

PRELIMINARY MASTER PLAN

of the

ROCK CREEK WATERSHED

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

SEPTEMBER 1959

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of
ROCK CREEK WATERSHED

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INTRODUCTION

This report and accompanying maps have been prepared by the staff of the Maryland-National Capital Park and Planning Commission as a preliminary Master Plan for the Development of the Upper Rock Creek Watershed, an area of some 26 square miles located in Montgomery County, Maryland, lying between the Town of Rockville, Gaithersburg, Laytonsville, Olney and Norbeck.

In brief, the program in the Rock Creek Watershed began late in 1955 when a number of citizens' associations in the watershed requested the Montgomery County Soil Conservation District to apply for a Federal study of Rock Creek under the Watershed Protection and Flood Prevention Act. The application was subsequently approved and a Soil Conservation Work Party was ordered to prepare a study of feasible sites for flood prevention structures.

It has been determined by engineering studies that Sites 1 and 5 would be the most desirable combination for flood prevention both from the standpoint of available storage area and total area controlled. Realizing the scarcity of detailed information necessary to guide orderly development for watershed protection, the Maryland-National Capital Park and Planning Commission in March 1958, authorized photogrammetry of existing topographical and cultural features in the Rock Creek Watershed, and directed the staff to prepare a comprehensive development plan for the area.

Proposals contained in this study will provide a sound basis for future recommendation by the Commission and local action by public and private agencies and citizens interested in proper development of the watershed. A major consideration in such a project must be the protection of existing development in the lower Rock Creek area from expensive and unnecessary flood damage.

This plan, incorporating provision for 2 dam sites and providing a pattern of low density development in the immediate vicinity of the dams, and the impoundment areas they would create, will give this desired protection.

DESCRIPTION

"Watershed" may be a new term to many of you. The development of soil and water conservation and flood prevention in watersheds is bringing the word into more common use. The definition of watershed is the land area from which the water drains into a creek or river.

The Upper Rock Creek Watershed is a drainage basin of approximately 26 square miles or approximately 19,000 acres. This portion of the watershed under consideration lies in the upper part of Montgomery County, Maryland, bounded by five state roads; i.e., Maryland Route 28 on the south, Maryland Route 97 on the east, Maryland Route 355 on the west and Maryland Routes 124 and 108 on the north.

Very little development has taken place in this portion of the watershed over the past few years. Much of the land is still being farmed and there are some large wooded areas. Large areas immediately adjoining the watershed are also under cultivation. To the south of the watershed, development is taking place as water and sewer service is extended.

Traffic circulation in the watershed is hampered by narrow substandard roads with poor alignments. The stream crossings are few and those that exist are narrow and usually in poor condition.

SUMMARY OF RECOMMENDATIONS

In considering this plan for the Upper Rock Creek Watershed, it is most important to keep in mind the benefits of combining soil and water conservation on the land with upstream flood prevention dams.

This plan for the future development of the Rock Creek Watershed contains very few major changes from existing conditions. These changes may appear conservative considering the present character of development in the county, but each proposal has been carefully weighed as to its ultimate effect on the watershed twenty years hence.

In the next few pages of this report several items will be discussed such as: residential communities, population, highways, zoning, parks, school and recreation.

RESIDENTIAL COMMUNITIES

In establishing the pattern for residential communities, a study was made of the entire county. After this study, the staff of the Maryland-National Capital Park & Planning Commission decided that the best way to plan these communities was to divide the Rock Creek Watershed among four existing planning areas. These planning areas are (1) Laytonsville; (2) Gaithersburg; (3) Rockville, or Planning Area III; and (4) Olney, or Planning Area II. Recommendations to establish Residential Communities in place of Residential Neighborhoods was based on the forecast of population density and the proposed zoning for the area. In setting up this pattern of residential communities, area F-1 as shown in the Olney Planning Area was set up in Technical Bulletin No. 5 as a residential neighborhood and it will remain as a residential neighborhood. Because of lighter population densities in the watershed area, elementary school facilities are shown in some cases as serving one community rather than a neighborhood.

The planning areas and communities, as conceived by the staff, relate to those already established. They are as follows:

Laytonsville Planning Area

- A. South Laytonsville Community

Gaithersburg-Washington Grove Planning Area

- A. Emory Grove Community
- B. Redland Community
- C. Needwood Estate Community
- D. Derwood Industrial Community

II Olney Planning Area

- F. South Norbeck Community
 - F₁ North Branch Lake Neighborhood
- G. West Olney Community
- H. Bowie Mill Community
- I. Rock Creek Lake Estates

III Rockville Planning Area

- A. North Twinbrook Forest Community
- B. Rockville Industrial Community

POPULATION

The Rock Creek Watershed now has a population of approximately 3,380 persons, residing in 856 single family dwelling units. Although most of the watershed is presently undeveloped, there are certain areas where substantial subdivision development has occurred.

