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Engineering · Surveying · Land Planning

A MASTER PLAN
FOR THE
TAMARACK PARK SITE

For Park And Recreational Uses

Prepared For

The Fairfax County Park Authority
Annandale, Virginia

By

Long and Rinker
Fairfax, Virginia

LONG AND RINKER
Engineering - Surveying - Land Planning

RICHARD W. LONG
JACK E. RINKER

4041 UNIVERSITY DRIVE
FAIRFAX, VIRGINIA 22030
TELEPHONE: 273-7830

CHRISTOPHER W. BROWN

May 26, 1976

Mr. Louis A. Cable
Assistant Director
Fairfax County Park Authority
4030 Hummer Road
Annandale, Virginia 22003

Dear Mr. Cable:

The attached masterplan report and accompanying graphic plan present our recommendations for the future development of the Tamarack Park site. Should any questions arise concerning the plan or report, please feel free to contact us.

We appreciate the opportunity of working with you and the planning staff on this project.

Very truly yours,



Richard W. Long

RWL/lgw

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I. OBJECTIVES AND SCOPE

This study and master plan for the development of Tamarack Park was prepared for the Fairfax County Park Authority. It represents an initial stage in the process by which the Tamarack site might be improved for utilization as a community-serving recreational facility. This report provides a review of the information gathered in the course of a study of the proposed park site, an analysis of the site's suitability for alternative uses, and a series of recommendations pertaining to the utilization of the site as a park facility.

II. STUDY INFORMATION

A. SITE LOCATION AND BACKGROUND

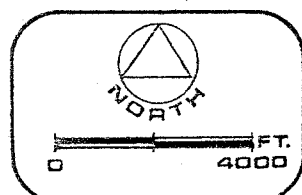
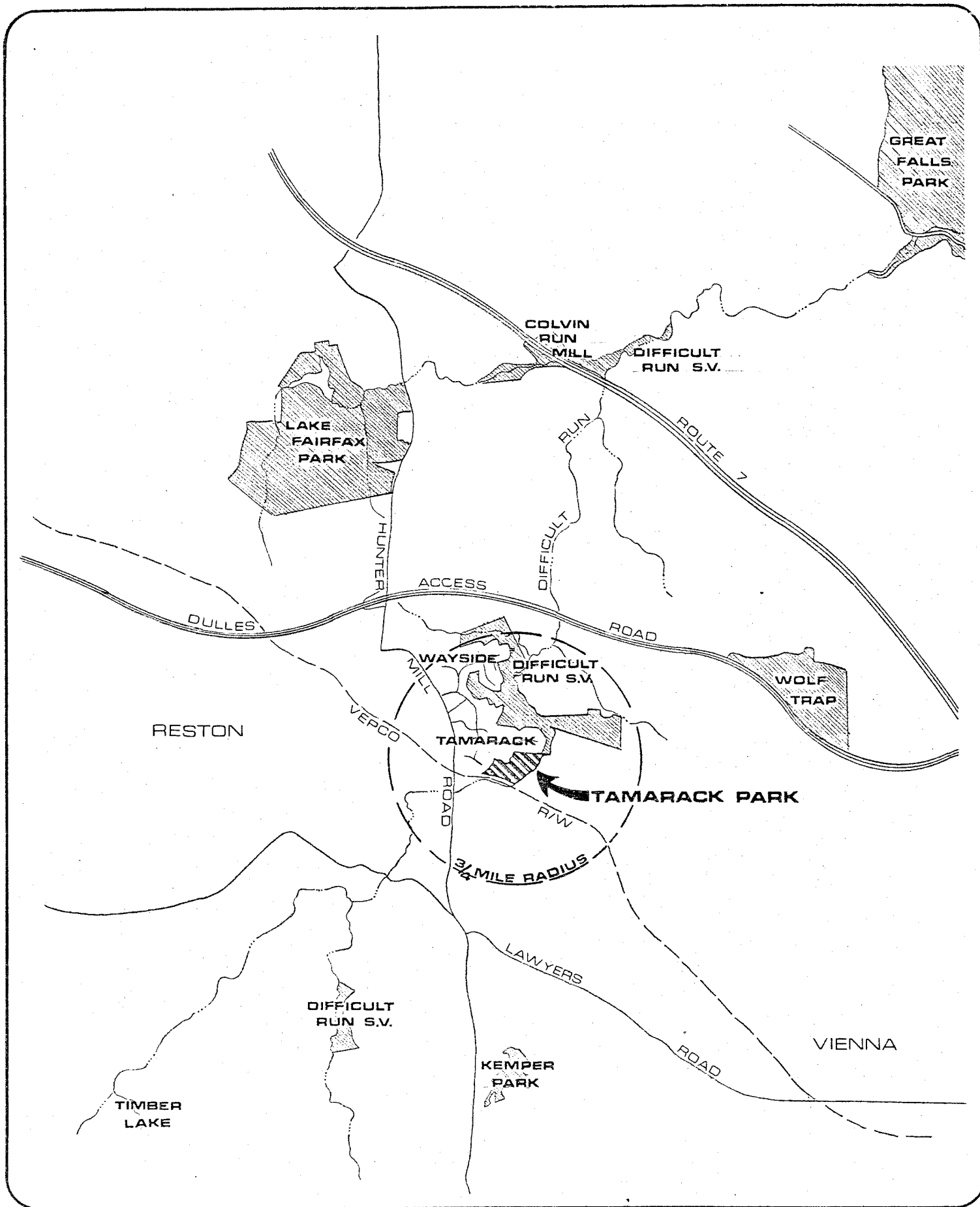
The subject site, comprising 20.85 acres, is located in the north-central portion of Fairfax County, Virginia. It lies adjacent to the Difficult Run, being located to the west of this stream, and is a part of the Difficult Run Stream Valley Park. The lands which make up this portion of the Stream Valley Park were deeded to the Fairfax County Park Authority in conjunction with the subdivision of three residential developments - Tamarack, Wayside, and Clark's Crossing. The subject site is a part of the open space contributed by the Tamarack Subdivision, and is immediately adjacent to this single-family residential community.

