control over the situation for the period during which the real solution will be worked out."[2]

On the day of the hearing (December 1, 1965), the Commission entered into contract with Fred W. Tuemmler and Associates, Urban and Regional Planning and Zoning Consultants of College Park, Maryland for the preparation of the comprehensive master plan for the Rock Creek Planning Area.

PLAN OBJECTIVES AND PROBLEMS

In its prospectus of November 15, 1965 which, by reference, was incorporated in its contract with the consultants, the Commission requested that they be guided by:

1. **The *intent* of the General Plan as applied to the Rock Creek Planning Area;**
2. **The *intent* of Zoning Application No. E-499 for sectional map amendment;**
3. **The requirements of the Rock Creek Work Plan co-sponsored by the County Council, the Commission and the Montgomery Soil Conservation District;**
4. **The Washington Suburban Sanitary Commission's five-year water and sewer program, 1966-1970, and particularly the recommendation in respect thereto by the Commission, its staff and action of the County Council; and**
5. **The Commission's open-space program, especially its park acquisition program and extensions or additions thereto.**

The Commission indicated that the objectives of the Master Plan should be:

1. **To provide a permanent solution to the problem of development pressures in the area consistent with the principles established in the General Plan "On Wedges and Corridors";**
2. **To fulfill the Commission's obligations in respect to its sponsorship of the Rock Creek Work Plan; and**
3. **To provide permanent protection to the two flood control lakes within the Rock Creek Basin.**

The Commission further indicated that it desired a plan that would (a) provide a firm but practical approach to the real issues of land economics and development pressures; (b) prevent complete suburban sprawl; (c) provide for continuous recognizable open space, both public and private, so as to prevent a coalescence of the dense development in the 70 S corridor with that of the Olney satellite to the east; and (d) propose realistic and practical methods of implementing the plan proposals.

Before entering into the contract with the Commission, the consultants reviewed carefully all documentary data supplied by the Commission, concluded that the basic objectives were sound and, despite the complexities of the problem and their concern about the six-month time schedule set up by the Commission, offered to undertake the study.

The major problems for the Rock Creek Planning Area confronted by the consultants were twofold. The first was to determine the most meaningful and legally sound basis that could be uncovered through investigation and analysis for a conceptual plan that truly would provide a strong and durable expression of the intent and purpose of the General Plan proposals for the Rock Creek Planning Area.

This was not an urban area in which a recognizable pattern of land uses with varying intensities provided a basis for determining where one should terminate and another begin. It was, in the main—except for a few scattered subdivisions and non-farm rural housing, some minor roadside commercial uses and, in the southwest, some industrial development—an area distinctly rural and agricultural in character.

Clearly, if the intent of the General Plan was to be followed, a generally low-density type of residential land use was in order for most of the area. But did this mean blanketing the area with two-acre residential zoning as requested in the Commission's zoning application No. E-499 or would some variation in low-density use serve the same purpose and perhaps provide a more desirable community structure from the standpoint of both future residents and home owners and those whose efforts are devoted to land development?

And, if there was a choice among land uses, where was each to begin and end? The consultants had seen too many plans with arbitrary delineations of land use not to realize that this plan, which would be subject to incisive scrutiny, would require a solid foundation of objective reasoning if it were even to begin to approach the Commission's charge to them to provide "a permanent planning solution to the problem of development pressures in the area."

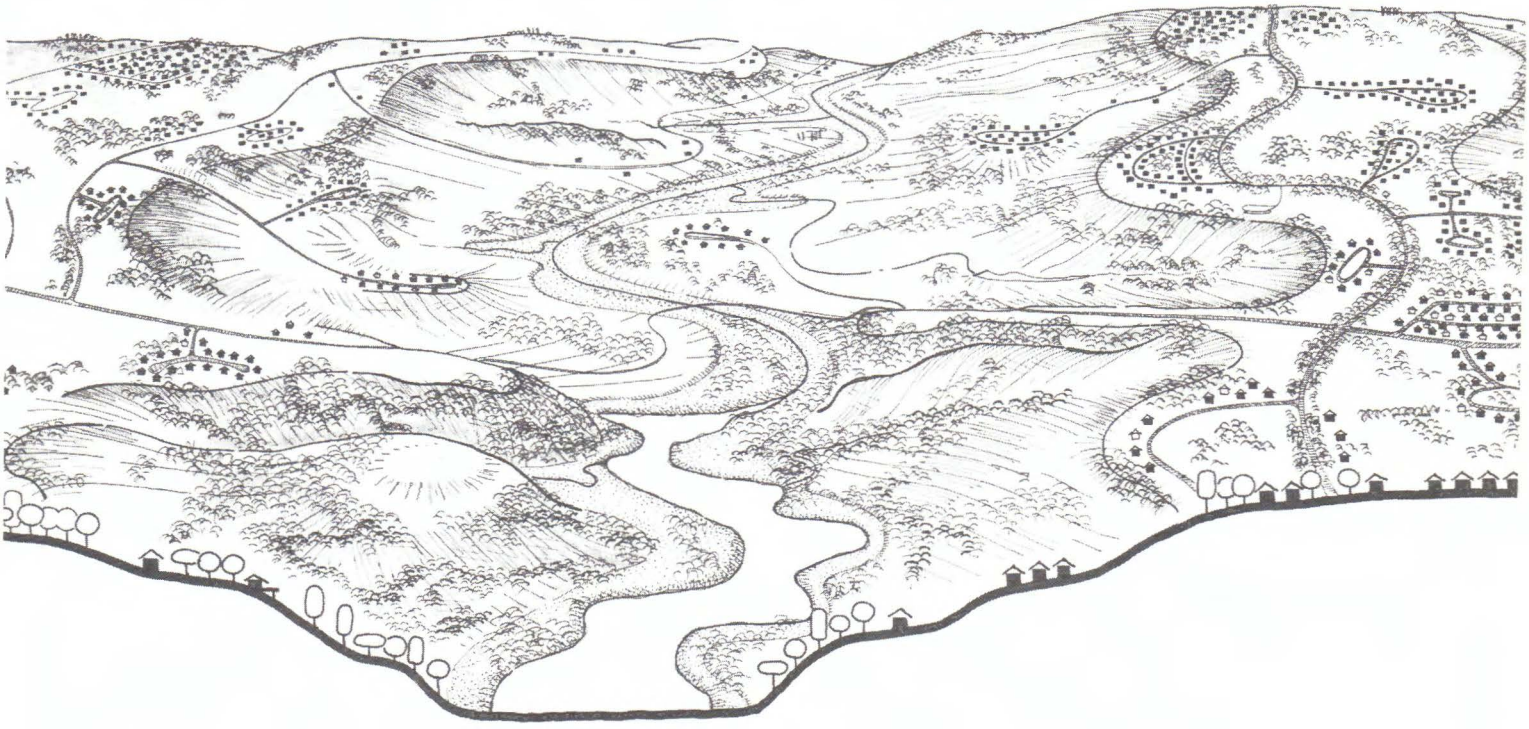
The second problem, no less difficult than the first, was to provide "realistic and practical methods of implementing the plan proposals." General and master plan implementation now relies chiefly on the Zoning Ordinance and the Subdivision Regulations. Of the two, the Zoning Ordinance is the more important, because it controls the intensity as well as the actual use of land and buildings.

But this so-called "tool", intended to implement master plans, often has been used, in Montgomery County and in other areas experiencing dynamic growth, to thwart and upset those master plans. Obviously, if the Zoning Ordinance was to be converted from a weak reed to a durable staff capable of defending and protecting the integrity of the plan concept in an area proposed to be maintained as a wedge, it would require strengthening.

In all likelihood, the limitations inherent in zoning as a land use control device would require other measures including, possibly, additional legislative authority to provide the public, through its

representative agencies of government, with the legal armament necessary to carry out the objectives of its community design.

These, then, were the major problems which, with supplementary problems uncovered as the study proceeded, were attacked and, it is hoped, resolved by the Master Plan for the Rock Creek Planning Area herewith presented.



II. THE ROCK CREEK PLANNING AREA TODAY

GENERAL SETTING AND CHARACTERISTICS

The relative position of the planning area within the region is shown on Plate I. It is bounded by the following designated planning areas: Gaithersburg Vicinity on the west; Cedar Grove-Woodfield-Goshen and Patuxent Watershed Conservation Areas on the north; Olney and Vicinity and Aspen Hill and Vicinity on the east; and the City of Rockville to the south.

More specifically, the Rock Creek Planning Area is bounded on the west by Frederick Road (Md. Rte. 353); Redland Road, including the Redland intersection; Muncaster Mill Road (Md. Rte. 115); and Laytonsville Road (Md. Rte. 124) north to its intersection with the Olney-Laytonsville Road at the northern tip of the area. The northeasterly and easterly boundaries are the Olney-Laytonsville Road (Md. Rte. 108), a tributary of the North Branch of Rock Creek and the North Branch to its confluence with Rock Creek. The southern boundary is the corporate limit of the City of Rockville.

This area encompasses 11,536 acres, or 17.9 square miles.

For all practical purposes, the Rock Creek Planning Area lies totally within the watershed of Rock Creek. It is essentially a rural community with agriculture representing the dominant land use. The landscape configuration varies from flat to rolling, with occasional steep slopes being found adjacent to the numerous streams. It is a landscape typical of much of Maryland, one that invokes a pleasant sense of the good life possible away from the noise and pressures which, today, are a concomitant of urban living.

As one drives along its rural roads, pastoral scenes come into view, are modified and change. Occasional woodlands are passed. The picturesque farms, their fields and animals, are observed. This is a perceptually endowed landscape—and it is vulnerable.

EXISTING LAND USES

The dominant use of the land today is agriculture, both within and bordering the planning area. This, however, is not the prospect for the future, as evidenced by the number of new subdivisions completed recently or currently being developed.

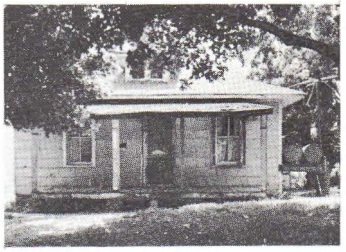
Peripheral exceptions to the rural aspects of the environs are the City of Rockville, the corporate limit of which is the southern boundary of the plannning area; the Town of Laytonsville, located above the northern tip; the Air Park Industrial Center and two subdivisions identified as Blueberry Hill and Mill Creek Towne, located along the western boundary. Non-agricultural open-space uses in existence are the Montgomery Junior College, the Montgomery Golf Course, a nursery and the section of Rock Creek Park located adjacent to the North Branch which comprises the eastern boundary of the planning area.

Within the planning area, open-space uses include, in addition to farming, a few institutional holdings and the extensive public open space of Rock Creek Park. Land currently in residential use is concentrated primarily in a generally north-south corridor which extends from Derwood to the Muncaster Road, Olney-Laytonsville Road intersection.

In contrast to the foregoing is the southwest quadrant located south of Gude's Nursery and west of Rock Creek Park. Here a mixture of strip commercial development and industrial uses predominate. Interspersed among these are a number of substandard and blighted dwellings awaiting the final transition from residential to industrial use.

Existing roads, by today's criteria, generally are substandard, due to narrow widths, winding alignments and, in some instances, gravel surfacing. They are adequate for the existing population, but improvements will be required as residential densities increase.

Agricultural Land: Based upon preferential farm tax assessment data, about 6,150 acres (54%) of the planning area are in agricultural use. Dairy, poultry and general farming are predominant. There is also a landscape nursery included in this category.



Rural blight

Existing Subdivisions and Rural Communities: The majority of existing subdivisions and rural communities are located generally along a north-south corridor. This corridor, beginning at Derwood to the south, continues in a northerly direction along Redland Road to Redland and thence along Muncaster Road to its termination at Olney-Laytonsville Road.

The Redland area, located centrally in this corridor, contains the largest concentration of development. Here are located Redland Estates, Redland Knolls and Cashell Estates. Mill Creek Towne, situated outside the planning area, also is a part of this complex.

Transition area — residential to industrial

To the south, at the intersection of Redland and Needwood Roads, are Candlewood Park and Needwood Estates. Both are currently under construction. Another group of homes is located directly north of the Carnegie Institute lands. South of this is the rural community of Derwood.

Northeast of Redland, along Muncaster Road, are Granby Woods, Muncaster Manor, Rolling Knolls and West Olney Park. Limited construction activity is under way in the north sector of Granby Woods.

Typical subdivision design (note utility poles)

The only other significant concentrations are at Brook Grove, located near Laytonsville, an unnamed grouping of houses at the intersection of Needwood Road and Muncaster Mill Road, and a group at Avery Lodge. The last mentioned is situated northwest of Lake Norbeck, east of Avery Road. The remainder of the homes are scattered throughout the area either singly or in small groups.

Older homes, for the most part, are in good condition and well maintained. Homes in the newer developments, however, are typical of those in most mass-produced construction. The one exception to this is Granby Woods. Here the homes are well sited and the existing woods have been retained, thus providing a superior living environment.

Superior subdivision design

In striking contrast to the generally good housing conditions prevailing in the planning area are two pockets containing substandard dwellings and blighted shacks. One of these is located near the intersection of Southlawn Lane and Horner's Lane. The second is situated immediately west of Rock Creek Park on the south side of Southlawn Lane. Both are in the area currently undergoing

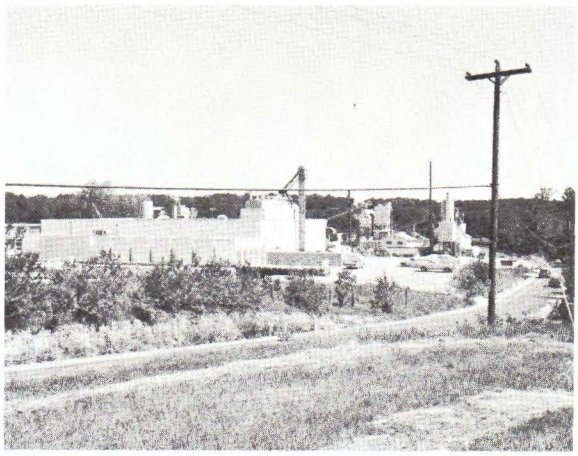
transition from residential to industrial use. A few other substandard dwellings are located throughout the planning area, but these occur singly rather than in groups.

Existing Commercial Uses: A very small amount of the total area is in use for commercial purposes. Those existing are widely scattered. In the Redland area is a garage door sales company. On the Olney-Laytonsville Road south of its intersection with Muncaster Road is a combination food store and tavern. A commercial dog kennel is located along Southlawn Lane on park land, and a small food carryout shop is in existence southwest of this on the same road. An abandoned gas station is located at the apex of the study area adjacent to Laytonsville.

In addition, a few commercial areas are interspersed with light industrial uses on the east side of Frederick Road south of Gude's Nursery. This section can best be described as a chaotic strip of unsightly signs and building types. The only commercial use on the west side of Frederick Road within the planning area is an animal hospital.

Existing Industrial Uses: A large and growing concentration of light and heavy industry is situated directly north of the Rockville corporate limit in a pocket formed by Frederick Road, Gude's Nursery and Rock Creek Park. The area contains numerous warehouses, construction yards, the Derwood industrial Park, a cast stone company, and a sand and gravel plant. The Montgomery County incinerator site, also, is located in this vicinity.

In the strip along Frederick Road are a wholesale plumbing and heating firm, a sand and gravel company, a lumber yard and a bottled gas storage and distribution plant.



Heavy industry – Southwest quadrant of plan area

Existing Utilities and Public Facilities: Sanitary sewers currently extend as far north as Mill Creek along Rock Creek and on the North Branch of Rock Creek as far north as the tributary located above the Norbeck Country Club. Except for public water distribution lines, the only other major underground utilities are natural gas lines.

These are installations of the Washington Gas Light Company and the Atlantic Seaboard Corporation situated in the industrial area along Frederick Road and two Pepco transmission lines located in the northern and northwestern sections of the planning area.

The planning area possesses only one public facility. This is a small post office located in one room of a residence at Derwood.

Existing Churches and Institutional Uses: There are two churches, three institutional uses (two of which are church-affiliated) and one private elementary school within the area. The churches are located at Derwood and Redland. The institutional uses include a Carnegie Institute of Washington, Department of Terrestrial Magnetism complex located south of the intersection of Redland and Needwood Roads, a Knights of Columbus building adjacent to Cashell Estates, and a private school named Hadley Mills Elementary situated directly north of the Pepco transmission line on Laytonsville Road. This school is owned and operated by the Seventh Day Adventists.

Public Schools: There are no existing public schools. Two sites, however, have been acquired by the Montgomery County Board of Education. These are located on the north side of Muncaster Mill Road between Redland and the North Branch of Rock Creek.

Existing Public and Private Park and Recreation Uses: The most extensive public open-space holdings are those included in Rock Creek Park. The Maryland-National Capital Park and Planning

Commission presently owns approximately 2,000 acres of land. Within this area are the two recreation and flood control lakes identified as Needwood Lake and Lake Frank. Additional acquisition is planned for the future.

The Montgomery County Revenue Authority owns about 173 acres of land south of Dorsey Road in the extreme northern section of the planning area. A golf course is planned for this site, with construction scheduled to commence in 1968.

Camp Olympic, a summer day camp, is the only privately owned land in recreational use. It is situated on the north side of Muncaster Mill Road west of the North Branch of Rock Creek.

EXISTING HIGHWAYS AND ROADS

The roads are typical of those seen in any rural area that has not yet felt the impact of urbanism. Road improvement has been confined primarily to maintenance work, except for roads adjacent to the newer subdivisions. These have been widened, at the time of development, to conform to County standards. The improvements in this connection, however, stop at the limits of the subdivisions involved. Bowie Mill Road also has received alignment and surfacing improvements. None of the major highways proposed on the 1961 "Master Plan of Zoning and Highways" has been installed because population densities have not required their construction. But times change, and soon more numerous and better roads will be needed.

The most serious traffic situation occurs in the industrial area along Southlawn Lane. Here the winding rural road is inadequate for the volumes of truck traffic that require access to the incinerator site and industrial properties located along its length. The crossing at Horner's Lane and Southlawn Lane presents the most serious intersection problem in the planning area, due to excessive congestion at this narrow and uncontrolled point.

Three roads still have gravel surfacing on certain sections. These are Southlawn Lane between its crossing of Rock Creek and intersection with Avery Road, Avery Road from this same intersection south to the Rockville corporate limit, and Needwood Road from a point slightly west of its crossing of Rock Creek east to the intersection with Muncaster Mill Road. A new bridge, designed to present standards, has been constructed on Needwood Road at the Rock Creek crossing to accommodate the back-up of water from Needwood Lake. Southlawn Lane at its intersection with Avery Road, in addition to its gravel surfacing, is extremely steep.

Near Laytonsville are two awkward intersections due to the acute angle at which the roads meet. The first of these is at the northernmost point of the planning area. The second is the Dorsey Road, Olney-Laytonsville Road intersection.

EXISTING ZONING

Present Pattern: The existing zoning pattern is predominantly Rural Residential (R-R) with two other residential zones occurring on the west side of the planning area. The larger of these is the Agricultural Residential (R-A) Zone located between Derwood and Redland. In addition, a piece of multi-family, low-density residential (R-30) (referred to in some detail in Section I) is located north of Laytonia. This completes the residential categories presently in existence.

A few small commercial areas in the C-1 and C-2 categories are in four widely separated areas. The remaining land is in industrial use. The largest concentration of the latter is located in the southwest quadrant of the planning area. A smaller industrially-zoned area is situated directly north of Laytonia.

EXISTING POPULATION

The existing population in the planning area was determined by a count of dwelling units as revealed by field inspection. These observations were supplemented by inspection of aerial photographs.

The total number of existing dwelling units thus determined is 595. Applying the factor of 3.7 persons per household results in an estimated existing population of 2,202 persons.

A number of subdivisions are currently under construction. If it is assumed the developers will erect homes on all recorded lots and that these homes will then be occupied, a committed population estimate can be projected. Based upon the foregoing assumption, the total dwelling unit number will shortly be 1,090. Thus, using the same factor as before, the committed population is 4,033 people or 1,831 more than at present. This represents an increase of slightly over 83% above the present population.

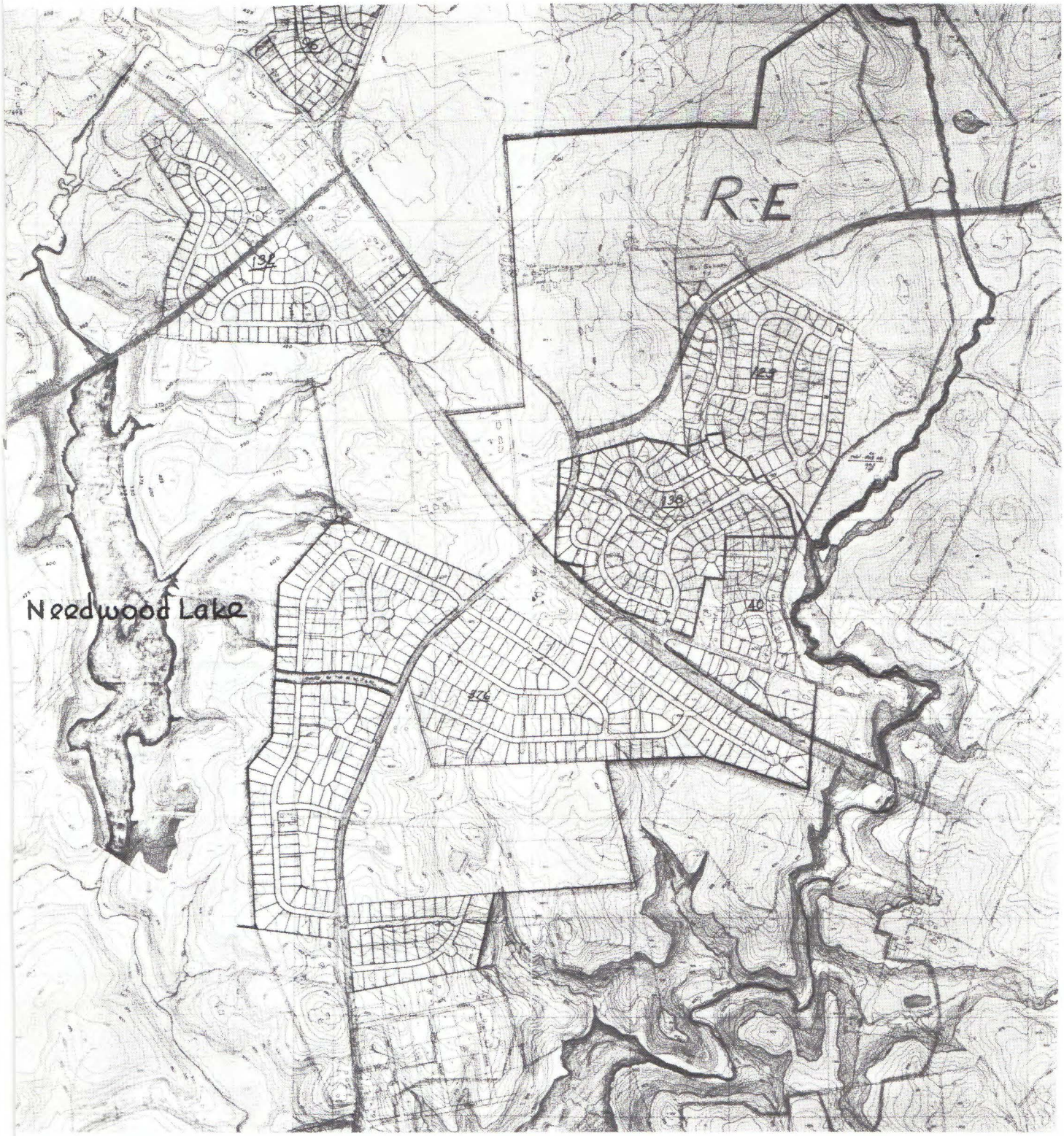
As indicated previously, a residential corridor is evident within the planning area. Originating at Derwood and extending to the Muncaster Road, Olney-Laytonsville Road intersection, this area contains 351 dwelling units and has an estimated population of 1,299 people. Thus, it contains 59% of the total population on approximately 12% of the total land now available for development. All of the projected committed population also will reside in this area, and the corridor will then have 77.6% of the population.

The present density of this corridor is approximately one person per acre, while the committed density is 2.3 per acre.