The established residential areas are primarily on the extreme southern, eastern and northern borders of the watershed. Sycamore Acre, a subdivision of one acre homesites, is a significant residential area lying just north of Manor Club, east of Muncaster Mill Road. Williamsburg Village, just south of Olney and west of Route 97, has substantial single family development. Cashell Estates and West Olney Acres lie slightly inside the periphery of the watershed, but still toward its eastern side. On its northern rim the residential development is scattered along Md. Rte 124 between Washington Grove and Emory Grove, with a minor cluster at Redland.

Viewed within the framework of expected population growth for Montgomery County as a whole, the upper Rock Creek Valley occupies a somewhat central position geographically between the population centers of Gaithersburg and Olney.

In keeping with the thesis that uninterrupted waves of residential development, progressing outward in bands of concentric circles is not conducive to planned and orderly growth, the generalized residential density plan for 1980 suggests wedges of open space penetrating into the suburban fringe. Furthermore, the residential density plan recommends the design of satellite communities, lying beyond the suburban area and not contiguous with it. The two satellite communities involved in the Rock Creek Watershed are: (1) The Gaithersburg-Washington Grove Complex, and (2) Olney.

The Rock Creek Watershed occupies a central position, not only with respect to its location within the county, but also with respect to adjacent planning areas. Actually, the watershed is made up of a portion of several planning areas.

The northern portion of the watershed, namely the upper reaches of Rock Creek north of Muncaster Road, is a part of the Laytonsville Planning Area. That portion of the watershed east of the main branch of Rock Creek forms the western half of the Olney Planning Area, No. II, Rockville Planning Area No. III, includes a smaller portion of the watershed to the southwest, and the western portion has been assigned to the Gaithersburg-Washington Grove Complex.

The partition of the study area among several planning areas is significant. It reflects, for example, the staff's opinion that no major regional commercial facility will ever be needed in the upper watershed. This is so because the watershed study area is divided into four distinct units each of which is oriented to established planning areas which will provide the major business centers.

Population - 1980.

Under the recommended zoning plan the ultimate population that could be reached (probably by the year 2000) is about 70,927 persons.

Comparing this ultimate population with the 1980 population expectancy for the watershed we find some striking differences.

The population forecasts made in support of the Mass Transportation Survey provide a good example of this point. For those Origin & Destination Zones of which Rock Creek/^{Watershed} is a part, the 1955, 1965 & 1980 predictions are as follows:

Upper Rock Creek & Vicinity

<u>O & D Zone (100% each zone)</u>	1955		1965		1980	
	<u>D.U.</u>	<u>Pop.</u>	<u>D.U.</u>	<u>Pop.</u>	<u>D.U.</u>	<u>Pop.</u>
9205 Derwood	90	500	1850	6500	2450	8800
9211 Laytonsville*	570	2000	850	3000	2300	8000
9209 Gaithersburg So.	500	1750	1150	4000	3150	11,000
9204 Olney*	1000	3500	1850	6500	7000	24,500
Total	2160	7750	5700	20,000	14,900	52,300

* Corresponds to Election Districts

This 1980 Population of 52,300 is, of course, for a much larger portion of the county than just the limits of the watershed, as stated in the paragraph above.

When the O & D forecasts are analyzed in terms of what portions of these totals are likely to apply to the watershed area, the adjusted 1980 population for the watershed is as follows:

Upper Rock Creek Watershed - Population 1980
(Based on estimated percentages of O & D zones)

<u>O & D Zone (est. %)</u>	1955		1965		1980	
	<u>D.U.</u>	<u>Pop.</u>	<u>D.U.</u>	<u>Pop.</u>	<u>D.U.</u>	<u>Pop.</u>
9205 Derwood (100%)	90	500	1850	6500	2450	8800
9211 Laytonsville (50%)	285	1000	425	1500	1150	4000
9209 Gaith. So. (75%)	375	1312	862	3000	2362	8250
9204 Olney (48%)	480	1680	888	3120	3360	11,000
Total	1230	4492	4025	14,120	9322	32,050

It appears likely, therefore, that during the twenty year period from 1960 to 1980 the watershed will increase to a population somewhere between 30,000 and 40,000 persons.

This anticipated growth to 1980 is only about half of the ultimate capacity of the watershed. This population growth is summarized below:

	Existing 1959		Estimate 1980		Estimate 2000 Ult.*	
	<u>D.U.</u>	<u>Pop.</u>	<u>D.U.</u>	<u>Pop.</u>	<u>D.U.</u>	<u>Pop.</u>
Rock Creek Watershed	856	3379	10,000	35,000	18,665	70,927

* The ultimate population is what is possible within the limits of the recommended zoning plan

Distribution of 1980 Population.