As further development occurs along the Difficult Run, additional stream valley lands will be dedicated to public use. The Park Authority already owns several additional parcels along the stream valley, and Fairfax County Comprehensive Plans for Planning Areas II and III recommend the preservation of open space areas along the entire stretch of the Difficult Run. Hence, the subject site represents a part of a future linear network of open space and park land running generally north-south through the central part of the County.

B. USES AND CHARACTERISTICS OF SURROUNDING LANDS

The Difficult Run forms the eastern boundary of the site, with the lands on the opposing side of the stream currently undeveloped. The single-family lots of the Tamarack Subdivision bound the site to the west and north, with the remaining portion of the Difficult Run Stream Valley Park lying to the north of the subject site.

The former right-of-way of the Washington and Old Dominion Railroad runs adjacent to the southern boundary of the site. Currently owned by the Virginia Electric and Power Company, it is being utilized as a route for overhead electric transmission lines. Difficult Run curves westward on the south side of this right-of-way and runs parallel to the right-of-way along its southern edge. Hence, the land area directly south of the subject site will also remain as open space even if development occurs in this vicinity.



TAMARACK PARK SITE

Location Map
Showing Existing Park and
Public Open Space Lands in Vicinity

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C. CHARACTERISTICS OF THE SUBJECT SITE

The land is very flat over the majority of the site. It rises at a rate of about 1% from an elevation of approximately 216' in the vicinity of the stream to an elevation of approximately 225' along the western boundary of the site, across a distance of approximately 700'. The 100-year flood plain limit is at elevation 225, and the 25-year flood limits are only two feet lower. About 95% of the site area is within the limits of the 100-year flood plain and most of the site is subject to recurrent flooding. A small area along the northern boundary of the site lies above the flood plain elevation, but contains slopes of 15% and greater.

The natural characteristics of the land vary through several relatively distinct phases as one moves from east to west across the site. Mature hardwoods dominate the area immediately adjacent to the stream. There is considerable evidence of water flow throughout this area, and the undergrowth is littered with water-carried debris. A younger growth area exists to the west, extending to approximately the middle of the site. This area is characterized by dense stands of small red maples and river birches. A definite wet area parallels the western side of this portion of the site. Still further to the west, shrubs are the dominant growth. Ranging up to 6' to 8' in height, this shrub growth consists largely of box elder, with an undergrowth of greenbriar and rose bushes. Between this shrub area and the western boundary, the site is largely open. This area is composed primarily of grasses, with scattered field juniper. Here, the ground is generally firm, but damp - although there is no evidence of standing water.

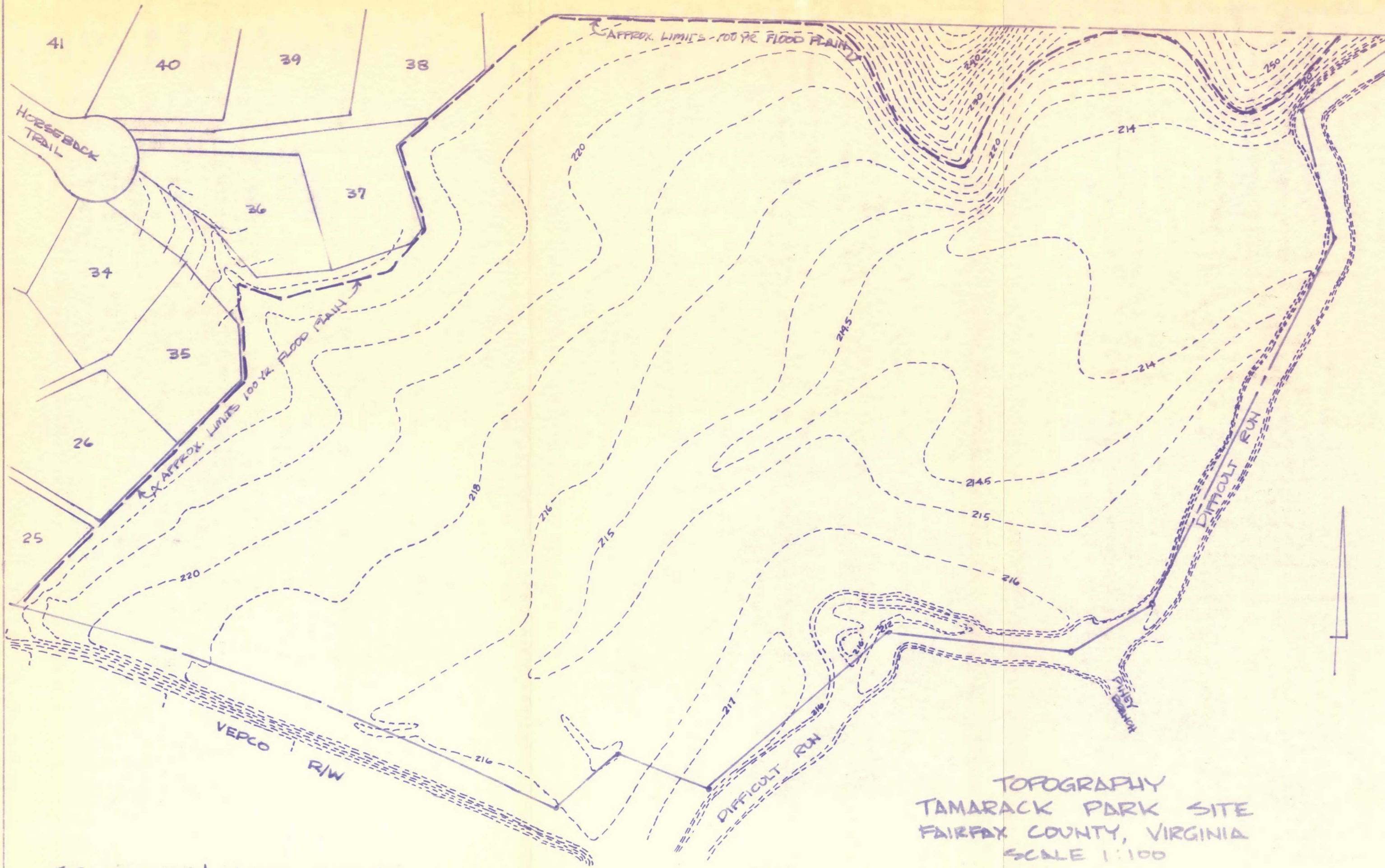
With this range of relatively distinct growth phases across the site, this area is clearly in a transitional, or successional, stage and represents a very good example of wilderness growth phases. However, it is a constantly changing environment, and it would not remain as it is today without management.