One other area has a significant concentration of people. This is located north of Dorsey Road on the triangularly shaped parcel of land adjacent to Laytonsville. Here the existing population is 189. The density is 1.6 persons per acre.

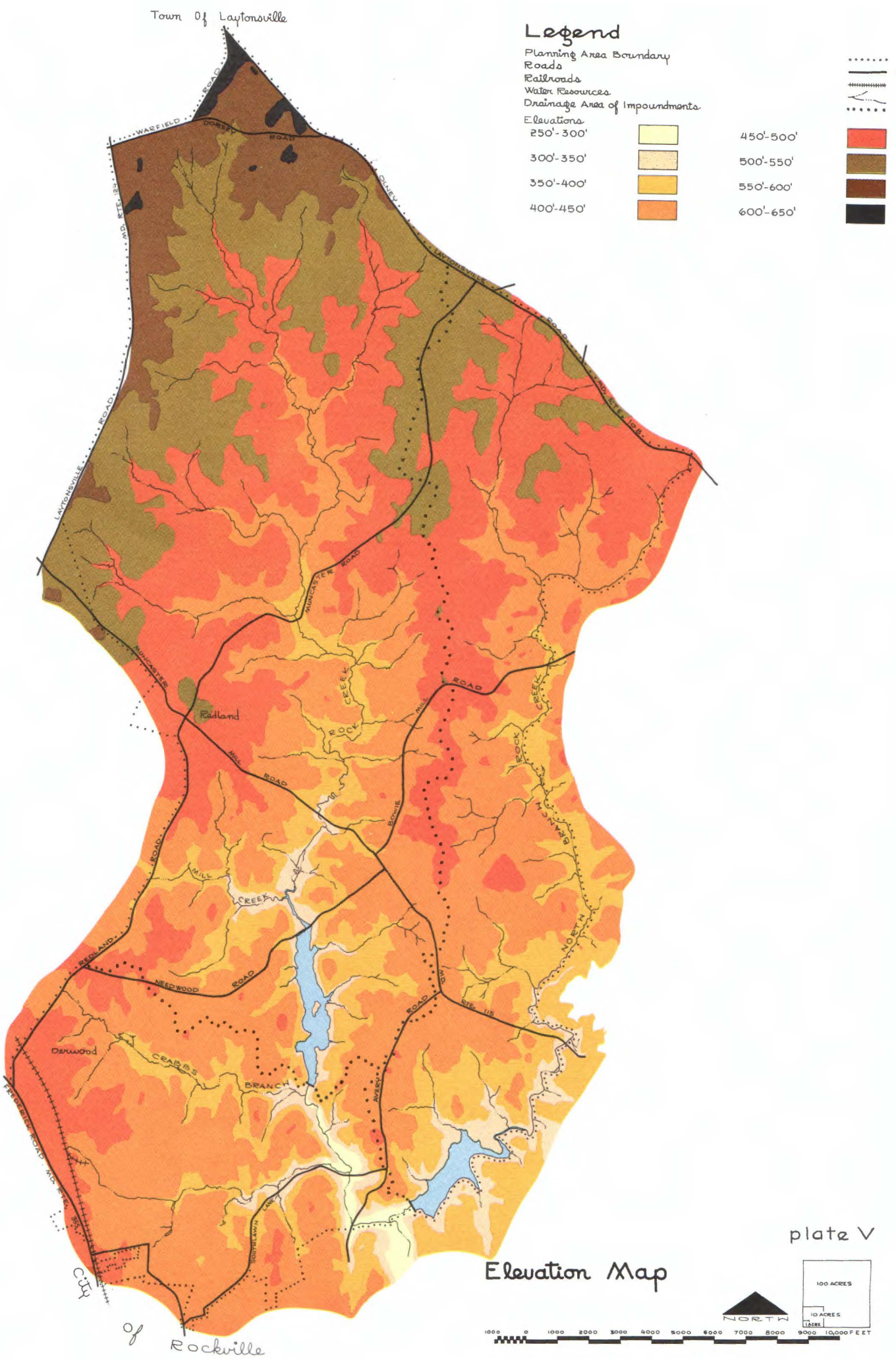
Existing population in the remainder of the planning area is 714. Thus, the average density therefor is 0.07 person per acre.

It is evident from the foregoing that, presently, the planning area is definitely rural in character, especially when one considers the yield in the Agricultural Residential (R-A) Zone which is about 1.5 persons per gross acre.



ate IV

Impending Sprawl


Town Of Laytonsville
Legend
Planning Area Boundary
Roads
Railroads
Water Resources
Drainage Area of Impoundments
Elevations
250'-300'
300'-350'
350'-400'
400'-450'
450'-500'
500'-550'
550'-600'
600'-650'
WARFIELD ROAD
DORSEY ROAD
OLNEY
LAYTONSVILLE ROAD
MD. RTE. 108
MUNCASTER ROAD
Redland
ROCK CREEK
MILL ROAD
BOWIE
BRANCH
NORTH
MILL CREEK
REDLAND ROAD
NEEDWOOD ROAD
Derwood
CRABBS BRANCH
AVERY ROAD
SITE 115
FREDERICK ROAD MD. RTE. 355
CITY OF ROCKVILLE
plate V
Elevation Map
NORTH
100 ACRES
10 ACRES
1 ACRE
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10,000 FEET

III. INVESTIGATION AND ANALYSIS

It became evident during the early stages of investigation that a substantial amount of new research was needed to provide a sound basis for meaningful proposals.

As revealed in the previous section, existing patterns and trends were clear, being readily ascertained from field investigation and estimates derived from available land use and zoning data.

Projecting the trends into the future provided a fairly definitive visualization of the changes that would occur in the valley and a realization that if they were allowed to take place, the visual charm and character of the valley would be lost forever.

There was also an awareness, based on a review of data available from the Soil Conservation Service, that lack of control would result in irreparable damage to existing and proposed park areas which would impair the public investment therein.

But, as noted in the introduction of this report, except for a few portions of the planning area, there were none of the usual determinants to provide guidance in evolving the kind of land use pattern that should be perpetuated in the Rock Creek Planning Area.

The existing land use was (and is) agricultural but destined inevitably, in the main, for some type of non-farm residential use. The questions then were: What type? To what extent? and—Where?

To establish a framework of reference, a whole series of investigations ensued to ascertain the most significant determinants of land use and community design that could be applied to this valley. The sum of these provided the basis for the rationale herein developed.

THE NATURAL ENVIRONMENT AS A LAND USE DETERMINANT

Many natural phenomena join together to create the environmental framework into which man must introduce the various elements to meet his physical and spiritual living requirements.

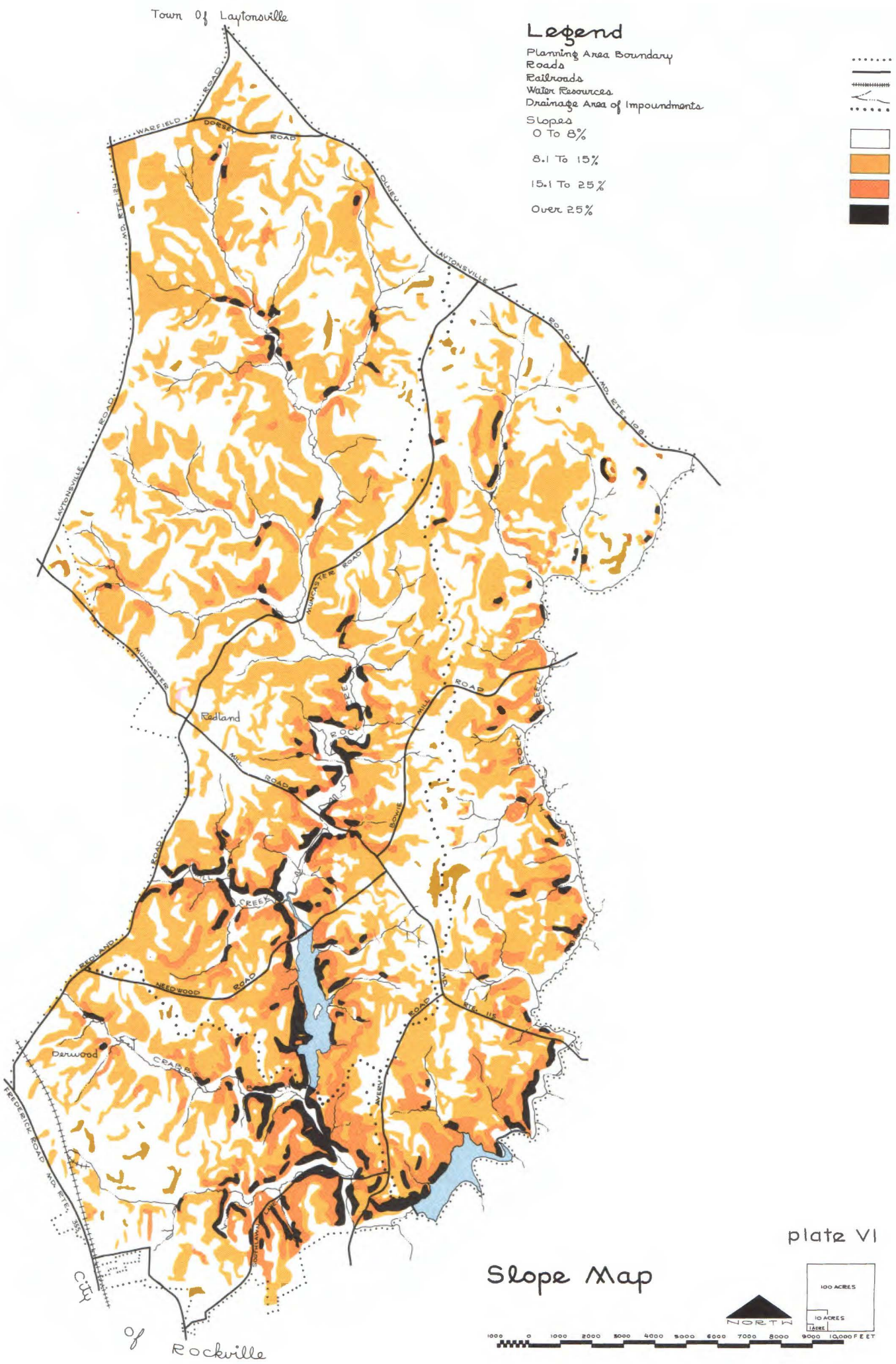
Previous discussion, outlining existing land uses, clearly defined the man-made elements and the trends that have a bearing upon the problem. The forthcoming analysis focuses upon the natural environment as a land use determinant.

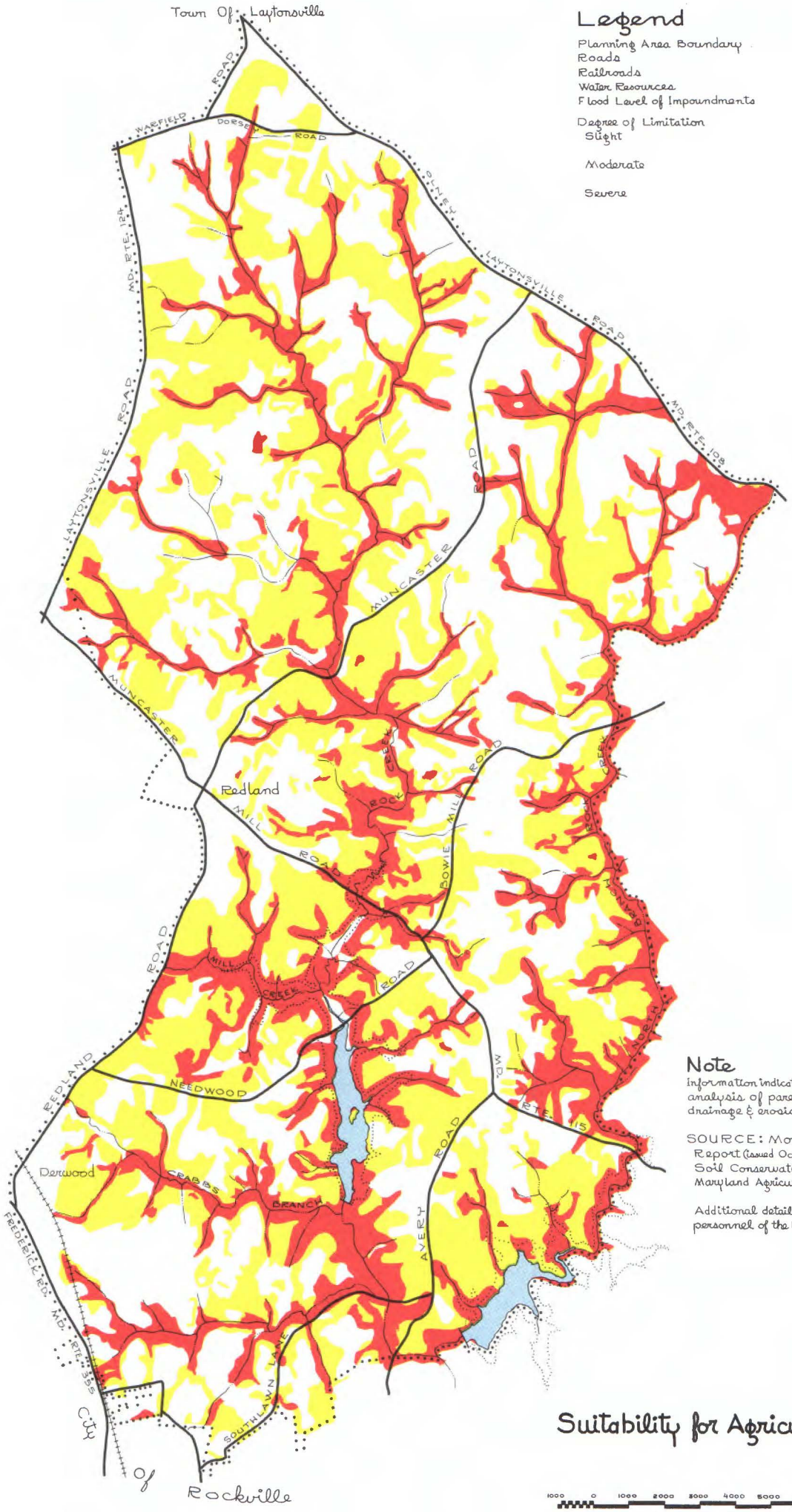
PHYSIOGRAPHIC INDICATORS OF LAND USE FORM

Topography: Two maps, entitled "Elevation Map" and "Slope Map", have been developed to assist in visualization of the topographic configurations of the land. The first of these, entitled "Elevation Map" (Plate V, page 16), pictorializes the elevations by colors representing fifty-foot changes in elevation.

The planning area ranges from an approximate low of 275 feet above sea level to a high of 620 feet above sea level. Thus, an elevational variance of 345 feet is the differential between the highest and lowest areas. It can be observed that Rock Creek and its North Branch have created two valleys running in a generally north-south direction. This land form is the dominant topographic characteristic of the planning area.

The second topographic drawing, entitled "Slope Map" (Plate VI, page 18), portrays the various percentages of slope. Most of the land is in the 0 to 8% and 8.1 to 15% classifications. The


Town of Laytonsville
Legend
Planning Area Boundary
Roads
Railroads
Water Resources
Drainage Area of Impoundments
Slopes
0 To 8%
8.1 To 15%
15.1 To 25%
Over 25%
WARFIELD ROAD
DOSEY ROAD
GUNEY
LAYTONSVILLE ROAD
MD. RTE. 108
MUNCASTER ROAD
Redland
MILL ROAD
ROCK CREEK
DERWOOD
NEEDWOOD ROAD
CRABB
FREDERICK ROAD MD. RTE. 355
SOUTH MAIN
City of Rockville
plate VI
Slope Map
NORTH
100 ACRES
10 ACRES
1 ACRE
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10,000 FEET



Legend

Planning Area Boundary
Roads
Railroads
Water Resources
Flood Level of Impoundments

Degree of Limitation
Slight
Moderate
Severe

Note

Information indicated hereon is determined by analysis of parent material, slope, soil depth, drainage & erosion

SOURCE: Montgomery County Soil Survey Report (issued October 1961), prepared by U. S. D. A., Soil Conservation Service in cooperation with Maryland Agricultural Experiment Station.

Additional detailed interpretation was obtained from personnel of the U.S.D.A., Soil Conservation Service.

plate VII

Suitability for Agriculture

NORTH

100 ACRES
10 ACRES
1 ACRE

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10,000 FEET

steeper areas of 15.1 to 25% and over 25% slope are found to be closely associated with the streams, with the greatest concentration of steep land being located near the two large man-made lakes.

The planning area is comprised of three distinct land forms—the valley floor, the valley walls and the plateau or high ground. The valley floor is related to the main stream channels and is relatively flat. The valley walls include many of the feeder streams and have rolling to steep topography, while the high ground is flat to rolling in configuration and is relatively narrow. These land forms provide natural boundaries and establish generally unalterable design controls.

A vulnerable natural resource

Water Features: The area is highly endowed with natural and man-made water features. Rock Creek, the North Branch of Rock Creek and the two large man-made impoundments identified as Needwood Lake and Lake Norbeck are the dominant water features. However, Mill Creek and Crabbs Branch, together with numerous other streams and farm ponds, make substantial contributions to the importance of this natural resource.

With respect to the two lakes, it should be noted that Needwood Lake, at normal pool level, provides 74 acres of water surface area, while its flood water pool contains a total of 217 acres of surface area. Lake Norbeck's normal pool level results in a body of water 54 acres in surface area with a flood pool of 168 acres. The drainage area controlled by the two dams is 25 square miles. The dam at Needwood Lake controls 12.77 square miles, and Lake Norbeck's dam controls 12.23 square miles.[4]

Forest Cover: The extent of forest cover is shown on the drawings entitled "Perceptual Survey" (Plate XIII, page 33) and "Land Treatment Map" (Plate XIX, page 49). Approximately 23.5% of the land in the planning area is wooded. Montgomery County, as a whole, has less than 12% of its area in woodland. Thus, the Rock Creek Planning Area can be considered relatively rich in this natural resource.

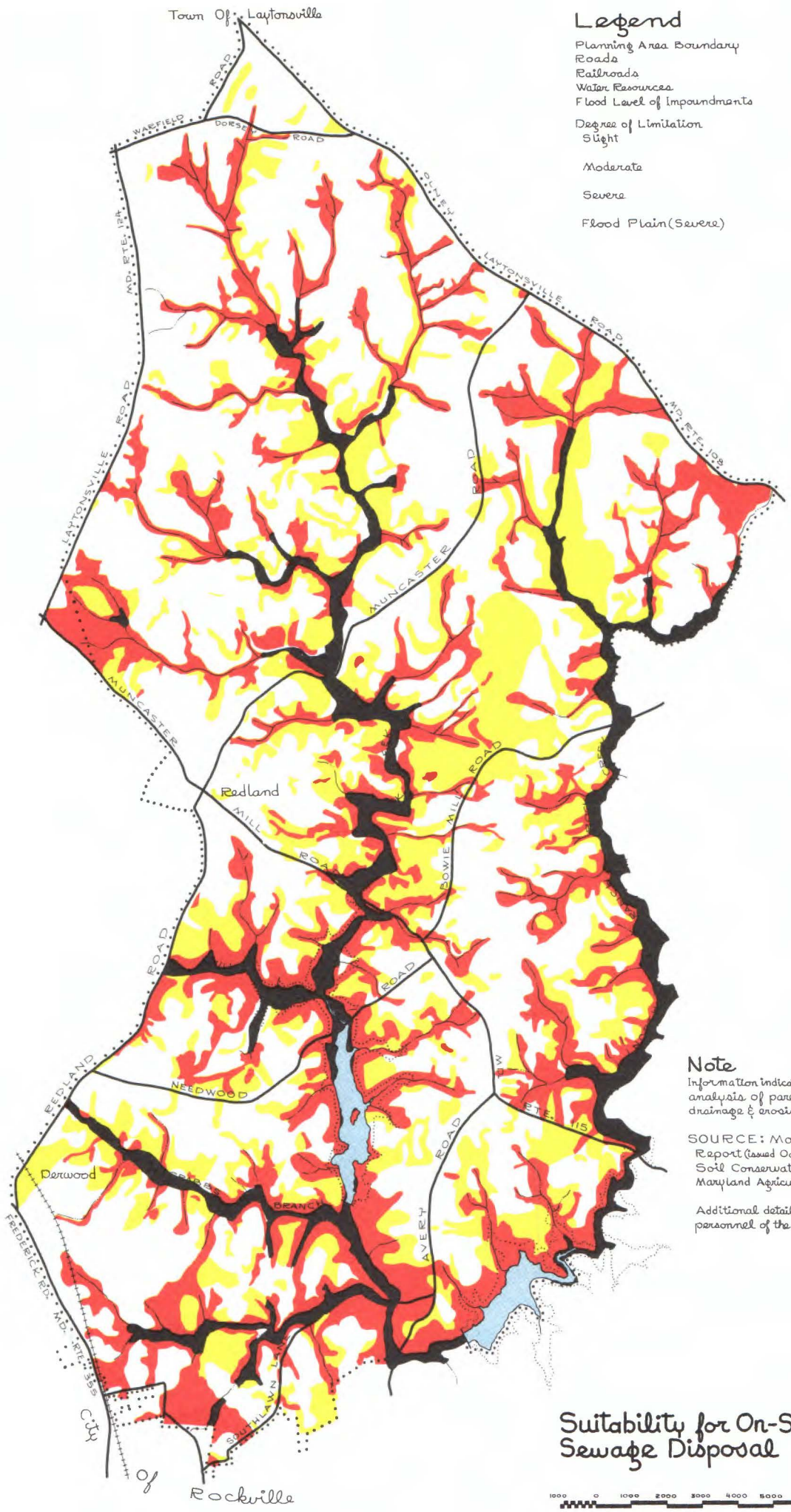
Land Capability as Determined by Soils: To determine the suitability of the land for various uses required analysis of a variety of factors, all of which are inextricably intermeshed in effect upon one another. The land capability groups identified here were determined by analysis of a combination of factors, such as parent material, slope, soil depth, drainage and erosion.

Basic data were obtained from the Soil Survey for Montgomery County.[8] After identifying and listing the 57 different soil units found in the planning area, detailed and specific interpretation was obtained from personnel of the U.S.D.A., Soil Conservation Service. The final results of this analysis appear on various maps included in this report.

In the past, planning decisions have often been resolved without the benefit of detailed soil data and other environmental indicators. Thus, decisions relating to the various aspects of land use often have tended to be subjective or intuitive rather than objective. The use of soils information indicates the land's inherent limitations and strengths and provides a technique allowing substantial scientific basis for planning decisions.

The use of these data assisted in achieving two primary objectives:

(a) Determining the use of land and a compatible zoning category in a manner sympathetic with the inherent capability of the land; and



Legend

Planning Area Boundary
Roads
Railroads
Water Resources
Flood Level of Impoundments

Degree of Limitation
Slight
Moderate
Severe
Flood Plain (Severe)

Note

Information indicated hereon is determined by analysis of parent material, slope, soil depth, drainage & erosion

SOURCE: Montgomery County Soil Survey Report (issued October 1961), prepared by U.S.D.A., Soil Conservation Service in cooperation with Maryland Agricultural Experiment Station.

Additional detailed interpretation was obtained from personnel of the U.S.D.A., Soil Conservation Service.

plate VIII

Suitability for On-Site Sewage Disposal

NORTH

100 ACRES
10 ACRES
1 ACRE

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10,000 FEET

(b) **Determining the correlation of these indicators of form with other criteria to achieve sound planning conclusions.**

The following definitions are provided to facilitate understanding of the terms relating to the degrees of limitation which appear on the maps:

Slight Limitation—Soil characteristics impose little or no limitations for the listed practices during construction or use thereafter.

Moderate Limitation—Soil contains one or more characteristics which present difficulties during construction and use thereafter that may be overcome by special measures and extra precautions. Usually, additional expenditures of money are required to achieve satisfactory results for the land use listed.

Severe Limitations—Soil contains one or more characteristics which present serious difficulties during construction and use thereafter. High expenditures of money often are required to achieve and maintain the land use listed.

Suitability for Agriculture (Plate VII, page 19): The dominant land use in the planning area at the present time is agriculture. Although the pressures to develop the land for other purposes are great, it is anticipated that agriculture will continue to be an important use for at least the next decade.

