

COLUMBIA LIBRARIES OFFSITE

EVERY FINE ARTS RESTRICTED



AR01409468

Preservation OF NATURAL FEATURES AND SCENIC VIEWS IN NEW YORK CITY

L1



Ex Libris

SEYMOUR DURST



FORT NEW AMSTERDAM (NEW YORK), 1654



When you leave, please leave this book
Because it has been said
"Ever'thing comes t' him who waits
Except a loaned book."

OLD YORK LIBRARY — OLD YORK FOUNDATION

AVERY ARCHITECTURAL AND FINE ARTS LIBRARY
GIFT OF SEYMOUR B. DURST OLD YORK LIBRARY

preservation OF NATURAL FEATURES AND SCENIC VIEWS IN NEW YORK CITY

THE CITY OF NEW YORK
ABRAHAM D. BEAME, *Mayor*



NEW YORK CITY PLANNING COMMISSION
John E. Zuccotti, *Chairman*

NOVEMBER 1974

NYC DCP 74-08-A

OFFICE
QH
10.5
.N7
1143
774

**PRESERVATION OF NATURAL FEATURES
AND SCENIC VIEWS** is dedicated to the late
Samuel Joroff, AIP, former Deputy Director of the
Staten Island Development Office whose vision and
concern were responsible for launching the studies
leading to this report.

This report was prepared by the Department of City Planning based on a draft submitted by the consultant firms of:

Clarke and Rapuano, Inc.	Haines Lundberg & Wachler
Consulting Engineers & Landscape Architects	Division of Regional and Community Planning
830 Third Avenue, New York, New York 10022	2 Park Avenue, New York, New York 10016

The consultant contract was jointly sponsored by The Mayor's Office of Staten Island Development and the New York Department of City Planning

CONTENTS

Introduction	1
Chapter I. Recently Developed Conservation Techniques in the United States	7
A. Directing New Development to Conform to Natural Areas Preservation Concepts	7
1. Public Works Policies and Programming	7
2. Large Lot Zoning	8
3. Institutional Development Controls	8
4. Special Police Power Regulations	8
B. Acquiring and/or Designating Natural Areas For Preservation and Public Usage	10
1. Planned Unit Development (P.U.D.)	10
2. Transfer of Development Rights	11
3. Open Space Dedication or Cash-in-Lieu Contributions	13
4. The Property Development Tax	14
5. Special Assessment Districts	14
6. Easements	14
7. Donations	15
8. Public Acquisition; Aid Programs	16
9. Use of Existing City-Owned Land	17
10. Protecting Large Natural Areas—Special Problems and Potentialities	17
11. Summary	18

Chapter II. Organization for the Conservation of Natural Areas in New York City	19
A. An Interagency Environmental Policy Board	19
B. Conservation Councils	20
C. The Land Trust—Natural Area Conservation Through Private Action	21
D. Summary of Findings and Recommendations	22

Chapter III. Proposed Special Zoning Regulations	23
A. Protection of Natural Areas	23
1. Natural features classified	23
2. Preservation concerns	23
3. Plan review procedures	23
4. Guidelines for natural feature protection	24
5. Modification of underlying district regulations	24
6. Special provisions for planting	24
7. Maintenance	24
8. Public use	24
9. Variety of possible preservation approaches	25
B. Scenic View Protection	25
APPENDIX A.	28
Proposed Natural Area District	
APPENDIX B.	30
Proposed Natural Area Zoning Text	
APPENDIX C.	52
Scenic View District	
APPENDIX D.	54
Scenic View Zoning Text	



"Looking Eastward from Todt Hill with the Vanderbilt Farm in the Valley" 1895 by Jasper F. Cropsey 1823-1900 Staten Island Institute of Arts and Sciences

INTRODUCTION

New York City has natural features of great beauty and areas that offer spectacular views. Increasingly, however, these are threatened.

The rock cliffs of Manhattan's Fort Tyron Park and the tidal marshes of Udall's Cove in Queens have been preserved as City parkland. Most of Jamaica Bay has recently gained permanent protection as part of the Gateway National Recreation Area. Many other natural features remain in private ownership, however, and are subject to varying development pressures.

Staten Island provides a vivid example of how rapid new development can encroach upon natural resources. The Island's physiography—of environmental and scenic importance because of its north-south spine of serpentine ridges, their rock escarpments, creeks and marshy basins and the abundance of ponds and wooded slopes—remained largely unchanged as a result of the Borough's relative isolation from the rest of the City until 1964, when the Verrazano-Narrows Bridge was built. In the wake of subsequent development—mostly of detached and semi-detached housing—ponds have been filled, streams have been diverted, stands of trees have been leveled, hills have been scarred, and views have been blocked. As a result, the environment has suffered and problems of erosion and flooding have increased. It is only through eleventh hour campaigns that such unique areas as the High Rock Girl Scout Camp and Sailor's Snug Harbor have been spared.

The development pressures on open land areas in the City will continue to threaten the remaining privately held natural areas and many outstanding scenic views. The sprawl of "spread city" that stretches far beyond the City limits into Nassau,



Arbutus Lake

Suffolk, and Westchester Counties and the States of Connecticut and New Jersey is now rapidly filling in the smaller, bypassed pockets of vacant land within the City itself. Without a program for their preservation, natural areas and scenic views could be destroyed by ongoing urban development.

For this reason, the Department of City Planning and the Office of Staten Island Development asked the consultants—Clarke and Rapuano, Inc. and Haines Lundberg & Wachler—to undertake a study to establish ecological and aesthetic criteria for preserving natural features and scenic views and to

develop the tools necessary for their preservation.

The Work Program

This report represents the end step in a work process focused on developing an approach and an implementation program for environmental preservation for urban areas under intense development pressure. We had to follow the City's instructions to find ways of accomplishing this with minimum demands on scarce public funds. The work program can be explained briefly as follows:



- The first step was to inventory and analyze the various types of environmental opportunities and problems of the Staten Island Greenbelt. The Natural Area Inventory Map of the Greenbelt appears on pages 4 and 5.

- The second step consisted of reviewing environmental preservation approaches and techniques elsewhere in the country and evaluating the validity of their use in the City of New York. Major emphasis was placed on finding techniques which do not involve public ownership and require minimum public expenditures including acquisition of conservation easements or other less than fee interests and programs of private philanthropy.

At the end of the second step several interim conclusions were drawn:

- Natural features and scenic views can be protected by a program with adequate implementation machinery.

- No single technique should be adopted to the exclusion of other viable approaches. Various techniques used in combination, including private and public programs constitute the optimum approach.

- A conservation program should evaluate, identify and locate the natural features or scenic views to be protected. The individual feature selected may be unique in itself, whether for its scientific or educational interest, its natural beauty or for the recreation it affords. Or it may have importance as part of a system, such as an ecosystem or a public recreation system.

- In all cases the importance of natural areas or features should be considered in terms of potential competing uses and of the resources available for the features' protection.

- Next, a great deal of thought and effort was devoted to how old laws might be adapted to new awarenesses and purposes. New zoning approaches were developed for preserving natural features and scenic views by means of special purpose zoning districts—A Special Natural Area District and a Special Scenic View District. Special controls are included for the protection of large trees, for the prevention of hillside erosion, for protecting scenic views as well as preserving natural drainage systems and unique natural features. All developments which could potentially affect a natural feature were recommended to be subject to Planning Commission review of environmental and development plans. In order to facilitate the preservation of natural features, a greater degree of flexibility in terms of yard requirements and housing types is proposed to supercede the underlying zoning district regulations.

- The next step was to evaluate what innovations

in government structure were required in the organization, planning and administration of a program of environmental conservation.

The following recommendations were made:

- The City Planning Commission and the Department of City Planning, because of their on-going responsibilities in comprehensive planning, including land use planning and zoning, should continue to have a central role in conserving the City's natural resources. This role should be strengthened in the future by improving the implementation techniques, strengthening staff resources and improving the framework for review of projects from the standpoint of their impact on natural areas.

The need for an interagency Environmental Policy Board should be considered with the responsibility of developing environmental policy and resolving policy conflicts among the agencies in matters affecting natural areas conservation.

To consider or initiate conservation proposals and provide expert technical assistance and advice in conservation matters, a Conservation Council should be created as an arm of the Mayor's Office and the Board of Estimate as permitted by existing State enabling legislation.

Land trusts and other private conservation efforts should be initiated or encouraged by the Conservation Council to supplement the City's conservation programs.

- Finally, the study findings lead to the central conclusion that a multiple approach is both desirable and necessary in terms of the recommended government organization and reorganization, the maximum use of private as well as public preservation programs of a non-zoning nature as well as the use of new and innovative special environmental

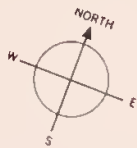
preservation zoning districts. The best combination of techniques will vary area by area depending upon the character of the natural area, the uses for which it is suited, the ownership pattern and the availability of financial resources of the City or private conservation organizations.

This report and its recommendations represent a new system for managing the City's natural environmental resources. Over time, this program can be applied to the wetlands and related natural areas throughout the City.



Sweet Brook, Near Ridgewood and Richmond Avenues.

NATURAL AREA INVENTORY MAP



1000 0 1000 2000 FEET

A. WETLANDS, BODIES OF WATER, WATER COURSES, ETC

- LOW TIDAL MARSH
- HIGH TIDAL MARSH
- UPLAND SWAMP
- PONDS AND IMPOUNDED WATER
- STREAMS, CREEKS, AND BROOKS
- SURFACE DRAINAGE SWALES
- MOIST FIELDS OR MOIST SCRUBLAND

B. FORESTS, WOODLAND, AND OTHER NATURAL VEGETATION

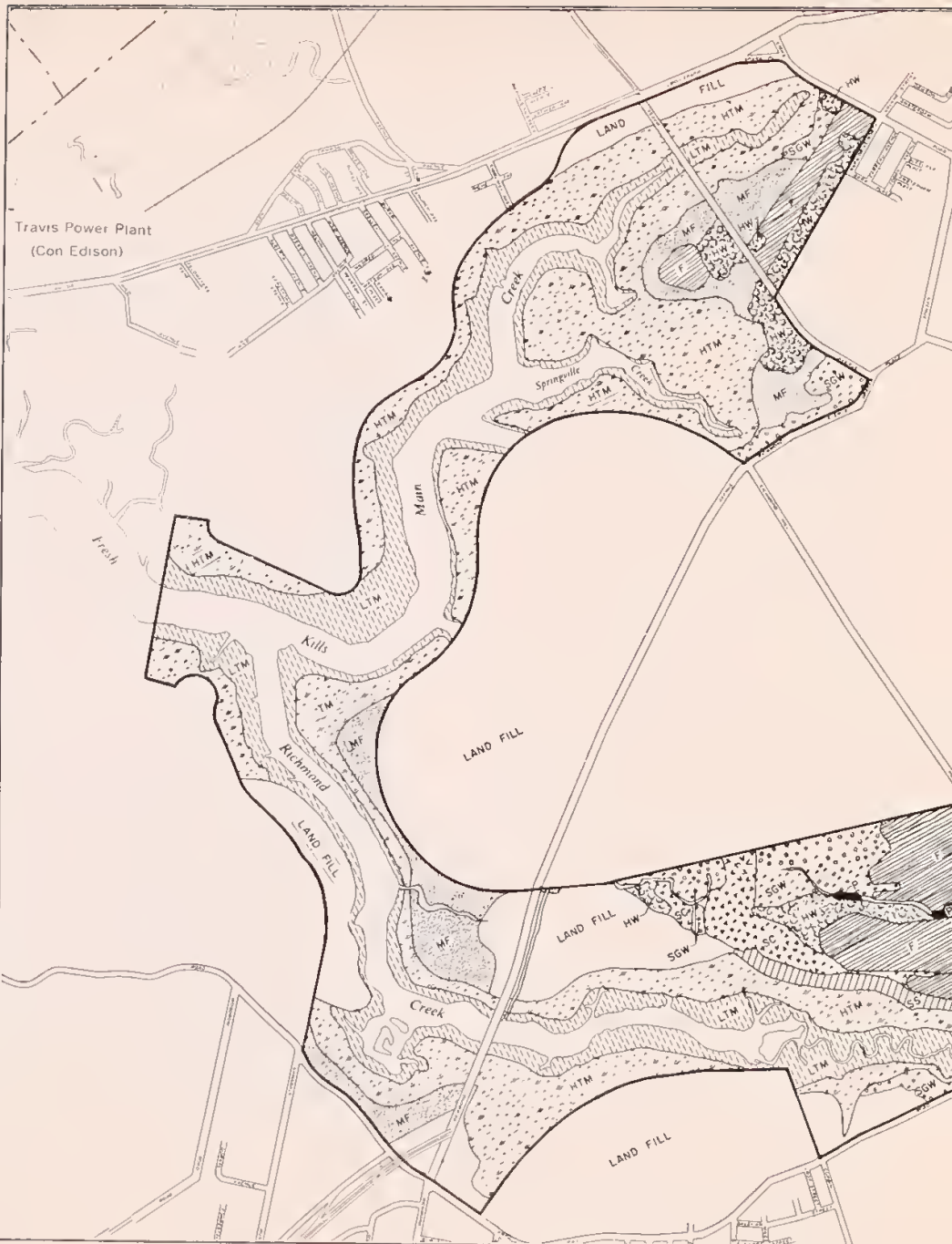
- HEAVILY WOODED UPLAND
- SECOND GROWTH WOODED UPLAND
- DRY SCRUBLAND
- DRY FIELDS, PASTURE, OR GOLF COURSE

C. TOPOGRAPHICAL FEATURES

- ESCARPMENT (SLOPES OVER 40%)
- STEEP SLOPES (GRADIENTS 25% - 40%)
- ROCK OUTCROPPING, GRAVEL PITS, MINES, ETC

D. SCENIC FEATURES

- OVERLOOKS & PROMONTORIES
- SCENIC VIEWS (HILLTOPS AND RIDGE LINES)
- HISTORIC LANDMARKS







Richmond Creek within Latouette Park.

RECENTLY DEVELOPED CONSERVATION TECHNIQUES IN THE UNITED STATES

The tools available for the preservation of natural areas and scenic views are many and varied. Most can be grouped into two broad categories: techniques for directing new development to conform to concepts of natural areas preservation and techniques for acquiring and/or designating natural areas for preservation and public usage. To a large extent, these devices are interdependent—indeed, many techniques discussed could have dual application. For example, the Planned Unit Development concept is equally useful in directing development and providing for open space in natural areas.