The 1980 population is not expected to be distributed uniformly throughout the watershed. Due to the extension of the Rock Creek trunk sewer to Gaithersburg (via Mill Creek), most of the foreseeable increase within the next five or ten years will be concentrated in four major areas:

- (1) Planning Area II F-1. The North Branch Lake Neighborhood where 1,690 dwelling units are possible, 466 acres of R-90 and 226 acres of R-R.
- (2) Planning Area III A. The North Twinbrook Forest Community where 315 dwelling units are possible, 154 acres of R-R and 29 acres of R-90.
- (3) Planning Area III B. The Rockville Industrial Community where 248 dwelling units are possible, 252 acres of R-A and 98 acres of R-R.
- (4) Gaithersburg-Washington Grove Area. The Emory Grove Community where 2,034 dwelling units are possible, 521 acres of R-R and 432 acres of R-90.

In terms of total growth for rural Montgomery County, the assignment of 30,000 to 40,000 persons to the Rock Creek Watershed by 1980 seems reasonable.

All of rural, upper Montgomery County can expect an increase of only 114,000 persons by 1980; the staff's estimates indicate that about one-third of this total upper county growth will occur in the Rock Creek Watershed.

HIGHWAYS AND STREETS

In preparing a highway plan for the land area contained in the Rock Creek Watershed it was necessary to extend the area of study well beyond the limits of the watershed. It would be obviously impractical and foolhardy to attempt to pinpoint the alignment of major and secondary highways within the boundaries of the watershed study area without having some knowledge of how these highways will fit into the overall future road pattern in the upper county area. As a result classifications and alignments have been assigned for an area of approximately 175 square miles outside the immediate study area. These alignments are, of course, general since detailed topography was not available for this vast area. However, the general locations are reasonably firm and the overall pattern of highway development which emerges will more than adequately meet the needs of the future in this respect.

Proposals contained in this highway plan have been discussed with and reviewed by the Montgomery County Department of Public Works and the State Roads Commission. Staff engineers of these two agencies have indicated general agreement with the alignments and classifications assigned for highways in the study area.

The highways proposed in the study area have been placed in one of four classifications based upon control of access, capacity and relative importance in the overall highway network. These classifications are Major Highways, Secondary Highways, Industrial Roads and Primary Streets. Secondary Highways and Primary Streets are also referred to as arterial roads and collector streets respectively.

Seven major highways, the highest classification assigned, are proposed in the study area with proposed rights of way ranging from 120 to 260 feet. In this category are:

M-1 State Route 115 (Muncaster Mill Road). This is one of the key highway proposals since it will serve as the major east-west artery across the study area. It is recommended that the entire length of this highway be relocated through the watershed. The proposed new alignment will materially improve grade conditions and will enable a direct connection from State Route 28 (Rockville-Norbeck Road) to the proposed Circumferential or by-pass road around Gaithersburg. This relocation will not only provide a more desirable alignment and grade but will also enable better control of access by limiting the number of intersecting streets and highways.

M-2 Shady Grove Road. This proposal is equally important as a key highway improvement since it is the major north-south artery through the study area. It is proposed to extend Shady Grove Road from State Route 355 to a point east

of Rock Creek where it will connect with Muncaster Road. This proposal envisions eventual dualization of the highway from Route 355 across the study area. This major artery would provide direct access from the Washington National Pike to the Montgomery County line at Brighton Dam.

- M-3 State Route 97 (Georgia Avenue). Relocation of this route to the east of the present roadway from State Route 28 to Emory Church Lane is recommended as proposed by the State Roads Commission. The existing pavement within these limits will remain as a service drive. From Emory Church Lane north to State Route 108 at Olney the existing roadway will be widened with minor refinement in alignment and grade.
- M-4 State Route 108 (Laytonsville-Olney Road). The plan proposes eventual dualization of this highway utilizing the existing pavement. The additional lanes required for dualization would be provided by obtaining right of way on the northern side of the present roadway from Olney to the town limits of Laytonsville. This proposal also includes minor adjustments of existing pavement to eliminate substandard curves.
- M-5 State Route 124 (Gaithersburg-Laytonsville Road). Proposed improvement of this road generally follows the existing alignment from Warfield Road south to existing State Route 115. From this point it is recommended that the road be relocated to the west by-passing the Town of Washington Grove and connecting with State Route 124 at the town limits of Gaithersburg.
- M-6 State Route 28 (Rockville-Norbeck Road). Within the study area complete relocation of this road is proposed from Rockville to a point east of Rock Creek as shown on the adopted Highway Plan for Rockville and Vicinity. Further east, at Norbeck, realignment of State Route 28 is proposed to provide a direct connection with State Route 609. This will eliminate a difficult three-way intersection resulting from the termination of both Route 28 and Route 609 within several hundred feet of each other at Georgia Avenue. A proposed interchange at this point is shown as planned for future construction by the State Roads Commission.