The following explanation relating to limitations of the land for agricultural use is intended to supplement Plate VII:

Slight Limitation—Best land for all types of agriculture. It can be cultivated or used for pasture with relatively few difficulties.

Moderate Limitation—Land has slight limitations for pasture use and moderate limitations if cultivated.

Severe Limitations—Land has moderate to severe limitations for pasture and severe limitations if cultivated.

Suitability for On-site Sewage Disposal (Plate VIII, page 21): Most of the planning area, presently, is inaccessible to existing sewers. If development occurs in those areas not having sewer mains, other forms of sewage disposal must be utilized. The identification of limitations indicated on Plate VIII is oriented to the septic tank, tile field type of on-site sewage disposal.

Primary factors considered include soil permeability, depth to seasonal high water table, year-around high water levels and perched water tables, and depth to bedrock, hardpan or silt and clay layers. Additionally, the slope of the land has an important bearing upon its suitability for this use. Slopes of less than 8% offer no serious problems if other factors do not preclude the use of the land for this purpose. On steeper slopes, disposal systems become progressively more difficult to install, and effluent seepage to the surface on the downhill side can be a serious problem, especially during excessively moist periods.

Based upon the foregoing data, the following explanation related to limitations of the land for on-site sewage disposal is intended to supplement Plate VIII:

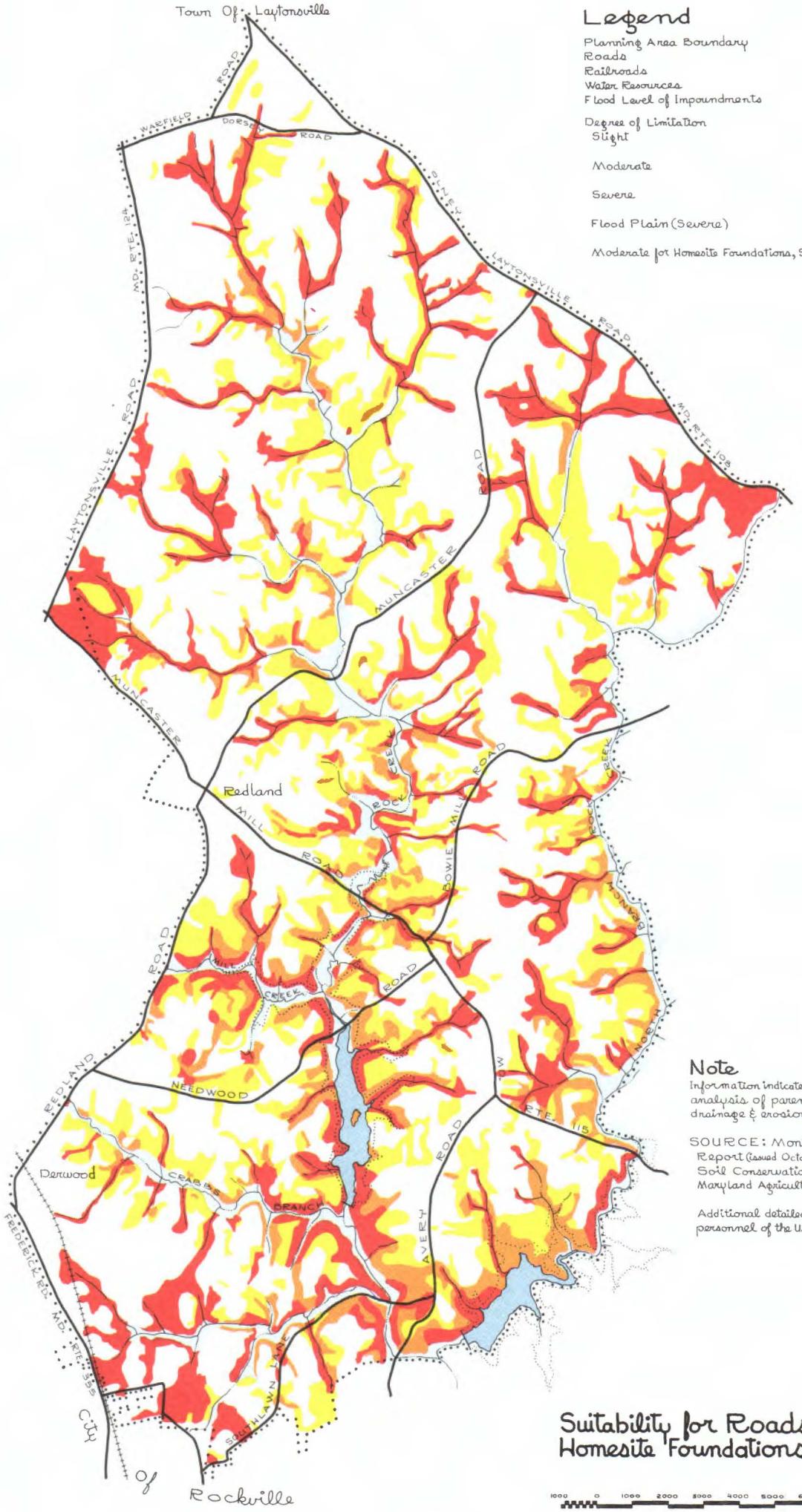
Slight Limitations—Best land for use. These lands can accommodate reasonable densities of development. Soils are well drained and occur on slopes less than 8% in gradient.

Moderate Limitations—Land is suited for use at considerably lower densities than can be accommodated on soils of slight limitations. Special measures and careful site location are required to overcome soil limitations such as poor drainage. Costs often are considerably above average to achieve adequate installation. Slopes range between 0 to 8%, and if soil is well drained, up to 15%.

Severe Limitations—Land usually not suited for use.

Flood Plain—Unsuitable for use due to seasonal flooding.

Suitability for Roads and Homesite Foundations (Plate IX, page 23): The similarities between



Note

Information indicated hereon is determined by analysis of parent material, slope, soil depth, drainage & erosion

SOURCE: Montgomery County Soil Survey Report (issued October 1961), prepared by U. S. D. A., Soil Conservation Service in cooperation with Maryland Agricultural Experiment Station.

Additional detailed interpretation was obtained from personnel of the U. S. D. A., Soil Conservation Service.

plate IX

Suitability for Roads & Homesite Foundations

NORTH

100 ACRES
10 ACRES
1 ACRE

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10,000 FEET

suitability of the land for these two uses permitted the combining of this information on one map. Primary factors considered include the degree of natural drainage or wetness, the absence or presence of bedrock and its depth, the slope of the land and the amount of stones or boulders found in the soil.

The major difference between the suitability of land for roads and its capabilities with respect to homesite foundations is the degree of slope. Topography with a gradient of between 15 and 25% is considered to have severe limitations for road construction, but moderate limitations for home siting.

The uses included here do not indicate the land's suitability for on-site sewage disposal. It is possible to have slight or moderate limitations for homesite foundations but more severe conditions relating to the reliability of on-site sewage disposal.

Based on the foregoing data, the following explanation related to limitations of the land for roads and homesite foundations is intended to supplement Plate IX:

Slight Limitations—Best land for uses. Slopes generally range between 0 and 8% in gradient. In many places, road grading and surfacing provide satisfactory performance. Costs of road construction and maintenance are usually average or below average.

Moderate Limitations—Land has some problems related to access, drainage, excavation and landscape work. Slopes generally range from 8 to 15% in gradient.

Severe Limitations—Land not suited to uses as it contains one or more severe limitations such as excessive wetness, poor drainage, shallow depth to bedrock or slopes in excess of 25% gradient necessitating extensive grading for roads and expensive construction techniques for proper home siting.

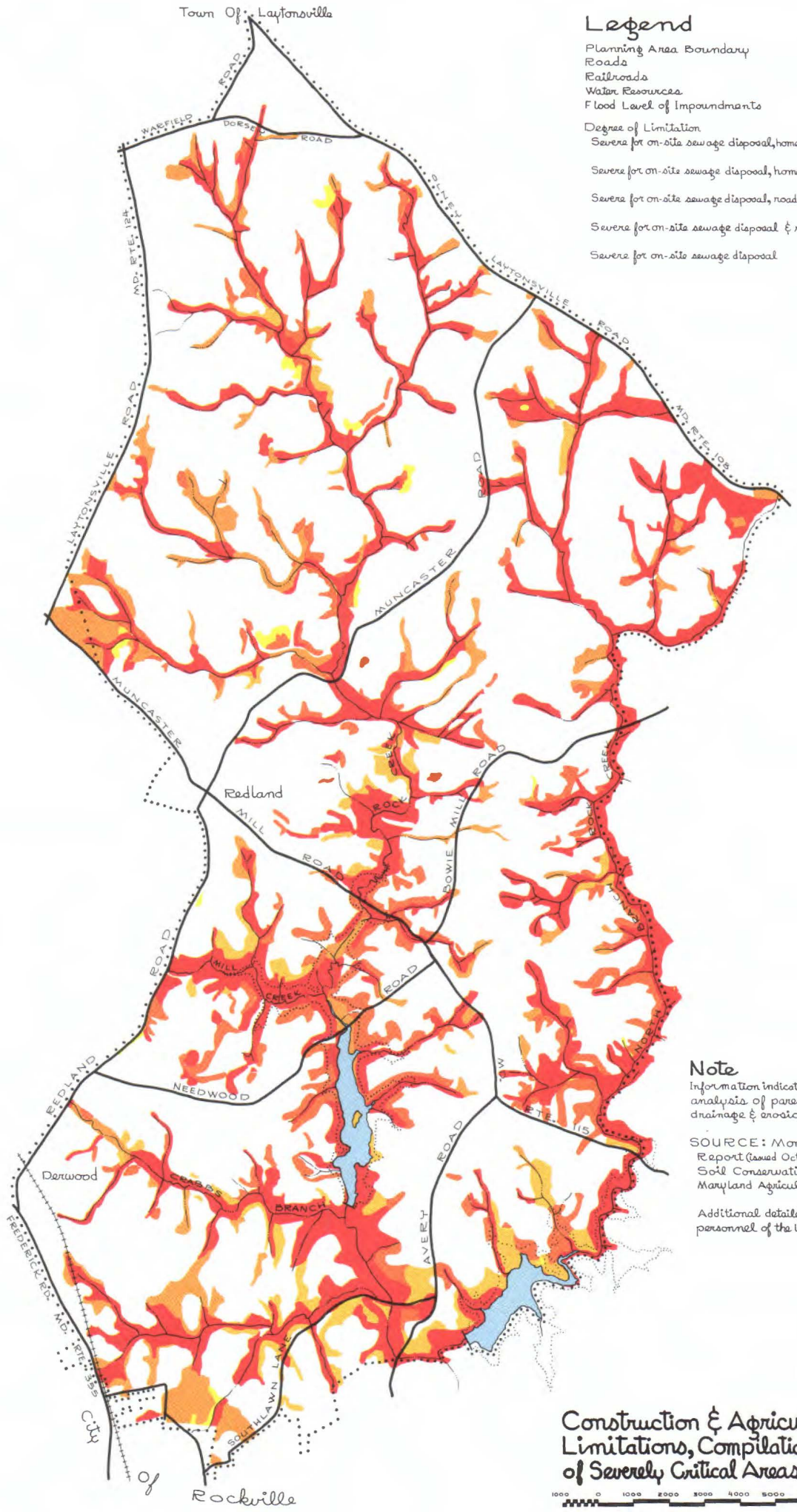
Moderate for Homesite Foundations; Severe for Roads—Land in this category ranges in slope between 15 and 25%. This creates severe problems for road construction, but it is considered a moderate limitation for homesite development.

Examination of the three previous suitability maps reveals a strong relationship between topography, the resultant drainage network and the capability of the land to accommodate the various uses identified. Severe conditions exist, primarily, adjacent to water features and natural drainage courses, for it is here that such factors as excessive wetness, shallow depths to bedrock, stony land and steep slopes occur. Land with moderate limitations also is related to these natural environmental patterns. Generally, the best land for both agricultural and residential use is situated on the plateau along the drainage divide between Rock Creek and its North Branch, and on the high land west of Rock Creek.

Construction and Agricultural Limitations, Compilation of Severely Critical Areas (Plate X, page 25): After study of the three suitability maps, it was determined important to isolate the land containing severe limitations for each of the uses identified. Composites were then made to show lands having one or more severe conditions, resulting in the preparation of Plate X. It can be noted that much of the land in the severe limitation category has significant problems relating to all four categories; i.e., agriculture, on-site sewage disposal, roads and homesite foundations. Remaining areas contain one, two or three categories of serious limitations to use for agriculture or construction.

Within the planning area, approximately 4,213 acres of land contain one or more severe limitations to use. This represents approximately 37% of the total land. Within this total are 814 acres of land that are located in the flood plain of the major waterways. This category alone embraces slightly over 7% of the total land area.

Existing Degree of Erosion (Plate XI, page 27): This drawing vividly portrays a fundamental problem endemic to the soils of the planning area; namely, that of erosion. Severe erosion identifies areas that have lost over 75% of the original topsoil. The term moderate erosion is applied to land having lost between 25 and 75% of the original topsoil, while areas of slight erosion have lost less than 25% of the original topsoil.



Legend

Planning Area Boundary
Roads
Railroads
Water Resources
Flood Level of Impoundments

Degree of Limitation

- Severe for on-site sewage disposal, home foundations, roads & agriculture
- Severe for on-site sewage disposal, home foundations & roads
- Severe for on-site sewage disposal, roads & agriculture
- Severe for on-site sewage disposal & roads
- Severe for on-site sewage disposal

Note

Information indicated hereon is determined by analysis of parent material, slope, soil depth, drainage & erosion

SOURCE: Montgomery County Soil Survey Report (issued October 1961), prepared by U.S.D.A., Soil Conservation Service in cooperation with Maryland Agricultural Experiment Station.

Additional detailed interpretation was obtained from personnel of the U.S.D.A., Soil Conservation Service.

plate X

Construction & Agricultural Limitations, Compilation of Severely Critical Areas

NORTH

100 ACRES
10 ACRES
1 ACRE

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10,000 FEET

Seventy-five per cent of the original topsoil has been lost from 30.5% of the planning area. Moderate erosion occurs on 47.6% of the land, and slight erosion is indicated for the remaining 21.9%.

It should be noted that the field work for the mapping of the Montgomery County Soil Survey was completed in 1957. Data relating to existing degree of erosion refer to conditions in the planning area at the time the survey was in progress. It is reasonable to assume that erosion conditions have increased in severity during the ensuing years. Analysis relating to the inherent capabilities of the land to accommodate uses is not affected by the time of mapping; however, any portrayal of existing erosion conditions obviously must be qualified to some extent.

Erosion and Surface Runoff, Compilations of Severely Critical Areas (Plate XII, page 30): Plate XII relates the existing severe erosion conditions previously discussed to land areas having soils which have inherently highly erosive characteristics and severe surface runoff.

The causes of topsoil loss vary, depending upon the parent material, drainage and surface runoff, slope, soil depth, presence or lack of vegetative cover, and the intensity and duration of rainfall. For example, if one area has bedrock within one foot of the surface while another has it four feet below the surface, other factors being equal, the one-foot depth of soil will reach its saturation point sooner than the four-foot depth. Once this point is reached, additional water is not absorbed but runs over the surface. This surface runoff dislodges particles of soil and transports them to a new location depending on the slope gradient, intensity and duration of rainfall, and the amount of vegetative cover present. Thus, there is a direct relation between surface runoff and soil erosion.

The drawing shows that, in many instances, severe erosion has occurred on land that is severely erosive. In other areas, due to the history of land use, severe erosion loss has occurred on moderately erosive soils. This, generally, is the result of poor agricultural practices in past years. Today, the technical services provided by the U.S.D.A., Soil Conservation Service help to prevent abuse of the land through introduction of land treatment measures such as strip cropping, terracing, crop rotation and the like.

Land that is potentially severely erosive represents 16.6% of the planning area. This figure is exclusive of the areas where severe erosion loss already has occurred. Thus, if the 30.5% figure representing existing severe erosion loss, as shown on Plate XI, page 27, is combined with the additional 16.6% figure representing land that, if disturbed, will be subject to severe erosion, Plate XII, page 30, a total of 47.1% of the planning area, encompassing almost 8.5 square miles of land, presents severe erosion problems.

PERCEPTUAL INDICATORS OF LAND USE FORM

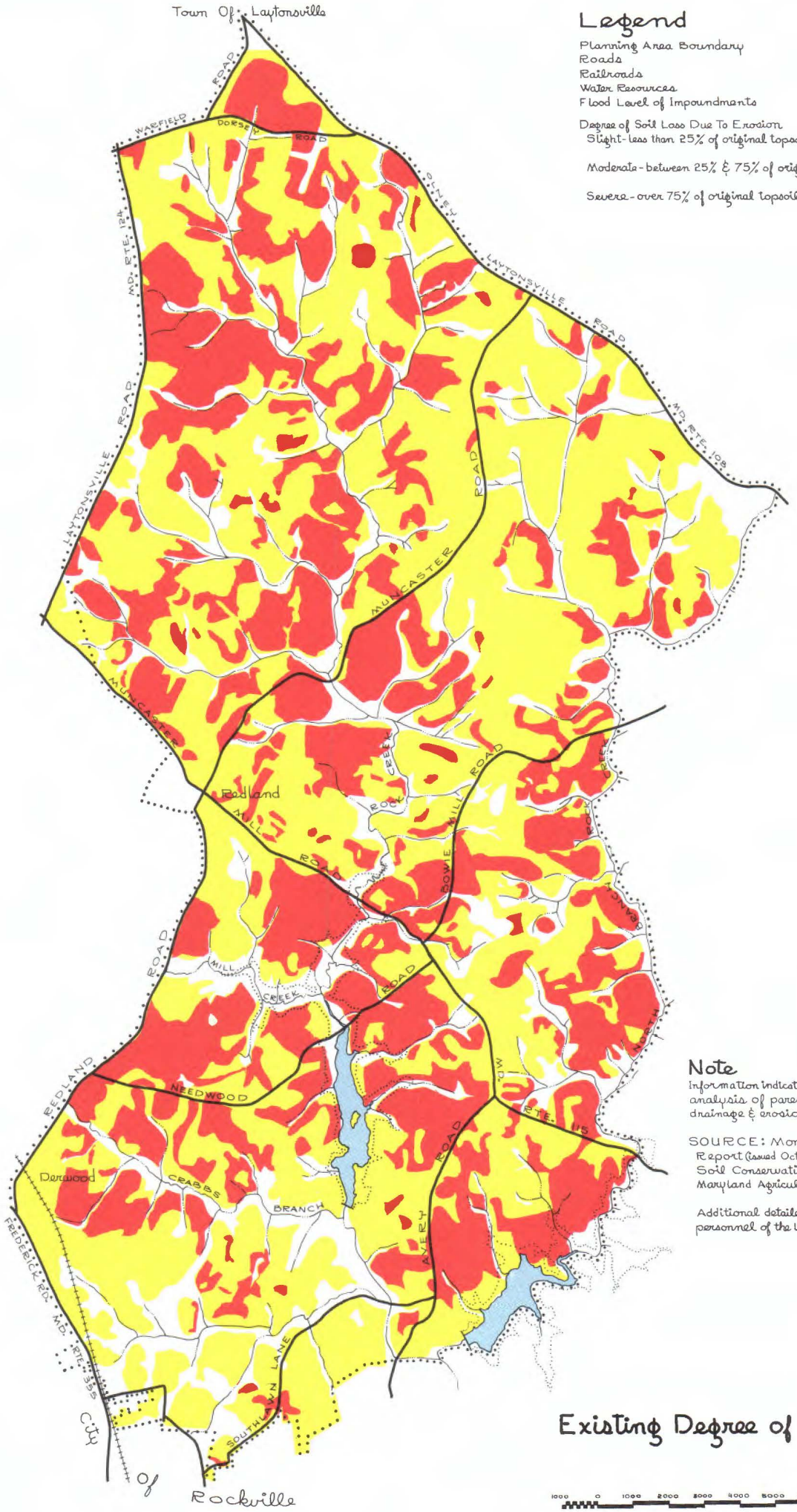
Any consideration of environmental influences should include an investigation and analysis of its significant visual or perceptual qualities. The drawing entitled "Perceptual Survey", Plate XIII, page 33, portrays this aspect of the study. The elements included thereon resulted from examination of topography, aerial photographs and extensive field reconnaissance.

The material developed is considered in two major categories. The first involves natural or intrinsic perceptual values; the second depicts man-made or extrinsic values.

Intrinsic Perceptual Elements: The significant elements included here are water features; topographic configurations such as steep land, flat land and high points from which views are obtainable; and forest cover. Each of these natural features provides a dominant attraction which is readily perceived by the eye.

Contrast and variety are the most widely-valued perceptual attributes of environmental patterns. Contrasts in high points and between land and water features, and variety in slopes and ridges are among the scenic resources which enhance the setting for living and working.

Water features include streams, farm ponds and lakes. The value of these water features is both



Legend

Planning Area Boundary
Roads
Railroads
Water Resources
Flood Level of Impoundments

Degree of Soil Loss Due To Erosion

Slight - less than 25% of original topsoil lost

Moderate - between 25% & 75% of original topsoil lost

Severe - over 75% of original topsoil lost

Note

Information indicated hereon is determined by analysis of parent material, slope, soil depth, drainage & erosion

SOURCE: Montgomery County Soil Survey Report (issued October 1961), prepared by U.S.D.A., Soil Conservation Service in cooperation with Maryland Agricultural Experiment Station.

Additional detailed interpretation was obtained from personnel of the U.S.D.A., Soil Conservation Service.

plate XI

Existing Degree of Erosion

NORTH

100 ACRES
10 ACRES
1 ACRE

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10,000 FEET

visual and auditory, as the movement of water in the streams produces a pleasing sound as well as being visually attractive.

The various topographic features identified offer perhaps the greatest perceptual impact. High points provide opportunities for views of varying length and quality. The drawing indicates elevations at each high point, thus analysis can be made between two or more points to determine the extent and value of a particular view. Should two points of approximately the same elevation have forest cover between them, it becomes apparent that the tree masses would interrupt the view from one point to the other. Similarly, the direction of view available from a given high point can be ascertained by observation of surrounding high-point elevations and the location of forest cover.

Steep slopes (over 25%) provide an abrupt and often dynamic visual attraction, while level land (8% or less) has a less dynamic but more stable appeal, providing it is not too extensive. Additionally, level land provides a foil against which the exaggerations of steep land become more highly accented.

Forest cover introduces dramatic vertical accents into the landscape and provides a stabilizing influence with respect to wind currents and soil erosion, as well as respite from the hot summer sun. In addition, wooded areas enrich the environment by providing visual coalescence among man-made introductions to the landscape.

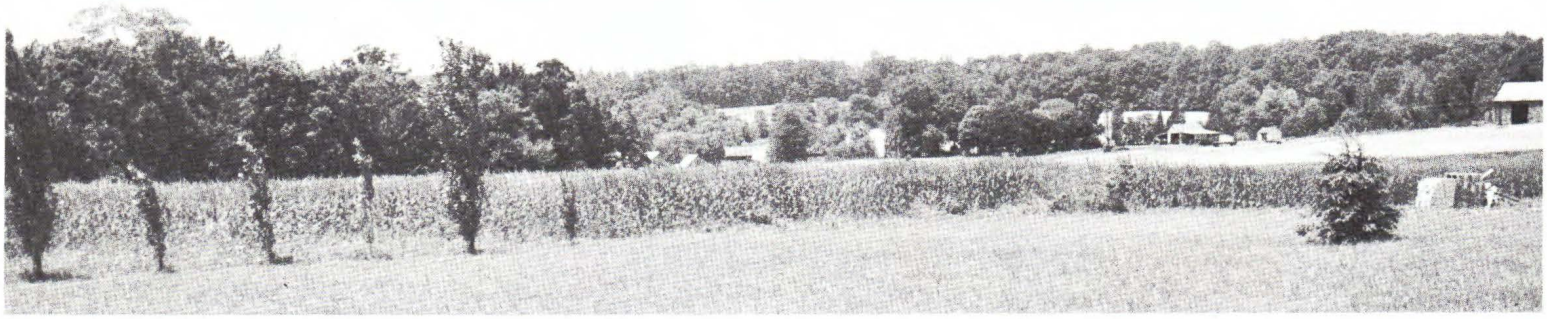
The combined effect of the intrinsic perceptual elements blend to create a higher superiority of environment for living than would be possible to enjoy if they were non-existent or negated by insensitive development locations and densities.