It is clear that no single approach should be adopted to the exclusion of all others. The character and maintenance needs of a natural area, its relationship to its environs and the uses for which it is suited, should establish the most appropriate kind of ownership. Usage and ownership, in turn, will determine what types of preservation techniques might apply in each case. Selecting the best technique or combination of techniques will further depend upon the availability of City or private resources.

It should be noted that many of the alternatives presented would require State or Federal enabling legislation, charter amendments, State bond issues or Federal funds. Alternatives requiring such action or funding could not be implemented immediately. Some of the other options, such as the special assessment districts, would depend on citizens willingly assuming an increased tax burden which could not realistically be expected in many cases.

A. Directing New Development to Conform to Natural Areas Preservation Concepts

1. Public Works Policies and Programming—The consultants believe it is important that design standards and policies for public utilities be adapted to the preservation concept. The following recommendations are made as policy guidelines for the various City agencies:

- *It is recommended that all utilities in Natural Area Districts be placed underground.* This would include primary and secondary electrical services, street lighting, telephone and fire alarm systems.

- *The layout and grading of new streets should be designed to follow the natural topography without excessive cuts or fills.* The following table suggests standards for new development in Natural Area Districts:

	Zoning Districts		
	R-1	R-2	R-3
Min. Street Width	30'	40'	50'
Min. Pavement Widths	20'	24'	34'
Paved Sidewalks	None	Optional	4' Widths
On Street Parking	None	None	1 Side
Off Street Parking	2 Spaces per Lot	1 Space per D.U.	1 Space per D.U.
Cul-De-Sac Length (Max.)	900'	600'	500'
Cul-De-Sac Turnarounds			
Min. Diameter (Paved)	80'	85'	90'
Min. Roadway Widths	20'	24'	24'
Max. Street Gradient	18%	15%	12.5%
Min. Street Gradient	0.5%	0.5%	0.5%
Min. Radii at Intersection			
Property Lines	12'	None	None
Pavements	17'	14'	12'



Grange Quarry—Van Pelt and Forest Ave.

In areas where legal streets have been adopted, the street plan as it affects the existing topography and natural features should be evaluated to determine whether the streets should be demapped with a new street change map substituted.

- *The routing of water and gas mains should be carefully studied to preserve the unique natural features of the district.* Consideration should be given to greater use of utility easements across private property. Water and gas mains within public rights-of-way should be designed around natural features worth preserving. Manholes, hydrants, valve boxes and other surface structures should be planned to meet the existing natural grade as close as possible.

- *Storm water trunk sewers should not be necessary in Natural Area Districts.* Wherever possible, surface drainage should be allowed to collect in natural water courses which should remain open and unobstructed. In certain instances some underground sewerage, catch basins, drain inlets and manholes may be required; but, these should be kept to an absolute minimum. The sewer pipes should open into natural drainage swales or creeks.

- *Public sewers should not be extended into areas which the City is attempting to preserve in their natural states.* Sanitary sewerage policies can directly influence the timing of developments. Cess-pools or septic tanks have been banned except on lots of 10,000 square feet or more, so that new development is now dependent on the extension of public sewer lines or the construction of private systems.

2. Large Lot Zoning—Some of the unique natural areas in Staten Island may be acquired for public open space, and others may be privately de-

veloped. Any development in the hilly forested Greenbelt area should be at low densities. Present zoning in most of this area is R1-1, calling for minimum lot sizes of 10,000 square feet. A floor area ratio of 0.5 and lot coverage of up to 40 percent are allowed. To protect tree cover and natural drainage and to avoid soil erosion, it would be desirable to increase the minimum lot size for single lots located on steep slopes.

It would also be desirable to allow Planned Unit Developments where development sites are less than one and one-half acres and to allow bonuses only for sites of 10 acres or more. It would frequently be possible to preserve the most important natural features by allocating some land to common open space or simply by varying lot size or shape and so providing flexibility in the siting of buildings.

Adherence to these standards would be helpful in limiting surface runoff and coping with drainage in low lying areas. It has helped in other parts of the country. Since 1960, Los Angeles has imposed a 15,000 square foot minimum lot size in all hillside areas where 5,000 square foot lot area requirements had formerly been in effect. In Los Angeles erosion has been a considerable problem. It is also a problem in the hilly areas of Staten Island.

3. Institutional Development Controls—Large institutions occupy some of the City's most beautiful natural terrain. Notable examples are the College of Mount St. Vincent and the Hebrew Home for the Aged in Riverdale, and Sea View Hospital, the Staten Island Community College, St. Francis Seminary and Eger Nursing Home in the Staten Island Greenbelt. The present zoning regulations provide liberal bulk allowances for some commu-

nity facilities, particularly in the R4 district where floor area ratios as high as 2.4 are permitted for selected community facilities compared to a maximum of 0.75 for residential uses. The zoning regulations also permit higher land coverage for approved community facility buildings.

High coverage in combination with the parking required in outlying areas poses a major threat to the natural landscape. Well forested land could be stripped if expanding institutions took full advantage of the high floor area ratio and coverage allowances of the present zoning regulations.

If regulatory approaches to natural area conservation are applied with reasonable consistency throughout an area, the bulk and coverage allowances for community facilities should perhaps be reduced. To achieve this purpose, special district regulations could make community facilities subject to the same open space and floor area ratio regulations as residential developments. Mandatory special review of community facility development plans under large scale development controls is desirable to insure that buildings are sited to protect natural features. This should supplement, not supplant, the proposed reduction of basic bulk allowances.

4. Special Police Power Regulations—In addition to the control of land use and density by traditional kinds of zoning regulations, physical alteration and use of property can be regulated for other special purposes related to public health, safety and welfare, including the protection of natural resources.

- *Control of tree cutting and grading*—Many parts of the City are known for large and beautiful trees. In a few areas, mostly in Staten Island, there

are extensive woodlands still in private ownership. These areas will eventually be developed. In the past, wooded areas have been cleared to facilitate large scale development. Indiscriminate tree removal is not only unsightly, but also results in excessive surface drainage and soil erosion (entailing increased municipal expenditures for drainage control). A number of cities recognize this problem and have subdivision regulations which control tree removal and regrading.

It should be possible to incorporate such controls in the regulations of special zoning districts or in existing low density districts. Builders would be required to show on a plan all existing trees over a certain size and to identify those slated for removal. Tree removals would be subject to the approval of the City Planning Commission. The regulations should discourage, by penalty, the cutting of trees in advance of development in order to circumvent the requirement. The removal of rock outcrops and glacial boulders, and the excavation of steep hill-sides could be subject to similar controls.

Wherever such controls are in effect it would be appropriate to modify the Zoning Resolution's yard regulations to afford greater flexibility in the siting of buildings. The regulations of the Department of Highways relating to Land Contour Work, (pursuant to Section 1105 of the New York City Charter), should also be modified to eliminate the general requirement of constant slopes in regrading.

● *Special regulations for preserving tidal wetlands* have been enacted and are enforced by the State of New York. A system of permits to regulate dredging and filling of tidal wetlands has been in effect since the passage of Section 719 of the New York State Conservation Law. A 1973 law (Chap-

ter 790) now requires the Commissioner of Environmental Conservation to inventory and map all tidal wetlands in the State and to adopt land use regulations governing activity within and adjacent to them. Many wetlands in New York City are preserved as parkland already. The new law was to protect Alley Pond Park, a wetlands area in North-east Queens, from the threatened damage by a proposed development on adjacent land.

The need for sanitary landfill and for legal street grades that are high enough to protect against inundation preclude the possibility of preserving all wetlands in their natural state. In some tidal wetlands, the need for storm sewers draining nearby areas is also in conflict with the objective of wetlands preservation. Controls for the preservation of fresh water wetlands are currently being considered by the State for possible submission to the Legislature.

● *Flood plain zoning*—Flood plain zoning is not an appropriate long term method of preserving swamps and tidal wetlands.

Under the National Flood Insurance Program, areas with flood plain zoning are required to have insurance that conforms to the requirements of the U.S. Department of Housing and Urban Development. The requirements, which include filling of the land and the use of special construction materials and methods, cause new development within a designated flood area to be unusually expensive. This would delay development until pressures outweigh the increased costs and therefore would aid a natural areas preservation program only temporarily. Another requirement of this mandated Federal program—that public utilities and sewerage infra-structures must be elevated within the affected

area—would clearly conflict with preservation program aims.

● *Preferential assessment*—Property tax increases tend to stimulate development, so that some proponents of temporary preservation of open space on the urban fringe have advocated a system of "preferential assessments." Under this system, open land is taxed on its unimproved value, a lower figure than its market value. The resulting tax differential is called the forgiven tax. Some states, including New Jersey, provide for a tax recapture when the land is developed. The amount of the taxes forgiven during the last two years falls due when it is sold to a developer. This reduces the owner's windfall so that he is less anxious to sell and more content to keep the land open.

This mechanism is presently unavailable for lack of State enabling legislation. Although New York State studied the New Jersey law and other examples, it did not pass one of its own. Indeed, preferential assessment by itself is not very useful and could encourage undesirable development patterns and practices. However, it could be one part of a future natural areas preservation program.

A useful discussion of preferential assessment is found in *Challenge of the Land* by Charles E. Little. Little points out that low land taxes make the land more valuable for the speculator, who is thereby enabled to hold out longer. Land prices climb sharply in areas ripe for development, especially where low assessments are in effect and the land is held speculatively. The result is that developers seek lower priced land farther out—the only open land they can afford.¹ This leapfrogging is a

¹ See *Challenge of the Land, An Open Space Action Institute Report by Charles E. Little, 1968, pp. 72, 33.*

wasteful pattern of development. The device is one way of buying time, though an uncertain one, since speculatively held land might be sold at any time to a developer.

A two pronged approach utilizing preferential assessment might work. First, a special capital gains tax on profits from the sale of land would help to counteract the appeal of preferential assessments to land speculators. In addition, it could provide a useful source of funds for the acquisition of public open space. A recently enacted Vermont statute directed at land speculation imposes taxes on capital gains from land sales, the tax rate varying directly with the percentage of profit and inversely with the length of time the land is held.² Secondly, land which is designated on a plan as suitable for conservation and preferential assessment could be zoned for very low density development, when it occurs, would also be required to take the form of Planned Unit Development, so that a major portion of the natural area could be preserved in the form of common open space.

B. Acquiring and/or Designating Natural Areas for Preservation and Public Usage.

1. Planned Unit Development (P.U.D.)—One of the many advantages of Planned Unit Development is the opportunity it provides for conserving natural features. Under the provisions of Article VII, Chapter 8 of the Zoning Resolution, Planned Unit Developments may be built in New York City subject to Planning Commission and Board of Estimate review and approval. The regulations permit part of the open space otherwise required on individual lots to be pooled in common open space areas and also allow flexibility in the yard regulations. One of the specific purposes of the Planned

Unit Development regulations is "to protect and preserve scenic assets and natural features." These can be protected by designating them as the common open space or by leaving them intact through flexible siting of buildings.

However, there are presently some limits to what can be achieved. First, Planned Unit Developments in New York City are optional with the developer and up to now have not been utilized extensively. Secondly, patterns of property ownership, especially those which include many small or moderate sized holdings, are more likely to yield a crazy quilt pattern of common open spaces than a more



Steep Slope-Old Mill Road

desirable large, continuous natural area. Thirdly, the amount of common open space that can be pooled from individual lots is limited by the need for retaining a minimal standard of open space per dwelling unit on the individual lots themselves. In special areas of the City where the conservation of natural features is important, it is reasonable for

zoning regulations to require that plans for any new development be reviewed by the Planning Commission. The development plan for any tract which includes natural features to be protected would be specially reviewed in terms of the provisions made for their preservation.

The effectiveness of this approach would clearly depend on how large a part of the tract was occupied by natural features. Where development is limited to single family detached houses, a large part of the required open space must be provided on the individual home sites. With this type of development, on tracts largely comprised of natural features, only a minor portion of the area could be preserved, unless the owner donates or is compensated for the remaining portion. For large tract developments and those where the natural features comprise a minor part of the total area, this special application of Planned Unit Development could be very effective.

Planned Unit Developments of more than 10 acres can achieve a high quality of site planning by using street layouts and open space allocations to create their own environments. To encourage the assemblage of sites where these advantages can best be realized, there is justification for withholding some bonuses or waivers from developments on smaller tracts, as recommended in a recent report of The Advisory Commission on Intergovernmental Relations.³ To achieve the same purpose more

²32 *Vermont Statutes Annotated Sections 10001-10010 of Chapter 236.*

³See *Urban and Rural America: Policies for Future Growth by The Advisory Commission on Intergovernmental Relations, 1968, page 115.*

directly, the Douglas Commission recommended enactment of legislation by the states to enable local governments to place undeveloped outlying lands in planned development districts. Within these districts development would be allowed to occur only at a specified minimum scale.⁴ As of 1969, Los Angeles was studying an amendment to establish a Residential Planned Development District which, where mapped on hillsides, would require each development site to contain at least 20 acres in single ownership and where mapped elsewhere, at least one and one-half acres.⁵ The same type of district is included in the Proposed Puerto Rico Land Use Regulation and establishes 20 cuerdas (about 18 acres) as the minimum size for any development.⁶ By encouraging or mandating large Planned Unit Developments it would be possible to secure common open space in fairly large chunks. This would improve the chances of combining the open spaces into a coherent system to preserve natural features.

The extensive hilly areas of Staten Island's Greenbelt are a major natural resource. (See accompanying maps). It is doubtful that large areas of this kind, aggregating 100 acres or more, could be assembled from the common open spaces provided by Planned Unit Developments. To protect and preserve such large natural areas as these, Planned Unit Development would have to be supplemented or replaced by other approaches. Some natural areas possess outstanding recreational value as areas for walking, nature study and other non-intensive activity. These areas should be open to the public.

Common open space, as set forth in New York City's Planned Unit Development regulations, re-

mains in private ownership and is privately maintained for the use of development residents. Most common open space so provided is for the satisfaction of local needs, and it is appropriate that it should remain private and that the City should not have the burden of maintaining it. But any areas appropriate for public use should be set aside as open space dedicated to the City or to an approved private conservation organization which maintains them for the benefit of the public. Many other communities either allow or require all common open space to be deeded to the municipality. Some communities reserve the right to acquire or not acquire common open spaces in each case as deemed appropriate.

The amendment of the City's Planned Unit Development regulations passed on March 8, 1973 offers a new package of bonus incentives in R3-2, R4 and R5 Districts. By providing sufficient common open space and community facilities, enclosed parking and more than the minimum floor area per room, developers can qualify for sizeable increases in permitted floor area: up to 60 percent in R3-2, 113 percent in R4 and 52 percent in R5. The open space requirements are correspondingly reduced so that, for example, in the R4 District total open space requirements would be 22 percent less for buildings with more than twice as much floor area.