- M-7 State Route 355 (Rockville Pike). Improvement of this highway is suggested by means of widening and minor adjustments of alignment and grade.

Six highways in the study area have been assigned the classification of secondary roads with rights of way of 80 feet. All of the roads in this category will require additional rights of way and adjustment of alignment and grade to achieve the higher standards. These will serve as connector roads between the major highways. Included in this category are:

- A-1 Warfield Road, from State Route 124 to State Route 108, providing access from 124 to the town of Laytonsville.
- A-2 Bowie Mill Road and Muncaster Mill Road, from State Route 108 to relocated State Route 115.
- A-3 Avery Road, from the terminus of Muncaster Mill Road at State Route 115 to a proposed new secondary road referred to as A-6 in this report.

The linking of A-2 and A-3 as shown on the map, provides a much needed continuous secondary road across the two proposed park areas suggested in the watershed study.

- A-4 Emory Lane, from State Route 28 north and east to State Route 97. This will serve proposed R-90 communities in the area west of Norbeck and link them with a proposed commercial center at relocated 115 and with Georgia Avenue (Route 97).
- A-5 Southlawn Lane, from Avery Road to proposed new road A-6, providing a spur connection that will give access to the park and traverse an industrial area.
- A-6 This is an entirely new road which in effect would be an extension of Twinbrook Parkway from Route 28 to Route 355 south of Derwood. This would serve as a by-pass of the northern edge of the Town of Rockville. Its western section will also serve an industrial area.

Four industrial roads are planned in the study area to provide connections between industrial areas and Secondary or Major Highways.

In addition to the above categories, the plan shows a number of residential collector streets. These collector streets are based upon the proposed zoning plan and topography. Detailed information on the entire highway and street classification for the watershed appears in the following table.

HIGHWAY AND STREET CLASSIFICATIONS

Major Highways

NAME	LIMITS	LENGTH (MILES)	R/W	REMARKS
M-1 State Route 115 (Relocation of Existing Muncaster Mill Road)	Existing State Route 124 (Gaithersburg-Laytonsville Road) to State Route 28 (Rockville-Norbeck Road)	5.58	200'	Existing road to be transferred to County
M-2 Shady Grove Road Extension	State Route 355 (Rockville Pike) to State Route 108 (Laytonsville-Olney Road)	5.97	120'	
M-3 State Route 97 - Georgia Avenue	State Route 28 (Rockville-Norbeck Road) to State Route 108 (Laytonsville-Olney Road)	2.99	Varies 120' to 260'	
M-4 State Route 108 - Laytonsville-Olney Road	Town Limits of Laytonsville to State Route 97 (Georgia Avenue)	5.30	200'	
M-5 State Route 124 - Gaithersburg-Laytonsville Road	Existing State Route 115 (Muncaster Mill Road) to Warfield Road	5.11	200'	
M-6 State Route 28 - Rockville-Norbeck Road	Town Limits of Rockville to State Route 97 (Georgia Avenue)	2.95	150'	4500' of existing road to be transferred to County
M-7 State Route 355 - Rockville Pike	Town Limits of Rockville to Shady Grove Road	2.26	120'	

Arterial Roads

NAME	LIMITS	LENGTH (MILES)	R/W	REMARKS
A-1 Warfield Road	State Route 124 (Gaithersburg-Laytonsville Road) to Town Limits of Laytonsville	1.00	80'	Transferred to Mont. County by S.R.C.
A-2 Bowie Mill Road-Muncaster Mill Road	State Route 108 (Laytonsville-Olney Road) to State Route 115 Relocation	4.16	80'	Recommend class. be raised from primary to arterial
A-3 Avery Road	State Route 115 Relocation to Arterial Road No. 6	2.18	80'	
A-4 Emory Lane	State Route 97 (Georgia Avenue) to State Route 28 (Rockville-Norbeck Road)	2.93	80'	Recommend class. be raised from primary to arterial
A-5 Southlawn Lane	Arterial Road No. 6 to Avery Road, A-3	1.21	80'	Recommend class. be raised from primary to arterial
A-6	State Route 355 (Rockville Pike) to Existing State Route 28 (Rockville-Norbeck Road)	2.86	80'	Circulation for industrial traffic