From an aesthetic viewpoint, the site would not be generally considered to have any great appeal. While those who recognize its attributes as a transitional growth area or a wildlife habitat might find it a pleasing area, the general public would probably find little in the way of aesthetic attraction.

Note: Many of the observations in this section were derived from a report by Mr. Robert Dittrick, a district naturalist with the Fairfax County Park Authority.

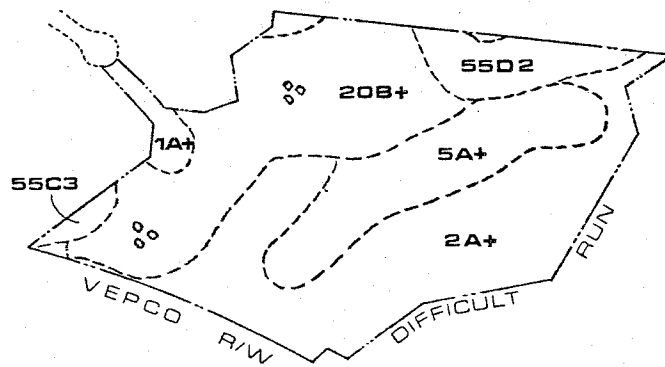
D. SOILS

The predominant soil areas on the site consist of Meadowville Silt Loam,




TOPO. BY COOK & MILLER, JUNE 1971

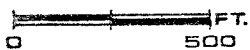
TOPOGRAPHY
TAMARACK PARK SITE
FAIRFAX COUNTY, VIRGINIA
SCALE 1:100



<u>SYMBOL</u>	<u>SOIL TYPE</u>	<u>SLOPE</u>	<u>EROSION</u>
1A+	Mixed Alluvial Land	0-2%	Soil Accumulation
2A+	Chewacla Silt Loam	"	"
5A+	Wehadkee Loam	"	"
20B+	Meadowville Silt Loam	2-7%	"
55C3	Glenelg Silt Loam	7-14%	Severe
55D2	" " "	14-25%	Moderate

 Indicates Gravel



 FT.
500

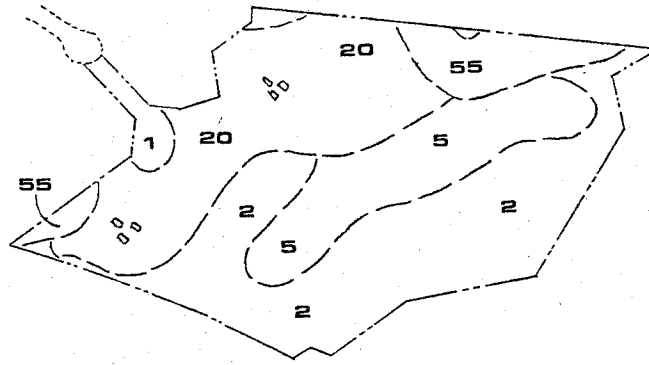
SOILS MAP

TAMARACK PARK SITE

Source: Fairfax County Soils
Maps & Surveys

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SYMBOL	SHRINK-SWELL POTENTIAL	SUITABILITY OF SOIL FOR:		
		USE AS A SOURCE OF:		FOOTINGS FOR DWELLINGS
		TOPSOIL	ROAD FILL	
1	Variable	Unsuitable	Variable	Unsuitable
2	Low	Good	Fair to Good	Unsuitable
5	Low to Moderate	Unsuitable	Poor	Unsuitable
20	Low	Good	Fair	No Unfavorable Features
55	Low	Good	Poor to Fair	



0 FT.

ENGINEERING
CHARACTERISTICS OF SOIL

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Wehadkee Loam, and Chewalla Silt Loam. The latter two soil types are characteristically found in flood plain areas and, along with Meadowville Silt Loam, characteristically have a high water table.