With required open space per resident so drastically reduced, only a limited amount could justifiably be pooled in common areas to accommodate natural features. This suggests that for natural area districts mapped in R3-2, R4 or R5 Districts, with reliance on Planned Unit Development for preservation of natural features, the pre-1973 Planned Unit Development regulations should be restored.

Alternatively, the underlying districts might be changed to lower density districts.

The 1973 Planned Unit Development amendment also requires that common open space be developed for active as well as passive recreation facilities and that passive recreation space be landscaped. These provisions conflict with the objective of preserving natural areas and should not apply in a special natural areas district.

2. Transfer of Development Rights—The owner of land designated for conservation could keep the natural area open and use development rights attributable to the natural area on adjacent land in his ownership, or convey the rights to owners of other land in the vicinity.

While higher densities would be permitted on the specific sites to which development rights were transferred, total permissible density throughout the area would not be increased. Open space would be pooled and development would be clustered. As in the case of Planned Unit Developments, there should be special review by the Planning Commission and Board of Estimate of all development plans in which bulk and density redistribution are proposed.

A key question is whether to permit development rights to be transferred from an area to be pre-

⁴See *Building the American City by the National Commission on Urban Problems (Douglas Commission), 1968, page 246.*

⁵See *Framework Report—Comprehensive Zoning Plan Revision by Los Angeles Department of City Planning, 1969, pp. 27 and 30.*

⁶*Puerto Rico Land Use Regulations, a Proposal Submitted to the Puerto Rico Planning Board by its Special Consulting Group for Land Use Policies and Controls, 1969.*

served in its natural state to non-adjacent development sites. The answer may depend on how the natural area is to be used. It would seem reasonable to permit the rights to be transferred even to non-adjacent development sites if the natural area is to serve as community open space for the residents of these sites, especially those living in developments whose densities were increased by virtue of the development rights transfer. To qualify as community open space, the natural area should normally be accessible to the community's residents.

A natural area can be useful without necessarily being accessible. Through the retention of water it can limit runoff and the need for drainage construction. It is able to harbor plant and animal life and protect ecology. For the community residents it provides visual interests and relief from the man-made environment of streets, buildings and yards.

It is important to consider the practical implications of preserving natural areas for public use through transfer of development rights. There would be some advantages in making the transfer of development rights a willing buyer-willing seller transaction. The City would not be involved in the actual transaction, only in making it possible. In addition to passing the enabling legislation that would make the device operative, the City Planning Commission and the Board of Estimate would have to approve after public hearings, any development plan which includes dwelling types other than those permitted by the district regulations. Less basic modifications such as yard and open space adjustments based on the availability of the community open space and the quality of the site design could be authorized by the Planning Commission without Board of Estimate ratification, as in

Planned Unit Developments. The exercise of the development rights would always depend on the development plan's approval by the Planning Commission at least, and this would affect the developer's approach to the purchase of development rights. A more compelling economic consideration would be the typical disparity of values placed on development rights by buyer and seller in a low density area. To the buyer the right to build an extra dwelling unit on his lot will be substantially lower than the right given up by the seller to build a single family house on a standard size lot.

These considerations might militate against the willing buyer-willing seller method. Many owners of designated natural areas would insist on selling their development rights immediately both for the cash return and for the reduced tax assessments. On the other hand, demand for the development rights will materialize only if there is a market for the kind of housing that would be built with them. Some developers would probably be inclined to continue building their particular specialties and pass up the opportunity to buy development rights.

It might be necessary to establish a public development rights bank to aid the owners of the natural areas, but the bank would have to have the funds to buy the rights. It would then have the problem of selling them to developers. A bond issue would probably be required to get the program started, but the proceeds of development rights sales would not be a predictable source of revenue for servicing the debt.

With adequate resources for compensating the owners, the designated natural areas could be preserved in this manner. The ability to carry out a plan for the use of these areas would depend on the

attitudes and actions of their owners. A system of publicly accessible natural areas should be a part of some plans and would in fact be the sole justification for permitting the transfer of development rights to non-contiguous parcels. Some owners would be cooperative, welcoming the opportunity to be relieved not only of the development rights, but also of the maintenance responsibility and the fee title. Others, more interested in their own private enjoyment of the area than in its development, would be averse to selling the development rights if this entailed public access. As holdouts, they could prevent the development of a continuous open space system for public use.

New regulations to permit such development rights transfer should not only provide for Planning Commission review but also should condition the transactions on the conveyance to the City of other interests and rights in the natural areas. These other interests and rights would in some cases be the fee title, the right of entry for maintenance purposes, public trail easements, or rights to public use of at least portion of the natural area for specified purposes. For the latter kind of easement the owner could be granted tax abatement.

In summary, the development rights approach cannot supply the whole answer to the problem of preserving natural areas. If it is used, it would clearly require a development rights bank with the necessary funds to purchase rights for resale if and when the demand materializes. The standards controlling developments which utilize transferred rights must be reasonably consistent with development objectives for the neighborhood. There should be public access to all natural areas from which development rights are transferred to non-

contiguous development sites, and the City or a semi-public organization should have fee title or easements to assure the right of public access and use of these areas for appropriate purposes. These considerations all reflect valid public concern and point up the difficulties inherent in an approach which is theoretically based on private transactions.

3. Open Space Dedication or Cash-in-Lieu Contributions—This approach would rely heavily on cash contributions by developers to a fund for the purchase of natural open spaces specified on a comprehensive park plan. Where such natural open space is part of the developer's own property, he would be required to dedicate a portion equal to the amount of open space he would normally be required to provide on his lot. If the open space on his property designated for conservation exceeds the amount he would normally be required to provide, this excess natural open space would be purchased with the cash contributions from other developers.

Precedent of Subdivision Control. The right of municipalities to require the dedication of open space as a condition for subdivision approval is well recognized. There is ample precedent in required street and school site dedications. This requirement would be based on the need for recreation space generated by the development, the acquisition of which would otherwise impose a burden on the municipality. Under this type of provision a developer is required to dedicate a fixed amount of open space per dwelling unit in his development, or if none of his land is suitably located for public open space, he is required instead to contribute to a special fund. This money payment could be used to purchase natural areas or acquire easements there-

in. New York City discontinued the exercise of its subdivision control powers a number of years ago. The fact that subdivision control at one time did not seem important enough to be continued is no reason why it could not be revived in light of new needs and opportunities.

However, for the purposes at hand, a requirement for open space dedication or cash-in-lieu contributions which depends on the subdivision of land into lots is less than adequate for New York City. On the other hand, if the requirement were applied through the zoning regulations, apartment developments could be required to contribute on the same basis as subdivision developments for individually owned houses. The size of the contribution would be geared to the number of dwellings not the building type.

For this approach to work, three basic conditions must be satisfied.

First, there should be a comprehensive plan of natural park sites for the community in which the regulations would apply. In the absence of such a plan, it would be difficult for the City to refuse to accept a developer's offer to dedicate open space within his own project instead of contributing cash toward acquisition of other areas in which the City is interested.

Secondly, the area in which the requirements apply must conform to the area which may be fairly considered to be served by the parks comprising the plan. The exemption of land close to and well served by the proposed park system would clearly be discriminatory if more remote land is subject to the requirements.

Thirdly, the land to be acquired by dedication or purchased with cash contributions should for the

most part be adaptable for recreation use. The park system must answer active or passive recreation needs of the subdivisions which contribute toward its acquisition. If a swamp or an escarpment of no recreation value were the only park area in the entire planned system within a reasonable service radius of a subdivision, the exaction of a cash contribution from this subdivision might be considered unreasonable.

The principal advantage of this approach is that natural areas ultimately can be acquired without cost to the City and without the sacrifice of development standards. In addition, the fact that the developer's contribution is mandatory gives this approach the clear advantage of greater certainty than that offered by the optional transfer of development rights.

In this approach, as in that of development rights transfer, there is the same problem of raising funds at the beginning of the acquisition process to purchase natural area land that owners wish to sell because they are not permitted to develop it. Cash contributions from developers would be likely to lag behind these owners' offers to sell. Therefore, pending the accumulation of adequate funds from developers' fee payments, sufficient funds must be secured from other sources to compensate those owners with whom it is not possible to enter into deferred payment arrangements.

Modification of Subdivision Control Approach. In municipalities which exercise subdivision control, the regulations apply throughout the municipality. Insofar as possible they affect all new subdivisions uniformly wherever they occur.

It is conceivable that requirements for open space dedication or cash contributions could be

applied throughout New York City for the purpose of preserving important natural areas in all five boroughs. Unless the requirements are applied on a City-wide basis, it may be necessary to consider a modified approach so as to avoid discrimination by area. For example, if natural area acquisitions in Queens, Brooklyn, the Bronx and parts of Staten Island were paid for by property taxes levied throughout the City, the use of developers' cash contributions to finance the acquisition of natural areas in the Staten Island Greenbelt would place a special burden on the areas from which these contributions are derived. The developers' extra costs would ultimately be passed on to the residents of the new developments, who would also pay their share of acquisition costs for natural areas everywhere else in the City through property taxes.

Under the modified approach, developers could be compensated by crediting them with the open space and lot area represented by the land they have dedicated or the land their cash contribution would pay for.

The area so credited might amount to 500 or 600 square feet per dwelling unit, which would not represent a large increase in density. In essence the result would be cluster development with pooled open space on a large scale involving a great many owners. Under New York City's planned unit development regulations, pooled or common open space is privately owned and maintained. Under this approach on the other hand the pooled open space would be public, since it is acquired with the cash contributions from many different developments and while it is intended primarily to serve those developments, it would be difficult if not impossible to deny access to the public at large.

4. The Property Development Tax—A tax on all new residential development has been used in many cities to finance acquisition and development of park and recreation facilities. California communities have made extensive use of this tax.⁷ Under the tax device, open space dedication may be accepted by the City in lieu of the development tax payment,⁸ whereas under the zoning approach cash-in-lieu contributions could be required in lieu of open space dedication. State enabling legislation would be required to make this device available to New York City.

This approach resembles that of open space dedication or cash-in-lieu contributions, discussed in the preceding section. As a device for acquiring park land, the property development tax in common with zoning regulations has the advantage of applying to all developments. It is not limited to developments that involve the subdivision of land. This has apparently been a major advantage commending the development tax to the California municipalities.

The property development tax would apply throughout the City but funds could be established with separate revenue and expense accounts for each community planning district, as in San Jose, California. Funds raised in the local area would be spent on facilities within that area.

5. Special Assessment Districts—This is a mechanism for self-assessment within a benefitted area. It is normally petitioned for by a local area and must be approved by a large majority of the owners. A charter amendment would be required.

This mechanism differs from others discussed in that all land owners within the local area to be served by the newly acquired open space, and not

just developers, would contribute toward the cost of acquisition. Also, where this device has been used, the municipality as a whole generally bears a substantial part of the acquisition cost. The basic conceptual difference between the benefit assessment on the one hand and both the property development tax and the mandatory dedication of open space or contribution of cash by developers on the other is the difference between paying for special benefits and bearing the burden of public facility needs attributable to development.

A common feature of all the devices discussed, including development rights transfer as well as the others, is the earmarking of funds collected in an area for the acquisition of facilities to serve that area.

6. Easements—The varieties of public (or semi-public) interests that might be appropriate in natural areas such as Staten Island's Greenbelt will depend on the use of these areas by people, the maintenance or management requirements (if any) and the interests of the owner. Section 247 of New York State's General Municipal Law passed in 1960 establishes open lands preservation as a public purpose and authorizes expenditure of public funds for the acquisition of fee titles or lesser interests (i.e. easements) in such lands.

Some areas which should be preserved in their natural state do not have to be made accessible to the public. The acquisition of conservation easements would be appropriate in these areas. The

⁷ *American Society of Planning Officials, Planning Advisory Service, Report No. 266: Mandatory Dedication of Land or Fees-in-Lieu of Land for Parks and Schools by Mary E. Brooks, February 1971, pages 30-32.*

⁸ *Ibid.*, p. 32.

interest to be acquired might simply be the development rights. The transfer of development rights from one property to another was discussed in Section 2 above. We are assuming now that the development rights would simply be relinquished and not exercised anywhere else. This is the simplest type of conservation easement. If development rights are acquired by the City, the owner would continue to enjoy exclusive rights to possession of the land and use of it for permissible activities such as gardening, passive recreation or camping. The City, by acquiring development rights instead of the full fee title, avoids maintenance responsibility and keeps the land on the tax rolls, though at a reduced assessment.

Conservation easements may, and often should, do more than remove the right to develop property. They may also include specific provisions allowing right of entry to perform special jobs which are necessary to preserve, maintain or restore a natural area or feature.¹⁰ Easements may also be acquired for maintenance of public trails across private lands. In the Staten Island Greenbelt the package of rights acquired from the owner might in some cases include all three types of easements—development rights, right of entry and maintenance of trails, and possibly some others as well. A scenic easement may be acquired to preserve a view. This would restrict development on the owner's land, where total elimination of development rights is unnecessary, and would be an alternative to the use of zoning regulations for scenic view protection.

For natural areas which should be open to the public in their entirety for recreation use, even if only for hiking and nature observation, more than a conservation easement is needed, most likely a



Tulip Trees in Dongan Hills

PHOTO: JOHN MASLITTO

long term lease or full title. Acquisition could be by the City, the State or by a private non-profit conservation organization.

7. Donations. Some owners, if given opportunity, might be persuaded to donate a conservation easement to the City, to a conservation trust or to some other private non-profit conservation organization.

Some would even be happy to donate fee title to their land. The motivation may be a combination of love for the land in its natural state and relief from burdensome property and income taxes. The value of the donation is deductible from gross income for purposes of income taxes. New York State law provides that for purposes of real estate taxation land restricted by an easement must be valued in accordance with the restrictions (Section 247 of the General Municipal Law). These tax benefits might compare favorably in some cases with the net benefits from transfer of development rights to a developer.

To maximize the potential of land donations, a program of land philanthropy should be organized. A grass roots program of this kind in Staten Island could be focused on the specific areas selected by the City for conservation in the Greenbelt and other areas of the Borough. Major landowners would be contacted for their consideration of land donations. The intent of the donor can be reflected in detailed provisions in the deed concerning the land's future use and maintenance. If it appears useful, a reverter clause can be included so that the land would automatically revert to its previous owner if the deed restrictions were not honored. To avoid weakening the donor's ability to take income tax deductions, the right of reverter could be assigned to a third party.¹¹

¹⁰ See *Conservation Easements* by Charles C. Morrison, Jr. in *NYS Environment*, November 1, 1971 published by The New York State Department of Environmental Conservation.