Extrinsic Perceptual Elements: Dominant considerations related to man-made elements influencing the visual scene are factors such as building arrangements, roads, and overhead utility lines. The placement and arrangement of all man-made introductions to the landscape have a profound effect upon the quality of the living environment.

Perceptual wall, resulting from continuous roadside development

One striking visual characteristic that has become evident in a few places in the study area is the perceptual wall created by rows of houses fronting along the roads. Often, the first lands to be developed are lots abutting existing roads. The reasons, of course, are the ease of access without constructing additional streets, and the limited effect the removal of this land from agricultural use has upon a farm as a whole. To the passerby, however, these bordering rows of buildings block the view almost as effectively as if a two-story wall were erected along the roadside.

This suggests a design arrangement with selected strategic points from which the character of the landscape may be viewed unimpeded by close-up visual obstacles, and an arrangement in roadside treatment to create an illusion of openness in areas where development approaches the principal



The view obscured by the perceptual wall (see previous photo)

roads. The methods recommended for accomplishing these objectives are set forth in the section of this report entitled "The Plan."

Present roads in the area, generally, are winding and of a low-speed design. Most are surfaced with macadam; however, some sections are gravel. Though most would be considered substandard with respect to the movement of high volumes of traffic, these rural roads offer many pleasant vistas and interesting sequential experiences of view. Through roadside treatment, already referred to, it is hoped that some of the scenic character of these rural roads can be maintained even when, in the future, they are designed and built to higher standards.

Overhead utility lines are another intrusive aspect to the landscape. The transmission lines situated in the northern sector of the planning area presently are the most objectionable. Home sites located in close proximity to this type of utility often are of a lower visual caliber and economic value than are developments farther removed from such facilities. But all overhead utility lines have a negative effect on the appearance of a community, and alternatives are suggested for their location, as noted in the section of this report entitled "Implementation."

The Perceptual Corridor: A study was made, based upon the foregoing perceptual analysis, to determine if an inherent pattern was present which would include a significant number of the elements considered visually attractive. This examination revealed that many of these elements were clustered together in a strong, interconnected, predominantly linear form. This pattern is identified as the Perceptual Corridor.

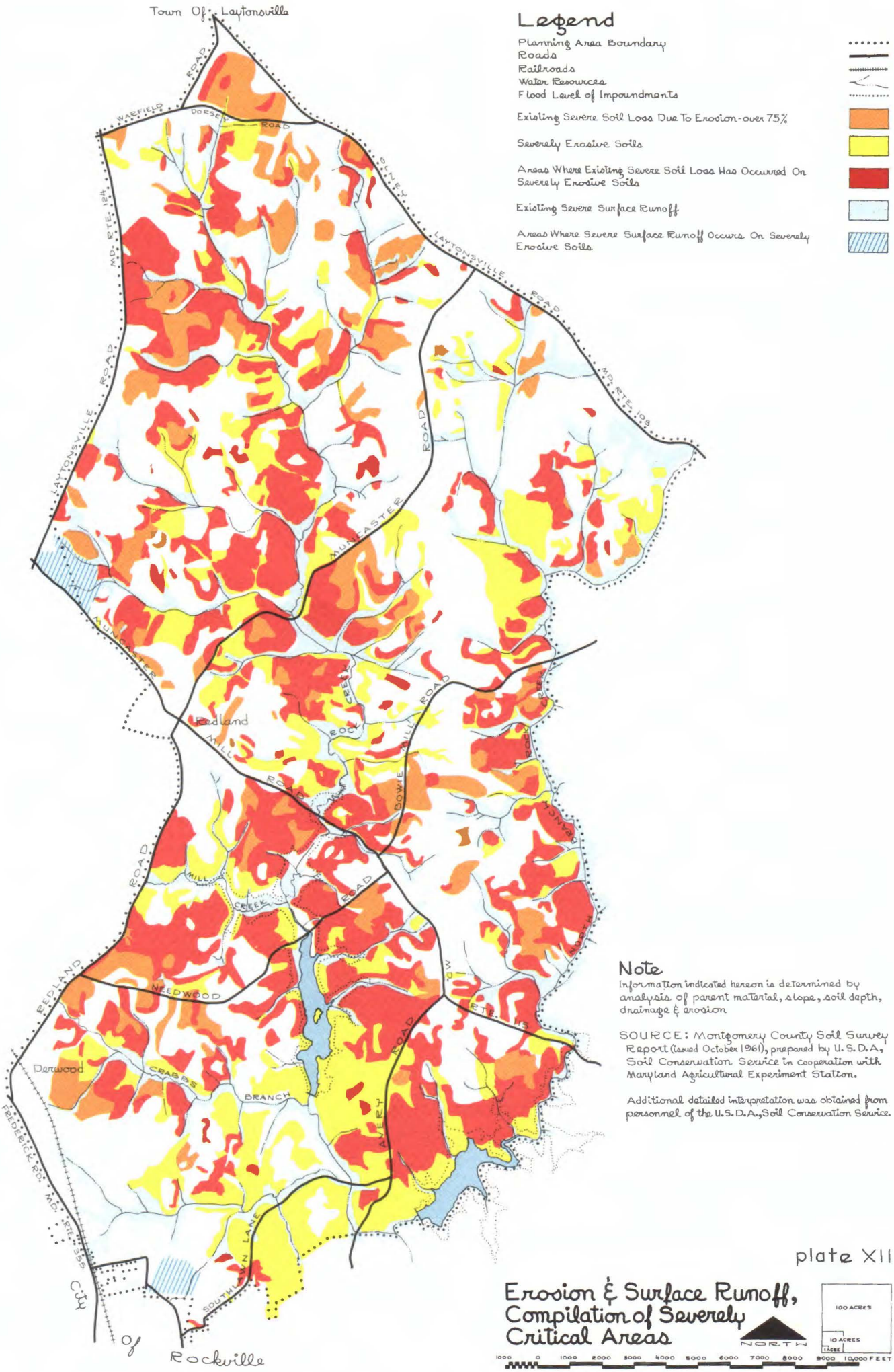
Contained within this corridor are the major water features, significant topographic variances and viewing points, and a substantial amount of forest cover. The pattern follows closely the valleys of the major streams.

This perceptual corridor includes the greatest number and most significant of the intrinsic visual benefits in the valley. It is an essential ingredient of any plan for the Rock Creek Planning Area that seeks to carry into effect the concept of the wedges of open space and low-density development as a design element of the General Plan.

RELATIONSHIP BETWEEN PHYSIOGRAPHIC AND PERCEPTUAL INDICATORS

It is evident from observation of the drawings portraying the various physiographic and perceptual indicators that strong similarities in configuration exist between these seemingly unrelated elements.

Lands having severe limitations for various construction and agricultural uses generally are located within the corridor containing the most significant and greatest number of visual amenities. Further examination reveals that the best land for construction and agricultural use, while obviously located on land not burdened with severe limitations, is situated mainly outside the limits of the


Town Of Laytonsville
Legend
Planning Area Boundary
Roads
Railroads
Water Resources
Flood Level of Impoundments
Existing Severe Soil Loss Due To Erosion-over 75%
Severely Erosive Soils
Areas Where Existing Severe Soil Loss Has Occurred On Severely Erosive Soils
Existing Severe Surface Runoff
Areas Where Severe Surface Runoff Occurs On Severely Erosive Soils
WAEFIELD ROAD
DORSEY ROAD
MD. RTE. 124
OLNEY
LAYTONSVILLE ROAD
MD. RTE. 108
MUNCASTER ROAD
Redland
ROCK CREEK
BOWIE MILL ROAD
NORBECK ROAD
NEEDWOOD
Derwood
CRABB'S BRANCH
AVERY ROAD
SOUTHLAWN LANE
FREDERICK RD. MD. RTE. 355
City of Rockville
Note
Information indicated hereon is determined by analysis of parent material, slope, soil depth, drainage & erosion
SOURCE: Montgomery County Soil Survey Report (issued October 1961), prepared by U.S.D.A. Soil Conservation Service in cooperation with Maryland Agricultural Experiment Station.
Additional detailed interpretation was obtained from personnel of the U.S.D.A., Soil Conservation Service.
plate XII
Erosion & Surface Runoff, Compilation of Severely Critical Areas
NORTH
100 ACRES
10 ACRES
1 ACRE
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10,000 FEET

Perceptual Corridor. Plate XIV, page 35, entitled "Relationship Between Best Land, Land Severely Limited for Construction and Agriculture, and Perceptual Corridor", shows these relationships graphically. Areas of best land falling within the Perceptual Corridor present an opportunity for superior development of low-density home sites, by taking advantage of the existing environmental amenity through sympathetic design treatment. Those areas containing severe limitations for development and the greatest perceptual endowment should, logically, be used for the lowest-density development and for public and private open space.

THE RECREATION AND FLOOD CONTROL IMPOUNDMENTS

An important factor bearing directly upon the acceptability of any plan is the assurance of reasonable protection for the two recreation and flood control lakes. These impoundments, one, Needwood Lake and the other, Lake Frank, were designed and built mostly as a result of appropriation of funds available through Public Law 566. Their purpose, referred to earlier, is to provide flood and sedimentation protection to the downstream reaches of Rock Creek, to reduce sediment loads now being transported to the Potomac River, and to provide recreational water for residents of Montgomery County.

In a sense, they protect the downstream areas from land use indiscretions that might occur in the 25-square-mile drainage area controlled by these lakes. Of the total, 14.8 square miles are located within the Rock Creek Planning Area. This represents 82.7% of the land within the planning area and 19.1% of the 77.37 square miles in the entire Rock Creek Watershed.

The portion of the Needwood Lake drainage basin within the Rock Creek Planning Area is 10.3 square miles, or 57.4% of the area. Lake Frank controls 4.5 square miles (25.3%) of the planning area. Neither lake has its total drainage basin within the study area.

Structurally, the dams were designed to accommodate the highest runoff-producing conditions considered even remotely possible in the future. As a safety measure, the data used reflected primarily R-90 zoning throughout the controlled drainage area. The estimated 50-year functional usefulness of the lakes, however, is dependent upon development density and land treatment controls invoked within the drainage area of these impoundments.

The question arises as to the necessity of this concern if the dams are designed structurally to accommodate R-90 densities. But it must be remembered that this applies only to the safety features of the earth dams themselves and not to any damages that may occur upstream. Though the dams will protect the downstream areas, they cannot, obviously, protect the lakes they form nor other upstream reaches of water from poor land use practices in the watershed.

Considerable sums of money already have been expended by the County to acquire park land adjacent to these lakes. Additional funds will be required to construct specific facilities to serve the public using these lakes for recreational purposes. The costs of dam construction were increased to provide sufficient height to accommodate the six-foot depth of recreation water over and above that required for the sediment pool. The sediment pool elevation is all that would have been required if flood control were the only consideration. Residents of Montgomery County, as a whole, and home owners residing on land areas adjacent to these facilities, in particular, have a great deal at stake. It is their tax money that could be abused if unsound development practices result from an unsuitable plan.[2]

Some of the problems that would result from excessive development densities or inadequate land treatment measures, if allowed to occur in the watershed controlled by these dams, are:

- **Extreme fluctuations in the recreation pool level due to increased surface water runoff caused by large**

increases in impervious surfaces; i.e., roads, sidewalks, parking areas, roofs. This would result in flooding recreation facilities adjacent to the lakes and would create an unsightly shoreline.

- Acceleration in stream bank erosion caused by this increased surface water runoff, thus reducing their recreational value and necessitating implementation of expensive stream channel protective measures.
- Premature filling of the lakes with sediment due to erosion caused by subdivision development to excessive densities.
- Significant reduction in the recreational value of lakes and streams due to muddy appearance caused by erosion resulting from excessive construction activities.

Though the lakes are theoretically designed to have a 50-year life before being filled with sediment, this length of time can be considerably shortened or lengthened, depending upon how the watershed is developed.

Potential private conservation area

THE PROTECTED STREAM VALLEY CORRIDOR CONCEPT

The desirability of providing permanent controls for the two lakes to protect the public's investment in these projects, combined with the data relating to environmental indicators, suggests definite open-space patterns (including those to be maintained privately) and development densities if a plan is to be evolved which works in harmony with the land. Moreover, it is impossible to consider open space and development densities unrelatedly, as each affects the value of the other.

For example, when the public purchases land for parks, it acquires not only the land itself but certain intrinsic qualities and amenities which exist at the time of acquisition. Thereafter, the public is entitled to protect the qualities that, initially, made the land desirable for park purposes. Thus, there must be control to prevent excessive densities which would negate many of the natural values acquired with the land, because of the destructive effect caused by soil loss due to erosion during construction and, later, due to severe surface runoff resulting from greatly increased areas of impervious surface.

The validity of establishing a Protected Stream Valley Corridor is strikingly apparent upon review

Town of Laytonsville

Legend

- Natural Resource Culture (Intrinsic Values)
  - Forest Cover
  - Steep Slopes (over 25% slope)
  - Level Land (0-8% slope)
  - High Points — TOP OF HILL ELEVATION 450 BASE OF HILL
  - Water Resources
  - Ridge Line Between Stream Valleys
- Man Made Culture (Extrinsic Values)
  - Roads — surfaced / gravel
  - Railroads
  - Buildings - Individual structures
    - Row of structures forming a visual barrier
  - Transmission Line
- Perceptual Corridor
- Planning Area Boundary

WARFIELD ROAD
DORSEY ROAD
MD. RTE. 124
OLNEY
LAYTONSVILLE ROAD
MD. RTE. 108
LAYTONSVILLE
LAYTONSVILLE ROAD
MUNCASTER MILL ROAD
MUNCASTER ROAD
Redland
NEEDWOOD ROAD
Derwood
FREDERICK ROAD MD. RTE. 355
SOUTHLAWN LANE
AVERY ROAD
MD. RTE. 115
BOWIE MILL ROAD
MIHL ROAD

City of Rockville

Perceptual Survey

plate XIII

NORTH

100 ACRES
10 ACRES
1 ACRE

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10,000 FEET

of Plate XIV, page 35, entitled "Relationship Between Best Land, Land Severely Limited for Construction and Agriculture, and Perceptual Corridor". Observing the correlations portrayed on this drawing, it is readily seen that a somewhat linear pattern already exists due to the close relationships between the physiographic and perceptual indicators of land use forms.

Thus, these environmental factors which exist in the area provide the basic guide lines in defining limits of open space for streams and stream valley protection, for public and private park and conservation open space, and serve as determinants in establishing development densities in appropriate locations. The total planning area, and particularly the drainage area controlled by the two recreation and flood control lakes, falls within the realm of these controls which provide the basis for the plan concept.

Town of Laytonsville

Legend

- Planning Area Boundary
- Roads
- Railroads
- Water Resources
- Drainage Area of Impoundments
- Best Land
- Land severely limited for construction & agricultural use
- Perceptual Corridor

WARFIELD ROAD
GORSE ROAD
OLNEY LAYTONSVILLE ROAD
MD. RTE. 124
MD. RTE. 108
LAYTONSVILLE ROAD
MUNCASTER ROAD
Redland
MILL ROAD
BOWIE MILL ROAD
ROCK CREEK
MILL CREEK
NEEDWOOD ROAD
Derwood
CRABB BRANCH
AVERY ROAD
FREDERICK ROAD MD. RTE. 355
SOUTHLAWN LANE
City of Rockville

plate XIV

Relationship between Best Land, Land Severely Limited for Construction & Agriculture & Perceptual Corridor

NORTH

100 ACRES
10 ACRES
1 ACRE

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10,000 FEET

IV. THE PLAN

FUNDAMENTAL PRINCIPLES UNDERLYING THE PLAN

After the investigation and analysis phases of the work were completed, all of the existing land uses, previously-prepared plans, and physiographic and perceptual factors were evaluated, resulting in the establishment of the following basic principles which structured the emerging plan:

1. ***Existing land uses, where valid and in harmony with the intent and purpose of the plan, should be continued, and in some cases expanded to meet future needs.*** Existing land uses are described in the section entitled "The Rock Creek Planning Area Today."

2. ***The proposals of other plans relating to the area, if applicable and consistent with the master plan objectives, should be incorporated in or provide a basis for plan decisions.*** These have been discussed or referred to in a number of places throughout the preceding text.

3. ***Overall density rather than rigid lot size regulations should be the major quantitative control.*** Application of this principle permits the use of the design form commonly called "clustering." By employing this technique, development can be confined to land best suited to a given use, and the severely limited land can be kept as open space. Clustering also encourages greater creativity in design through variation in lot size and house type and by the skillful intermingling of living area and open space.

4. ***Highest development densities should be situated on land having only slight to moderate limitations for construction.*** It is logical to use the land with the fewest limitations for the highest developmental densities. Although this appears obvious, the principle often is ignored. Lack of consideration in the past has been due, partly, to unavailability of adequate data delineating the best land locations.

Observation of development in several of the lower valleys indicates the apparent lack of awareness of the importance of this environmental factor. Densities often are as high (or higher) on the valley walls as they are on the best land located alona the ridges.

5. ***Lowest development densities should be located on lands having existing or potential severe erosion characteristics.*** Although erosive land is not considered to be as much of a deterrent to development as land containing severe limitations for construction, it does indicate that densities should be related to the degree of land erosiveness. It has been estimated that construction of home sites in the RA-C (Agricultural Residential) Zone displaces 15% of the total land area involved. Land in the R-E (Residential Estate) Zone is disturbed up to 25%, and in the R-R (Rural Residential) Zone, erosion due to development affects 40% of the land. Thus, the lower the residential density on highly erosive land, the less will be the amount of land subjected to the forces of erosion; and this problem will be correspondingly reduced.

As an erosion control measure, it is important to retain existing forest cover to the extent possible on land that is highly erosive in character. The planting of vegetative cover on unforested, highly erosive areas should be undertaken as a conservation measure wherever possible.

6. ***Development should be excluded from areas identified as having severe construction limitations.*** Severe soil conditions, although not insurmountable obstacles to development for some uses, have significant limitations for construction and often require costly and continuous maintenance practices after development. To the extent possible, these areas should not be developed but maintained as permanent private or public open space. (See items 10 and 11.) Limited agricultural uses are suitable in some instances.

7. ***Permanent installations should be excluded from the flood plain land.*** Seasonal flooding accompanied by the deposit of sediment upon the land makes it unsuitable for development. The Subdivision Regulations limit the use of flood plain lands for other than open-space purposes, and the criteria in these areas should be strictly applied.

8. ***Development densities should reflect perceptual considerations.*** Of all land forms, a valley is perhaps the

most vulnerable to the destruction of its visual assets because of the intrusive aspects of development upon its walls and floor. Development in these locations usually presents an unrelieved conglomerate of roof tops, power lines and poles when viewed from the high ground. Conversely, development located uphill from the viewer, as a rule, is somewhat obscured. Therefore, from the standpoint of preservation of the perceptual aspects of the valley, when a choice is available, the highest densities should occur on the ridges.

9. *Scenic easements should be used to provide scenic rural roads.* If the cluster technique is employed, part of the open space retained can be used to create a network of scenic rural roads, particularly along the major arterial and primary highways shown on the plan.

This is possible if, in designing the neighborhood, lots bordering the principal roads are kept back a sufficient depth to permit the establishment of a controlled-access scenic easement adjacent to the dedicated right of way. Within the adjoining scenic easement, pedestrian ways, bicycle trails and even bridle paths may be developed at safe distances from traffic. A reverse-frontage arrangement of lots and control of access to the scenic strip from the adjoining lots would be necessary to carry out this design. It would be reasonable for the public to accept the responsibility for planting and maintenance thereof as part of the scenic easement consideration.

The scenic rural road concept is particularly applicable to arterial and primary highways. Along major highways, the scenic easement should be used mainly to provide a planted, insulating barrier ot protect adjacent residential development from the fumes, dirt, noise and lights of the highway.

10. *Establishment of private conservation areas should be encouraged on land having severe construction limitations.* Particular attention should be given to severely limited lands that are endowed by nature with woodland or with streams and ponds. Often, land conformation is adapted to the installation of dams to impound private lakes and ponds. These enhance recreational assets for nearby residents and also increase the competitive value of the project for the developer. As a public benefit, impoundments serve as sediment detention and flood water retardation facilities.

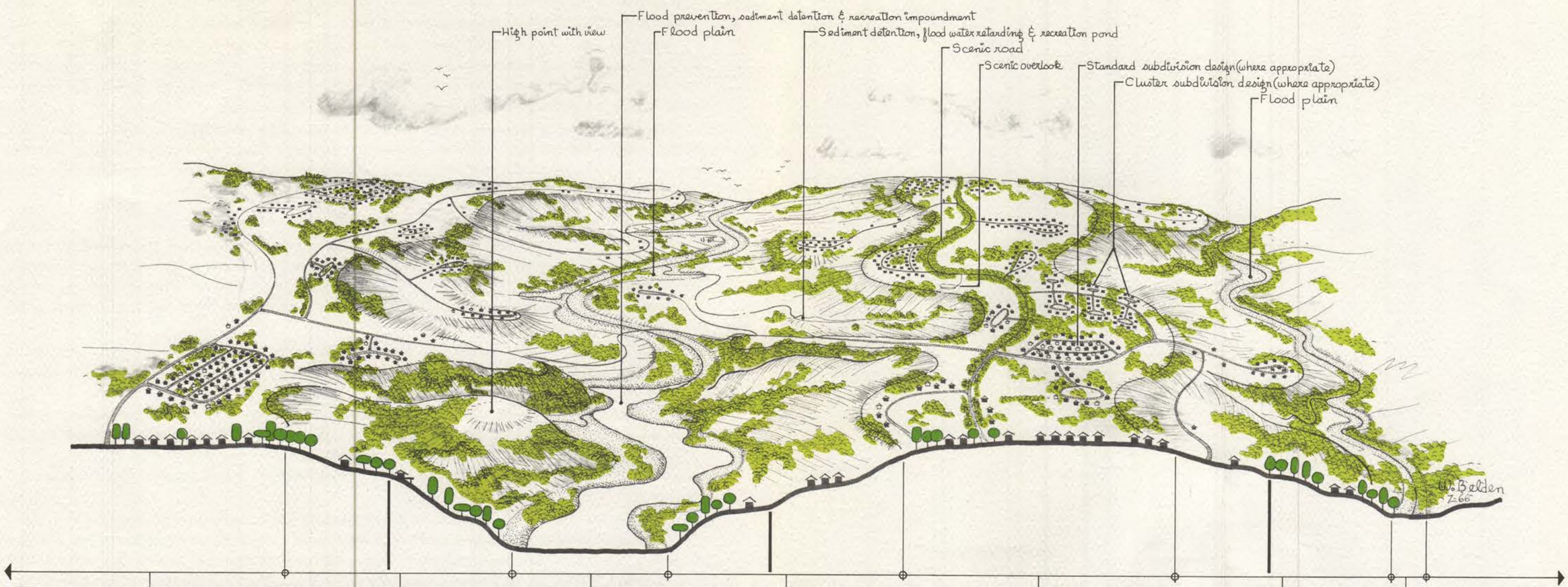
11. *Major park land acquisition should be guided by analysis of the correlation between the severe limitations for construction and agricultural use and the Perceptual Corridor.* The frequent, simultaneous accurrence of these environmental factors indicates that the best use of these lands is for public open space. The following benefits to both the land owners and the general public will result from adherence to this precept:

- Land thus permanently retained will provide the framework for a superb adjacent living environment.
- Generally, the visually stimulating characteristics of this land make it the most desirable open space.
- Lands severely limited for construction purposes should be excluded from private development. The open-space value of such land is not seriously affected by these limitations.
- Land severely limited for construction purposes should be relatively low in cost if acquired for park or other open-space use. Development of such land, generally, is found to be impractical because of the high cost involved in correcting or overcoming the severe conditions. Moreover, the apparent monetary loss to the owner who gives or sells such land for park purposes generally is more than recaptured by the increased value of the remaining land, because of its proximity to public open space.