Other soils present on the site are Manor Silt Loam, Glenelg Silt Loam, and mixed Alluvial Land. This latter type is also characteristically found in flood plain areas, while the first two types are generally found in steep slope areas and are highly erodible.

E. UTILITIES

1. Sanitary Sewer: The site is within the Difficult Run sewer shed, which is served by the Blue Plains Treatment Plant. If required, any facilities on the site could be sewerred to the trunk line which runs along the opposing side of the stream.
2. Water: There is an 8" water line located in Horseback Trail in the Tamarack Subdivision. If required, this line could be extended to provide service on the site.

F. ACCESS

The primary access to the site from the adjacent Tamarack Subdivision is by way of a 50' wide strip leading from a cul-de-sac on Horseback Trail - a public street within a 50' right-of-way. This access way could accommodate both vehicular and pedestrian access, if required. Secondary access is available via a 10' access strip leading from Mountington Court.

G. EXISTING AND PLANNED RECREATIONAL FACILITIES IN VICINITY

The nearest existing public park facility is Lake Fairfax Park, located approximately $1\frac{1}{2}$ miles north of the subject site. This is a major County park, providing a range of recreational opportunities which includes boating, fishing, camping, nature trails, picnicking, and swimming.

Kemper Park, a smaller County facility, is located approximately two miles south of the site. This park provides opportunities for picnicking, general recreation, and tennis.

Timber Lake, a private recreational facility, is located approximately $3\frac{1}{2}$ miles southwest of the site. The primary activity offered is swimming. It is open to the general public on a fee basis.

The Area III Comprehensive Plan makes no recommendations regarding additional park land acquisition in the vicinity of the site, with the exception

of the recommendation that the stream valley areas be preserved as open space. Hence, the major recreational facilities that will serve this area are either currently in place or sufficient land has already been acquired to accommodate these needs as they are currently projected.

The Fairfax County Trail Plan has particular relevance to the subject site. The following major trail systems are planned to either pass through or close to the site:

1. VEPCO Right-Of-Way: A major bicycle trail is planned to run along the VEPCO right-of-way, adjacent on the southern side of the site. Planned by the Northern Virginia Regional Park Authority, this trail would ultimately be forty miles in length, running from the Potomac River to the Blue Ridge Mountains. Although portions of this trail have already been constructed within the City of Falls Church and the Towns of Herndon and Vienna, implementation of the remainder of the trail construction appears to be currently suffering from a lack of available funds.
2. Difficult Run Stream Valley: A second major trail system is planned to follow the Difficult Run Stream Valley. As currently proposed, this system will be composed of bridle, hiking and, possibly, bicycle trails. If a bike trail is to be included in this system, it would have to be located away from those areas which flood most frequently in order to keep the potential for damage to the paved surface to a minimum. In any case, the bicycle and/or pedestrian trail should be separated from the bridle trail - possibly by placing these two systems on opposite sides of the stream.
3. Hunter Mill Road: A third trail is planned to run adjacent to Hunter Mill Road, just to the west of the subject site. This would be a general purpose trail, and would provide for pedestrian and bicycle access along the alignment of Hunter Mill Road.

H. USER DEMANDS

The existing residential development in the vicinity of the site consists exclusively of single-family detached housing. The land use and density recommendations of the Comprehensive Plan indicates that this will be a continuing pattern of development in the area, with an average density of under one dwelling unit/acre. Hence, park and recreational needs will have to be evaluated within the context of this housing type, the densities proposed, and the resulting character of the area.

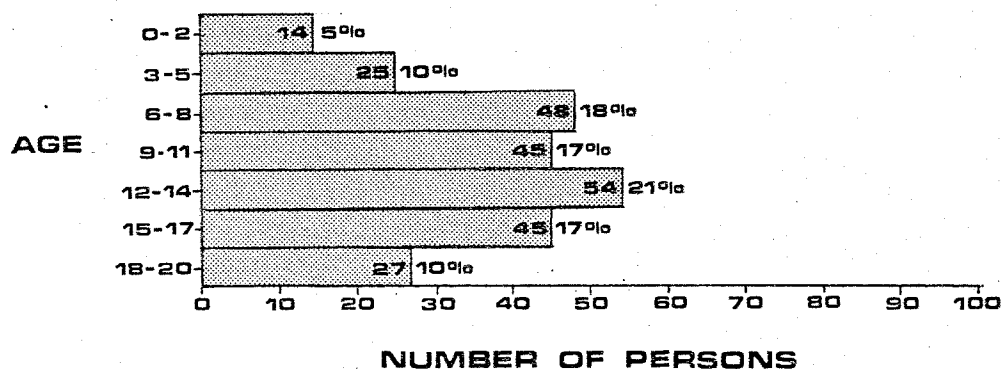
As a preliminary element of this study, the Fairfax County Park Authority submitted questionnaires to approximately 300 families in the area,

primarily residents of the Tamarack and Wayside Subdivisions. A total of 101 completed forms, or 30% of those sent out, were returned. The following provides a summary of information gained from this opinion survey:

1. User Profile: Of the 101 families responding, only one did not provide sufficient information to tabulate family size. The remaining 100 families represented a total of 481 persons. The following table shows the age distribution of this population as reported on these questionnaires:

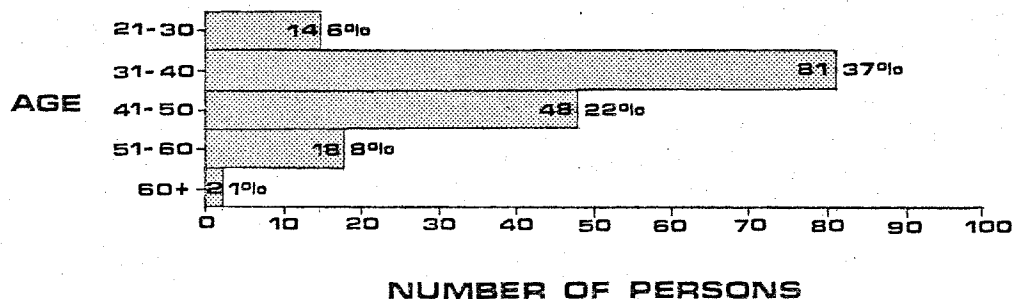
TABLE I: Age distribution represented by families responding to Tamarack Park questionnaire, 1976.

A. Youths, age 0 through 20. (Total: 262 persons)



1. Median Age : 11
2. No specific age was reported for four individuals within the youth category.

B. Adults, age 21 and over. (Total: 219 persons)



1. Median Age: 39
2. No specific age was reported for 56 individuals within the adult category.

If we may assume that the respondent families are typical for this area, we can arrive at some generalizations concerning the potential users of any park facilities in this area:

- a. Household Size: The average household size (4.8 persons/household) is significantly higher than the county-wide average for single-family housing (3.57 persons/household).
- b. School Age Population: The school age population (assumed as ages 5 through 18) totals at least 209 persons, or 2.09 students per household. This is almost double the county-wide average ratio of 1.057 students per household for single-family units.
- c. Youth Population: The youth population tends to be slightly weighted toward the pre-teen and teenage years. Almost 55% of the total youth population is between the ages of 9 and 17.
- d. Adult Population: The median age among the adult population is 39, with almost 37% of the total adult population falling within the range of 31 to 40 years of age.

It would appear that the typical family is relatively young, but well-established. While family size is larger than average, most of the children are well on their way to maturity. Consequently, there is a need to place emphasis on the recreational needs of the pre-teen and teenage years as well as the young and middle-adult years in determining the park and recreational requirements for the area.

2. User Preferences: The questionnaire afforded the residents an opportunity to express their preferences concerning the use of the site for park and recreational purposes. Of the 101 families responding, 83 families (82%) favored some type of developed use of the site, while 18 families (18%) did not want any type of developed use.

The following table provides a listing of the choices which were offered on the questionnaire and the responses to each choice.

FAIRFAX COUNTY PARK AUTHORITY
P.O. BOX 236
4030 HUMMER ROAD
ANNANDALE, VIRGINIA 22003

TAMARACK PARK QUESTIONNAIRE

The Fairfax County Park Authority is about to begin planning for the future development of Tamarack Park, a 20 acre site in the Difficult Run Stream Valley.

As a potential user of this park, we are interested in your ideas on how it can be developed to provide the type of recreational experience you and your community desire.

If you are interested in assisting us in the planning process, please respond to the questions below and return this questionnaire to the Park Authority by January 30, 1975.

All suggestions will be considered in planning the park and a public hearing will be held before the final adoption of the master plan by the Park Authority.

1. Your name and address _____

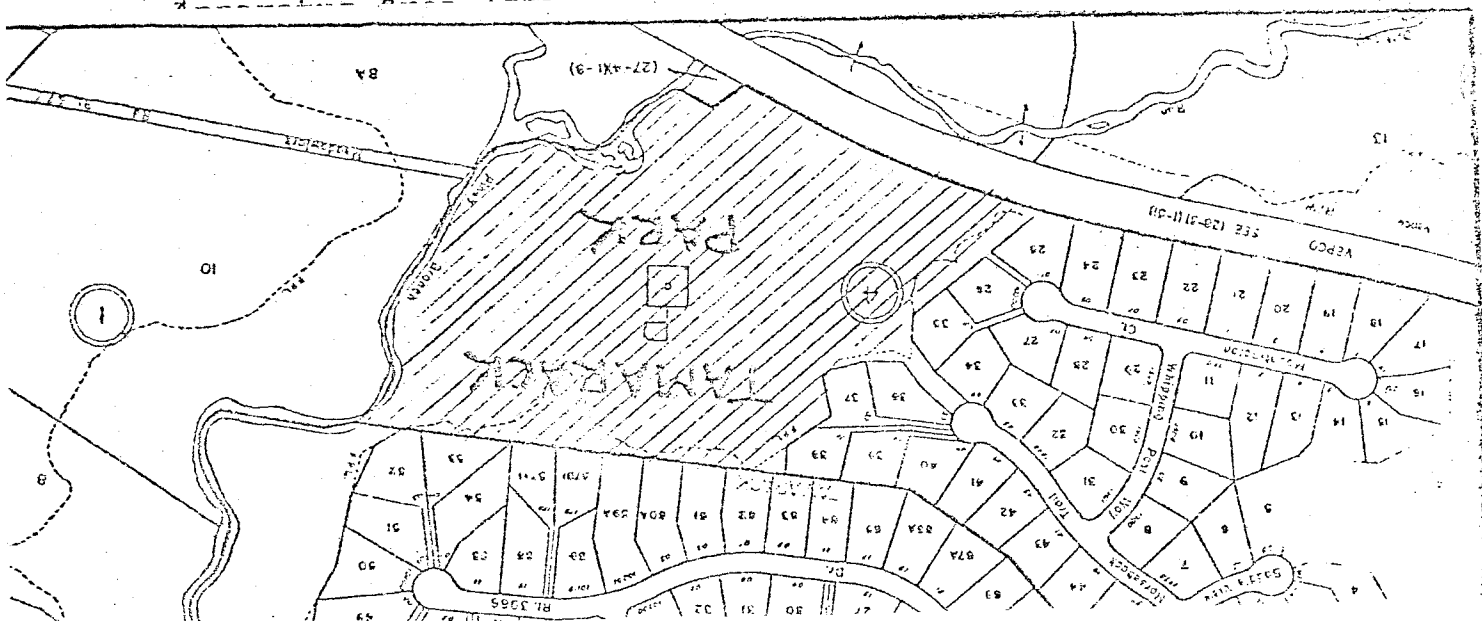
2. Number of persons in family
and their ages _____