Industrial Roads

NAME	LIMITS	LENGTH (MILES)	R/W	REMARKS
I-1	Shady Grove Road Extension to Redland Road	.59	80'	
I-2	State Route 355 (Rockville Pike) to I-1	.85	80'	
I-3 Westmore Road- Horners Lane	State Route 355 (Rockville Pike) to Southlawn Lane, I-4	.85	80'	
I-4 Southlawn Lane	Horners Lane, I-3, to Arterial Road No. 6	.47	80'	

Primary Residential Road

NAME	LIMITS	LENGTH (MILES)	R/W	REMARKS
P-1 Dorsey Road	Warfield Road, A-1, to State Route 108 (Laytonsville-Olney Road)	0.75	70'	
P-2	P-1 Dorsey Road to P-3	0.87	70'	
P-3	State Route 124 (Gaithersburg-Laytonsville Road) to Muncaster Road	1.87	70'	
P-4	Muncaster Road to State Route 108 (Laytonsville-Olney Road)	1.13	70'	
P-5 Cashell Road	P-4 to Emory Lane, A-4	3.71	70'	
P-6	State Route 124 (Gaithersburg-Laytonsville Road) to Bowie Mill Road, A-2	2.93	70'	
P-7 Existing Muncaster Mill Road	State Route 124 (Gaithersburg-Laytonsville Road) to State Route 115 Relocation	2.17	70'	
P-8	A-2 to State Route 97 (Georgia Avenue)	2.74	70'	
P-9 Redland Road	P-7 (Existing Muncaster Mill Road) to P-12 (Needwood Road)	1.70	70'	
P-10	Existing State Route 124 (Gaithersburg-Laytonsville Road) to Shady Grove Road Extension	1.06	70'	
P-11 Existing State Route 124 (Gaithersburg-Laytonsville Road)	Town Limits Washington Grove to Existing State Route 115 (Muncaster Mill Road)	1.23	70'	
P-12 Needwood Road	P-9 Redland Road to A-2 (Existing Muncaster Mill Road)	2.06	70'	
P-13	A-4 to State Route 115 Relocation	1.00	70'	
P-14 Existing Rockville- Norbeck Road	Town Limits of Rockville to A-4	2.17	70'	
P-15	P-13 to State Route 28 (Rockville-Norbeck Road)	0.19	70'	
P-16	I-4 to Town Limits of Rockville	0.38	70'	
P-17	State Route 97 (Georgia Avenue) to State Route 108 (Laytonsville-Olney Road)	1.78	70'	

ZONING

The existing zoning pattern in the watershed is largely R-R (one-half acre zoning). On the eastern side of the watershed, the land has been recorded in larger lots and has two existing country clubs. The recommended change from R-R to R-E zoning on the eastern side is designed to maintain the present character of the development. A review of the proposed zoning plan and the reasoning behind the staff recommendations follows:

1. R-A Zoning (Rural Agricultural) - A total of 2,609 acres lying largely in the south central portion of the watershed is proposed for this classification. This area would be bounded on the north by re-located State Route 115 (Muncaster Mill Road), on the east by the north branch of the creek, on the south by proposed highway A-6 (with the exception of a small area indicated north of this roadway for industrial use), and on the west by State Route 355, proposed industrial roads I-2 and I-1 and a line 150 feet east of the extension of Shady Grove Road.

In proposing these boundaries for the R-A zone the staff took into consideration a prior decision by the County Council which placed over 1700 acres of this area in the R-A classification; the existing pattern of development; and the need for open type land use in the immediate area of the flood control projects. The area between the two lakes is especially adaptable to large estate-type development, and two acre zoning here provides a further preventive measure against excessive runoff and siltation within the lakes.

2. R-R Zoning (Rural Residential) - This classification has been distributed among five areas of the watershed, comprising a total area of 8,610 acres. Generally they may be described as follows:

Area A - A belt beginning 600 feet east of Industrial Road I-4, following the northern boundary of the Town of Rockville and the North Branch of Rock Creek. It is wedged between the large area of proposed R-A zoning to the west and R-90 zoning to the east. This belt terminates at relocated State Route 115.

Area B - A large land area comprising the entire northwest and central portions of the study area lying north of relocated State Route 115 and west of the north branch of the creek and Bowie Mill Road.

Area C - A rectangular parcel extending 3800 feet to the west and south of the Olney Crossroads.

Area D - A band 300 feet wide adjoining the northern and eastern town limits of Washington Grove.

Area E - A band 300 feet wide north of Norbeck Road adjacent to the Manor Club development.

In proposing these areas for Rural Residential Zoning, the staff again took into consideration the pattern of development which has already begun and the need to protect the immediate areas of the flood control project.