¹¹ For a good discussion of this subject, see *Stewardship*, by the Open Space Action Committee, 205 East 42nd Street, New York, N.Y. 1965, pp. 53-54.

Donations can also take the form of long term (99 year) leases to the City or a private organization for a dollar a year. The lease would be subject to termination if covenants designed to protect the area were violated. Many philanthropically minded persons are predisposed to make their donations to private organizations such as The Nature Conservancy or a local counterpart. Land trusts organized for conservation purposes can also receive donations (these are discussed further in Chapter II). Donors are apt to have confidence in such organizations, since they have but one purpose, that of conservation. Cities are beset with many kinds of conflicting land use needs and sometimes seem indifferent to philanthropic offers. However, they are actually or potentially excellent recipients themselves. With the establishment of a public conservation agency, New York City would be equipped to encourage land and money donations for conservation purposes.

The availability of funds to manage and maintain natural areas is an important consideration bearing on the capacity to accept land donations. Local governments are usually better equipped than private organizations to undertake the maintenance and management services over a long period of time. The responsible private organization, while particularly interested in sanctuaries and other unique natural resources which require care as well as protection from the bulldozer, is generally reluctant to acquire such areas unless it is assured that it will have the capacity to manage them adequately. Its interest in acquiring such areas is therefore apt to depend on the availability of endowment funds for their maintenance or access to civic volunteers to do the work free.

If the costs of managing certain kinds of natural areas, notably wetlands and wildlife sanctuaries, could be funded by the State or City, private organizations would be able to extend their land acquisitions considerably. Any assistance of this kind should be predicated upon public access to such areas. Land donations may be supplemented by charitable contributions to a fund for acquisition and maintenance of an outstanding local natural resource. This can be a very popular cause—equally popular and very similar to the preservation of a notable landmark building.

8. Public Acquisition; Aid Programs

a. Federally aided acquisition. There are two major Federal programs for open space acquisition and development which provide a 50/50 match of Federal and local funds. One, the Department of Housing and Urban Development's Open Space Program is principally for acquisition, only minimal amounts are for development. This program's emphasis has been on open space areas of moderate size in high density localities. Only limited Federal funds are currently available.

The other program is the Federal Land and Water Conservation Fund, administered through the State by the Bureau of Outdoor Recreation in the Interior Department. Grants under this program are for both acquisition and development. The local share can be raised by the City, the State or a private organization. A 13,000 acre wilderness tract in the Adirondacks was recently acquired under this program. The local share consisted of private funds contributed to the Adirondack Conservancy, a subdivision of The Nature Conservancy, a subdivision of The Nature Conservancy, which acquired the tract with the help of a Fed-

eral matching grant and turned it over to the State.

Land could be acquired for the City in the same way. As a prerequisite, a comprehensive park development plan must be filed covering at least an entire borough. With matching funds from the City, or a private group, application may then be made through the State to the Federal Bureau of Outdoor Recreation Land and Water Conservation Fund for a grant to acquire any park included on the plan. At the present time only limited Federal funds are available under this program.

b. State Programs. For New York City the most useful kinds of State programs for conservation of natural areas are:

1) Those in aid of local municipalities dedicating publicly owned wetlands to conservation. So far this program applies only in Nassau and Suffolk Counties.

2) Those involving state acquisition of unique natural areas or significant areas of open space near urban centers, as exemplified in the 1972 \$1.2 billion bond issue.

c. City purchase with full payment deferred. If a designated natural area is to be acquired by the City, a temporary shortage of funds for purchase need not be fatal. By negotiating with a view toward understanding the landowner's needs and interests, economic and otherwise, it will frequently be possible to work out satisfactory arrangements whereby the City avoids a large immediate payment and still secures the area. NYS Environment, a publication of the New York State Department of Environmental Conservation, lists several ways of stretching the dollar:¹²

¹² \$\$\$: The Realities of Open Space Acquisition, by Charles C. Morrison, Jr. in *NYS Environment*, December 1, 1971, op. cit.

"For example, the land may be purchased and then leased back to the original owner or to someone else. This takes the land off the tax rolls, which helps the original owner if he becomes a lessee. It also eliminates the speculative rise in land values which the open space agency would have to face if it bought the land at a later date."

"Another way of purchasing land and obtaining income from it to offset the purchase price is to have the property owner continue to occupy the land during his lifetime. Full payment may be postponed under this lifetime estate arrangement."

"A third approach is that of an option agreement. A parcel of land is divided into equal segments under this method. Each annual payment for one of the segments—there usually are ten—perpetuates the option to buy the next. During these installment payments, the remaining land will not be altered or developed because the option-agreement protects the buyer from this."

A simple first option is a useful technique for reserving the right to purchase an important natural area.

9. Use of existing City-owned land. In many areas where conservation is important the City already owns considerable land as a result of in rem proceedings for non payment of taxes. This and other City-owned land which may no longer be needed for a public purpose should be re-evaluated in terms of its usefulness in implementing a plan for preservation of natural areas.

The City-owned land which lies within areas suitable for conservation should ultimately be transferred either to the control of a City department charged with responsibility for conservation maintenance or, if public use and maintenance are

not important, to a private purchaser subject to appropriate conservation easements including the withholding of development rights. Much of the City's in rem land consists of swamps or escarpments which became tax delinquent because they were not suitable for building. It would be a simple matter for the City to retain control of any of these areas which should be preserved in their natural state as surrounding land values increase and development pressures mount.

City owned land outside a designated natural area should go back on the tax rolls, but before disposing of it the City should be alert to any opportunities to exchange it for privately owned land inside the natural area.

10. Protecting Large Natural Areas—Special Problems and Potentialities. The proposed Special Natural Area District is designed to achieve maximum results through regulation. We have seen that small natural areas or features can be preserved under Planned Unit Development or similar zoning procedures. The conservation of larger areas solely through a regulatory approach is more difficult.

The San Francisco Bay Conservation and Development Commission in its report on the San Francisco Bay Plan was faced with a similar problem. To acquire all the bay front property which should be conserved for ecological and recreation purposes would be prohibitively expensive. Regula-



Erratic Boulders in Mariniers Harbor.

tions prohibiting development of all such land would be unconstitutional. Therefore, the Commission proposed a third alternative which left open the possibility of limited filling and development on property mapped for conservation if no funds were available to buy it.

The protection of the few remaining large natural areas in New York City, such as the Staten Island Greenbelt, poses less of a problem, perhaps, than the protection of San Francisco Bay. But the nature of the problem is quite similar if less immense. If large areas are to be preserved as public open space, the development rights or the land itself must be purchased.

As discussed in the foregoing sections, there are numerous possible sources of funds for compensating owners of conservation land and covering maintenance costs. Not including direct City purchase, the six principal alternatives, with their varying degrees of practical possibility, are summarized as follows:

- *Charitable donations of money or the land itself*: these are always a strong possibility and may take any one of a variety of forms.
- *Preferential assessment, possibly in combination with a capital gains tax on land sales*: this is a promising alternative and should be explored in depth. It would require State legislation.
- *Development rights transfer*: this might be useful where two or more adjacent owners can reach an agreement, and this possibility is provided for in the proposed special district zoning regulations, which permit joint applications by adjacent landowners. However, it is not economically feasible for general application throughout a Natural Area District.

- *Developer's cash-in-lieu contributions*: this is not feasible unless the City establishes a revolving fund with a substantial initial deposit. If this condition were ultimately accepted, the device could be incorporated into the proposed special district zoning regulations.

- *Property development tax*: this technique, besides requiring the establishment of a revolving fund, would require state enabling legislation and would have to be applied throughout the City.

- *Special benefit assessments*: this would require an amendment to the City Charter, consent of landowners in each assessment district and payment of part of acquisition costs out of general City revenues. It is probably unrealistic to expect all of these conditions to be met.

One problem is that acquisition funds may not be available as soon as they are needed. This is why it is important that the City be equipped with the skills needed to reach mutually beneficial agreement with landowners, employing such bargaining assets as continuing possession by the original owner with reduced taxes in return for deferral of total payment by the City. Negotiations require legal skills, an understanding of the management of natural areas and a full appreciation of the potentialities of private conservation organizations. It is also important for the City to be flexible in the kind of development it can permit so that the owner can realize a reasonable economic return on his property.

11. Summary

The foregoing evaluation has shown that regulatory approaches can be very useful in preserving many of the City's remaining natural areas. Where desirable or necessary these can be supplemented

by other techniques for the most part involving little or no public capital expenditures but assuring proper maintenance of the feature and, where appropriate, regulated public access and use. The selection of the best approach will depend on the size and character of the natural area, the kind of protection or maintenance it needs, and the kinds of ownership and management that will see to those needs. For many areas private ownership will be appropriate, and even where public access and use are desirable or specialized maintenance is required, a private conservation organization backed by charitable donations or volunteer workers may provide the best kind of management. The effectiveness of an environmental preservation program can be greatly enhanced by employing these other approaches in combination with the proposed Special District zoning regulations.

ORGANIZATION REQUIRED FOR THE CONSERVATION OF NATURAL AREAS IN NEW YORK CITY

The City of New York has many agencies whose work is concerned with environmental protection. The City Planning Commission, the Environmental Protection Administration and the Parks, Recreation and Cultural Affairs Administration all have roles and functions in the areas of land resources, conservation and recreation, solid waste disposal, sewage and water and air pollution. No one agency, however, has a clear mandate to deal with vacant or semi-vacant areas, as such, which are valuable for either their ecological significance or natural beauty.

In seeking the most effective ways to organize administratively for the conservation of natural areas, the following four basic objectives must be considered: 1) The development of an over-all conservation policy; 2) the coordination of the programs and actions of the relevant agencies; 3) the provision of expert technical advice and supervision, and 4) the development of private finances and organizations to supplement government conservation program and funds—including management and maintenance functions.

A revised frame of reference for policy-making is essential to achieve a balance between the need for the new development and the desire to protect, manage and, in some cases, to restore the City's remaining natural riches. Piece-meal and balkanized approaches to decision-making and program implementation should be avoided.

The present role of the Planning Commission in conserving key parts of the City's natural environment can and should be enhanced in the three following areas:

—Developing new legal, fiscal and administrative mechanisms along the lines of those recommended

in this report.

- Strengthening staff resources in the area of conservation planning, and
- Establishing a broader and more adequate framework for reviewing the impact of future public and private development in natural areas.

This could be done by the Commission within its present broad powers and responsibilities. However, consideration should also be given to the creation of an interagency Environmental Policy Board to perform the overall policy making and review functions as outlined in the following section.

A. An Interagency Environmental Policy Board

Since all major functions of government affect the environment, consideration should be given to an interagency board as an arm of the Office of the Mayor and the Board of Estimate to bring together the relevant agencies. The Board would:

- Develop an over-all environmental policy based on a broad view of the facts and the pressures for change,
- Balance competing objectives and resolve policy conflicts related to the conservation of natural areas, and
- Coordinate the program and actions of the relevant agencies.



Richmond Creek

There are five agencies which have roles and functions important to natural areas: 1) The Planning Commission, 2) the Parks, Recreation and Cultural Affairs Administration, 3) the Environmental Protection with its responsibilities in the areas of water, air and noise pollution, as well as solid waste disposal. Its mandate does not include land resources and natural areas and the conservation of land resources would not be a logical extension of its responsibilities; 4) the Transportation Administration or its sub-agency, the Department of Highways; 5) The Municipal Services Administration or its sub-agency, the Department of Public Works.

The last three agencies are responsible for policies and programs which would critically influence the conservation of natural areas. These spheres of influence include policies regarding construction, the design of streets, and sanitary landfill operations.

Perhaps the most important function of the Board would be to translate the growing concern relating to the conservation of natural areas into specific actions in a way that balances competing objectives and resolves policy conflicts. These conflicts arise perennially; for example, is the maximum cost efficiency of a sewer or local street system important enough to put a clear running brook underground or radically change the contours of a hillside in a natural area? Is the conservation of a natural area worth the additional tax dollars it would cost to re-align a proposed highway?

A related function would be the review of proposed public improvements, such as highways and sewage treatment plants as well as public, espe-

cially large scale, development. Ideally, this review authority would extend to private development proposals.

Suffolk County, as a case in point, has instituted an "environmental bill of rights" which requires an environmental impact statement using a prepared outline for all county projects and county action, such as the issuance of permits.

B. Conservation Councils

A new and promising government response to the problem and opportunities of environmental conservation is the creation of conservation councils or commissions of arms of government—county, city, town and village. This establishes a clearly defined focal point in local government for environment concerns.

As of June, 1973 there were approximately 1,500 local conservation commissions in New England, New York and New Jersey—an increase from approximately 850 commissions in the fall of 1971.

Massachusetts was the first with state enabling legislation in 1957. New York's state enabling legislation was enacted in 1967 and 1970. In 1970, enabling legislation was passed for the creation of the Department of Environmental Conservation and two bills were passed for the creation of the Conservation Councils—the first authorizing conservation councils for cities, villages and towns and the second authorizing establishment of county or regional environmental management councils.¹

The later bill subsequently recodified as Article 47 of the Environmental Conservation Law appears to be of particular value to the City of New York with its five counties. This legislation permits the creation of a county or multi-county environmental

advisory council as an arm of government to deal with environmental problems and issues.

Councils formed under this law must prepare an annual report on the state of the environment and also must develop an environmental plan which must be coordinated with the State Environmental Conservation Plan. In all other respects, the capacity of county councils to protect natural resources, preserve environmental quality, conduct research, and coordinate activities resembles that of the more local councils.

The law also establishes a state program of financial aid to regional or county councils. These funds, administered by the State Department of Environmental Conservation and appropriated annually, cover up to 50 percent of the operating expenses of regional or county environmental management councils.

By 1973, more than half of New York's 57 counties outside of New York City had formed these councils. Their combined budgets for 1973 totaled \$800,000 of which the State would reimburse half. Also by mid-1973, the number of local conservation councils in New York State had grown to 235.

The application of this legislation² to the City of New York would be the creation of a multi-

¹In preparing this chapter, extensive use was made of handbooks and other publications of the New York State Department of Environmental Conservation, the New Jersey Department of Environmental Protection, the Berkshire Natural Resources Council, Inc., and "Conservation Commission in Massachusetts", a Conservation Foundation Report.