_____/_____/_____/_____/_____/_____/_____/_____/_____

3. Which of the following facilities would be desirable in this park and be most used by you and your family?

Yes

No



5. Do you have any other ideas or suggestions that we should consider in planning this park?

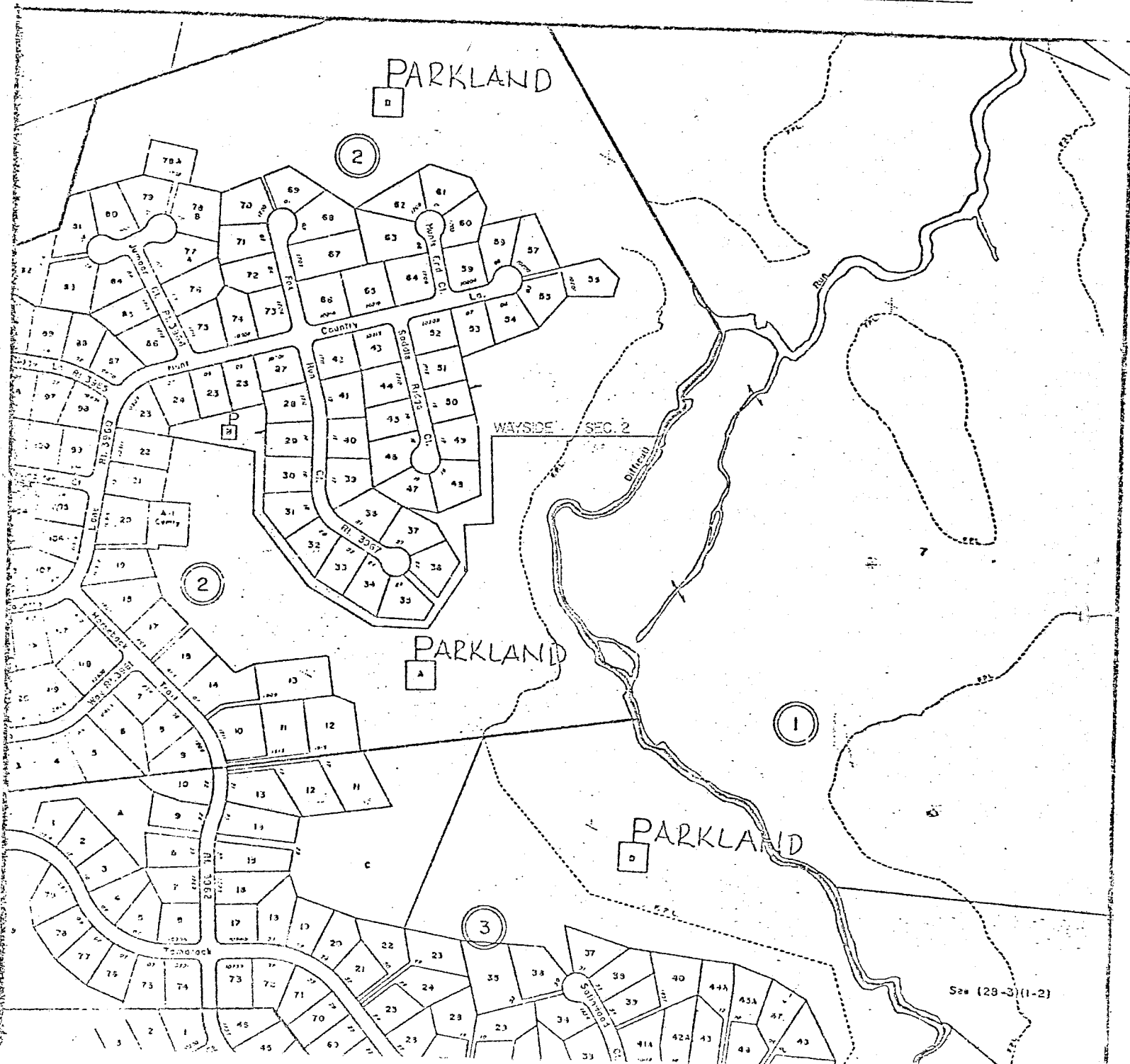


TABLE II. Responses to alternative uses and facilities proposed for Tamarack Park as reported on questionnaires completed by residents of the area, 1976.