A deletion from the existing R-R zone is recommended on the east side of the north branch of the creek from relocated Route 115 to Bowie Mill Road. This area is included in the proposed R-E zone to afford protection for the large lot development which is already under way.

3. R-90 Zoning (Restricted Residential) - Three areas in the watershed totalling 949 acres are recommended for this more intensive residential land use. They are described as follows:

Area A - A narrow band at the northern boundary of the Town of Rockville wedged between the town limits and the proposed belt of R-R zoning.

Area B - A large parcel lying south of State Route 115 and west of the proposed extension of Shady Grove Road. This zoning classification would terminate at a point within 300 feet of the town limits of Washington Grove.

Area C - A pie-shaped wedge beginning at the intersection of Norbeck Road and proposed primary road P-14 and extending northward to relocated State Route 115.

The availability of sewer service of course has played a large part in determining the areas for inclusion in this more intensive type of residential land use. In the case of Area C, the staff felt that the R-90 classification is to a certain extent pre-determined since one tract of land in this area has already been zoned for this type of development. In addition the proximity of this portion of the watershed to Rockville and the rapidly growing subdivisions to the south of Norbeck Road justifies the inclusion of this area in the R-90 zone. Area B is proposed for R-90 classification because it is considered a logical extension of the eventual development of this area as a satellite community.

4. R-E Zoning (Residential Estates) - A large portion of the eastern watershed area is recommended for this classification. The total land area involved is 2,171 acres. This area would be bounded on the east by State Route 97 (Georgia Avenue), on the south by relocated State Route 115, on the west by the North Branch of Rock Creek and Bowie Mill Road and on the north by State Route 108 and proposed primary road P-17.

Existing development in this area and recorded subdivisions have set the pattern for this portion of the watershed. Lot sizes are one acre or more. Added to this is the influence of the two country clubs which provide a natural setting for a prestige community of large, spacious homesites.

5. C-1 Zone - The areas proposed for commercial use, as shown on the proposed zoning plan, follow the pattern already established. The commercial site at the intersection of Georgia Avenue and Rockville-Norbeck Road was deleted from this plan due to the proposed interchange at that intersection. In place of this we propose to establish a new site of approximately 10 acres to serve the R-90 zone at the intersection of Muncaster Mill Road and Emory Lane extended. The other commercial areas are already existing, but this plan proposes an enlargement from one to five acres. These local shopping centers will not conflict with other established or proposed shopping centers. Particular attention was given to locations that would not affect surrounding residential development. Total expansion of commercial zoning, as proposed, should not exceed 25 acres.
6. I-1 Zone - Very minor revisions are recommended in the I-1 zone. The existing I-1 zone on the north boundary of Rockville is recommended for expansion to conform with the proposed highway system. We believe that the proposed increase is sufficient for I-1 needs in the watershed. This results in 525 acres in the I-1 zone, an increase of 51 acres.
7. I-3 Zone - Several factors influenced our thinking for proposing this area for the I-3 zone. The proposed boundary is bordered by Rockville Pike, Oakmont Road and the two proposed industrial roads, I-1 and I-2. This site was picked due to access from all directions and the availability to the B & O Railroad. The topography of this site is excellent and a well-planned industrial park can be developed without affecting surrounding residential development. This precise location was influenced by the fact that it is available to public sewer.

The I-3 zone cannot become a reality until the existing Zoning Ordinance is amended to include this new classification. Pending this amendment, the staff's opinion is that this large area of some 559 acres, strategically located, could provide the impetus for the beginning of Montgomery County's first planned industrial park, operating under desirable performance standards for the protection of surrounding residential areas.

The following table shows the acreage recommended for each zoning classification. Both community and watershed totals are given for each zone.

AREA IN ACRES BY COMMUNITY UNITS WITH ESTIMATED NUMBER OF DWELLINGS
ROCK CREEK WATERSHED

PROPOSED ZONING DISTRICT CLASSIFICATION

Planning Area Communities	R-A	R-E	R-R	R-90	C-1	I-1	I-3	Existing Dwelling Units	Estimated Future Dwelling Units
Laytonsville									
A			3190		1			102	4785
Gaithersburg									
A			521	432				96	2034
B			602		5			48	903
C	1700			22		3		110	744
D	44					9	559	5	18
Rockville									
A			154	29				7	315
B	252		98			510		70	248
Olney									
I	613							31	245
H			3331		5			96	4997
G		2171	488		4	3		280	2686
F ₁			226	466	10			11	1690
Totals	2609	2171	8610	949	25	525	559	856	18665

*Note - Lands developed as golf courses and proposed to be used for Stream Valley Parks have been excluded from above computations.

Estimated Population-1959 - 3,379; Estimated Future Population - 70,927 - Total Increase - 67,548 persons (Based on an average of 3.8 persons per family).