APPLICATION OF THE PRINCIPLES

Validity of Existing Land Uses and Related Zoning Pattern

Residential—Only a small portion of the planning area is now committed to specific residential development and densities. Existing neighborhoods such as Brook Grove, Candlewood Park, Derwood, Granby Woods, Muncaster Manor, Needwood Estates, Redland Estates, Redland Knolls, Rolling Knolls and West Olney Park all have been included in a rural residential land use category. Cashell Estates, now in an agricultural residential classification, has been indicated as suitable for the residential estate category. Avery Lodge, presently in the Rural Residential Zone but having larger lots than is required for that zone, has been recommended for an agricultural residential type of development, principally because of its proximity to the Lake Frank impoudment area.



MODERATE DEVELOPMENT DENSITIES

Best land for development & agriculture Soils generally range from slight to moderate in limitation.

VERY LOW TO LOW DEVELOPMENT DENSITIES

Variable soils ranging from moderate to severe in limitation.

NO DEVELOPMENT

Flood plain & other severe soil conditions

VERY LOW TO LOW DEVELOPMENT DENSITIES

Variable soils ranging from moderate to severe in limitation.

MODERATE DEVELOPMENT DENSITIES

Best land for development & agriculture Soils generally range from slight to moderate in limitation.

VERY LOW TO LOW DEVELOPMENT DENSITIES

Variable soils ranging from moderate to severe in limitation

NO DEVELOPMENT

Flood plain & other severe soil conditions

PERCEPTUAL CORRIDOR

Generally severe soil conditions. Contains dominant visual elements such as forest cover, steep slopes, high points affording pleasing views & water features.

Best park land - Opportunity for dramatic home sites at low densities

PERCEPTUAL CORRIDOR

Generally severe soil conditions Contains dominant visual elements such as forest cover, steep slopes, high points affording best views & water features

Best park land - Opportunity for dramatic home sites at low densities.

Note

Information pertaining to soils includes analysis of parent material, slope, soil depth, drainage & erosion.

plate XV

Illustrative perspective & elevational sketch portraying the

Environmental Relationships Underlying Concept of Valley Development

Commercial—The Redland Center will consist of 12.04 acres. The area around the Center will be in R-T and R-90 zoning to provide a transition between the commercial properties and the adjacent lower density residential areas. There will be two neighborhood shopping centers of five acres each, one located on the northeast side of route M-2 opposite the intersection of M-2 and route A-4, and the other located in the western quadrant of the intersection of routes M-1 and A-4.

Industrial Uses—The industrial area in the southwest quadrant of the planning area north of the City of Rockville is well established by both existing uses and zoning. The present pattern is proposed for retention, with some modification, to provide for more logical delineation of these land uses in respect to adjacent areas proposed for residential use.

Proposed for heavy industrial use is the eastern portion of the industrial area, embracing the County incinerator plant and land east of the Washington Gas Light Company's storage facilities. Most of the remaining land, extending westerly and including a strip between Frederick Road (Md. Rte. 355) and the B & O Railroad north to Redland Road, is proposed for light industrial use.

Consideration of Other Plans Relating to the Area

The significance of the Rock Creek Work Plan, the Sediment Control Plan, and related aspects of conservation, flood control, stream and recreational area protection, and other important plans relating to the area has already been mentioned. These factors have had an important bearing on the land use decisions, especially in areas adjacent to the impoundment lakes and the upstream areas that are tributary thereto.

The Master Plan of 1961 contributed importantly in respect to highway locations, in addition to some of the land use and zoning decisions referred to in the previous section relating to these considerations.

No changes have been made in the proposed major highway network because regional rather than local factors are the principal determinants for location and function of these facilities. Proposed arterial and primary roads reflect the pattern and density of land use proposed by the plan, permitting some reduction in the extent of the primary highway system. It was possible, also, to reduce the number of crossings of park land.

To the extent that design of adjacent development makes it possible, all principal highways and roads shown on the plan would be benefited by the roadside scenic easement principle (No. 9 in the foregoing list) to provide a harmonious and visually attractive relationship between the highway and the adjoining residential land uses. Appendix B, Table VI, lists the pertinent data regarding highways shown on the plan.

Consideration of Physiographic and Perceptual Factors

Park and Public Open Space—To provide a strong basic design structure for the community and neighborhood patterns that later would evolve, initial consideration was given to the extent of land area to be proposed for park and other open-space purposes.

Park land now in public ownership and that presently proposed, together amounting to 1,890 acres, provided the point of departure for proposed additions. By applying the criteria developed during the earlier phase of the project (see Plates V to XVI, inclusive), land use decisions were made which determined the extent of these additions, proposed to embrace 1,634 acres. Proposed additions to park land already acquired and areas presently proposed by this plan would raise the total park land holdings in the Rock Creek Planning Area to 3,524 acres.

Important among the park extension proposals is one to provide linkage at the northern end between the finger-like projections of park land along Rock Creek and its North Branch. This connection, which would result in a complete loop in the park system, will offer greater flexibility in respect to such linear recreational activities as hiking and riding.

Several small lakes also are within the proposed extensions to the park system. They would function as sediment control and flood water retardation facilities in addition to the recreational use they would give to the area.

Private Conservation Areas—In making the park area determinations, a number of relatively small fingers of land were noted which have similar characteristics, as did the park land, indicating unsuitability for construction or general development purposes.

These fingers project laterally from the main trunk of the park. As privately-owned extensions of the park system, these areas, proposed on this plan for private conservation, would provide recreation space to serve the neighborhoods of which they would form an integral part. In some cases, where appropriate, water features have been suggested.

Residential Area Structure—Having determined a desirable public open space and private conservation area pattern, as well as the principal highway network and the nature and extent of committed land uses, it was then possible to undertake the final design tasks of giving form and land use definition, to structure the neighborhoods and communities, and to select general locations for community facilities.

To provide a basis for this phase of the undertaking, several land use (and zoning) models were prepared preliminarily. From these, four were selected for full development and the remainder discarded when it became evident that in one or more respects they violated underlying principles in the plan concept.

All models had the same public open space framework so that results obtained from the four completed models could be compared on a uniform basis. Thus, the only variables were those concerning residential land use and related zoning, and population, its density and distribution.

Two models eventuated as "control" devices. These and the two test models are described as follows:

Model 1 was based on the zoning pattern as it existed on June 1, 1966. By applying to the developable area the dwelling unit density formula used by the Commission, it was possible to determine the population (and related data referred to earlier)[7 9] if development were to proceed entirely on the basis of the present zoning controls. It has been stated that existing and proposed park areas were eliminated from the gross area computations, but this exclusion was not applied to the proposed private conservation area because of a proposal in the "Implementation" section of this report that certain "density credits" be given such areas. The total population derived by application of the data referred to above was 42,548.

Model 2 was predicated on the assumption that the planning area had been blanketed, generally, with an Agricultural Residential (R-A) zoning classification, substantially along the lines sought by the proposed Sectional Map Amendment E-499. Applying the dwelling unit density formula[7] already referred to, an estimated ultimate population yield of 12,202 persons resulted.

Model 3 was based on a land use and related zoning pattern derived by applying the environmental indicators to the study area. Selection of the types and density of residential uses was related directly to the effect that each level of development would have on the planning area. The lowest

density selections were applied to those sections having the greatest degree of limitation while the highest densities, regarded as consistent with the plan concept, were reserved for the land showing the least degree of limitation.

Generally, the pattern of land use that developed with the application of density selection resulted in the establishment of a linear sheath, with the lowest density uses surrounding and adjacent to the public open space areas in the lower portions of the valley and increasing progressively to higher density residential uses as the land capability of accepting these levels improved.

The highest densities also formed a linear pattern of development, in this instance following the two ridges of high ground. One, situated more or less centrally, extended in a north-south direction between the proposed lower density lands bordering the park areas along Rock Creek and its North Branch, and the other formed a somewhat similar but disconnected north-south pattern on the relatively high ground to the west of Rock Creek, extending to the westerly limits of the planning area.

The pattern thus developed incorporated the Agricultural Residential RA-C, Residential Estate (R-E) and Rural Residential (R-R) Zones in the model. Application of the density factors resulted, in this case, in an estimated design population of 25,608 persons.

Model 4 employed the criteria used in Model 3, except that in addition to the land use densities used therein, certain selected areas were designated for the type of development permissible in the R-150 Zone (Density Control Development, One-Family, Detached, Restricted Residential, Average Lot Size). The design population with this variation in density resulted in a figure of 33,877.

A comparative analysis of the four models resulted in the selection of Model 3 as the one most nearly satisfying the General Plan objectives, within the governing limits established by the physiographic factors dictating the level of density control. The model was further refined in consideration of other land use and zoning determinants, such as the proposed center at Redland, the proposed neighborhood center in the east central portion of the planning area, school sites, et cetera; and a final model, identified as **Model 5,** reflecting all of these factors and based upon the most satisfactory land use arrangement and zoning pattern, resluted in a design population of 22,729.

A comparative analysis of the five models is presented in Appendix B, Table II. Model 5 provided the basis for the land use and zoning patterns shown on the Master Plan.

APPLICATION OF THE BASIC MASTER PLAN CONCEPT IN COMMUNITY AND NEIGHBORHOOD STRUCTURE

Examination of the Master Plan reveals that the basic element which gives form and strength to the neighborhood and community design is the strong, open-space framework centrally located adjacent to the main streams. As noted in the description of the models which gave definition to the selected residential densities, the pattern of development progresses in intensity with the

lowest adjacent to the open space areas and the highest allowable along the ridges, except centrally in the southern section of the plateau where the area between the two flood control lakes is recommended for the lowest density development. The purpose of this is to assist in protecting the impoundments from high sediment loads and excessive runoff that would result from higher density development.

Residential Areas: The pattern of neighborhood development, as noted earlier, is given form by the public open space. This is aided by the enveloping fingers of private conservation areas which would create a border of more intimate open space for the residential enclaves.

The list of principles suggested to maximize the design objectives includes a recommendation that the "cluster" method be used where possible. Employing this design technique, development could be placed on the best land within each individual subdivision, thus leaving the lands containing severe limitations, or significant perceptual values, undeveloped as private conservation areas. For example, on a 100-acre tract of land in the Residential Estate Zone, an overall yield of 90 homes would result, applying the dwelling unit density factor[7] developed by the Commission's staff.

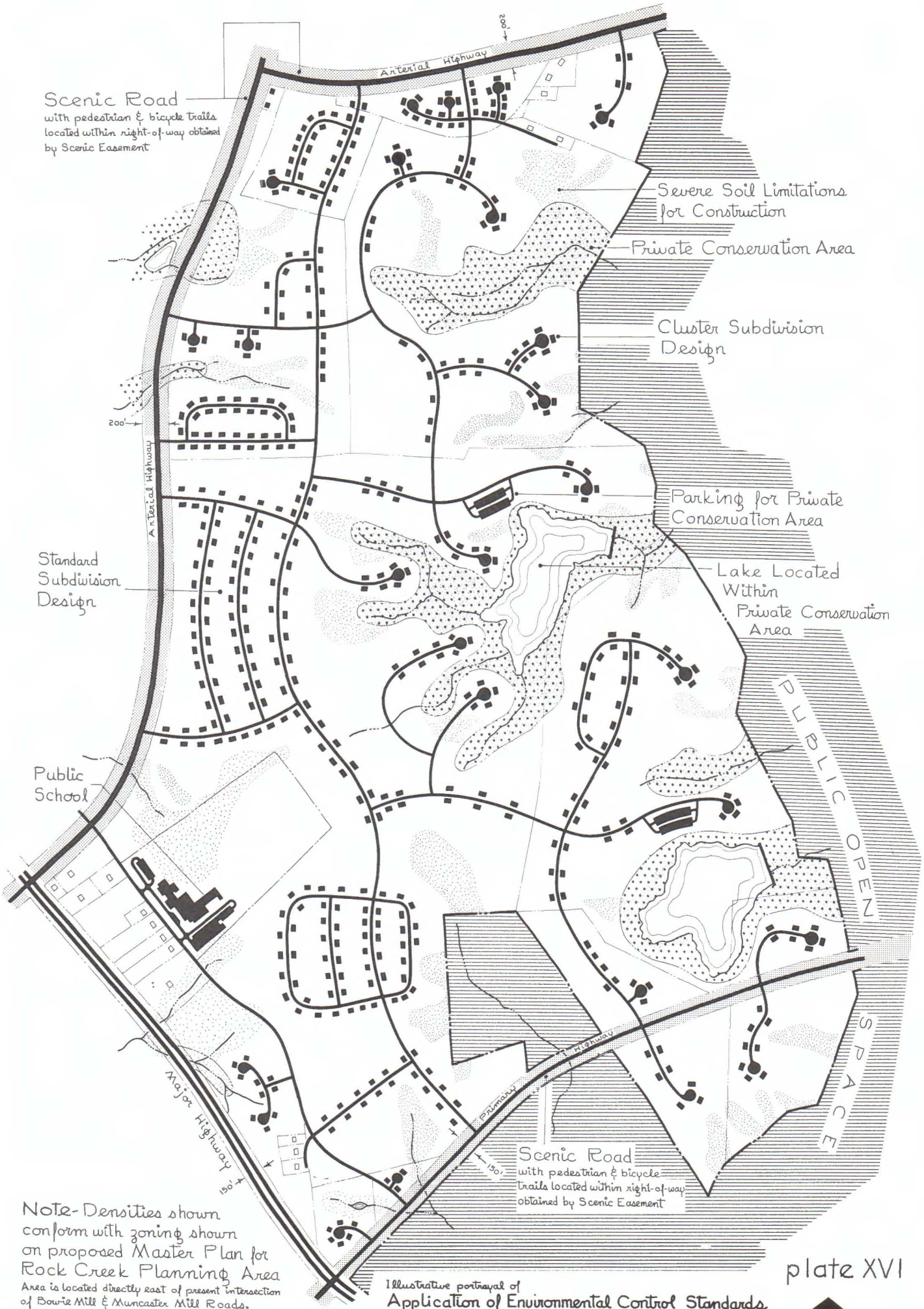
Assuming that it is desirable to leave 50% of the land in private conservation areas due to environmental conditions, it is possible under the cluster scheme to locate sites on the remaining 50 acres of best land, utilizing smaller lot sizes. Although the density of the developed area would be considerably in excess of that normally allowed in the Residential Estate category, the overall density for the parcel would remain the same as in a conventional layout. Application of this is portrayed on Plate XVI, entitled "Application of Environmental Control Standards", page 44.

Once an equitable and workable solution is evolved, the density control method of development will provide a fine alternative to standard subdivision design. Its use is particularly applicable in the Rock Creek Planning Area because of its environmental characteristics.

Reference to roadside scenic easements has been made in the list of principles and the subject has been discussed briefly in connection with highways. These also provide a method of neighborhood protection against the intrusion of incompatible and disturbing aspects of highway use as well as the amenity of additional green area and pedestrian and bicycle paths. Plate XVI, page 44, shows how the scenic roads might be woven into the fabric of the plan.

Commercial Area—The Redland Center has already been discussed. This center and the peripheral areas proposed for R-T and R-90 development are shown on Plate XVII, page 46. The pattern of local shopping facilities has been discussed on page 40.

Industrial Areas—Proposed continuance and expansion of the industrial pattern in the southwest quadrant of the planning area has already been discussed. The existing industrial acreage situated north of Laytonia and east of Laytonsville Road is retained.



Note- Densities shown conform with zoning shown on proposed Master Plan for Rock Creek Planning Area
Area is located directly east of present intersection of Bowie Mill & Muncaster Mill Roads.

plate XVI

Illustrative portrayal of
Application of Environmental Control Standards
in selected portion of study area

Sanitary Sewers—Sanitary sewers, eventually, will be needed to serve the planning area. This will be absolutely necessary in all density-controlled development if the "cluster" regulations continue to require access to sanitary sewers as a prerequisite for this type of development.

A reasonable modification to the present controls would be to allow utilization of individual septic systems in cluster development as now permitted in connection with conventional subdivision design, as set forth in Section 104-16(c) of the existing Subdivision Ordinance. This would permit, in varying degree, some reduction in total lot size in the Agricultural Residential and Residential Estate Zones, while maintaining the overall density required.

This flexibility in the regulations would be particularly helpful to the developer building a small number of homes. It also would permit development to proceed under a modified form of density control prior to the advent of sewers.

Flexible regulations in respect to the use of septic tanks would not be applicable to cluster development in the Rural Residential Zone. Here, access to sanitary sewers would be required, because lot sizes may be reduced to 10,000 square feet in a cluster plan, and this size lot is not acceptable for septic tank use.

Public schools required to serve the community also will need sanitary sewers. Thus, it will be necessary to provide sanitary sewerage to serve the planning area. It is recommended that these be designated as controlled-access sewers in order to assure that development occurs in conformance with the plan.

Community Facilities—Community facilities are shown on Plate XVIII (page 48), entitled "Neighborhood and Community Structure."

Schools: A total of nine new elementary, three junior high and two senior high schools are proposed on the plan. Criteria developed by the Montgomery County Board of Education and The Maryland-National Capital Park and Planning Commission[7] relating to the number of school children coming from homes in the various zoning categories were used to determine estimated enrollments.

The neighborhood concept has been utilized in planning the elementary school service areas. Projected enrollments for these schools range between 326 and 671 school children. Elementary students adjacent to Laytonsville would attend schools located outside the planning area boundary.

The junior high school located within this section of the study area also would serve the children residing north of the project boundary. Both high schools would draw some enrollment from outside the planning area.

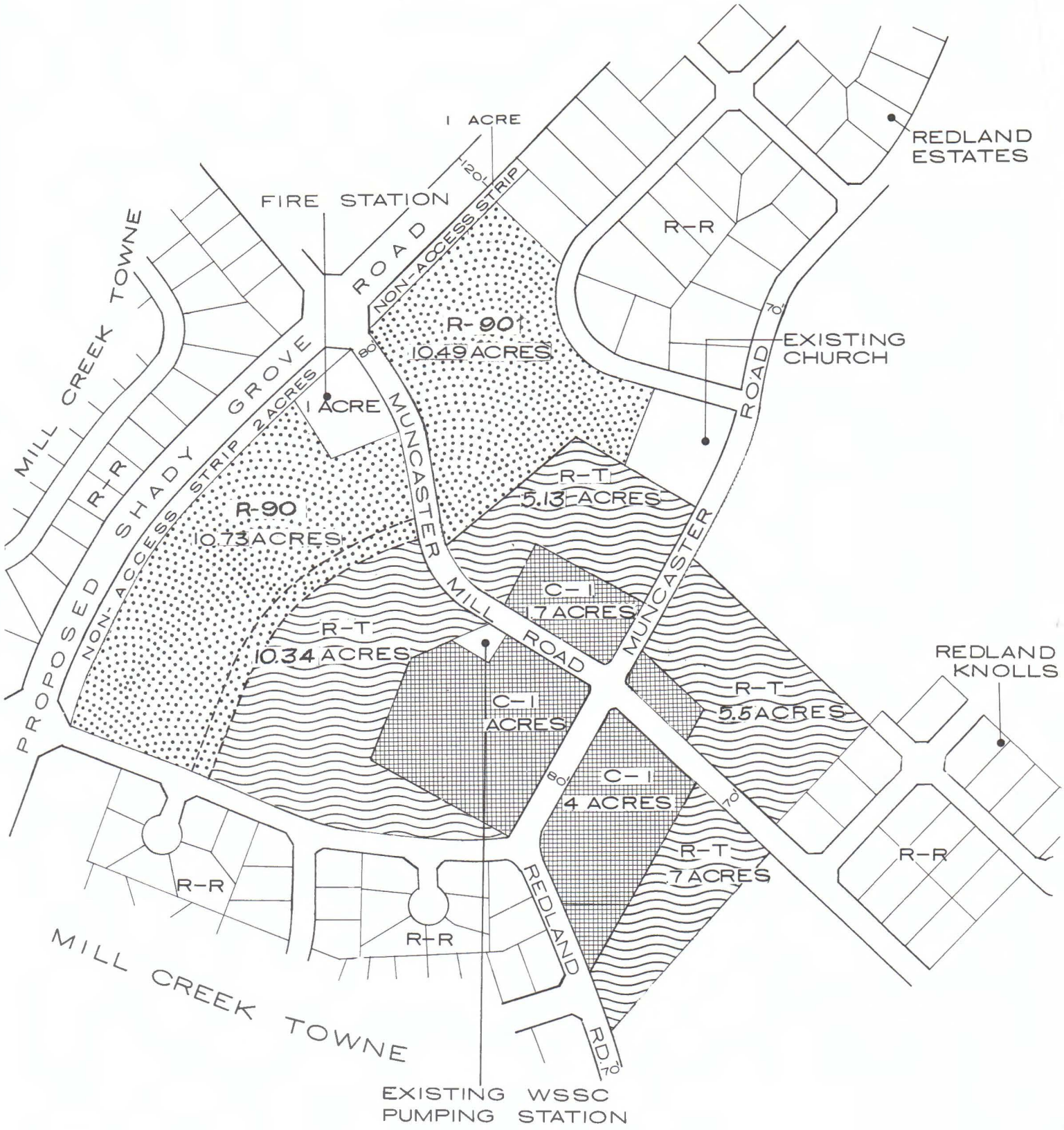
Table VII, entitled "Educational Facilities" (see Appendix B), provides pertinent data relating to this aspect of the study. Due to the relatively low densities proposed in much of the planning area, the neighborhoods are larger than those found in the urbanized sections of the County. This factor will increase the importance of the schools as focal points for neighborhood and community activities.

Other proposed community facilities shown in the Redland Community Center have already been discussed.

PROJECTED POPULATION

The total projected population expected to be housed in the planning area is 24,769 persons, distributed geographically in accordance with the density pattern proposed by the zoning plan.

Major concentrations of population would be in the Redland vicinity and in the northern sector of the plateau located between the valleys of Rock Creek and its North Branch. Additional smaller areas of higher-than-average density would be located in the southwest quadrant directly north of the major highway identified as M-8, the Candlewood Park-Needwood Estates vicinity and north of Dorsey Road adjacent to Laytonsville.



LEGEND

- R-R
- R-90
- C-1
- R-T

plate XVII

Redland Center

NORTH

0 200 400 600 800 1000 FEET

Within the total planning area 59.6% of the land is identified for residential use. The average net density within this percentage is 3.6 persons per acre. The average gross density for the total planning area is 2.1 persons per acre. Appendix B (Tables IV and V) provide further detail with respect to the projected population.

LAND TREATMENT, AN ANCILLARY ASPECT OF THE MASTER PLAN

Problems relating to the highly erosive characteristics of the soils in the planning area suggested that outline recommendations in this regard should be included as a supplemental part of the Master Plan. This led to the preparation of Plate XIX (page 49), entitled "Land Treatment Map."

This map identifies areas containing existing and potential erosion problems and their relative degree of severity. It should be noted that none of the planning area has slight erosion characteristics; thus, all land in the planning area is either moderate or severe in limitation.

To determine the degree of land treatment required, the relationship between erosion potential and surface runoff was ascertained. The extent of land treatment needed is directly related to these erosion potential-surface runoff characteristics.

Specific land treatment measures required to solve erosion problems vary, depending upon the type of difficulties involved at a particular site and the extent to which they occur. Some measures currently used to provide control include the planting of vegetative cover on critical areas, the construction of diversions, bench terraces and outlet channels, waterway stabilization structures, installation of stream channel corrective measures such as riprap and rock cribs, and the erection of flood water retardation and sediment detention structures (debris basins).

Practical combinations of the above, together with certain additional measures such as sympathetic siting with respect to topography, keeping to a minimum the areas displaced during construction, and decreasing the length of time displaced land remains vulnerable to erosive processes, are all important in carrying out an effective land treatment program.

An important consideration shown on Plate XIV, page 35, is the identification of potential locations for sediment detention, flood water retardation and recreation dams. The locations for these earth dams were determined by careful study of topographic maps. It should be noted, however, that final selection of dam site locations requires field reconnaissance.