<u>Facility Or Use</u>	<u>Number of Families Responding</u>			<u>Demand Rating*</u>
	<u>For</u>	<u>Against</u>	<u>No Opinion</u>	
Bicycle Trail	73	21	7	+5.15
Tennis Courts	71	29	1	+4.26
Nature Trail	62	25	14	+3.66
Open Play Fields	55	26	20	+2.87
Nature Area	51	27	23	+2.37
Multi-Use Courts	53	30	18	+2.27
Baseball and Football Fields	55	34	12	+2.08
Picnic Area	47	37	17	+0.99
Apparatus Area (children 6-12)	40	47	14	-0.69
Horseshoe and Shuffleboard	27	48	26	-2.08
Tot Lot (Pre-School)	18	53	30	-3.47

*The demand rating provides a relative measure of the intensity of favorable versus unfavorable opinion with regard to each alternative use. The rating is on a scale of +10 to -10. A rating of +10 would indicate unanimous approval; a rating of -10 would indicate unanimous disapproval.

With the exception of the high preference for tennis courts, the residents appear to feel that any use of the site should be relatively low-profile. As would be expected, there is little demand for play areas for smaller children or for a developed picnic area. Rather, the emphasis is on trails and the natural attributes of the site.

3. Additional Demand Information: Another source of information pertaining to demand involves the uses which are currently being made of the site. While such uses do not involve any developed facilities or supervised activities, any currently informal use of the site is indicative of certain recreational needs or desires in the area. The site shows definite signs of current usage.
 - a. Mini-bikes or Trail Bikes: It is evident that the VEPCO right-of-way has been utilized by mini-bike and trail bike riders. This use has impacted the site because there is no bridge crossing where the right-of-way traverses the Difficult Run. To cross the stream, the riders have followed a trail on the subject site to a point where the stream may be crossed, returning to the right-of-way on the opposite side of the stream.

- b. Horses: It is also evident that horses have been ridden on the site, apparently for the same purpose as the trail bikes. The horse trail coincides with the trail used by the bikes, with the horses crossing the stream just slightly north of the point used by the bike riders.
- c. Hiking or Pedestrian Use: It is probable that this same trail is being utilized as a foot path. In fact, a definite foot path extends northward along the stream beyond the point at which the horses cross the stream.

While these three uses represent current utilization of the site which is clearly evident, there may be other, less evident ways in which the site serves the recreational and related needs of the residents in the area. Such uses are, of course, limited in scope, given the lack of any facilities on the site. Nevertheless, it should be noted that, even in an undeveloped and relatively natural state, the site does serve as a recreational resource. Additionally, for those whose lots back onto this open space area, it represents a different sort of asset, particularly in its currently natural state. The open area of the site may get some current utilization as a play field. However, in its existing state, it is not well suited to such use. The grasses are coarse and clumpy, and do not present a particularly inviting playing surface.

I. PUBLIC SCHOOL FACILITIES

There are no public schools within close proximity to the site. Neighborhood children attend Oakton Elementary School, located approximately four miles to the south of the Tamarack Subdivision. Several elementary schools in Reston are less distant, but still at least four miles away. The nearest intermediate and high schools are in Herndon and Vienna. Hence, the facilities of the public schools do not represent a convenient recreational resource for the residents of the area.

J. AVAILABILITY OF FUNDS

The Park Authority's 1975 budget allocated \$10,000.00 for the planning and development of Tamarack Park. An additional \$15,000.00 for this purpose is included in the Capital Improvements Program and is scheduled for appropriation in 1978 through a new bond issue.

III. CONCLUSIONS AND RECOMMENDATIONS

The location of this site provides two, somewhat different, dimensions to its possible use as a recreational and park facility. First, the site relates directly to the Tamarack Subdivision and should be utilized to meet any community-serving park needs which are appropriate to the site. Second, the site is located at the junction of two major planned trail systems, and it may derive a different role from this relatively strategic location. Our conclusions pertaining to the use of this site relate to each of these differing dimensions.

A. THE SITE AS A COMMUNITY-SERVING PARK

The following conclusions and recommendations pertain to the site's suitability and potential for serving as a community-serving park facility:

1. Conclusions: There is an apparent demand among the residents in the vicinity of this site for some form of active recreational facilities - particularly tennis courts. However, while there is a need for a community facility, the potential of this particular site is severely limited by the fact that it is almost entirely within the flood plain. The recurrent flooding of the site renders it unusable for most types of developed active recreational facilities - particularly tennis courts. Further, aside from the flooding problem, the characteristics of the site do not readily lend themselves to use as a community facility, except to the extent of providing an area suitable for an open play field and an opportunity for passive recreation. Even if the site were suited to more intensified uses, it suffers from a lack of direct access from a public street other than the local residential streets. This limits both the types and range of activities which could reasonably be provided in this location and the area that this park can serve.
2. Recommendations: It is recommended that this site be retained essentially in its natural state, with some minimal upgrading and improvements to allow its use as an active and passive recreational area. The grassy area of the site should be upgraded to provide a smoother playing field, and a backstop installed to allow the use of this area as an informal ball field. Additionally, a trail system should be provided adjacent to the stream, with connections to the VEPCO right-of-way and the Tamarack Subdivision. Supplemental

landscaping should be provided, where necessary, to buffer the active recreational areas from the adjacent residences.

While the relatively limited upgrading of this site will provide an opportunity for some recreational activities, there are other activities which cannot be accommodated on this site due to its limitation. Inasmuch as portions of the additional park land to the north of this site are outside the flood plain, a study might be made as to their suitability for some form of park development. However, it should be noted that these areas also suffer from poor access, a problem which might similarly limit their suitability for developed recreational use.