²The consultants in preparing this recommendation met with Mr. Charles C. Morrison, Jr., Director of Community Assistance, New York State Department of Environmental Conservation.

county or regional council as an arm of the Mayor's office and the Board of Estimate. Its membership would consist of members-at-large appointed by the Mayor and ex-officio representatives of the relevant city agencies including, at minimum, the Planning Department, the Department of Parks and Recreation, and the Environmental Protection Administration. In addition, county or borough councils could be created for some or each of the five boroughs. A small technical staff would be needed to serve the city-wide council as well as the borough councils consisting of specialists in environmental planning and conservation.

The recommended roles and functions of a Conservational Council for New York City are:

- To provide expert technical assistance and advice. This would include screening the various areas proposed for environmental protection and recommending programs;
- to act as the City's official watchdog and advocate for the conservation of natural areas;
- to hold public hearings as do the Planning Commission, the Landmarks Commission and other City agencies;
- to bring individual citizens as well as citizen groups directly into the decision-making process and spotlight environmental issues;
- to be the conduit for receiving State and Federal funding;
- to form a non-profit land trust, as described below, to receive gifts of land, money, and conservation easements.

Land trusts have been very successful in other states, particularly in Massachusetts and Connecticut, as a primary mechanism for acquiring, maintaining, and managing land for conservation

purposes.

Its primary function as related to the Mayor's Office, the Board of Estimate, the Planning Commission and other agencies would be advisory—to prepare recommendations as to plans and programs for the development and use of natural areas.

C. The Land Trust—Natural Area Conservation Through Private Action

Effective conservation of open space cannot depend solely upon government acquisition in fee—there is simply not enough public money available. For this reason, a primary focus of our effort has been to investigate and evolve ways to acquire open space through private, as well as public means, including such innovative land use, regulatory devices and administrative, legal and fiscal devices as described earlier.

A very successful device, which has been widely used in the Northeast, is the land trust which can benefit the landowner financially while promoting the conservation of natural areas. Land trusts make it possible to protect streams, valleys, greenbelts, and other natural areas. Land trusts can receive gifts of land or money, purchase land, receive or purchase scenic and conservation easements, develop other types of restrictive trust agreements with property owners as needed, and perform maintenance functions. They can hold the property or convey it to other private interests or to the government. Private institutions have helped to preserve \$10 million worth of private land for public or quasi-public open space uses in the New York City area alone.

There are apparently restraints in the laws of New York State which present obstacles to the creation of the New England type of local land

trust. In the absence of a quasi-public institution, national, non-profit organization can perform the functions of a land trust. The Nature Conservancy, for example, has 62 properties on Long Island and 100 in New York State.³

An outstanding success in the northeast is the Berkshire County Land Trust and Conservation Fund which was organized by the Berkshire Resources Council, Inc., a non-profit citizen-supported service agency which assists the towns and cities of Berkshire County in conserving the natural resources of the Berkshire. The preferred and recommended approach of these two groups working in tandem is not to take land as gifts but to take easements and have the owners or properties continue to maintain them.

These private open space organizations benefit the public in many ways besides saving scarce public funds. Land use trusts can perform the troublesome and expensive function of maintenance. They can provide a broad based membership organization for concerted conservation actions such as advocating and supporting environmental bond issues, capital budget allocations and other related public activities. At the Federal, State and City levels, the time gap between authorization of purchase and appropriation of funds for open space can be significant and costs can rise precipitously in the interim. Land trusts and non-profit open space organizations can move quickly to secure options on the land and thereafter sell to the government at the original price.

³Information on the Nature Conservancy activities in New York State was supplied by Mr. John T. Ricks, Chairman of the Long Island Chapter.

Another major advantage is that many individuals who might be willing to donate land, or money, or partial use of their land are unaware of how to do so—or whom to contact. In addition, some individuals reluctant to donate land interests directly to local government may be willing to donate them to a non-profit land trust.

As the Municipal Conservation Commission Handbook of the State of New Jersey states: "The ingredients of a valid trust agreement are fairly simple—a valid public purpose, a trust property, a trustee, and a beneficiary. Where a landowner makes an agreement with a local trust respecting the use of his land, his intention is the law. He may specify what he likes. He may or may not intend a gift, and he may, for example, retain certain interests or keep a like interest, or specify the right to revoke or amend the trust. The trust mechanism offers a way to preserve in perpetuity the restrictions which the landowner alone could not stipulate, for the trust itself can be immortal."

For the private owner the following benefits can be received through land trusts:

— Assurance that his original conservation intentions will be followed after his death, or after his sale of any remaining land interest to another party;

- Federal, and perhaps, State and local tax credit based upon his donation to a properly certified, charitable, non-profit organization;

- The opportunity to work with local groups (perhaps the local chapter of a national organization) and write his own requirements and wishes into an open space conservation agreement.

D. Summary of Findings and Recommendations

1. The Planning Commission is a central agency,

It has responsibilities for comprehensive planning which include the analysis and allocation of land and the development of policies and programs for the guidance of land use. It has powers to implement plans through zoning, has a key role in preparing the City Map and the City's Capital Budget, and has important review powers.

2. The present role of the City's planning agency as a force for conserving the City's natural environment should be further enhanced in the three following areas:

- a. To continue to adapt old laws to new awarenesses and purposes as well as to develop new legal, administrative and fiscal mechanisms along the lines of those developed and recommended in this report as they may be needed in the future.

- b. To strengthen its staff resources in the area of conservation planning.

- c. To develop a broader, more adequate framework for reviewing the impact of future public developments on natural areas.

3. Consideration should be given to the creation of an interagency Environmental Policy Board as an arm of the Office of the Mayor and the Board of Estimate to bring together the relevant agencies to perform the following three tasks:

- a. To develop over-all environmental policy based on a broad view of the facts and the pressures for change;

- b. to balance competing objectives and resolve policy conflicts involving such factors as the cost—efficiency of public improvements as related to the conservation of natural areas;

- c. to coordinate the program and actions of the relevant agencies.

4. A Conservation Council should be created for

the City of New York under the existing State enabling legislation to operate as an arm of the Mayor's Office and the Board of Estimate on conservation matters. Under this State enabling legislation, the City can serve as a multi-county or regional agency for its five counties or boroughs. County or borough councils should be set up for some or perhaps all of the five boroughs. The State Department of Environmental Conservation covers up to 50 percent of the operating expenses of regional or county environmental management councils. A small technical staff would be needed to serve the City-wide Council as well as the borough councils consisting of specialists on environmental planning and conservation.

5. The proposed New York City Conservation Council, when created, should be the instrument for initiating the formation of a non-profit land trust to supplement the City's conservation programs as well as to serve private conservation groups and private landowners. By working in concert with the City's conservation programs, a land trust can further protect the City's streams, valleys, greenbelts and other natural areas by receiving gifts of land and money, purchasing land, receiving or purchasing scenic or conservation easements, developing other types of restrictive trust agreements with property owners and performing maintenance functions as needed. The public can be served in many ways, besides the saving of scarce public funds, by using his instrument which can move with speed and a minimum of red tape and can provide a broad based membership organization for concerted and meaningful conservation actions.

CHAPTER III

PROPOSED SPECIAL ZONING REGULATIONS

A. PROTECTION OF NATURAL AREAS

A new chapter of the Zoning Resolution, Article X, Chapter 3, is proposed to protect natural areas. Many of the devices discussed in Chapter I of this report are included in this proposed special purpose district.

It is important to recognize that the largest natural areas can be protected only by means other than zoning. A number of methods to accomplish this, involving both public and private conservation efforts, are outlined in Chapters I and II of this report.

The regulations of the Special Natural Area District are set forth in Appendix B. This district can be mapped as an overlay district for any area which contains significant natural features worth preserving. For the determination of Special District boundaries field and office studies will be supplemented by aerial and ground photographs.

1. Natural Features Classified

Natural features to be protected through the provisions of the Special Natural Area District would be outstanding examples of geologic, topographic, aquatic and botanic features. These natural features, listed below:

Geologic Features:

Rock outcrop and geologic deposits.

Topographic Features:

Natural terrain, especially slopes with an incline of 15 percent or more.

Aquatic Features:

Laminarian zone, beach, tidal wetland and salt-water littoral zone, swamp, marsh, bog, meadow, creek, stream or brook, lake, pond, and natural spring.

Botanic Environments:



Willow Pond by Willow Road

Primary succession community area, secondary succession community area, climax community area, dune or heathland, and wild grassland.

2. Preservation Concerns

The natural features will be protected as development takes place in the special district. The purpose is to maintain the existing ecological balance in the area. Achieving this goal requires an analysis of the interdependence of topography, soil types, natural flow of water and drainage, water

quality, animal, plant and marine life. For the protection of steep slopes, it is important to limit grading and the disruption of existing vegetational cover to a practical minimum and to fit street and building layouts to the natural terrain. To guard against erosion, excessive run-off and landslides, a careful evaluation of soil conditions must be reflected in development plans.

Controls for the protection of natural features will vary in each given development situation. The size, shape and topography of the development tract, and its relationship to a natural feature must all be taken into account in determining what protective measures can reasonably be required in the area affecting the natural feature. Within legislatively enacted guidelines, planning judgments must be made concerning the impact that developments can have on the highly vulnerable features whose preservation is important to the City. For these reasons, it is proposed that within the Special Natural Area District, development plans should be subject to special review and approval by the City Planning Commission.

3. Plan Review Procedures

Every development, institutional enlargement and site alteration on a predominantly vacant tract of land would require a review by the City Planning Commission prior to the issuance of a permit. For such review, the applicant would submit a topographical survey showing land contours and the location of natural features, along with his proposed site plan and other documents necessary to determine the impact of the proposed development on natural features.

The City Planning Commission's action on development proposals would fall into three categor-

ies: certification, authorization, or special permit.

A certification—an administrative directive to the Department of Buildings—would be required when the development would have no significant impact on existing natural features and no modifications of underlying district regulations are required. Authorization would be required when minor modifications of the underlying zoning district regulations would be necessary to preserve natural features or when modification of existing topography, relocation of erratic boulders, alteration or removal of botanic features is necessary to allow development. Where necessary in order to protect natural features, modification of use, or yard and height and setback regulations would be required by special permit. In certain cases, alteration of natural features would be allowed by special permit in order to allow reasonable development on the site. Any special permit could be granted by the City Planning Commission only after public hearings and final approval by the Board of Estimate, so that community preferences can be voiced and considered.

4. Guidelines for Natural Feature Protection

The general guidelines for the protection of natural features are outlined in the special district. These guidelines state the preservation concerns and the general requirements for protection of natural features. They are for the guidance of developers as well as the City Planning Commission in its review of their plans.

5. Modification of Underlying District Regulations

If developers were required to comply strictly with the regulations of the underlying districts, they would often be in conflict with the objective of preserving natural areas because of insufficient flex-

ibility allowed in the siting of buildings and the location of open spaces. It is therefore provided that underlying district regulations may be modified by special permit of the Planning Commission. The permitted modifications are generally in line with the criteria which apply to large-scale residential developments. Large-scale development regulations would apply to any residential development in the Special Natural Area District regardless of tract size or number of dwelling units. The major advantage of the large-scale development regulations occurs on tracts of sufficient size so that open space otherwise required on the individual lot can be pooled in common open space areas. Natural areas can be protected by including them in common open space. Another significant advantage of the large-scale development regulations is the flexibility they allow in the siting of buildings so as to avoid disturbing natural features. The Special District provides further flexibility by allowing by a special permit modification of use and side yard regulations. However, within low density R1 districts no modification in use or lot size will be allowed even by special permit because the required large lot size in these districts and the Special District's provisions for modifications of yard and height and setback regulations are sufficient to protect natural features.

Adjacent property owners may file joint applications for development plan approval and their combined properties may be considered as a single tract of land. This allows limited flexibility in bulk distribution. For example, one of the owners might provide all common open space including some natural features but only a minor amount of residential development. The other owners would

provide most of the residential development and none of the common open space.

Since the proposed Special District regulations are designed to encourage maximum preservation of natural areas by allowing them to serve as common open space for clustered residential development, it is important to establish limits on the degree of concentration which can take place. Therefore, a density bonus is allowed only for development on tracts of 10 acres or more.

6. Special Provisions for Planting

The Special Natural Area District may include tree planting requirements for lots where existing trees retained on the site are insufficient to meet the minimum requirement of one tree per 2,000 square feet of lot area. Vegetation requirements are designed to establish or restore ecological balance in the area of development.

7. Maintenance

Adequate maintenance is a necessary part of preservation. For some natural features it may amount to very little, but because it is crucial to others, there are provisions in the Special Natural Area District regulations authorizing the City Planning Commission to require a satisfactory maintenance plan as a condition for approval of a new development.

8. Public Use

A natural area with specialized maintenance requirements or significant recreation, cultural or educational value may be donated to the City or a conservation organization for public use. An easement or fee title may be donated. In this case, the natural area donated could satisfy open space requirements for the development site just as if it remained a part of it.



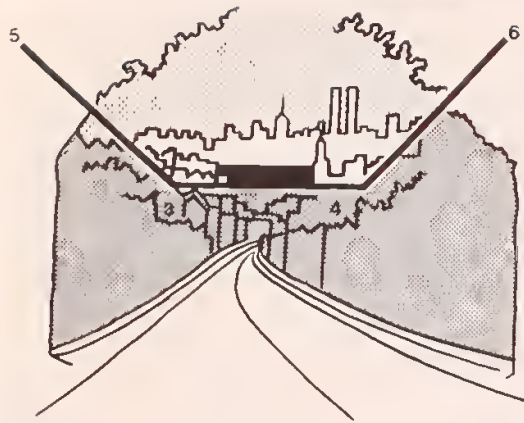
Richmond Brook.

9. Variety of Possible Preservation Approaches

The Special Natural Area District is adaptable for mapping in a variety of situations. In some areas of the City the preservation of a rich endowment of trees may be the only reason for mapping the Special District. In others, like the Staten Island Greenbelt, aquatic and geologic features and steep slopes may be of major significance as well. In some areas there will be major opportunities for guiding large planned developments in ways that will achieve the most significant conservation of the natural environment. Wherever this potential exists, the Special District regulations provide the opportunity and incentive for collaborative efforts on the part of land owners, community groups and the City to develop area plans best suited to preservation of the natural terrain and other outstanding natural features.