SCHOOLS

In a watershed such as upper Rock Creek, which is today largely undeveloped, the impact of new population on existing school facilities is a serious and far-reaching one.

In 1959 the 856 dwelling units in the watershed provide an estimated elementary school enrollment of 600 pupils. By 1980 there will be an expected increase to a total of some 9,000 dwelling units, providing living space for an estimated 35,000 persons. These 9,000 dwellings will provide 6,300 children of elementary school age.

Elementary Schools

With one exception the watershed school population is served by schools located outside of the study area. Olney Elementary School is the only school facility of any kind situated within the watershed.

Existing School Service Areas - 1959

The Laytonville Elementary School serves the northern portion of the watershed, north of Muncaster Road and east of Muncaster Mill Road.

Olney Elementary School serves the eastern portion of the watershed, east of Rock Creek, east of Muncaster Mill Road (between Bowie Mill Road and Redland), and east of Muncaster Road.

On the south, Maryvale Elementary School in the City of Rockville serves the area west of Rock Creek and south of Derwood and Needwood Roads.

On the west, the Washington Grove Elementary and Longview Elementary serve that portion of the watershed west of Muncaster Mill Road and north of Derwood and Needwood Roads.

All of these schools are designed to serve their respective watershed districts only if the watershed remains completely rural. Since this isn't likely to be the case, it is necessary to plan for additional elementary school facilities where they will be needed.

Proposed School Service Areas - 1980

With an estimated increase to a possible 9,000 dwelling units by 1980, it becomes apparent that additional elementary schools will be needed.

The first wave of development will occur when the Rock Creek trunk sewer is extended north from Norbeck Road. North Branch trunk sewer extension up North Branch on the south side of the proposed North Branch Lake (Dam Site No. 1, Flood Control Project) approximately to Muncaster Mill Road will open up this area for additional development.

The extension of these utilities will provide for R-90 development on 466 acres and R-R development on 226 acres in neighborhood II F1, North Branch Lake. Ultimately 1,690 dwellings could be contained in this neighborhood; therefore, planning two elementary schools is necessary to accommodate an expected enrollment of 1000 to 1200 pupils. State Route 28, Norbeck Road, should be considered as the southern boundary of these two school districts.

No additional facilities are proposed in Communities A & B of the Rockville Planning Area III. If the area develops in accordance with the recommended zoning plan, the existing facilities at Meadowhall and Maryvale can serve the area.

A subsequent expansion of residential development is likely to occur in the eastern sector of the Gaithersburg-Washington Grove satellite community, particularly after the Mill Creek trunk sewer is constructed to its authorized terminus. When this occurs some 432 acres of R-90 and 521 acres of R-R could be developed, providing an ultimate 2,034 dwelling units in community A of the Gaithersburg-Washington Grove Planning Area. Here again, two elementary schools will be required to serve an estimated 1400 - 1500 pupils from community A. The existing facilities at Longview and Washington Grove Elementary Schools could help meet the initial needs of this growing community, perhaps to such an extent that only one new school, instead of two would be required within this portion of the watershed. Even so, Longview Elementary would require a 12 room addition to increase its capacity to 24 classrooms.

In community B, Redland, of the Gaithersburg Planning Area, about 900 dwelling units could be built on the 602 acres proposed for half acre, R-R zoning. In the ultimate picture, then, some 600 - 700 pupils could come from these dwellings. The 30 acre site now owned by the Board of Education, on the north side of Muncaster Mill Road just west of Rock Creek, could provide enough land for the elementary needs and the junior high requirements for this area. Here again, it is unlikely that this community will reach ultimate capacity by 1980. Even if it is only half developed, a 10 classroom elementary school would be justified to accommodate 300 pupils. This facility, as would be the case for all schools, could be expanded to meet future needs as the area developed beyond the 1980 expectancy.

In the North Branch Watershed, the existing facility at Olney should take care of the proposed half-acre area forming part of the satellite community at Olney. At some future date an additional facility will likely be needed at Olney, but outside of the present study area.

South of this service area, but still in community G of the North Branch Watershed, there is a proposed site reserved on Cashell Road in the Cherry Valley subdivision. A school here should meet the remaining requirements in this area until 1980.

In community H of the Olney Planning Area No. II, the total possible number of dwelling units on 3,331 acres of R-R zoning is 4,997. Since this

area lies toward the northern end of the watershed, it is likely not to develop very extensively by 1980. Assuming this community is only 25% developed by 1980, a new school will be needed prior to this date to serve an expected enrollment of 800 - 900 pupils by 1980. A site is recommended on proposed primary road P-5, approximately half way between Olney and Laytonsville Elementary Schools.