B. THE SITE AS IT RELATES TO THE PLANNED TRAIL SYSTEMS

The following conclusions and recommendations pertain to the site's relationship to the future trail systems along the VEPCO right-of-way and the Difficult Run:

1. Conclusions: Given the fact that the site lies at the junction of two planned, major trail systems, the site may have potential for use as a rest area or stopping-off point serving these trails. The site does appear to have some value as an example of a successful growth phase, and may be suitable for utilization as a point of interest along the trail systems.
2. Recommendations: It is recommended that, as part of the planning for the trail systems, this site be considered for possible use as a rest area. The site might also be assessed as to its potential as a nature and educational resource. While we do not feel that this potential is such that the public could be expected to go out of their way to come to the site, we do feel that this park land might function as a nature area in conjunction with the trail system. The establishment of a nature trail and informational signing program would allow the site to be a point of interest along the trail. This use would be enhanced if there were found to be a number of areas with differing natural characteristics or features at other points adjacent to the trails. This would allow the creation of a system of nature areas - each displaying a different natural phase or character - along the linear trail systems.

IV. IMPLEMENTATION

A. COST ESTIMATE

The following is an estimate of the nature and cost of the site improvements which will be required to implement the recommended Master Plan for development of Tamarack Park as a community-serving facility:

1. Ballfield -

a.	Rough grading of field (100, 000+ sq.ft.)	\$ 1, 200.00
b.	Fine grading of field, fertilizer and seeding (100, 000+ sq.ft.)	4, 500.00
c.	Backstop (20' x 10')	350.00
	Sub-Total:	\$ 6, 050.00

2. Trails -

a.	Asphalt walk, 6' wide (460 L.F.)	\$ 1, 104.00
b.	Asphalt walk, 4' wide (1360 L.F.)	2, 176.00
c.	Gravel trail, 4' wide (2430 L.F.)	3, 591.00
d.	Bridle trail, 10' wide (1050 L.F.)	1, 200.00
e.	Bridges (2)	1, 500.00
	Sub-Total:	\$ 9, 571.00

3. Landscaping, etc. -

a.	Landscaping:	
	Screening and specimen trees	\$ 3, 700.00
	Labor	5, 000.00
b.	Park entry signs (2)	500.00
	Sub-Total:	\$ 9, 200.00

	Total:	\$ 24, 821.00
	Plus engineering, fees and contingencies 20%	4, 964.20

TOTAL: \$ 29, 785.20

Notes:

1. Cost estimates are based on current information of record.
2. No earthwork analysis has been performed, and the estimate of grading costs assumes an earth balance on the site.

B. COSTS VS. BENEFITS

To the extent possible, the anticipated costs of the facilities should be weighed against the benefits that the facilities might provide. While it is an easy matter to attach a quantitative value to cost, it is not so simple to do so with regard to benefits. The closest we might come to such a value is an estimate of the potential ultimate demand for, or interest in, the facilities which are recommended for Tamarack Park. While this estimate is necessarily based on a number of assumptions, it can provide a measure of potential demand and use against which the costs may be evaluated.

As a community-serving facility, Tamarack Park would serve as a recreational resource for area residents within approximately 3/4 mile of the park. Currently, there are upwards of 300 families residing in this proximity. If future development occurs in accordance with the density recommendations of the master, an ultimate population of 500 to 700 families would reside within 3/4 mile of the park. Allocated against this future pool of users of the facility, the \$30,000.00 cost of developing the park breaks down to approximately \$43.00 to \$60.00 per family.

In the opinion survey presented earlier, approximately 73% of the respondents expressed a preference for development of a bike trail in the park. Assuming that this represents a measure of anticipated use of a bicycle trail and projecting this percentage over the ultimate population, we might estimate that ultimately 365 to 511 families in the vicinity of the park will make some use of a bicycle trail at one time or another. Allocated against this potential pool of users, the \$9,600.00 cost of developing the total trail system within the park would be approximately \$19.00 to \$26.00 expenditure per family.

If we take the 55% of respondents who expressed a preference for a ball field and project this value onto the future population, it may be estimated that ultimately from 275 to 385 families residing in the vicinity of the park will have an interest in utilizing a ball field at one time or another. The \$6,000.00 cost expenditure of developing the ball field then breaks down to approximately \$16.00 to \$22.00 per family.

In conclusion, in terms of the projected population which this park would serve and the anticipated demand for the facilities which would be provided, the costs do not appear to be disproportionate or excessive.

C. PHASING

It is recommended that the following order of priorities be established for the proposed improvements:

Phase One: The first stage improvements should consist of the ball field and that portion of the walk system in the open area of the site. Specific improvements recommended for Phase One are as follows:

- 6' Entry Walk
- 4' Asphalt Walk
- Play Field improvements
- Screening Plant materials
- One Bridge

Phase Two: The second phase should provide those improvements which are necessary to continue the trail system in the vicinity of the creek, as well as the completion of the landscaping. The specific items recommended for inclusion in Phase Two are:

- 4' Trail
- One Bridge
- Specimen Tree landscaping

Phase Three: The remainder of the recommended improvements may be completed in Phase Three:

- Bridle Trail
- Trail connections to VEPCO right-of-way and F.C.P.A. lands to the north of the park

This phase should coincide with the development of the planned major trail systems along the VEPCO right-of-way and the Difficult Run.

D. MAINTENANCE COSTS

The following provides an estimate of the annual maintenance costs associated with the recommended improvements:

Play area/ ball field	\$ 870.00
Walk/bicycle trail system	1,030.00
Bridle trails	255.00
Landscaping	500.00
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TOTAL:	\$ 2,655.00

Maintenance cost estimate is provided by the maintenance staff of the Fairfax County Park Authority based on past experience.