B. SCENIC VIEW PROTECTION

Article X, Chapter 2 of the Zoning Resolution is proposed for the protection of scenic views for the benefit of the general public. Specifically, the viewpoints should always be from a City-owned park, esplanade or mapped public place, and the views themselves should be outstanding or unique. Examples of such views are vistas of the waterfront, City skyline or other distant landscape of natural and man-made features. The Special Scenic View District, as set forth in Appendix D, will include specific regulations for each view to be protected. Within each mapped Scenic View District, the height of buildings, signs or other structures thereafter erected or enlarged will be restricted by scenic view plane(s) so that a specified view as seen from a specified view reference line will not be obstructed.



For each Scenic View District (SV-1, SV-2, SV-3, etc.) locations are established for:

- The view reference line from which the view is observed. This line is indicated by the line between points 1 and 2 in the illustration.
- The view framing line marking the lower limit of the view to be preserved from the view reference line. This line is indicated by the line between points 3 and 4 in the illustration.
- The view framing lines defining the breadth of the view to be preserved. These lines are indicated by the lines between points 3 and 5 and points 4 and 6 in the illustration.

Scenic view planes are established by joining the end points (1, 2) of the view reference line with the end points (3, 4; 3, 5; 4, 6) of each view framing line. The area under the scenic view planes or a portion thereof is designated as the Scenic View District.

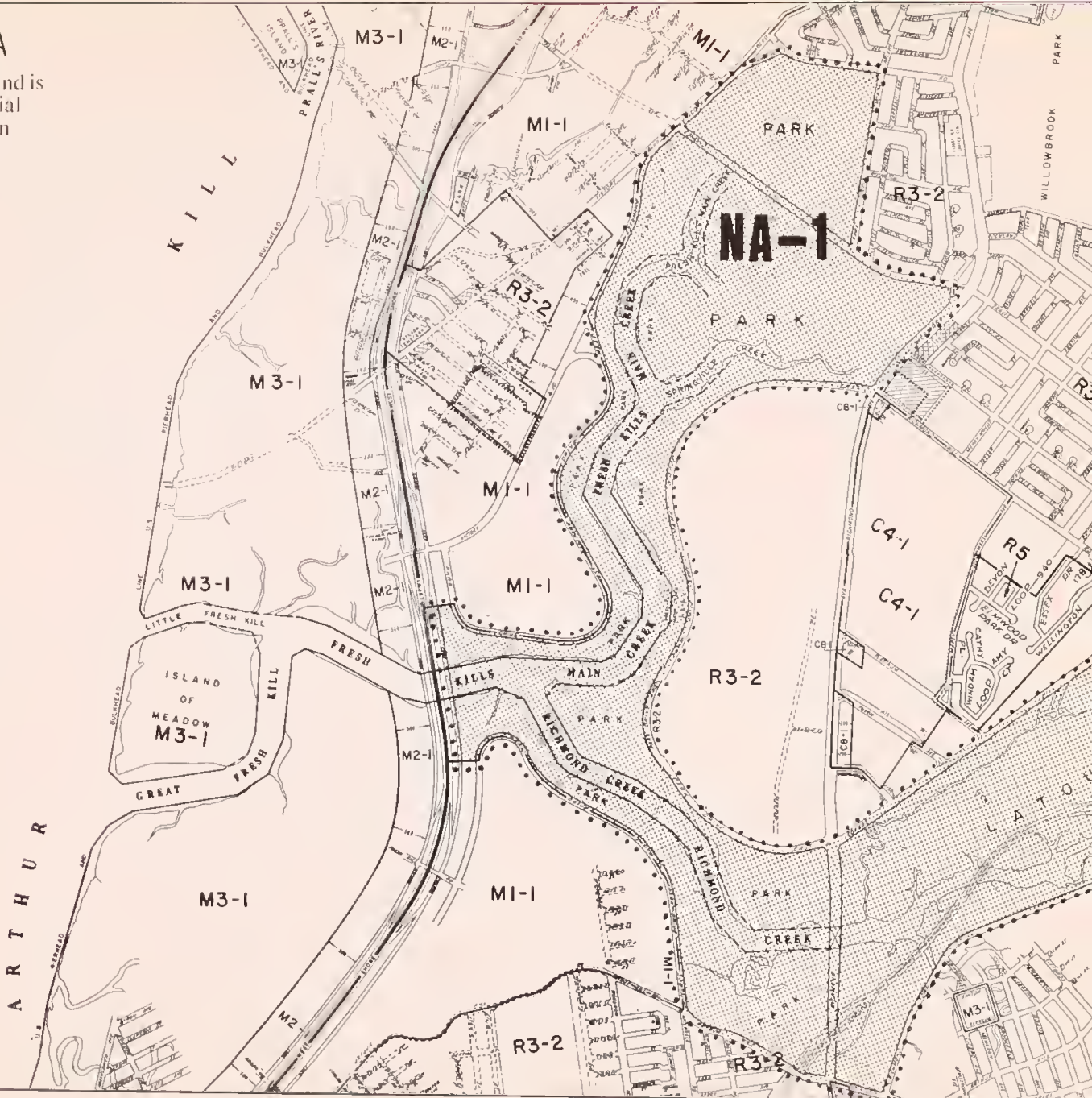
Scenic View District regulations are designed to be administered by the Department of Buildings. However, when a proposed development according to the regulations of the underlying district threatens to obstruct the view, the City Planning Commission and the Board of Estimate may allow, by special permit, minor penetration of a scenic view plane or modification of certain bulk regulations of the underlying district to prevent obstruction of the view.

APPENDICES

APPENDIX A.	28
Proposed Natural Area District	
APPENDIX B.	30
Proposed Natural Area Zoning Text	
APPENDIX C.	52
Scenic View District	
APPENDIX D.	54
Scenic View Zoning Text	

APPENDIX A

This area of Staten Island is the first proposed Special Natural Area District in New York City.



STATE OF NEW YORK
DEPT OF MENTAL HYGIENE



APPENDIX B
Article X
Special Purpose Districts
Chapter 3 Special Natural Area District

TABLE OF CONTENTS

	Section
GENERAL PURPOSES	103-00
Definitions	103-01
General Provisions	103-02
NATURAL FEATURES	103-10
Description of Natural Features	103-11
PROTECTION OF NATURAL AREAS	103-20
Protection of Natural Features	103-21
Protection of Existing Natural Topography	103-22
SPECIAL PROVISIONS FOR PLANTING	103-30
SPECIAL REVIEW PROVISIONS	103-40
Certification	103-41
Authorization	103-42
Special Permits	103-43
Conditions for Certification, Authorization or Special Permits	103-44
REGULATIONS FOR PROTECTION OF NATURAL FEATURES	103-50
MAINTENANCE OF NATURAL FEATURES	103-60
SPECIAL REGULATIONS FOR RESIDENTIAL DEVELOPMENT	103-70
JOINT APPLICATIONS	103-80
FUTURE SUBDIVISION	103-90
SPECIAL DISTRICT DESIGNATION ON PUBLIC PARKS	103-91
SPECIAL PROVISIONS FOR CITY-OWNED LANDS	103-92
SPECIAL NATURAL AREA DISTRICTS SPECIFIED	103-93

Chapter 3 Special Natural Area District

103-00 GENERAL PURPOSES

The Special Natural Area District (hereinafter also referred to as the "Special District") established in this Resolution is designed to promote and protect public health, safety and general welfare. These general goals include, among others, the following specific purposes:

- (a) To guide *development* in areas of outstanding natural beauty in order to protect, maintain and enhance the natural features of such areas.
- (b) To preserve land having qualities of exceptional recreational or educational value to the public.
- (c) To protect aquatic, biologic, geologic and topographic features having ecological and conservation values and functions.
- (d) To limit erosion associated with *development* by conservation of vegetation and protection of natural terrain.
- (e) To promote the most desirable use of land and direction of *building development* in accordance with a well-considered plan, to promote stability of *residential development*, to promote the character of the district and its peculiar suitability for particular uses, to conserve the value of land and *buildings*, and to protect the City's tax revenues.

103-01

Definitions

Definitions specially applicable to this Chapter are set forth in this Section.

The definitions of other defined terms are set forth in Section 12-10

(DEFINITIONS).

Development

For the purposes of this Chapter, a "development" includes the construction of a new *building* or other *structure* on a *zoning lot*, the relocation of an existing *building* on another *zoning lot*, the use of a tract of land for a new use, or an *enlargement* of a non-residential *building* or portion thereof.

To "develop" is to create a *development*.

Natural Feature

A "natural feature" is a specific natural feature belonging to one of the types listed in Section 103-10 (NATURAL FEATURES) and existing within a *Special Natural Area District*.

Site Alteration

A "site alteration" is:

an alteration on any vacant tract of land, *land with minor improvements* or any tract of land containing non-residential building which includes land contour work, topographic modifications, removal of top soil, vegetation or trees, excavating, filling, dumping, changes in existing drainage systems, improvements in public rights-of-way, relocation of erratic boulders or modification of any *natural features*, whether or not a permit is required from the Department of Buildings, the Department of Highways or other public agencies.

A *site alteration* shall not include any land operations on an existing *zoning lot* containing *residential buildings* on the effective date of the Special District designation.

Special Natural Area District (repeated from Section 12-10)

The "Special Natural Area District" is a Special Purpose District designated by the letters "NA", in which special regulations set forth in Article X, Chapter 3 apply to all *developments* or *site alterations*. The *Special Natural Area District* appears on the zoning maps superimposed on other districts, and its regulations supplement or modify those of the districts on which it is superimposed. The *Special Natural Area District* includes any district whose designation begins with the letters "NA".

Special Natural Area Districts may be mapped only in areas where outstanding *natural features* or areas of natural beauty are to be protected. The preservation of such areas is important because they contain areas of special ecological significance, interesting geologic formations such as rock outcrops, unique aquatic features such as tidal wetlands, unique topographic features such as palisades, valleys, and hills, important plant life such as glaciated Oak-Chestnut forests or because they serve as habitats for native flora and fauna. A *Special Natural Area District* may include one or more *natural features*.

A public park may be included in a *Special Natural Area District* only where it is a part of a designated larger natural ecological system.

103-02

General Provisions

In harmony with the general purpose and intent of this resolution and the general purposes of the *Special Natural Area District*, the regulations of the districts upon which this Special District is superimposed are supplemented or modified in accordance with the provisions of this Chapter, in order to protect outstanding *natural features* described herein. Except as modified by the express provisions of this Chapter the regulations of the underlying district remain in effect.

The provisions of this Chapter shall apply to:

(a) any *development* on a *zoning lot*;

(b) any *site alteration* on a *zoning lot*;

(c) any subdivision of a *zoning lot* existing on the effective date of the Special District designation into two or more *zoning lots*;

(d) any public improvement projects located within the *Special Natural Area District*, which shall be subject to the provisions of Section 103-92 and Section 103-93, except for any projects which were approved by the Board of Estimate prior to the effective date of the Special District designation.

Prior to issuance by the Department of Buildings, Department of Highways, Department of Water Resources or other city agencies, of a permit for any *development* or *site alteration* within a *Special Natural Area District*, or for any *site alteration* for which no permit is required by the Department of Buildings, Department of Highways, Department of Water Resources or other city agencies, an application shall be submitted to the Commission for review and approval pursuant to Section 103-40 (SPECIAL REVIEW PROVISIONS). When a *zoning lot* existing on the effective date of the Special District designation is subdivided into two or more *zoning lots* an application shall be submitted to the Commission for review and approval pursuant to Section 103-90 (FUTURE SUBDIVISION).

Nothing contained in this Chapter shall be understood to supersede scenic landmark designations of the New York City Landmarks Preservation Commission.

The provisions of this Chapter shall not apply to a *zoning lot* for which a building permit application was filed prior to October 1, 1974 with the Department of Buildings, and building permits pursuant thereto are issued no later than October 1, 1975.

103-021

Requirements for application

An application to the City Planning Commission for certification, authorization or special permit respecting any *development* or *site alteration* to be made within the Special District shall include a survey map prepared by a registered surveyor showing topography at two foot intervals, location and boundary of existing *natural features* numbered under each category in Section 103-11, species and location of individual trees of 6 inch caliper or more listed in Appendix A, existing soil types and site plans showing proposed *development* and modification of *natural features* and other information necessary to indicate the special permit or other authorization requested and its justification.

Appendix A should be used as a guide to assist in the preparation of the surveyor's map required in this section to delineate the boundary of all *natural features* numbered under each category of Section 103-11 (Description of Natural Features) and to indicate the tree species to be located and identified.

The applicant's submission shall also include a statement admitting authorized Department of City Planning personnel to the site for the purposes of recording or verifying survey data.

The Commission shall act within 60 days after receipt of a completed application. Where a permit is required for a *development* or *site alteration* within a *Special Natural Area District* from any City agency, an application for such permit shall be filed simultaneously with such agency and the City Planning Commission.

103-022

Action by the Board of Estimate

The Resolution of approval by the City Planning Commission, together with a copy of the application for the grant of a special permit, shall be filed with the Secretary of the Board of Estimate, and the Board of Estimate shall act upon such Resolution in accordance with the provisions of Section 200 of the New York City Charter.

103-023

Relationship to public improvement projects

In all cases, the Commission shall deny any application, whenever the *development* or *site alteration* will interfere with a public improvement project (including highways, public buildings or facilities, redevelopment or renewal projects, or rights-of-way for sewers, transit, or other public facilities) which is approved by or pending before the Board of Estimate, the City Planning Commission, or the Site Selection Board as determined from the calendar of each such agency issued prior to the date of the public hearing on the application for a special permit.

103-10 NATURAL FEATURES

103-11

Description of Natural Features

All natural features shall be significant in terms of age, size, composition, function, structure, history, association, location, ecological value or educational interest. The preservation of the natural features may be necessary in order to maintain ecological balance in the area. The protection of one natural feature may require the protection of another which is closely linked to it. The preservation of natural features may also be necessary to avoid such adverse conditions as flooding, erosion or hazard to private property.

All natural features defined in this section shall be protected by the provisions of this chapter.

A. Geologic Features

1. Rock Outcrop

A rock outcrop is the portion of a rock formation which appears at the surface of the earth.

2. Geologic Deposit

A geologic deposit is a mass of material which has been placed, shaped or created by the actions of wind, water, ice, gravity, vulcanism, pressure or temperature, either alone or in combination. Such deposits are to include erratic boulders, glacial formations, mineral deposits or semi-precious stones.

B. Topographic Features

1. Steep Slope

Steep slope is ground which has an incline of 15 percent or more.

2. Existing Natural Topography

Existing natural topography is the ground elevation of land existing at the time of designation of a *Special Natural Area District*.