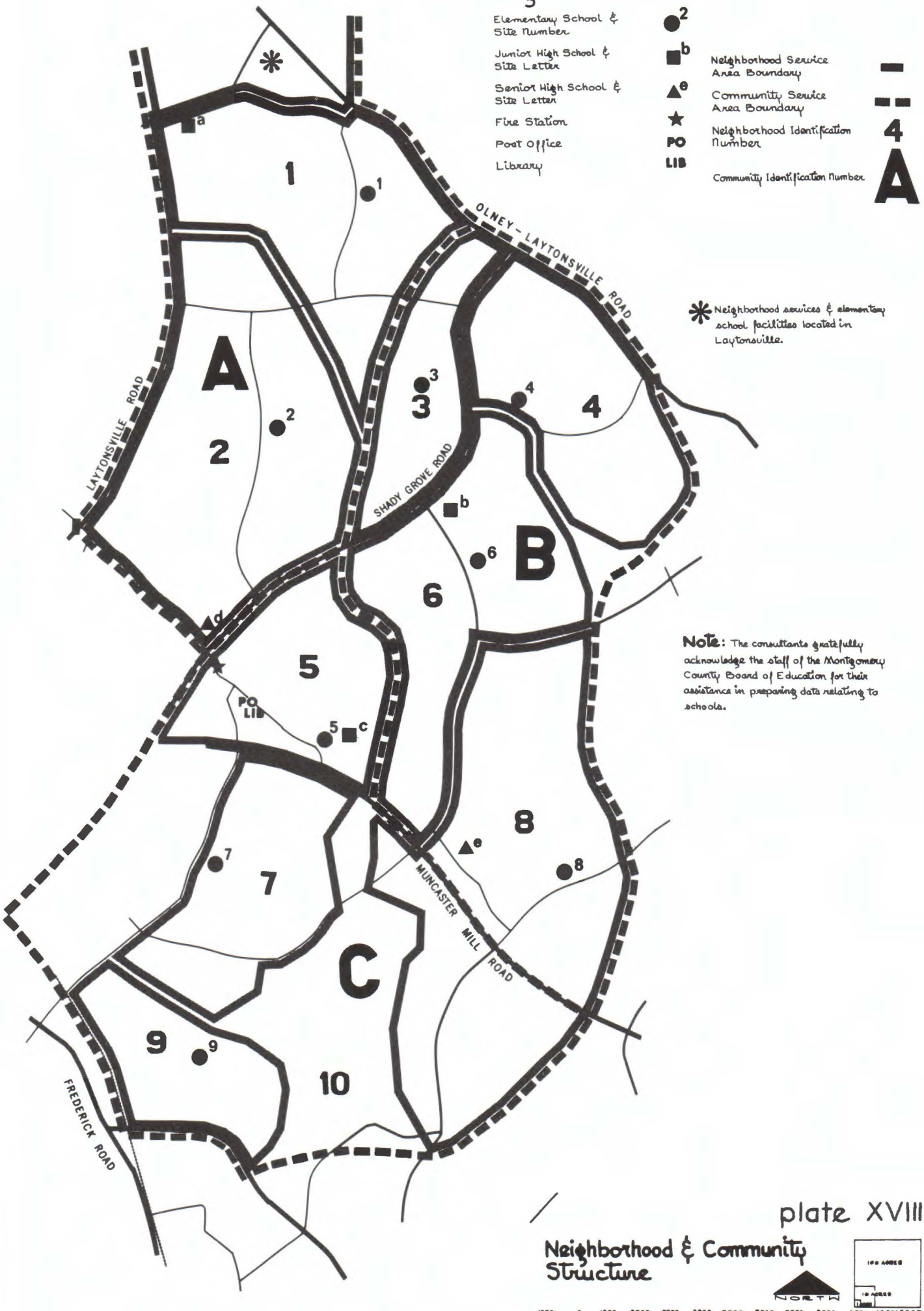
The drainage control line defines the composite drainage areas of these structures. Conversely, this line also identifies the land and water features, on the interior side adjacent to the streams, which would be protected from sediment caused by upland construction. This protected area is closely related to those having severe soil conditions for construction and the most significant perceptual indicators.

The purpose of identifying potential dam sites is not to suggest that all the structures indicated on the map be built, but to illustrate the protection possible through implementation of this method of sedimentation control should an extensive program be needed in the future.

Erection of such dams is not a substitute, however, for the use of other techniques which help to prevent erosion loss at its point of origin. In addition, the utilization of these debris basins is not a 100% cure. They simply add one more to the methods of controlling the problem of sedimentation and the resultant pollution.

The "Land Treatment Map" also shows areas currently forested. When these woodlands occur on highly erosive soils, it is important that they be maintained to prevent future soil erosion, perhaps an obvious application of the "ounce of prevention" maxim.

A rule of thumb used by some soil experts states that it requires "a thousand years for nature to produce an inch of topsoil." If this be true, prudence dictates the importance of the application of land treatment measures, wherever necessary, as the Rock Creek Planning Area goes from Master Plan to the reality of development.


Legend
Elementary School & Site Number
Junior High School & Site Letter
Senior High School & Site Letter
Fire Station
Post Office
Library
Neighborhood Service Area Boundary
Community Service Area Boundary
Neighborhood Identification Number
Community Identification Number
Neighborhood services & elementary school facilities located in Laytonsville.
Note: The consultants gratefully acknowledge the staff of the Montgomery County Board of Education for their assistance in preparing data relating to schools.
OLNEY - LAYTONSVILLE ROAD
LAYTONSVILLE ROAD
SHADY GROVE ROAD
MUNCASTER MILL ROAD
FREDERICK ROAD
PO
LIB
A
B
C
1
2
3
4
5
6
7
8
9
10
plate XVIII
Neighborhood & Community Structure
NORTH
100 ACRES
10 ACRES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

Legend

Planning Area Boundary
Roads
Railroads
Water Resources
Flood Level of Impoundments

Relative Degree of Land Treatment Required	Erodability	Surface Runoff
Moderate	Moderate	Moderate
High	Moderate	Severe
High	Severe	Moderate
Very High	Severe	Severe

*Possible locations for sediment detention flood water retarding & recreation structures (earth dams)
Drainge Control Line
Protected Area
Forest Cover

*NOTE: Structures are NOT a substitute for the necessity of implementing other erosion control measures (ie vegetation, diversions & bench terraces, etc.).

Note

Information indicated hereon is determined by analysis of parent material, slope, soil depth, drainage & erosion.

SOURCE: Montgomery County Soil Survey Report (issued October 1961), prepared by U.S.D.A, Soil Conservation Service in cooperation with Maryland Agricultural Experiment Station

Additional detailed interpretation was obtained from personnel of the U.S.D.A., Soil Conservation Service

Town Of Laytonsville
PLNEY ROAD
WARFIELD ROAD
DORSEY ROAD
LAYTONSVILLE ROAD
MD. RTE. 124
MUNCASTER ROAD
Redland
MILL ROAD
BOWIE MILL ROAD
ROCK CREEK
NORTH BRANCH
MD. RTE. 108
MILL CREEK
NEEDWOOD
REDLAND ROAD
Derwood
TRAVIS BRANCH
AMERY ROAD
SOUTHLAWN LANE
FREDERICK RD. MD. RTE. 355
City Of Rockville

plate XIX

Land Treatment Map

NORTH
100 ACRES
10 ACRES
1 ACRE
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10,000 FEET

V. IMPLEMENTATION

As noted earlier in this report, the Commission asked the Consultant for a plan which, among other things mentioned, would provide "realistic and practical methods of implementing the plan proposals." This charge, in many aspects, was the most difficult aspect of the entire assignment.

Montgomery County, in common with other suburban jurisdictions in the Washington metropolitan area, has experienced enormous growth in the past quarter century. A population increase from about 84,000 in 1940 to nearly 424,000 in 1965, a more than fivefold gain in 25 years, has resulted, as Tristram Coffin observed,[10] in a change of landscape, not once, but twice, with a third round beginning.

Housing for the burgeoning population has changed the close-in countryside to an unending sea of subdivisions with attendant shopping and other service facilities, and a host of employment centers. In the areas close to the District of Columbia, suburbanism has given way to a definite urban pattern hardly distinguishable from that found in portions of the City of Washington.

Open space in this area is at a premium. Were it not for the vision of early planners, community leaders and conservation-minded members of Congress who saw the need to protect the stream valleys radiating outward from the District of Columbia by providing for a system of parks and parkways[11] bordering these waterways, it is unlikely that even these relatively narrow strips of unspoiled greenery would have been spared from the inroads of development.

In areas farther removed from the city, Montgomery County's pattern of development has been more radial, with the major thrust northwesterly along the major transportation lines linking Bethesda and Silver Spring with Rockville and Gaithersburg. Other important prongs extend northerly from Silver Spring to Wheaton, Glenmont and Olney and northeasterly from Silver Spring to White Oak and the Colesville-Fairland area, see Plate 1 (facing page 1).

These are the principal Montgomery County corridors of planned growth in the Wedges and Corridors Plan adopted in 1964. The wedges of open space between these outward-marching columns of development are in the same relative situation in respect to the prospect of encroachment as were the valleys farther south a decade or more ago, which, except for the stream valley parks, have succumbed to the pressures of development.

The wedge identified in this study as the Rock Creek Planning Area is particularly vulnerable to these pressures, situated as it is like a nut in a nutcracker between the opposing thrusts of development from the Gaithersburg and Olney areas.

Fortunately, it was, perhaps, this very vulnerability that prompted the Commission to recognize the need for a positive, well-founded plan, strongly implemented, or face the dire prospect (as it stated in its prospectus of November 15, 1965) that "if the principles of wedges and corridors is not adhered to in the upper Rock Creek area, the General Plan and the concepts embodied in it can never be implemented in central Montgomery County with any degree of success."

Fortunately, too, the study underlying the plan concept for the Rock Creek Planning Area revealed, as described in this report, that a sound planning basis does, in fact, exist for maintaining the area as a wedge in which development must be limited to that of low density in a manner consistent

with the intent of the Commission's General Plan adopted in January 1964.

And finally, strengthening the validity of the plan concept, is the fact that a disregard of the principles set forth in the plan would result in permanent impairment of the recreational potential in the two flood control lakes in the Rock Creek Basin and a resulting loss of much of the public's investment therein of over ten million dollars.[2]

These, then, are the reasons and the need for strengthening the arm of implementation, for unless there is a new approach to the problem of open-space protection, the public, the Planning Commission and the Council will stand collectively like the fabled Horatio at the bridge, but armed with a paper sword to be overridden, as Coffin said, like the Polish Cavalry by the Panzer divisions.[10]

ZONING CONTROL

The simple fact is that present means of development control are woefully weak. Principal reliance is on the Zoning Ordinance. Zoning has long been labeled by planners as a "tool" to implement the Master Plan. Unfortunately, as observed in the introductory section of this report, in areas such as Montgomery County where rapid and sometimes unpredictable growth has occurred, it has been used many times as a tool to thwart and upset the Master Plan.

The reason why, in Montgomery County, this instrument which, in most underlying legislation, is devised to "promote orderly growth and development in accordance with a comprehensive plan", has been subverted rests in part on the basic limitations in the enabling legislation under which zoning procedure is practiced in the Maryland-Washington Regional District. The decisions of the Court of Appeals of Maryland which have established the "ground rules" relating to Zoning Map amendments are an equally important factor.

The task of improving and strengthening the foundation of zoning policy and procedure obviously goes far beyond the purview of the consultant's assignment. As a clue to some of the basic underlying weaknesses, it may be sufficient to state that nowhere in the enabling legislation relating to the Maryland-Washington Regional District is there a statement (as there is in Article 66B, the Statewide Planning and Zoning Act) setting forth the specific purposes or objectives of the zoning plan.

The only reference to "purposes" that can be found is the broad statement concerning the making of the general plan (including the exercise of zoning control), which is indicated as being for the purposes of "guiding and accomplishing a coordinated, comprehensive, adjusted and systematic development of the Regional District . . . and the protection and promotion of the health, safety, morals, comfort and welfare of the present and future inhabitants of the Regional District." [12]

In respect to the validation of amendments to the Zoning Map, Montgomery County, like the rest of the state, must rely on the principles which have become firmly established in Maryland's zoning law.

In the early case of Wakefield v. Kraft,[13] the Court of Appeals stated:

"Where the legislative body of the municipality, under powers granted by the legislature, has enacted a zoning ordinance, the Court's function in review is restricted and its scope is narrow. Such an ordinance, an exercise of the police power, enjoys a presumption in favor of its validity. One attacking it, to be successful, must show affirmatively and clearly that it is arbitrary, capricious, discriminatory or illegal. This presumption of reasonableness and constitutionality applies to rezoning as well as to original zoning, though not with as great force. This is so because it is presumed that the original zoning was well planned, and designed to be permanent; it must appear, therefore, that either there was a mistake in the original zoning or that the character of the neighborhood was changed to an extent which justified the amendatory action.

"The Court will not substitute its judgment for that of the legislative body if the question decided was fairly debatable. It is not the function, duty or right of a Court to zone or rezone, but only to determine whether the legislative body has properly applied the governing law to the facts. If there is room for reasonable debate as to whether the facts justify the municipal legislature in deciding the need for its enactment, it must be upheld. It is only when there is no room for reasonable debate, or a record barren of supporting facts, that the Court can declare the the legislative action arbitrary, capricious, discriminatory or an unequal application of the law.

"If there was a mistake in the original zoning ordinance, or if the character of the neighborhood has changed, so that an amending ordinance is otherwise permissible and proper, the fact that neighboring owners have built in reliance on the original zoning gives them no vested right which will successfully support a complaint about the amendment. Passage of a zoning ordinance is legislation, not the entering into of a contract. A property owner has no vested right to the continuance of the zoning status of a neighboring area. He is entitled to rely on the rule that a classification made by ordinance will not be changed unless the change is required for the public good and is not made merely to accommodate private interests which are detrimental to the welfare of the other property owners of the same neighborhood."

Thus, the Maryland rule of "mistake or change" has been relied on time after time to prove the validity of a proposed zoning map amendment.

In an area such as Montgomery County, where some aspects of "change" have been almost continuous for the last quarter century, it has been possible, in many cases, to prove conclusively that "change in the character of the neighborhood" justified the proposed zoning map amendments. It has been possible, also, in numerous instances, to prove error through change itself, because the change in conditions has reflected, to some extent, a failure in the original zoning concept to anticipate the changes which did, in fact, occur.

This is not written in derogation of all of the number of zoning map amendments which have been granted by the County Council over the years, for many were soundly based. There have been errors in the zoning concept, and there have been changes, the cumulative effect of which has provided logical and sound justification for the proposed zoning map amendments.

The point in stressing the underlying zoning legislation and the principles relating to amendment is to focus attention on the difficulties that will be encountered if reliance for providing "realistic and practical methods of implementing the plan proposals" and thus maintaining the integrity of the Master Plan for the Rock Creek Planning Area is placed principally in the Zoning Ordinance with its present shortcomings and the inadequate foundation upon which it rests.

Despite this note of pessimism and notwithstanding the history of "rear-guard holding actions" that have characterized what may be termed "defensive zoning", the fact must be recognized that presently the Zoning Ordinance is the principal land use control device. To the extent that it can be improved to meet the planning objectives of the Rock Creek Planning Area and similar areas that require special consideration and protection, this should be accomplished by amendment. For example the zoning regulations for the Planned Neighborhood Zone (Section 111-26), as presently written, are plainly not adaptable to the regulatory needs of the Rock Creek Planning Area. In setting for the purposes of this zone, Section 111-26 (a) states: "These principles . . . are based on the assumption **that a neighborhood is an urban area** . . ." (emphasis supplied). The Rock Creek Planning Area clearly does not meet the test of that fundamental assumption, nor does the intent of the General Plan adopted January 22, 1964 on which it was founded.

In further support of the argument of the inadaptability of the present Planned Neighborhood Zone to the Rock Creek Planning Area is the fact that its density limitation of 15 persons per acre is the same as that allowed in the Town Sector Zone (Section 111-25, subsection d(5)) which is described in subsection b(3) of the Town Sector regulations as a density that is "urban rather than rural."

The maximum recommended density of development for the most intensively used portions of residential land in the planning area, exclusive of three small portions of R-150, R-90, and R-T totalling 0.82 percent of the area, is 1.7 dwelling units per gross acre which, according to density standards, would yield about six persons per acre. The limit of 15 persons per acre provided for in the Planned Neighborhood Zone (Section 11-26 (c) (2) of the zoning regulations) would allow 2½ times the density recommended in this Master Plan for virtually the most intensive residential uses.

If the Planned Neighborhood Zone is to be made applicable to the needs of the Rock Creek Planning area and similar areas in which low-density development is justifiable as well as desirable, it will be necessary to amend the regulations along the lines suggested.

On March 22, 1966 the Zoning Ordinance (Chapter 104, Montgomery County Code 1960, as amended) was further amended[15] to permit the so-called "cluster" development in the R-A, R-E, R-R, R-150, R-90 and R-60 Zones. Companion legislation also was passed in respect to the Subdivision Regulations (Chapter 101, Montgomery County Code 1960, as amended) by adding a new section, No. 104-28, entitled "Residential Cluster Subdivision."[16]

Although reference to the purpose of the "cluster" method of development was omitted from the Zoning Ordinance, the new section of the Subdivision Regulations indicates that the objective of this type of residential design is to "promote flexibility of layout and variety in the types of residential dwellings **without sacrificing existing per-acre dwelling densities** and at the same time preserving open spaces of scenic and useful values for common enjoyments." (Emphasis supplied.)

On the face of it, these amendments gave promise of vastly improved design, the setting aside of 50% of the gross area for open space (including school sites as well as dedicated areas for park and/or school purposes) and the maintenance of densities achievable under conventional subdivision design. Practice to date, however, has highlighted significant weaknesses in the regulations.

The problem stems from the fact that in applying density control, the number of dwelling units permitted is determined by dividing the total area of the tract by the lot area permitted under conventional subdivision practice. Thus, under the cluster design, a 100-acre tract of land in the R-A Zone which permits not more than one single-family dwelling to each two acres of total area would yield a total of 50 dwellings.

This, however, is a 25% greater yield than, generally, would result if conventional subdivision practices were followed, for according to the dwelling-unit density figures[7] developed from a study of actual practice, a 100-acre tract in the R-A Zone normally yields about 40 dwelling units.

As a means of correcting some of the weaknesses in the clustering provisions of the Zoning Ordinance and to more fully carry out the intention of the clustering concept, amendments were made to the clustering provision of the R-A, R-E, R-R, R-150, R-90, and R-60 zones. For example, the RA-C zone amendment provides that 0.4 single-family dwellings shall be permitted for each acre of land contained in the useable area. The useable area is determined by subtracting out land indicated as the right-of-way of any highway with a right-of-way width of 100 feet or more as shown on the Master Plan of Highways and all 50-year floodplain areas which, in the opinion of the Planning Board, would constitute an excessively high percentage of the total tract.

Similar treatment of the other single-family clustering provisions have brought cluster development in line with the purpose set forth in the Subdivision Regulations of "providing flexibility of layout . . . without sacrificing existing per-acre dwelling densities."

Flexibility in design is desirable and, generally, the cluster layout is superior to conventional subdivision patterns in both amenity and economy. The Master Plan suggests the employment, where appropriate, of this type of layout. The plan also shows areas proposed to be maintained as private conservation areas and open space, some with water impoundments for the multiple purposes of recreation use, flood water retardation and sediment control.

When these are part of the subdivision and are maintained by a home owners association or other plan involving private responsibility, it appears justifiable, up to some reasonable limit, to allow for gross area credit in applying the density formula.

It appears reasonable, also, in the interest of flexibility and superior overall design, to allow for some transfer of density from a lower density zone to be applied to land in a higher density zone when the zones are contiguous, the properties are in the same ownership, and when lands in the lower density (usually nearest to the major valley streams) are devoted, to a substantial extent, to private conservation use.

There seems little justification for the arbitrary figure in the R-A and R-E Zones of 50 acres as the minimum area for which a cluster-type development may be employed. While it may be desirable to establish a minimum limit of parcel size, it is evident from an examination of the property map

that a 50-acre minimum would exclude a number of parcels that could be developed, quite advantageously, using the cluster scheme.

To permit a greater flexibility in choice and particularly to facilitate the coordination of design in the case of contiguous or adjacent properties, it is recommended that Sections 111-5a g(1) and 111-6a g(1) be amended to allow a reduction to 20 acres of minimum area for cluster design use in the R-A and R-E Zones as in the case of the R-R and R-150 Zones.

The requirement for inclusion in the latest five-year plan for public sewerage of an R-A or R-E area proposed for cluster treatment also appears to be an unnecessarily restrictive regulation. The density of development, if limited as proposed herein, would be low enough to permit septic tanks for a longer period (assuming that soil percolation tests indicate the adequacy of the lot safely to accept the effluent), and in these cases a minimum lot size of 20,000 square feet would be required as provided for in Section 104-16(c)2 of the Subdivision Regulations. It is recommended, therefore, that the sewerage plan requirement be eliminated from the regulations in respect to the R-A and R-E cluster layouts and that Sections 111-5a(g) and 111-6g each be amended to provide for a minimum lot area of 20,000 square feet in cases where the land proposed for cluster treatment is not within an area proposed for public sewerage by the latest five-year plan of the Washington Suburban Sanitary Commission.

There are other zoning techniques which must be given consideration if this arm of implementation is to be strengthened to the extent possible under presently acceptable judicial interpretation. Certain fundamental precepts must be observed in doing this.

Zoning, as an exercise of the police power, must be used to advance the public health, safety or welfare. In so doing, however, it may not be so restrictive as to deprive an owner of all his development rights without compensation.[17]

In an early Maryland case,[18] the Court of Apeals established this principle:

> "Thus, we affirm the doctrine that a zoning ordinance which permanently so restricts the use of property that it cannot be used for any reasonable purpose goes beyond permissible regulation, and must be regarded as a taking of property without compensation. To sustain an attack upon the validity of the ordinance, an aggrieved property owner must show that if the ordinance is enforced the consequent restrictions upon his property preclude its use for any purpose to which it is reasonably adapted, either because the ordinance does not authorize a variation of the general rule which would admit of such use, ar because such variation has been refused by an administrative board in the exercise of a discretion which the ordinance confers upon it."

In developing the plan for the Rock Creek Planning Area, it became apparent that fundamentally sound reasons exist for restricting the areas nearest the streams to the lowest density use. As a result, a linear pattern of zoning evolved by which the lands adjacent to the streams and the parks which border them have been proposed for the RA-C (Agricultural Residential) Zone. Much of the land proposed for the RA-C Zone is presently used for agricultural purposes or is otherwise open in character. Considering the present uses, there should be no question that it is a valid exercise of the police power to classify this land as RA-C.[13 19 20]

On many of the properties proposed for the RA-C Zone, the plan indicates private conservation areas, and in some of these, impoundment lakes have been recommended for both the recreational

benefit they would confer on residents in the subdivision and the contribution they would make to controlling the flow in the major stream, thus reducing the amount of sedimentation in the flood control lakes at the lower end of the planning area.

The land proposed as private conservation areas is unsuited for building purposes and should be shown on the subdivision plan as private open space, for the analysis of the land as revealed by Plates VII through XII, and as summarized on Plate XIV, Page 35, indicates that in almost every instance the maximum number of extreme conditions exist, such as steep slope, highly erosive land, land presenting severe problems for building foundations, etc., making the land unsuitable for development without excessive damage to the public interest and high costs to the developer.

Nevertheless, as compensation for the loss of this land from actual development—although it would contribute to the value of the remander because of recreation benefit—it is proposed that the owner be given credit by being permitted to transfer, within reasonable limits, the density lost on this land to his remaining land. Of value, also, to the owner would be the tax credit benefit he would receive if the land qualifies as, and is declared, a scenic easement as proposed in an ordinance submitted recently by the Commission to the County Council.[21]

In some cases, however, it may be that the amount of land proposed for private conservation purposes represents such a large percentage of the total area that neither transfer of density nor scenic easement tax credit would compensate for the restriction of use of this land, and some other avenue of relief must be found. One method available would be for the County government to acquire this land as public open space by purchase or eminent domain procedure; a second would be to acquire development rights.

Another approach, which was investigated, would be to employ a method that has been termed "compensable zoning." [22] Application of this concept would require that land proposed to be retained as private open space be shown on the Zoning Map for each parcel of land to which the regulations apply. The County Assessor's office, or qualified appraisers, would establish the value of the land reserved and for the remainder of the parcel at the time the regulations are imposed. The uses for the remainder as well as for the conservation area would be established by the zoning regulations.

If, at the time of sale to a developer, the price were less than that obtainable on the open market, the owner would be paid the difference by the County, provided that before doing so, the County would have the right to hold a public auction to determine whether or not a price could be obtained equal to pre-regulation value plus some increment reflecting change in dollar value and accumulated interest on the pre-regulation figure.