South Laytonsville Community A is the only other major area requiring a school by 1980. Here again 3,190 acres of R-R zoning could ultimately yield 4,785 dwelling units. However, assuming 25% development by 1980, 1200 dwelling units would produce 700 - 800 pupils of elementary school age. Therefore, a new site has been selected for this area on Primary Road, P-6. The existing Laytonsville Elementary School (just north of the study area) would continue to serve this community, and even after another facility is built in the South Laytonsville Community, the existing school would continue to serve the area north of the PEPCO power line.

In summary, the existing elementary schools now serving the watershed are as follows:

	<u>Existing or Budgeted</u>	<u>Actual</u>
	<u>No. of Classroom</u>	<u>Enrollment</u>
	<u>Classrooms</u>	<u>9/21/59</u>
	<u>Capacity</u>	
Longview	12	300
Washington Grove	12	325
Laytonsville	13	325
Olney	21	550
Meadow Hall	22	720
Maryvale	25	810
		1

¹ Enrollment combined with Gaithersburg Elementary.

Recommendation on the plan for additional elementary schools by 1980 are as follows:

Watershed Community

	<u>Dwelling Units</u>	<u>Estimated Enrollment</u> 1980	<u>No. of schools Required</u>
II F1-North Branch Lake	1690	1183	2
Gaith.-Wash. Grove, Comm. A - Emory Grove ¹	2034	1424	2
Gaith.-Wash. Grove, Comm. B - Redland	450	315	1
II G - West Olney ²	2000	1400	1
II H - Bowie Mill	1250	875	1
Laytonville, Comm. A- South Laytonville	1200	840	1

¹Also partially served by Wash. Grove & Longview Elementary.
A new 24 classroom school plus a 12 room addition to Longview
would adequately serve the community.

²One facility, Olney Elementary, already provided. Other new
facility will be on Cashell Road.

Secondary

Existing Schools

At present the entire watershed is serviced by junior and senior
high schools located outside of the study area.

The Board of Education's 30 acre site on existing Muncaster Mill
Road (P-7) just west of Rock Creek is recommended as a dual purpose site -
for an elementary school (previously discussed) and a junior high school.

Recommendations for 1980

The 9,000 dwelling units planned for by 1980 could yield an enroll-
ment of 2200 - 2300 secondary school students.

In addition to the junior high school recommended on the 30 acre
site now owned by the Board, an additional 30 acre site for a combined
junior-senior high school (which might later revert to senior only) is
proposed on the east side of Muncaster Mill Road (A-2) just south of its
intersection with Needwood Road.

Another junior high school will ultimately be needed in the Olney
satellite community area. No site has been selected in the study area.

Park and Recreation Areas.

The recommendations in this plan deal with the delineation of boundaries for the completion of Rock Creek as a stream valley park. The extension of Rock Creek Park north from Norbeck Road to the proposed dam sites comprises an area of approximately 300 acres. North of Southlawn Lane the park taking lines comprise an area of 1400 acres bordering the main stream of Rock Creek. The park line was expanded to the west in this area, providing a large regional park adjacent to the impoundment area to be created by the proposed dam. The park lines established along the North Branch of Rock Creek east of Avery Road comprise an area of 900 acres. In its entirety the total area proposed for park land is nearly 2,600 acres. With the exception of the proposed regional park area, the stream valley park lines have been set in compliance with Capper-Cramton standards. With or without the flood control projects these lines should be considered as being minimum in most areas.

Due to the open type of development proposed in this area, no local recreation centers are suggested in this plan at the present time. Such needs can be met through the use of proposed school facilities and developed portions of the stream valley system.

From the preliminary development studies prepared by the Department of Parks it is apparent that the principal value of these parks, in addition to providing open space, will be the advantages they will offer in relation to the flood control projects. The dams, besides giving protection to residences and park land downstream, will provide Montgomery County with two large inland bodies of water which will have immense recreational value. These lakes will have a county-wide attraction and should not be regarded as being important only to the Rock Creek Watershed. A unique feature of this flood control project is that it marks the first time such a project has been planned in an urban area anywhere in the United States.

The greatest problem facing us now is land acquisition. Serious consideration should be given to the application of new techniques for preserving this open space since outright purchase of the land would be very costly. The establishment of an "open space" zone for park land as well as other public land would be very desirable. It may also be desirable to purchase land development rights on all land within the park lines as a first step. This would protect the land from development until such time as the Commission can purchase those parcels on which intensive use or active recreational features are planned. Such a program should, however, provide for a degree of tax abatement to the owner until outright purchase is made.

ROCK CREEK WATERSHED

Proposed Zoning Plan

LEGEND

- R-A
- R-E
- R-R
- R-90
- C-1
- I-1
- I-3