C. Aquatic Features

1. Laminarian Zone

A laminarian zone is that land under the surface of salt water from the mean low tide mark to the depth of 15 fathoms. The portion of the laminarian zone to be protected by the provisions of this Special District extends to the Pierhead Line, or to the shoreline where no Pierhead Line has been established.

2. Beach

A beach is a tract of relatively flat sandy or gravelly land without visible vegetation forming the shore of a large body of water.

3. Tidal Wetland and Saltwater Littoral Zone

A tidal wetland or saltwater littoral zone is that land which is regularly covered by tidal waters and its spray.

4. Swamp

A swamp is a wet woodland, the soil of which is typically waterlogged or often covered with water.

5. Marsh

A marsh is a wet prairie which has waterlogged soil during the growing season (from last spring frost to first fall frost) and is often covered with shallow water.

6. Bog

A bog is a tract of waterlogged land without natural drainage.

7. Meadow

A meadow is a tract of land which is waterlogged to within a few inches of the surface and may have temporary ponds during the non-growing season (between first fall frost and first spring frost).

8. Creek, Stream or Brook

A creek, stream or brook is a free flowing fresh watercourse on soil, gravel or rock which drains a watershed.

9. Lake or Pond

A lake or pond is a body of fresh or salt water standing year round.

10. Natural Spring

A natural spring is a point source of water exiting from the surface of the earth or rock.

D. Botanic Environments

1. Primary Succession Community Area

A primary succession community area is a tract of land characterized by species which can tolerate extreme environmental conditions and provide initial protection for less tolerant forms of life. These species are usually annuals and herbaceous.

2. Secondary Succession Community Area

A secondary succession community area is a tract of land characterized by short-lived trees, shrubs as well as grasses and herbaceous material. The species are less tolerant than primary succession community species, but provide a greater diversity and range of protection from the sun, wind and rain.

3. Climax Community Area

A climax community area is a stable association of plants and animals which will perpetuate itself indefinitely with minor variation in the group of associated plants. The climax community area in New York City is the glaciated Oak-Chestnut association, which is part of the Eastern Hardwood Deciduous Forest.

4. Dune or Heathland

A dune or heathland is a tract of windblown and wind or water shaped sandy land with such characteristic species as beach grass and beach heather.

5. Wild Grassland

A wild grassland is an area whose vegetation is primarily of wild grass species.

The natural features defined in this Section are described in Appendix A.

103-20 PROTECTION OF NATURAL FEATURES

103-21

Protection of Natural Features

All *natural features* within a *Special Natural Area District* shall be protected by the regulations of this Chapter in accordance with the provisions set forth in Section 103-02 (General Provisions) and Section 103-50 (REGULATIONS FOR PROTECTION OF NATURAL FEATURES).

Except for any existing natural feature which is unsafe and the removal of which is required by the Department of Buildings to eliminate hazardous conditions, no *natural features* described in Section 103-11 (Description of Natural Features) shall be removed, destroyed or altered unless permitted by certification, authorization or special permit of the Commission pursuant to Section 103-40 (SPECIAL REVIEW PROVISIONS).

Where special permit authorization pursuant to Sections 103-432 or 103-433 is not granted to an applicant, the restrictions imposed by the provisions of Section 103-21 shall not apply to that portion of the *natural feature* affected.

103-22

Protection of Existing Natural Topography

The natural topography existing on a *zoning lot* at the time of designation of a *Special Natural Area District* on a *zoning lot* may be modified only by authorization of the Commission pursuant to Section 103-421 (Modification of existing topography). In the event that such existing topography is altered without prior authorization of the Commission, the Commission may require new grading or other topographic modifications or surface improvement to re-establish the viability and function of the soil as a growing medium, and as a drainage surface, in order to permit the site to blend harmoniously with the surrounding area of the *Special District*.

Topsoil shall be neither removed from the surface of any *zoning lot* nor covered with inferior material unless permitted pursuant to Section 103-421.

103-30 SPECIAL PROVISIONS FOR PLANTING

103-31

Vegetation Requirements

Within appropriate *Special Natural Area Districts* the mandatory vegetation requirements of this Section shall apply as indicated in Section 104-94 (*Special Natural Area District Specified*).

Any plant materials which cannot be saved as a result of the *site alteration* or *development* process shall be replaced with alternate plant materials to be approved by the City Planning Commission. The replanting of elements of vegetation which are parts of an association or community shall be such as to re-establish as rapidly as is reasonable the vigor and character of the association. When necessary to establish ecological balance, the Commission may also require additional vegetation to be planted.

The planting of species shall not be limited to woody plant materials, but shall include trees, shrubs, vines, ferns, grasses, herbs, annuals, biennials, perennials, mosses, and other associated vegetation. All vegetation to be planted shall be either of the species which characterized the area's biological community prior to *site alteration* or *development*, or of an alternate biologic community found in the area. Species selection shall give particular attention to the relationship of the species to each other and to the surrounding plant community and to the quality of the soil and the vertebrate and invertebrate populations associated with and dependent upon the proposed plants. The goal is to maintain, reinforce and increase the diversity and stability of the plant and animal population which characterize the *Special Natural Area District*.

103-32

Tree Requirements

Within appropriate *Natural Area Districts* the mandatory tree requirements of this Section shall apply as indicated in Section 104-94 (*Special Natural Area District Specified*). For any *development* within a *Special Natural Area District* in which tree requirements are made mandatory, there shall be at least one tree of at least 3 inch caliper pre-existing or newly planted, for each 2,000 square feet of *zoning lot* area or fraction thereof. For the purposes of meeting this requirement, a pre-existing tree of 18 inch caliper or more shall count as three trees, and newly planted trees shall be of a species acceptable from the standpoint of hardiness, appearance and habit of growth suitable to the site.

103-40 SPECIAL REVIEW PROVISIONS

The provisions of this Section shall apply to all *developments* or *site alterations* located within a *Special Natural Area District*.

For any *development* or *site alteration* the applicant shall apply to the City Planning Commission for approval pursuant to the provision of this Section.

All applications for certification, authorization or special permit for a *development* or *site alteration* within a *Special District* shall include a site plan and photographs showing the location and condition of such *natural features* for verification with pre-existing aerial survey and/or other photographs for each *Special Natural Area District*.

Applicants for a *development* or *site alteration* also shall submit a drainage plan and soil report prepared by a registered engineer when required by the Commission.

Prior to the issuance by the Department of Buildings of any permit for a *development* or *site alteration* within a *Special Natural Area District*, the Commission shall certify to the Department of Buildings that the *development* or *site alteration* is approved pursuant to Section 103-41, Section 103-42 or Section 103-43.

The provisions of Article VII, Chapter 8 (*Special Regulations Applying to Large-Scale Residential Developments*) shall apply to all *developments* except as modified by the provisions of Section 103-70 (*Applicability of large-scale residential development regulations*).

103-41

Certification

When it is not necessary for the applicant for a *development* or *site alteration* to apply for an authorization or special permit, the City

Planning Commission shall certify to the Department of Buildings that no authorization or special permit is required pursuant to this Chapter.

Where mandatory vegetation or tree requirements of Section 103-30 (SPECIAL PROVISIONS FOR PLANTING) apply or where *natural features* are to be protected and maintained under Section 103-60 (MAINTENANCE OF NATURAL FEATURES), the Commission shall indicate in the certification specific conditions and safeguards appropriate to the designated area.

103-42

Authorization

For a *development* or *site alteration* located within the *Special Natural Area District*, the City Planning Commission may authorize:

- (i) modification of existing natural topography pursuant to Section 103-421 (Modification of existing topography); or
- (ii) relocation of erratic boulders pursuant to Section 103-422 (Relocation of erratic boulders); or
- (iii) alteration of botanic environments pursuant to Section 103-423 (Alteration of botanic environments or removal of trees).

103-421

Modification of existing topography

The natural topography existing at the time of designation of a *Special Natural Area District* may be modified by the City Planning Commission provided that the Commission finds:

- (a) that *development* is not feasible without such modification;
- (b) that such modification including any removal of top soil will not disturb the drainage pattern and soil conditions in the area; and
- (c) that such modification of topography has minimal impact on the existing natural topography of the surrounding area and blends harmoniously with it.

In addition, in areas with an existing slope of more than 15 percent the provisions of Section 103-505 (Steep slope) apply. Where permits are required from a city agency, the Commission shall request a report from such agency, and the provisions of Section 103-93 (Inter-agency coordination) apply.

103-422

Relocation of erratic boulders

No erratic boulder with a diameter at any point of six feet or more may be moved from its location at the time of designation of a *Natural Area District* to another location within the *Special District* during *development* or *site alteration* except in compliance with the provisions of this Section.

Prior to the moving of an erratic boulder from its present location to a location elsewhere within the *Special Natural Area District* an application shall be filed with the City Planning Commission showing the present location and the proposed location. Moving of an erratic boulder will be permitted only by authorization of the Commission under the following circumstances:

- (a) Where such a boulder is located in an area to be occupied by *buildings*, *driveways*, *parking areas* or *recreation areas* and it is not possible to avoid such location by minor adjustments in the arrangement of such *buildings*, *driveways*, *parking areas* or *recreation areas* on the site;
- (b) Where the boulder's continued existence in its present location would create hazards or dangers; and
- (c) Where authorizations granted by the City Planning Commission under the provisions of this Chapter require or clearly contemplate the boulder's relocation from its present position.

In issuing authorization under this Section, the Commission shall require an appropriate relocation site, visible, if possible, from a public street, park or public place—preferably on the *zoning lot* or elsewhere within the *Special Natural Area District*. The Commission may prescribe appropriate conditions to enhance the setting of the relocated boulder and safeguards to protect the character of the *Special Natural Area District*.

103-423

Alteration of botanic environments or removal of trees

No portion of a botanic environment shall be altered or land operations affecting botanic environments undertaken by or on behalf of present or future applicants for permits except in compliance with the provisions of this Section.

No individual tree of 6-inch caliper or more listed in Appendix A and located anywhere within the *Special District* shall be removed without authorization of the City Planning Commission.

Prior to any such removal, alteration or land operation, applications shall be filed with the City Planning Commission showing the location of all botanic environments indicated in Section 103-11 (Description of Natural Features) and trees of 6-inch caliper or more and identifying those which are proposed to be removed or altered. Alteration or

removal of existing plant material will be permitted only by authorization of the Commission under the following circumstances:

(a) Where plant material is located in areas to be occupied by *buildings*, driveways, parking areas or recreation areas or within a distance of 15 feet of the exterior walls of such *buildings*, and it is not possible to avoid such location by minor adjustments in the arrangement of such *buildings*, driveways, parking areas or recreation areas on the site.

(b) Where plant material is located in areas which require excessive cut or fill of land deemed inimical to plant survival.

(c) Where the plant material's continued presence would create hazards or dangers such as an area affected by storm or plant disease.

(d) Where authorizations granted by the City Planning Commission under the provisions of this Chapter require or clearly contemplate the plant material's alteration or removal.

In issuing authorizations under this Section, the Commission may prescribe appropriate conditions and safeguards to protect the character of the *Special Natural Area District*.

103-43

Special Permit

For any *development* or *site alteration* within the Special District, the City Planning Commission may by special permit after public notice and hearing and subject to Board of Estimate action grant special permits for modification of the underlying district regulations in accordance with the provisions of Section 103-431 to Section 103-434 inclusive.

103-431

Modification of use regulations

In addition to any *use* modifications which may be granted under the provisions of Section 103-701 (Applicability of large-scale residential development regulations), the City Planning Commission may grant special permits to allow semi-detached or attached *single-family residences* in R2 Districts and attached single- or two-family residences in R3-1 Districts.

As a condition for granting such special permits the Commission shall find:

(i) that the preservation of natural features requires the permitted *development* to be concentrated in the remaining portion of the tract, and

(ii) that for such concentration of *development* better standards of privacy and usable *open space* can be and are achieved under the development plan by inclusion of the proposed *residential building* types, and

(iii) that the change of housing type requested constitutes the most effective method of preserving *natural features*.

103-432

Modification of yard and height and setback regulations

For any *development* which does not qualify under the provisions of Section 103-701, the City Planning Commission may authorize variations in required *front, rear, or side yards*, required space between buildings on the same *zoning lot* and may modify height and setback regulations for the purpose of preserving *natural features* if the Commission finds that the proposed placement of *buildings* and arrangement of *open spaces* will not have significant adverse effects upon the light, air and privacy for existing *development* in adjacent areas or the opportunities therefor in future *development* and will preserve significant *natural features*. The Commission may condition such authorizations upon the joint submission of acceptable plans for *development* of two or more adjacent *zoning lots* by the owners thereof.

103-433

Alteration of natural features

Alteration of all *natural features* other than existing topography, erratic boulders or botanic environments for which alteration, modification or relocation is authorized pursuant to Section 103-421 (Modification of existing topography) or Section 103-422 (Relocation of erratic boulders) or Section 103-423 (Alteration of botanic environments or removal of trees) may be granted by special permit of the Commission where *development* is not feasible without such alteration or where alteration is necessary to protect the health and safety of the site occupants. As a condition for such alteration, the Commission finds that the *development* as authorized will result in the minimum *natural feature* interference that must be permitted in order to allow reasonable *development* and *bulk* distribution under the regulations of the underlying district.

The Commission shall impose appropriate conditions and safeguards to assure protection of the portions of the area to be preserved in their natural state.

Where permits are required from a city agency for any work affecting *natural features*, the Commission shall request a report from such agency and the provisions of Section 103-93 (Inter-agency Coordination) apply.

In the event alteration of a *natural feature* is found inappropriate, the Commission may treat an application under this section as an application for modification of yard and height and setback regulations under Section 103-432.

103-434

Natural area dedicated for public use

Where commonly or separately owned areas containing *natural features* of exceptional recreational, cultural or educational value to the public are dedicated to the City without any cost to the City, pursuant to

Section 103-701 (Applicability of large-scale residential development regulations), the Commission may by special permit allow, where appropriate, such portion of the zoning lot to be included in the zoning computation for floor area, open space, lot area per room requirements and other bulk computations.

103-44

Conditions for Certification, Authorization or Special Permits

The Commission may certify or grant authorization or special permit for any development or site alteration within the Special District provided the development or site alteration complies with the provisions of the following Sections:

Section 103-50 (REGULATIONS FOR PROTECTION OF NATURAL FEATURES)

Section 103-60 (MAINTENANCE OF NATURAL FEATURES)

Section 103-70 (SPECIAL REGULATIONS FOR RESIDENTIAL DEVELOPMENT)

Section 103-80 (JOINT APPLICATIONS)

The provisions of Section 103-50 (REGULATIONS FOR PROTECTION OF NATURAL FEATURES) establish regulations for City Planning Commission review of development or site alteration plans from the standpoint of the protection they afford to natural features. Plans which are deficient in this regard may be rejected or required to be modified, even though they comply with all other applicable regulations of this Chapter.