In any event, the land would be sold to the highest bidder, and if, after this sale, a deficit still existed, the guaranteed compensation to bring the owner's return to the level established by regulation would be paid by the County which also would assume the cost of holding the auction.

To invoke this type of regulation, it would be necessary (if it does not presently exist) to pass legislation declaring that the preservation or retention of private open space is a public purpose* and authorizing the County to compensate land owners in cases where the open space reservation resulted in a loss of value of the total parcel for a developmental use at the time of sale.

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* In 1953, the Caurt of Appeals of Maryland held that urban renewal would perform a public purpose despite the fact that the land involved would not be available for use by the general public. [23]

Admittedly, the procedures required to implement compensable regulations are complicated, and there is some question as to whether the cost of administration might exceed the financial benefits that would accrue to the County as a result of its foregoing outright acquisition or the purchase of development rights.

Nevertheless, of all the innovations explored, compensable regulations appear best suited to the role of providing an additional method of protecting the community against the loss of private conservation areas.

There has been considerable legal investigation of this method of protecting open space[24] and it is recommended that the Commission's and/or the County's General Counsel be requested to study it further to determine the practicability of applying locally this method of compensation in cases where the withholding of land from development could be construed as a taking without compensation.

There are, however, additional methods by which zoning controls can be strengthened. Later in this section a proposal is made for the enactment of legislation to provide for Protected Development Districts in stream valley areas designated on the General Plan for conservation, open space and low-density development.

SUBDIVISION REGULATIONS

The Subdivision Regulations also are regarded as a "tool" to assist in bringing to reality the land use objectives of the General Plan. Although not as spectacular as the Zoning Ordinance which, by County Council amendment of the Zoning Map, can, at once, alter the land use potential of a given area, the Subdivision Regulations, more slowly but inexorably, fix the physical pattern of the community. Streets, their width, grade and alignment; blocks and lots; school sites; park boundaries —the whole community design, within the framework of the zoning pattern—are established by the recording of the subdivision plat.

Subdivision regulations, in common with most regulatory devices, set forth minimum requirements and, by reference, also carry into effect the minimum requirements of other ordinances and codes, such as zoning, roads and utilities. Unfortunately, minimum requirements, too often, are regarded as standards that must be met inflexibly. As a result, subdivision design tends to become a stereotype, as shown on Plate IV, Page 15, entitled "Impending Sprawl." The unhappy end is a repetitive, "waffle-iron" pattern of uninspired development, with all houses "toeing" the minimum building restriction line like soldiers brought to attention.

It is not the purpose of this report to delve into all the reasons for this monotony of subdivision layout but to call attention to it, so that those who design within the concept recommended in this plan will try to work **with** the natural environment instead of against it. Fortunately, the most recent innovation in subdivision development, the "cluster" layout, which provides a means of giving to the neighborhood a continuous linkage of open space, offers the opportunity for flexibility and individuality of form.

To assist in carrying out the purposes of the plan for the Rock Creek Planning Area and similar areas, a number of recommendations have been made.

They include a reference in the general provisions to the "Protected Development District" proposed elsewhere; definitions of a conservation area, control of access, and of the Protected Development District; a provision requiring conformance with the existing Zoning Map at the time preliminary plans are submitted and for disapproval of a preliminary plan or final plat not in conformance with the zoning regulations (this amendment being proposed in substitution for a

change proposed by the Planning Board on October 12, 1965); a provision for identification on preliminary plans and plats of access-controlled areas along major highways; a provision for the designation of conservation areas on preliminary plans and final plats and for inclusion in the supporting data of methods by which such conservation areas would be maintained; and modifications in the authority of the Board in respect to variations from the regulations to cover the Protected Development Districts.

Inasmuch as the type of development proposed for the Rock Creek Planning Area is definitely of low density, it would be reasonable, also, to consider modifications of the requirements in respect to street improvements. While it is necessary, in small-lot suburban subdivisions and in more intensive use areas, to grade streets for the full width and to install curb and gutter and sidewalk, there should be reasonable flexibility from these restrictions in areas that would remain in a semi-rural land use category. These could be included in the road code in a new section devoted to street improvements for Protected Development Districts, if this land use control device is enacted into law.[25]

UTILITY LINES

One of the most unattractive aspects of suburban development is the ubiquitous utility pole. No matter how well planned the neighborhood may be, it takes on an archaic, almost frontier town, aspect when viewed along a street with a cross-armed line of poles (often erected with peculiar angularity) carrying a multiplicity of transmission lines. To avoid interference with these lines, trees must be trimmed, resulting often in harsh unnatural lines that convey to the eye a grotesque caricature of what was once a thing of beauty.

The Community Builders Handbook recommends that poles be placed on easements along rear lot lines, if these facilities must be exposed to view. A more sophisticated suggestion from the same source is that consideration be given to underground installation, on the premise that maintenance costs are lowered (no storm damage or tree trimming), there is greater adaptability to curvilinear street layout, costs are easier to amortize and large electrical loads can be promoted.[26]

To achieve the objective of hiding these very necessary but obviously ugly aspects of development, it is suggested that an ordinance be prepared regulating their location. Pending that accomplishment, it is recommended that the Commission negotiate with the utility companies to arrange, where possible, for underground installations (and if not, for rear-lot-line easements), not only in the Rock Creek Planning Area but elsewhere in the community, so that this "long awaited improvement in community appearance"[26] may be achieved.

THE PROTECTED DEVELOPMENT DISTRICT

An examination of the Maryland laws relating to stream valley open space, its preservation and protection, indicates that a number of facets of the problem have been the subject of legislative consideration and action.

For example: **Article 25A** (Annotated Code, 1957) entitled "Chartered Counties of Maryland"; Section 5, Express powers, subsection T, authorizes controls in respect to soil erosion;
Article 25, entitled "County Commissioners" (Cumulative Supplement Vol. 2, 1965), Section 169 authorizes the establishment of public watershed associations;
Article 66C, entitled "Natural Resources" (Cumulative Supplement, 1965) Section 357A authorizes acquisition of interest in real property for preservation of open space; and
Article 81, "The Revenues and Taxes" (Annotated Code 1957 and 1960 Supplement)

was amended in 1965 by adding a new section authorizing tax credits for lands affected by conveyance of scenic easements or development rights.

It is under the authorization of the last-mentioned legislation that the proposed ordinance relating to scenic easement tax credits mentioned earlier has been proposed to the County Council.[21]

Of importance also in open area protection is the legislation passed in 1965 and amended in the 1966 session[27] under which the County Council has veto power over the extension of water and sewer lines (except those designed also to serve Prince George's County) and to declare them controlled-access facilities.

In addition, there are local ordinances such as the Subdivision Regulations which permit under Section 104-21 the restriction for development of any property within the 50-year flood plain of any stream or on land deemed to be unsafe because of flooding, erosive stream action, unstabilized slope or fill, or otherwise situated so that safe, healthful development cannot be maintained on the land.

The section of the regulations relating to the control of density in unsewered areas also assists to some extent in open space control through the maintenance of low density.

And of primary importance, of course, is the park acquisition program authorized by the Commission's basic legislation[28] and by the Capper-Cramton Act of 1930.[11]

Despite the value of the laws presently enacted and the ordinances in effect or proposed thereunder, it is evident that additional legislation is needed to focus and bring to bear on areas proposed for open space and low-density development all the various aspects of open space control.

As observed in "The Law of Open Space in the National Capital Region"[19]: "It is clear that the provision of open space, especially in the 'Wedges', will require much imagination and ingenuity. New tools like compensable regulations—and maybe development districts—will have to be tried. All types of public decisions and programs will have to be brought to bear on this problem, from policies on taxing, to utility, transportation and public facility location, to urban renewal.

"But there is a solid legal basis for action in this field. There is a clear authority and there are

many tools. It is a matter of using them imaginatively to justify the public purpose and provide just compensation."

With this in mind, a proposed bill has been drafted entitled "Protected Development Districts." A similar bill, lacking some of the features of the one now proposed, was prepared in draft form early during the consultant's work on this project. It was reviewed and refined by the Commission's General Counsel and introduced during the 1966 Session by Mr. Gilbert Gude, Senator from Montgomery County, who made further refinements in the bill. It passed the Senate but reached the House too late in the session for adequate consideration by the Montgomery County Delegation.

OTHER MEASURES

Research on implementation delved into a number of other areas where there appeared to be some promise of finding additional or alternative methods that might be employed to assist in preserving the concept of the "Wedges and Corridors" plan. Of these, one appears to have intriguing possibilities, but its value could not be regarded as immediate because of the apparent legislative obstacles that would have to be overcome.

Nevertheless, this concept, a kind of "rural salvation" variation of urban renewal, suggests the public acquisition of all land in the area to be preserved, the preparation of a development plan, the retention by the public of the parks, school sites and other public facilities shown on the plan, and the sale to developers at the appraised use value of the remainder which would have to be developed strictly in accordance with the development plan. The legal research[19] to date indicates that to implement any such variation of the urban renewal technique would require not only new legislation but probably a constitutional amendment.

It appears, then, that the best present course to follow in implementing the Master Plan for the Rock Creek Planning Area is to amend the Zoning and Subdivision Ordinances along the lines proposed herein and to enact legislation that would permit the establishment of Protected Development Districts, bringing to bear, within the framework of the latter, all the forces of protection available under this and other legislation.

VI. CONCLUSION

The concept of the Master Plan for the Rock Creek Planning Area is clear of purpose. It recommends that man's use and occupancy of this essentially rural area be guided by the desire to build and preserve in concert with the natural environment.

For a quarter century urban and suburban growth has moved outward in Montgomery County like a lava tide, engulfing the countryside before it, so that today, except for the few ribbons of stream valley parks, there is an almost unrelieved pattern of urban development. There is no way of foreseeing when this metropolitan growth will stabilize. Thus, the significance of the 18-square-mile area as a part of the regional design cannot be ignored.

Today's threat to the valley, if allowed to become a reality, will again advance the frontier of the urban fringe, and tomorrow's citizens will be confronted again, but in a more remote area of the County, with decisions similar to those posed in the Rock Creek Planning Area.

Let there be no minimization of the current threat to the valley, for it is real. If the open-space concept is destroyed here, a precedent will have been established for uncontrolled invasion of other areas designated on the General Plan as wedges of open space, and the Montgomery County urban community will grow without form or direction.

If form and vitality are to be achieved in the Rock Creek Planning Area and if this is to be a prototype for other portions of the County where the pattern of low-density development and open space is to be preserved, then the principles set forth in this report to guide growth and development and the methods suggested for implementation, all of which resulted from incisive investigation and evaluation of the alternatives, must be observed.

Of particular importance in the planning problem posed by the Rock Creek Planning Area is its metropolitan significance. This fact was emphasized recently when Secretary of the Interior, Stewart L. Udall announced his department's forthcoming program to clean up Rock Creek.

According to a **Washington Post** news item of Sunday, July 3, 1966, Mr. Udall stated:

"We must ask ourselves how can we expect to clean up the Potomac or any other river in the Nation if we cannot clean up Rock Creek "

If rehabilitation of Rock Creek is "the first order of business" in President Johnson's program to make the Potomac River a conservation model for the Nation, then the metropolitan significance of the Master Plan for the Rock Creek Planning Area is further emphasized because this valley encompasses nearly a quarter of the Rock Creek Watershed. Thus decisions reached in the planning area will have an impact on the whole valley and will affect materially the downstream efforts to make Rock Creek a community asset instead of a dangerously polluted liability.

The concept recognizes the importance of perceptual indicators of community design in the formulation of the plan. The importance of this consideration is best expressed in a Supreme Court decision of over a decade ago which stated in part:

"The concept of the public welfare is broad and inclusive . . . The values it represents are spiritual as well as physical, aesthetic as well as monetary. It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, well balanced as well as carefully patrolled." [29]

In the final analysis, of course, this plan, as all others, will be a viable document to the extent it is accepted by the citizens of Montgomery County, the members of the Montgomery County Planning Board, The Maryland-National Capital Park and Planning Commission and, finally, the elected Montgomery County Council.

Through sound decisions on zoning matters and the support of proposals for implementation, the plan can be made a vibrant, living force to guide the ultimate destiny of the Rock Creek Planning Area.

APPENDICES

A — Text References

B — Tables

C — Resolutions

APPENDIX A—LIST OF TEXT REFERENCES

1. National Capital Planning Commission and National Capital Regional Planning Council, **A Policies Plan For The Year 2000: The Nation's Capital,** p. 56, Washington, D. C.: Superintendent of Documents, U.S. Government Printing Office, 1961.

2. Montgomery County Council, Public Hearing, **Transcript of Proceedings: Sectional Map Amendment, Zoning Petition E-499.** Testimony of Commissioner Blair Lee III, pp. 15-16, and Chairman Byron Sedgwick, pp. 7-10, December 1, 1965.

3. The Maryland-National Capital Park and Planning Commission, **A Master Plan: Upper Rock Creek Watershed,** April 26, 1961.

4. Montgomery Soil Conservation District, The Maryland-National Capital Park and Planning Commission, U.S.D.A., Soil Conservation Service, U.S.D.A., Forest Service, **Work Plan For The Upper Rock Creek Watershed,** 1962

5. Montgomery County Council, Montgomery Soil Conservation District, The Maryland-National Capital Park and Planning Commission (Montgomery County Planning Board), Washington Suburban Sanitary Commission, U.S.D.A., Soil Conservation Service, **Sediment Control Program For Montgomery County, Maryland,** adopted June 1965.

6. Washington Suburban Sanitary Commission, **Sewerage Program: Fiscal 1966-1970,** Adopted Sept. 30, 1965.

7. The Maryland-National Capital Park and Planning Commission, **Dwelling Unit Density, Population and Potential Public School Enrollment Yield By Existing Zoning Classification: Montgomery and Prince George's Counties, Maryland,** 1st Edition (revised), Feb. 1965.

8. U.S.D.A., Soil Conservation Service, Maryland Agricultural Experiment Station, **Soil Survey: Montgomery County, Maryland,** Washington, D. C.: Superintendent of Documents, U.S. Government Printing Office, Oct. 1961.

9. U.S.D.A., Soil Conservation Service, **Proposed Factors to be Used in Evaluating Erosion and Runoff,** July 1, 1965 (revised September 7, 1965).

10. Coffin, Tristram, "Maryland's Montgomery County: The Changing Suburban Dream," **Holiday,** July 1965.

11. **Capper-Cramton Act** (46 Stat. 482), Act of May 29, 1930 as amended.

12. **Laws of Maryland,** Chap. 780, sec. 65, 1959.

13. 202 Maryland 136, 1953, **Wakefield v. Kraft.**

14. 204 Maryland 551, **Offutt v. Board of Zoning Appeals,** 1954; 216 Maryland 442, **Missouri Realty, Inc. v. Ramer,** 1958; 222 Maryland 448, **West Ridge, Inc. v. McNamara,** 1960.

15. Montgomery County Council, **Ordinance No. 5-155,** Zoning Application No. C-1527.

16. Montgomery County Council, **Ordinance No. 5-156.**

17. 272 United States 365, **Village of Euclid v. Ambler Realty Co.,** 1926.

18. 204 Maryland 523, **City of Baltimore v. Cohn,** 1954; 277 United States 183, **Nectov v. City of Cambridge,** 1928.

19. Levy, S. David, for National Capital Regional Planning Council, **The Law of Open Space in The National Capital Region:** National Capital Open Space Program, Technical Report No. 2, Washington, D. C.: Superintendent of Documents, U.S. Government Printing Office, Sept. 1965.

20. 214 Maryland 168, **Fuller v. County Commissioners,** 1957.

21. The Maryland-National Capital Park and Planning Commission, **Scenic Easement Tax Credit Ordinance,** recommended to Montgomery County Council on August 3, 1966.

22. Strong, Ann Louise, for Urban Renewal Administration, Department of Housing and Urban Development, **Open Space For Urban America,** Washington, D. C.: Superintendent of Documents, U.S. Government Printing Office, 1965.

23. 203 Maryland 49, **Herzinger v. City of Baltimore,** 1953.

24. Krasnowiecki, Jan Z., and Paul, James C., "The Preservation Of Open Space In Metropolitan Areas," **University of Pennsylvania Law Review and American Law Register,** 1961.

25. Massachusetts Department of Commerce and Urban Studies Section, M.I.T., **The Effects of Large Lot Size on Residential Development:** Technical Bulletin No. 32, Washington, D. C.: Urban Land Institute.

Bestor, George C., "Design and Development of Hillside, Large Lot and Resort Subdivisions," **Urban Land,** Urban Land Institute, March 1958.

26. Urban Land Institute, **The Community Builders Handbook,** Washington, D. C.: Urban Land Institute, 1960.

27. **Acts of General Assembly,** Maryland, Chap. 703, 1965; and Chap. 637, 1966.

28. **Acts of General Assembly,** Maryland, Chap. 780, sec. 26 and 29, 1959.

29. 348 United States 26, 99 L ed 27, 75 S Ct 98, **Berman v. Parker,** 1954.

APPENDIX B — TABLES

TABLE I—RESIDENTIAL DEVELOPMENT TRENDS—APRIL 26, 1961 TO JUNE 1, 1966—ROCK CREEK PLANNING AREA

	Zone	R-A	R-R	P-N	R-30	Totals
1.	Acreage *	1876	6704	—	—	8580
	Dwelling Units	750	11397	—	—	12147
	Population	2775	42169	—	—	44944
2.	Acreage	646	8038	—	27	8711
	Dwelling Units	258	13665	—	383	14306
	Population	955	50561	—	1149	52665
3.	Acreage	623	6844	1192	27	8686
	Dwelling Units	249	11635	**	383	—
	Population	921	43050	15324	1149	60444

1. The portion of the Master Plan of Zoning and Highways for the Upper Rock Creek Watershed (adopted April 26, 1961) comprising the Rock Creek Planning Area.
2. Existing Zoning (as of June 1, 1966).
3. Existing Zoning plus pending petitions (as of June 1, 1966).

* Variations in residentiol acreage totals are due to orea changes in non-residential categaries.

** Planned Neighborhood development ollows a maximum of 15 people/acre. The actual number of dwelling units used to achieve this density varies according to each specific plan.

TABLE II—COMPARATIVE ANALYSIS OF FIVE SELECTED LAND USE MODELS *— ROCK CREEK PLANNING AREA

	Zoning				Population and Potential Public School Enrollment Yield				Erosion and Runoff Evaluation				
						School Enrollment			During Development		After Development		
	Zoning and Land Use Category	Dwelling Units/ Gross Acre	Acreage	Total Dwelling Units	Population	Elementary	Junior High	Senior High	Acres Disturbed	Erosion Rate Tons/Year	Impervious	Pervious	Erosion Rate Tons/Year
Model One:	R-A	0.4	542	217	803	174	74	65	81	5745	38	504	379
	R-R	1.7	6454	10972	40596	8778	3730	3292	2587	174,983	968	5486	4324
	R-30	14.2	27	383	1149	134	58	50	27	1809	11	16	13
	Totals	—	7023	11572	42548	9086	3862	3407	2695	182537	1017	6006	4716
Model Two:**	R-A	0.4	6475	2590	9583	2072	881	777	971	68635	452	6023	4532
	R-E	0.9	280	252	932	201	86	76	70	4816	28	252	190
	R-R	1.7	268	456	1687	365	155	137	107	7263	40	228	180
	Totals	—	7023	3298	12202	2638	1122	990	1148	80714	520	6503	4902
Model Three:	R-A C-	0.4	2376	950	3515	760	323	285	356	25154	166	2207	1661
	R-E	0.9	2411	2170	8029	1736	738	651	603	41469	241	2170	1640
	R-R	1.7	2236	3801	14064	3041	1292	1140	894	60596	335	1901	1498
	Totals	—	7023	6921	25608	5537	2353	2076	1853	127219	742	6278	4799

Model Four:	R-AC	0.4	1103	441	1632	353	150	132	166	11692	77	1026	772
	R-E	0.9	2489	2240	8288	1792	762	672	622	42801	249	2240	1692
	R-R	1.7	2145	3646	13490	2917	1240	1094	858	58130	322	1823	1437
	R-150	2.2	1286	2829	10467	2263	962	849	772	51826	386	900	720
	Totals	—	7023	9156	33877	7325	3114	2747	2418	164449	1034	5989	4621
Model Five:	R-AC	0.4	2630	1052	3892	841	357	315	395	27910	184	2446	1843
	R-E	0.9	2972	2675	9898	2140	910	802	746	51280	298	2684	2028
	R-R	1.7	1421	2416	8939	1933	821	725	563	38157	211	1197	943
	Totals	—	7023	6143	22729	4914	2088	1842	1704	117357	693	6327	4814

* Open space, commercial, industrial and other non-residential areas are the same in all models (and in accordance with the proposed plan) to provide a constant for comparative purposes.
** See text for explanation of density levels.

TABLE III—LAND USE SUMMARY—MASTER PLAN, ROCK CREEK PLANNING AREA

Zoning				Population and Potential Public School Enrollment Yield				Erosion and Runoff Evaluation*				
					School Enrollment			During Development		After Development		
Zoning and Land Use Category	Acreage	Dwelling Units/ Gross Acre	Total Dwelling Units	Population	Elementary	Junior High	Senior High	Acres Disturbed	Erosion Rate Tons/Year	Impervious	Pervious	Erosion Rate Tons/Year
R-AC	2417	0.4	967	3577	773	329	290	363	25620	169	2248	1692
R-E	2720	0.9	2448	9059	1958	1032	734	679	46757	272	2447	1849
R-R	1646	1.7	2798	10354	2238	951	839	658	44607	247	1399	1103
R-150	48	2.9	140	519	94	48	42	19	1301	7	41	32
R-90	23	2.9	66	243	44	22	20	9	623	3	20	15
R-T	23	12.0	275	1017	138	61	55	23	1541	13	10	9
C-1	25							25	1675	25	0	0
I-1	353							353	23651	353	0	0
I-2	334							334	22378	334	0	0
Public Schools	214							214	14338	64	150	120
Institutions	36							27	1807	11	25	20
Golf Course **	173							17	1280	9	164	123
Pub. Pk. Lnd.***	3524							105	7943	53	3471	750
Totals	11,536		6694	24769	5245	2443	1980	2826	193521	1560	9975	5713

* Data developed by applying factors obtained from U.S.D.A. Soil Conservation Service.
** Montgomery County Revenue Authority.
*** Maryland-National Capital Park and Planning Commission.

TABLE IV—SUMMARY—EXISTING AND PROPOSED ZONING—MASTER PLAN, ROCK CREEK PLANNING AREA

Zone	Description	Existing Acreage	% of Total	Proposed Acreage	% of Total
R-AC	Agricultural Residential	646	5.60	2417	20.95
R-E	Residential Estate	—	—	2720	23.58
R-R	Rural Residential	8038	69.68	1646	14.27
R-150	Single Family	—	—	48	0.42
R-90	Single Family	—	—	23	0.20
R-T	Town Houses	—	—	23	0.20
R-30	Multiple Family, Low-Density Residential	27	.23	—	—
C-1	Local Commercial	6	.05	25	0.22
C-2	General Commercial	4	.03	—	—
I-1	Light Industrial	432	3.74	353	3.06
I-2	Heavy Industrial	77	.67	334	2.90
**	Community Facilities	2306	19.99	3947	34.21
	Totals	11536	100.00	11536	100.00

** Community facilities include utilities, educational, church, institutional and public open space.

TABLE V—DEVELOPMENT POTENTIAL UNDER PROPOSED ZONING—MASTER PLAN, ROCK CREEK PLANNING AREA

Neighborhood	Development Potential	R-AC	R-E	R-R	R-150	R-90	R-T	C-1	I-1	I-2	Totals
*	Acreage			119				2.5			121.5
	Dwelling Units			202							202.0
	Population			747							747.0
1.	Acreage	21	678								699.0
	Dwelling Units	8	610								618.0
	Population	30	2251								2281.0
2.	Acreage	430	648						43		1121.0
	Dwelling Units	172	583								755.0
	Population	636	2157								2793.0
3.	Acreage	13		393				5.0			411.0
	Dwelling Units	5		668							673.0
	Population	19		2472							2491.0
4.	Acreage		613	48							661.0
	Dwelling Units		552	82							634.0
	Population		2059	315							2374.0
5.	Acreage	230		233		23	23	12.5			521.5
	Dwelling Units	92		396		66	275				829.0
	Population	340		1465		243	1017				3065.0
6.	Acreage	489	127	247				5.0			868.0
	Dwelling Units	196	114	420							730.0
	Population	725	422	1544							2691.0
7.	Acreage	110	135	300							545.0
	Dwelling Units	44	122	510							676.0
	Population	163	452	1887							2502.0
8.	Acreage	1124	334	52							151 0.0
	Dwelling Units	450	300	88							838.0
	Population	1664	1100	326							3090.0
9.	Acreage		185	254					310	334	1083.0
	Dwelling Units		167	432							599.0
	Population		618	1598							2216.0
10.	Acreage				48						48.0
	Dwelling Units				140						140.0
	Population				519						519.0
Totals	Acreage	2417	2720	1646	48	23	23	25.0	353	334	7589.0
	Dwelling Units	967	2448	2798	140	66	275				6694.0
	Population	3577	9059	10354	519	243	1017				24769.0

* Area south of Laytonsville.

TABLE VI—STREET AND HIGHWAY CLASSIFICATIONS
MASTER PLAN, ROCK CREEK PLANNING AREA

No.	Name	Limits	Right-of-Way	Recommended Paving Width	Miles
MAJOR HIGHWAYS					
M-1	Muncaster Mill Road Relocated (Md. Route 115)	Redland Road to North Branch	150'	4 Lanes Divided	2.9
M-2	Shady Grove Road Extension	Mill Run Drive to Olney-Laytonsville Road	120'	4 Lanes Divided	3.6
M-4	Olney-Laytonsville Road (Md. Route 108)	Town limits of Laytonsville to North Branch	150'	4 Lanes Divided	3.9
M-5	Laytonsville Road (Md. Route 124)	1500' northeast of Snouffers School Road to Warfield Road	120'	4 Lanes Divided	2.4
M-7	Frederick Road (Md. Route 355)	Redland Road to Norris Street	120'	6 Lanes Divided	1.3
M-8	New	Frederick Road to Rockville city limits north of intersection of First and Taft Streets	120'	4 Lanes Divided	1.7
ARTERIAL HIGHWAYS					
A-1	Warfield Road	Laytonsville Road to Olney-Laytonsville Road	80' *	24'	1.0
A-2	Bowie Mill Road	A-4 to North Branch	80'	24'	0.7
A-3	Avery Road	Rock Creek to M-1	80'	24'	1.4
A-4	Needwood Road Extended	M-1 to M-2	80'	24'	2.3
A-5	Southlawn Lane	Expansion Limits of Rockville to Avery Road	80'	24'	0.7
PRIMARY STREETS					
P-1	Dorsey Road	Dorsey Road to P-2	70' *	24'	0.8
P-2	New	P-3 to Olney-Laytonsville Road	70'	24'	1.2
P-3	New	Laytonsville Road to M-2	70'	24'	1.7
P-4	New	M-2 to P-3	70'	24'	1.8
P-5	New	M-2 to Olney-Laytonsville Road	70'	24'	1.3
P-6	Muncaster Mill Road (Md. Route 115)	Waters Street to M-1	70'	24'	1.7
P-7	Redland Road	Needwood Road to Muncaster Mill Road	70'	24'	1.8
P-8	Needwood Road	Redland Road to M-1	70'	24'	2.0
P-9	Muncaster Mill Road (Md. Route 115)	A-4 to P-10	70'	24'	0.8
P-10	Avery Road Extended	M-1 to North Branch	70'	24'	1.0
INDUSTRIAL STREETS					
I-1	Southlawn Lane	Horners Lane to expansion limits of Rockville	80'	24'-48'	1.0
I-3	Horners Lane	Frederick Road to Southlawn Lane	80'	48'	0.8

* All arterial highways and primary streets are considered to be potential scenic rural roads. It is recommended that scenic easements be utilized to increase the above rights-of-way for roads in these categories to widths of 200 feet and 150 feet respectively.

TABLE VII—EDUCATIONAL FACILITIES†
ROCK CREEK PLANNING AREA

ELEMENTARY SCHOOLS

Site No.	Name	Neighborhood Served	Projected Ultimate Enrollment	Remarks
1	Proposed	1	487	
2	Proposed	2	651	
3	Rolling Knolls	3	519	
4	Proposed	4	326	
5	Redland	5	491	Site Acquired
6	Granby Woods	6	583	
7	Proposed	7	446	
8	Flint Hill	8	642	
9	Proposed	9	470	

JUNIOR HIGH SCHOOLS

Site No.	Name	Community Served	Projected Ultimate Enrollment	Remarks
a	Proposed	A *	1053	
b	Proposed	B	796	
c	Redland	C **	809	Site Acquired

* Also serves Loytonsville area (500 students).
** Also serves area north of Derwood (125 students).

SENIOR HIGH SCHOOLS

Site No.	Name	Community Served	Projected Ultimate Enrollment	Remarks
d	Laytonia	A *	1888	—
e	Upper Rock Creek	B & C **	1908	Site Acquired

* Also serves Laytonsville and Mill Creek Area (1400 students).
** Also serves North Derwood and Manor Park Area (600 students).
† Coordinated with and accepted by Montgomery County Board of Education.

THE MARYLAND - NATIONAL CAPITAL PARK AND PLANNING COMMISSION
REGIONAL AND METROPOLITAN DISTRICTS IN MONTGOMERY AND PRINCE GEORGE'S COUNTIES, MARYLAND

Regional Headquarters Building
8787 Georgia Avenue
Silver Spring, Maryland 20907

589-1480
Area Code 301

RESOLUTION

WHEREAS, The Maryland-National Capital Park and Planning Commission, by virtue of Section 63 of Chapter 780 of the Laws of Maryland, 1959, as amended, is authorized and empowered to make and adopt and, from time to time, amend, extend or add to, a General Plan for the Physical Development of the Maryland-Washington Regional District; and

WHEREAS, the Commission pursuant to law, held a public hearing on October 27, 1966 on a proposed Master Plan for the Rock Creek Planning Area, said Master Plan being a proposed amendment of, and addition to, the Master Plan of Highways and the General Plan for the physical development of The Maryland-Washington Regional District; and

WHEREAS, the Commission has, in its discretion determined to adopt the said Master Plan for the Rock Creek Planning Area, as said Plan was duly advertised prior to the Public Hearing held thereon, together with the amendments, extensions and additions to the Plan which are hereafter enumerated:

1. Change the proposed zoning classification on the Burgess property from R-A to R-R. This property has already been recorded with R-R lots, therefore, it is logical to leave it in the R-R zone.

2. Delete the proposed parkland on the Welsh property and show the proposed zoning as R-A. This change is deemed necessary to provide a compatible zoning pattern of low density along the west side of North Branch of Rock Creek.

3. Change proposed zoning classification on south side of M-1 noted as radar site from the R-E zone to the R-A zone. This change is necessary to be compatible with the proposed zoning on the south side and north side of M-1.

4. Change a portion of the proposed zoning classification on the Silkor property from R-A to the R-E zone. This change is necessary for development of the property and to adjust the density along the west side of North Branch of Rock Creek.

5. Realign A-4 from the existing Bowie Mill Road to M-2. This change is deemed desirable in order to follow along the property line.

6. Relocate the proposed commercial on the west side of A-4, north onto the next property. This change will produce a more desirable location in an area with higher densities.

7. Show a conservation strip in front of the proposed commercial on the west side of A-4. This will produce a small park area between the commercial and single family on the east side of A-4.

8. Remove the conservation area on the west side of A-4 south of property line where the commercial area was shown and place all in the R-A zone. This change is necessary since the commercial area was moved and it now does not serve as a buffer between the commercial and single family.

9. Realign A-2 from the existing Bowie Mill Road from the east to intersect with A-4 at the southern end of the new commercial location. This change is necessary in order to provide an area large enough for development between the existing Bowie Mill Road and A-2.

10. Relocate the elementary school site on the east side of A-4 south of the realigned A-2. This change is necessary to locate the elementary school site away from the commercial area.

11. Change the proposed zoning classification south of M-4 east of North Branch of Rock Creek on both sides of Pepco transmission lines from R-A to R-E. This change is deemed necessary to achieve a density compatible with the adopted Olney Plan.

12. Restore the I-1 zone on the Fulks property on the east side of M-5. This zoning is already approved by the District Council.

13. Extend the I-1 zone eastward on the Fulks property and change the proposed zoning classification on the remaining portion of the Fulks property which is approximately 243 feet wide and approximately 2,258 feet long from R-E to a conservation area. These changes are deemed necessary to remove the existing R-30 zone which is not compatible with the density of the area and to provide the owner with more industrial area which is compatible with the area. The conservation is necessary to provide a buffer transition between the industrial and the R-E zone.

14. The area designated on the Plan as air easement to be shown as a conservation area. This change is necessary to provide a protection against development.

15. Change the proposed zoning classification on the Subdivision of View of the Chase on the north side of Muncaster Mill Road from R-A to R-R. This change is necessary since the subdivision has already been recorded in R-R lots.

16. Change the proposed zoning classification on Mrs. Blackstone's property on the east side of Redland Road, south of Mill Creek from R-E to R-R. This change is deemed necessary since the property is surrounded by land zoned R-R and parkland.

17. Change the proposed zoning classification on the Carnegie Institution property from R-E to R-A. This change was requested by the owner.

18. Remove the tree pattern on the proposed parkland on the south side of Southlawn Lane, west of Rock Creek and indicate on plan, area to be acquired by the City of Rockville for parkland. This change is deemed necessary since the area is within the City of Rockville's ultimate expansion limits.

19. Show the addition of parkland on the plan north of Shady Grove Road (M-2) along Rock Creek. This change is necessary since this Commission has the property under option for purchase.

20. Revise park taking line, west of M-4, east of Pepco line and south of creek. This change is deemed necessary in order to make the parklines conform to the adopted Olney Plan.

21. Delete lakes located south of Rolling Knolls Subdivision and the one on the Board of Education's property on the north side of Muncaster Mill Road. These changes are necessary since it would not be feasible to construct the lakes.

22. Change the proposed zoning classification on Lot 12, Cashell Estates from R-R to R-T (existing zoning is C-1). This change is deemed necessary to provide a buffer transition between the commercial and single family.

23. Remove the institutional uses on the property west of Lot 12 and east of Redland Road and replace the area with the C-1 zone. This change is deemed necessary since the majority of the area has already been zoned C-1.

24. Reduce the proposed zoning classification of C-1 in the southwest corner of the intersection of Redland Road and Muncaster Mill Road to conform with the existing zoning. This change is deemed necessary since it is the opinion that commercial at this location should be nothing but a neighborhood center.

25. Eliminate all the proposed C-1 zoning classification in the northwest corner of the intersection of Redland Road and Muncaster Mill Road expept the area which is existing as C-1. Same reason as in 24.

26. Change the proposed zoning classification at the northeast corner of Redland Road and Muncaster Mill Road from R-T to C-1. This change is necessary since it has already been zoned for C-1.

27. Expand the proposed zoning classification of R-T in the northeast corner of the intersection of Redland Road and Muncaster Mill Road eastward to the Redland Knolls Subdivision and northward to the south right-of-way line of Horizon Terrace. This change is deemed necessary to provide a buffer between the commercial and single family.

28. Change the proposed zoning classification on the east side of Muncaster Road from a point approximately 400 feet north of the Redland intersection northward. This change is deemed necessary to prohibit multi-family zoning to spread into the single family area.

29. An area on the north side of Muncaster Mill Road, west of the existing C-1 zoning for a distance of approximately 400 feet and a line running northeast to connect to the proposed R-T zone, the proposed zoning classification in this area to be changed from the C-1 to the R-T. This change is deemed necessary to provide a transition between the commercial and single family.

30. The remaining area in the northwest corner of the Redland Estates Subdivision to be changed from the C-1 and R-T to the R-90. This change is deemed necessary to provide a more compatible density development.

31. An area south of Muncaster Mill Road, east of M-2 for an area approximately 400 feet wide, to be changed from the R-T and C-1 zones to the R-90 zone. The same reason cited in Number 30.

32. The remaining area in the southwest corner of the Redland intersection to be changed from the C-1 zone to the R-T zone. Same reason cited in Number 29.

33. Several lakes shown in conservation areas along Rock Creek and North Branch of Rock Creek have been reduced in size. These changes were deemed necessary based on the feasibility of the construction of said lakes by private developers.

34. Relocate a portion of Southlawn Lane, A-5, from its present stream crossing to a point about 1,000 feet south of its present intersection with Avery Road, A-3. This relocation was recommended by the Department of Public Works, Montgomery County, over a year ago, and said relocation was inadvertently left off this Plan.

NOW, THEREFORE, BE IT RESOLVED that the Maryland-National Capital Park and Planning Commission does hereby adopt the Master Plan for the Rock Creek Planning Area, said plan being an amendment of, and addition to the Master Plan of Highways and the General Plan for the Physical Development of the Maryland-Washington Regional District, this said adoption containing the amendments, extensions or additions to the Plan as presented at the public hearings are more particularly enumerated above; and

BE IT FURTHER RESOLVED, that the Master Plan for the Rock Creek Planning Area as herein adopted, consists of a map entitled "Land Use, Zoning and Highway Plan," together with the des criptive and explanatory matter attached thereto; and

BE IT FURTHER RESOLVED, that this adoption shall be recorded on the said plan as heretofore described by an appropriate Certificate of Adoption containing the identifying signatures of the Chairman and the Secretary-Treasurer of this Commission; and

BE IT FURTHER RESOLVED, that an attested copy of the Plan and all parts thereof shall be certified by the Commission and filed with the Clerk of the Circuit Court of each of Montgomery and Prince George's Counties, and

BE IT FURTHER RESOLVED, that an attested copy of the Plan and all parts thereof shall be certified by the Commission to the District Council of Montgomery County for its approval pursuant to Section 63(e) of Chapter 780, of the Laws of Maryland, 1959, as amended.

* * * * *

This is to certify that the foregoing is a true and correct copy of a resolution adopted unanimously by The Maryland-National Capital Park and Planning Commission at its regular meeting held on Wednesday, December 14, 1966, in Silver Spring, Maryland, at which meeting 9 of the 10 members of the Commission were present.

B. Houston McCeney (seal)
Secretary-Treasurer

THE MARYLAND - NATIONAL CAPITAL PARK AND PLANNING COMMISSION

REGIONAL AND METROPOLITAN DISTRICTS IN MONTGOMERY AND PRINCE GEORGE'S COUNTIES, MARYLAND

Regional Headquarters Building
8787 Georgia Avenue
Silver Spring, Maryland 20907

589-1480
Area Code 301

RESOLUTION

WHEREAS, The Maryland-National Capital Park and Planning Commission, subsequent to the adoption of the Master Plan for the Rock Creek Planning Area on December 14, 1966, did transmit the Plan to the County Council for Montgomery County, Maryland, pursuant to Chapter 599 of the Laws of Maryland, 1965; and

WHEREAS, the County Council has reviewed the Plan and returned it to the Commission for its further consideration, with the following recommendations:

1. The Plan should be amended to substitute the RA-C Zone for the RA Zone wherever the RA Zone appears in said Plan.

2. The Plan should be amended to delete the circular symbol for approximately ten acres of C-1 Zone located on the west side of Route A-4 opposite the intersection of Route A-4 and Route A-2; and to add two circular symbols of approximately five acres each, one to be located on the northwest side of Route M-2 opposite the intersection of Route M-2 and Route A-4, and the other to be located in the western quadrant of the intersection of Route M-1 and Route A-4.

3. The Plan should be amended to delete the land use designation shown as "Proposed Rockville Park Acquisition" and located in the area north of the City of Rockville and southeast of Southlawn Lane (Route A-5), and to substitute the land use designations "I-1" and "R-150" in the locations shown on the attached sketch entitled "Proposal of Rockville Planning Commission for area between Rockville City Boundaries and Southlawn Lane as understood by M-NCPPC - 9-13-67." The Plan should be amended further to show the present boundaries of the City of Rockville as shown on the above-mentioned sketch; and

WHEREAS, cluster subdivisions were permitted in the original RA Zone at the time the Plan was adopted; and

WHEREAS, it is the determination and finding of this Commission that such amendments are entirely consistent, and in accordance, with the concepts heretofore approved by this Commission

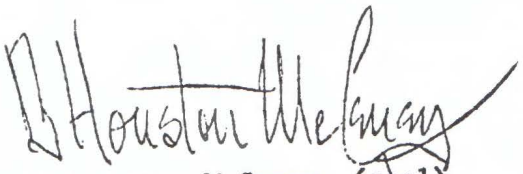
in the original adoption of the Plan and that such amendments do not in any way detract from its nature as a comprehensive Master Plan for the development of the planning area;

NOW, THEREFORE, BE IT RESOLVED by The Maryland-National Capital Park and Planning Commission that the Master Plan for the Rock Creek Planning Area, being also an amendment to the General Plan for the Physical Development of the Maryland-Washington Regional District, and being also an amendment to the Master Plan of Highways, be, and is hereby, amended in accordance with the above recommendations made by the County Council of Montgomery County; and

BE IT FURTHER RESOLVED, that the Secretary-Treasurer is directed to send certified copies of this Resolution to the Montgomery County Council and the Clerks of the Circuit Courts for Montgomery and Prince George's Counties.

* * *

This is to certify that the foregoing is a true and correct copy of a resolution adopted by The Maryland-National Capital Park and Planning Commission at its regular meeting held on Wednesday, November 29, 1967, at its Silver Spring office, at which meeting 8 of the 10 members of the Commission were present.



B. Houston McCeney (seal)
Secretary-Treasurer

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POCKET MAP

land use, zoning and highway plan

LAND USE, ZONING AND HIGHWAY PLAN

MASTER PLAN FOR
ROCK CREEK PLANNING AREA

MONTGOMERY COUNTY, MARYLAND

NORTH
SCALE 1"=1000'

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

W. C. DUTTON, JR., CHAIRMAN • MRS. T. PAUL FREELAND, VICE-CHAIRMAN • WALTER E. BUCHER • MRS. BENJAMIN E. COSCA

GORDON B. LAMB • THEODORE L. MIAZGA • JOHN L. PYLES • MALCOLM D. RIVKIN • BYRON SEDGWICK • MRS. RUSSELL WILTBANK

NOVEMBER 1967

LEGEND

LAND USE

- SINGLE FAMILY DETACHED
- INDUSTRIAL
- SINGLE FAMILY ATTACHED
- WATER
- COMMERCIAL
- OPEN SPACE (GOLF COURSE EXISTING; GOLF COURSE PROPOSED; SUMMER DAY CAMP EXISTING; SDC)

PUBLIC SCHOOLS

	SITE ACQUIRED	PROPOSED
ELEMENTARY	●	○
JUNIOR HIGH	■	□
SENIOR HIGH	▲	△

SCHOOLS, UTILITY, PUBLIC FACILITY, CHURCH AND INSTITUTIONAL

CHURCH; FIRE STATION; SWIM CLUB SC; PRIVATE ELEMENTARY SCHOOL; LIBRARY L I B; POST OFFICE PO; PROPOSED POST OFFICE PPO; PEPCO TRANSMISSION LINE R/W; NATURAL GAS PIPE LINE

LAND OWNERSHIP

- PRIVATE CONSERVATION AREAS
- PRIVATE OPEN SPACE
- M-NCPPC
- LOCAL OR FEDERAL GOVERNMENT

ZONING

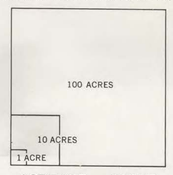
- R-A-C
- R-E
- R-150
- R-R
- C-1
- R-90
- I-1
- R-T
- I-2

PLANNING AREA BOUNDARY
MUNICIPAL BOUNDARY
MAXIMUM EXPANSION LIMIT, CITY OF ROCKVILLE

HIGHWAY CLASSIFICATION

- MAJOR
- ARTERIAL
- PRIMARY
- INDUSTRIAL

ALL STREET RIGHTS-OF-WAY (NOT OTHERWISE CLASSIFIED) SHALL CONFORM TO REQUIREMENTS SET FORTH IN EITHER THE ZONING ORDINANCE OR SUBDIVISION REGULATIONS WHETHER THE ZONING LIES ON ONE OR BOTH SIDES OF THE STREET. HIGHWAYS FOLLOWING EXISTING ROADWAYS MAY NEED WIDENING AND/OR NEW PAVING TO MEET MINIMUM STANDARDS OF THIS PLAN.



ACREAGE SCALE

CERTIFICATE OF ADOPTION

THIS MASTER PLAN FOR ROCK CREEK PLANNING AREA IS PART OF THE GENERAL PLAN FOR THE PHYSICAL DEVELOPMENT OF THE MARYLAND-WASHINGTON REGIONAL DISTRICT IN MONTGOMERY AND PRINCE GEORGE'S COUNTIES, ADOPTED PURSUANT TO THE PROVISIONS OF CHAPTER 780, LAWS OF MARYLAND, 1959, AS AMENDED, BY RESOLUTION OF DECEMBER 14, 1966, AFTER A DULY ADVERTISED PUBLIC HEARING HELD ON OCTOBER 27, 1966.

B. HOUSTON McENEY, Secretary-Treasurer — W. C. DUTTON, Jr., Chairman

THE MASTER PLAN FOR THE ROCK CREEK PLANNING AREA IS PROPOSED TO BECOME A PART OF THE GENERAL PLAN FOR THE PHYSICAL DEVELOPMENT OF THE MARYLAND-WASHINGTON REGIONAL DISTRICT IN MONTGOMERY AND PRINCE GEORGE'S COUNTIES, ADOPTED PURSUANT TO THE PROVISIONS OF CHAPTER 780 OF THE LAWS OF MARYLAND, 1959, AS AMENDED. SAID PLAN ALSO PROPOSES AMENDMENTS, BY WAY OF EXTENSIONS, TO THE MASTER PLAN OF HIGHWAYS, ADOPTED IN 1961.

NOTE:

IT IS THE INTENT OF THE COMMISSION THAT THE ROCK CREEK PLANNING AREA BE, AND THE SAME IS HEREBY IDENTIFIED AS A PROTECTED DEVELOPMENT DISTRICT SUBJECT TO THE AUTHORIZATION OF THE GENERAL ASSEMBLY OF MARYLAND TO ESTABLISH SUCH DISTRICTS BY ENACTMENT OF LEGISLATION PROPOSED FOR THIS PURPOSE.

LAKE SITES SHOWN ON PRIVATE LANDS AND SURROUNDED BY CONSERVATION DESIGNATION ARE SHOWN AS SUGGESTED SITE DEVELOPMENT OPPORTUNITIES AND ARE NOT TO BE CONSTRUED AS MANDATORY PROPOSALS.

CERTIFICATE OF ADOPTION OF AMENDMENTS

THE AMENDMENTS TO THE MASTER PLAN FOR ROCK CREEK SHOWN ON THE RESOLUTION IN THE APPENDIX OF THE ATTACHED TEXT, SAID AMENDMENTS BEING INCORPORATED IN THE TEXT AND ON THE MAPS FOR SAID MASTER PLAN, AND BEING AMENDMENTS TO THE GENERAL PLAN FOR THE PHYSICAL DEVELOPMENT OF THE MARYLAND-WASHINGTON REGIONAL DISTRICT IN MONTGOMERY AND PRINCE GEORGE'S COUNTIES, WERE ADOPTED PURSUANT TO THE PROVISIONS OF CHAPTER 780, LAWS OF MARYLAND 1959, AS AMENDED, BY RESOLUTION OF NOVEMBER 29, 1967, PURSUANT TO, AND IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE DISTRICT COUNCIL.

B. HOUSTON McENEY, Secretary-Treasurer — W. C. DUTTON, Jr., Chairman

SCALE 1:12,000 OR 1 INCH = 1000 FEET

0 — 1/2 — 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 FEET

NOTE: BASE MAP WAS COMPILED FROM MONTGOMERY COUNTY LAND RECORDS, M-N.C.P.&P.C. 200 SCALE BASE MAPS AND PHOTOGRAMMETRY, U.S.G.S. QUAD. SHEETS, AND UTILITY RIGHT-OF-WAY PLANS.

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

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Prince George's County Regional Headquarters • 6600 Kenilworth Avenue, Riverdale, Maryland 20840 • Telephone (Code 301) 277-2200

THE MARYLAND-
NATIONAL
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