The provisions of Section 103-60 (MAINTENANCE OF NATURAL FEATURES) establish requirements for the maintenance of natural features. Approval of development plans subject to such requirements is conditioned upon the City Planning Commission's approval of a maintenance plan.

Section 103-70 (SPECIAL REGULATIONS FOR RESIDENTIAL DEVELOPMENT) deals with the City Planning Commission's power to grant modifications of the applicable regulations of the underlying districts for predominantly residential developments so as to permit greater flexibility in the location of buildings and in the distribution of bulk, density and open space and thereby facilitate the protection of natural features or the preservation of natural terrain.

As a condition for certification, authorization or issuance of a special permit by the Commission, the Commission shall find that all proposed developments or site alterations blend harmoniously with the natural features and topography of the surrounding area within a Special Natural Area District.

103-50 REGULATIONS FOR PROTECTION OF NATURAL FEATURES

The provisions of this Section establish regulations for City Planning Commission review of development or site alteration plans from the standpoint of the adequacy of protection for natural features within a Special Natural Area District.

These regulations are to be used by the Commission in reaching a determination whether to approve development or site alteration plans filed pursuant to Section 103-41 (Certification), Section 103-42 (Special Authorizations), or Section 103-43 (Special Permits).

The Commission, where appropriate, shall be guided by the reports from other city agencies involved in land contour work, storm water drainage systems and similar operations affecting natural features.

In determining the necessary alteration of natural features or extent of modifications involved in a development or site alteration, the Commission shall be guided by the effect of any alteration of a natural feature on the total ecological process of the surrounding natural environment including the following: the effect of such alteration on the existing topography, soil conditions, erosion, natural flow of water and drainage, water quality, animal, plant and marine life.

Further guidelines for the protection of natural features are listed below:

(a) No natural feature shall be moved, removed, covered, diminished, broken or disfigured, unless permitted pursuant to the provisions of Section 103-40.

(b) Filling, excavating, draining, dredging, grading and contouring shall be staged and controlled so as to minimally impair the function, composition, vitality and existence of natural features. When and where possible, such operations shall be done in a manner so as to maintain or improve the biological system and individual features on the site.

(c) All filling, excavating, draining, dredging, grading and contouring shall avoid creation of steep slopes or conditions causing erosion, loss of fertility of soil, health or safety hazards, and shall be done in conformance with the limits and nature of the soil involved.

(d) All land operations including filling, excavating, draining, dredging, grading and contouring shall be limited to those operations which maintain or restore natural drainage, cause a minimum disturbance of the natural features and their setting while providing for the development or site alteration or permitted uses.

(e) No development or site alteration shall be such as to impede or change the quality, turbidity, temperature or chemical composition of the natural drainage or aquatic features.

(f) A development or site alteration shall be permitted only in areas sufficiently removed from the natural features to avoid impairment of their existence, functions or beauty.

(g) There shall be maximum preservation of all natural vegetation in and adjacent to the *natural features* found on the site.

Plant communities which have been substantially reduced in area or composition as a result of a *development* or *site alteration* shall be restored, extended or replaced by alternative plant materials with an adequate maintenance program. In no case shall the site be allowed to be de-nuded and without vegetational cover upon completion of the *development* or *site alteration*.

(h) Replacement of any *natural feature* and planting of new vegetation on a site in the Special District shall be such as to extend, reinforce, increase the diversity, function and vitality of an association or community in the area. Special attention shall be given to symbiotic relationships between plants and the relationship between vegetation to be planted and animal populations which are dependent upon or related to the proposed vegetation. Where appropriate, planting shall include trees, shrubs, vines, ferns, grasses, herbs, annuals, biennials, perennials, mosses, and other associated vegetation.

(i) Adequate provision shall be made for proper management and maintenance of *natural features* and their immediate surroundings to avoid pollution, loss of vigor, reduction in composition or function or other ecological damage.

(j) Where appropriate, when a portion of a *natural feature* or its function must be altered, such alteration shall not only reinforce the function, vitality and existence of the remaining portion of the *natural feature* but also improve conditions for other *natural features*. This shall apply particularly but not exclusively to the removal and replanting of plant materials.

(k) Where appropriate, a *development* or *site alteration* shall be such as to leave *natural features* intact in their natural setting and, where feasible, visible from public *streets* or places.

(l) For a steep slope, the primary concerns are the preservation of natural beauty and the prevention of hillside erosion, landslide, and excessive runoff. Additional concerns arise where the steep slope area is part of the watershed of a creek, stream, brook, lake, pond or swamp. Accordingly, these additional requirements apply:

In all Residence Districts, for *residential developments* entirely within a steep slope area, the average *lot area per dwelling unit* shall not be less than 12,500 square feet. Except for R1 Districts, for individual zoning lots entirely within a steep slope area, where higher densities are justified by comparatively flat topography or other conditions, the City Planning Commission may permit deviations below this minimum average *lot area per dwelling unit*, provided that such minimum average *lot area per dwelling unit* is maintained for the *development* as a whole. *Development* may be concentrated in clusters to preserve extensive portions of steep slope areas in their natural state as common *open space*, provided

that such clusters are limited to areas of comparatively flat topography and will not require extensive grading on adjacent slopes or the creation of new steep slopes.

Existing vegetational cover in steep slope areas shall not be removed, destroyed or damaged except pursuant to development and grading plans approved by the City Planning Commission. An objective of such plans shall be to fit *street* layouts and *building* designs to the natural terrain, limit grading to a practical minimum and provide for maximum preservation of the natural terrain and vegetational cover.

103-60 MAINTENANCE OF NATURAL FEATURES

For any *development* or *site alteration* on a tract of land within a *Special Natural Area District*, the City Planning Commission may require a maintenance plan for a *natural feature*. Where a maintenance plan is required, approval of the development plan and the granting of certification, authorizations or special permit shall be conditioned upon the Commission's approval of the maintenance plan.

The maintenance plan shall specify what the maintenance is to consist of and whose responsibility it will be, and shall provide assurance that maintenance will be satisfactorily executed. The Commission, in considering the maintenance needs of a particular *natural feature* and the content of an acceptable maintenance plan shall, where appropriate, refer all relevant plans to the Landmarks Preservation Commission, Department of Parks or other city agency with primary responsibilities in natural areas conservation, for its report thereon. The Commission shall, in its determination, give due consideration to any such report submitted within one month from the date of referral. If such city agency does not report within one month, the Commission may make a final determination without reference thereto.

For *natural features* for which the Commission determines that specialized maintenance and regulated public use are appropriate, the maintenance plan may provide for dedication of the *natural feature* to the City or an approved private conservation organization for responsible maintenance in the public interest.

103-70 SPECIAL REGULATIONS FOR RESIDENTIAL DEVELOPMENT

In order to carry out the purposes of this Chapter all *developments* used predominantly for *residential use* shall be subject to the provisions of this Section.

103-701

Applicability of large-scale residential development regulations

The provisions of Article VII, Chapter 8 (Special Regulations Applying to Large-Scale Residential Developments) shall apply except as modified by the provisions of this Section.

Any development used predominantly for residential uses shall be treated as a *large-scale residential development*, and authorizations or special permits for such development may be granted in accordance with the provisions of Article VII, Chapter 8, as modified herein or in Section 103-80 (JOINT APPLICATIONS), regardless of whether such development will have the area, number of buildings or number of dwelling units specified in the definition of *large-scale residential development* as set forth in Section 12-10 (DEFINITIONS).

However, in R1 Districts, no modification of minimum required lot area as set forth in Section 23-32 (Minimum Lot Area or Lot Width for Residences) shall be allowed for any development pursuant to paragraphs (c) and (d) of Section 78-311 (Authorizations by the Planning Commission) or Section 78-32 (Bonus for Good Site Plan) but modifications of required front or rear yards and height and setback regulations on the periphery of such development pursuant to paragraphs (c) and (d) of Section 78-312 (Special permit authorizations) shall apply. Modification of side yards or all developments including developments in R1 Districts shall be subject to the provisions of Section 103-432 (Modification of yard and height and setback regulations).

Bonuses which may be granted for *large-scale residential developments* pursuant to Section 78-32 (Bonus for Good Site Plan) to Section 78-35 (Special Bonus Provisions) may not be granted for developments which have less than 10 acres and less than the number of buildings or number of dwelling units required by the definitions of a *large-scale residential development*.

Commonly or separately owned areas containing *natural features* may qualify as common open space for purposes of satisfying open space requirements in *residential developments*.

Approval by the City Planning Commission of a development plan incorporating *natural features* as common open space shall be conditioned upon the findings required in Section 78-313 (Findings) and Section 78-52 (Common Open Space) with respect to the qualification of areas as common open space and upon additional findings that appropriate safeguards are provided for the protection and preservation of such *natural features*.

In the case of *natural features* which are determined to have qualities of exceptional recreational, cultural or educational value to the public and which are directly accessible to the public from a public right-of-way, the applicant may request the City to take title or a less than fee interest in the property occupied by such natural feature without any cost to the City or its designee for use and enjoyment by the public subject to the provisions of Section 103-60.

103-80 JOINT APPLICATIONS

Notwithstanding the provisions of Section 78-06 (Ownership) a tract of land which is the subject of an application for authorizations or special permits under the provisions of this Chapter may include adjacent property in more than one ownership, provided that the application is filed jointly by the owners of all property included. Any subdivision of the tract reflecting ownerships at the time of application or creating new ownerships before, during or after development shall be subject to the provisions of Section 78-51 (General Provisions).

103-90 FUTURE SUBDIVISION

Within a *Special Natural Area District* any zoning lot existing on the effective date of the Special District designation may be subdivided into two or more zoning lots provided that *natural features* are preserved to the greatest extent possible under future development options.

A plan for such subdivision shall be filed with the Commission and the Commission shall certify that such subdivision complies with this objective. The subdivision plan shall include a survey map indicating existing topography and other *natural features* within this area. When a zoning lot, existing on the effective date of the Special District designation is more than 10 acres and is intended to be subdivided, an area plan of the entire zoning lot shall be filed with the Commission. The area plan shall include the proposed street system within the area, block layouts and any other information required by the Commission.

103-91 SPECIAL DISTRICT DESIGNATION ON PUBLIC PARKS

When a *Special Natural Area District* is designated on a *public park* or portion thereof, any *natural features* existing on the effective date of this Chapter within such area shall not be removed, destroyed or altered unless authorized by the City Planning Commission. As a condition for granting such authorization, the Commission shall find that such authorization is consistent with the intent of the *Special Natural Area District*.

103-92 SPECIAL PROVISIONS FOR CITY-OWNED LAND

For any development or site alteration on city-owned land located within a *Special Natural Area District*, the provisions of Section 103-40 (SPECIAL REVIEW PROVISIONS) shall apply except that modifications permitted under Section 103-43 (Special Permits) may be approved by authorization of the City Planning Commission. Furthermore, provisions of Section 103-93 (Inter-agency coordination) apply to all developments or site alterations on City-owned land. However, the provisions of this chapter shall not apply to any public improvement project approved by the Board of Estimate prior to the effective date of the Special District designation.

103-93 INTER-AGENCY COORDINATION

Where an authorization or permit is required from the City Planning Commission pursuant to this Chapter and where a permit is required from the Department of Highways or Department of Buildings for land contour work, by the Department of Water Resources for storm water drainage systems for buildings or adjacent areas or where construction of a public improvement project is undertaken by a city agency, the Department of City Planning and the agencies involved shall jointly determine the conditions under which such proposed *development* or *site alteration* within a *Special Natural Area District* will best meet the purposes of the *Special Natural Area District*. Applications for any required permit or authorizations shall be filed simultaneously with each agency requiring a permit. Where differences exist among agencies concerning a proposed *development* or *site alteration* within the *Special District*, a three-member Inter-Agency Board of Conservation of Natural Features shall arbitrate prior to the issuance of any permit. Such Board shall consist of the following:

- the Deputy Mayor
- the Director of the City Planning Department
- the Commissioner of the agency directly involved

The Deputy Mayor shall be the Chairman of the Board.

104-94 SPECIAL NATURAL AREA DISTRICTS SPECIFIED

103-941

Special Natural Area District 1—Emerson Hill, Dongan Hills, Todt Hill, Lighthouse Hill and the central wetlands area of Richmond.

The central serpentine hilly spine of Staten Island is composed of Emerson Hill, Dongan Hills, Todt Hill and Lighthouse Hill. These hills are richly endowed with steep slopes, rock outcrops, erratic boulders and ponds, lakes, swamps, creeks and many trees of the glaciated Oak-Chestnut association.

To the south and west of the serpentine hills are tidal wetlands, a habitat for marine life and water fowl. The wetlands include parts of Latourette Park, Fresh Kills Park and New Springville Park. The high and low wetlands of Latourette Park and New Springville Park and most of the low wetlands of Fresh Kills Park remain in their natural state. The purpose of this *Special Natural Area District* is to preserve and protect the aforementioned *natural features* pursuant to the provisions of this Chapter.

The vegetation requirements set forth in Section 103-31 (Vegetation Requirements) shall apply to the entire Special Natural Area District 1—and tree requirements set forth in Section 103-32 (Tree Requirements) shall apply within the area located northeast of Richmond Hill Road and southeast of Forest Hill Road.



SALTWATER ROCKY SHORE

SUPPLEMENT : APPENDIX A OF
CHAPTER 3 SPECIAL NATURAL AREA DISTRICT
GLOSSARY AND DESCRIPTION

Part I.

Certain botanic terms referred to in the text and Part II of Appendix A are explained below:

A "tree" is any woody plant with one trunk rising out of the earth and root system, from which branches then spring, usually at some distance from the earth. A tree may be deciduous or coniferous.

A "shrub" is a woody plant that has one or more trunks rising from the same root system instead of a single trunk. These trunks or stems may or may not branch at some distance from the earth. A shrub may be deciduous or coniferous.

A "herb" is a non-woody plant with a fleshy stem which dies back to the earth level at the end of the growing season. It may be annual, biennial, or perennial.

A "vine" is a woody plant whose trunk or stem must be supported by the general environment or other plants. It is unable to stand on its own.

A "grass" is a family of herbaceous plants, rarely woody, with hollow round stems.

An "annual" is a plant which completes its life cycle in the space of one growing season, that is, it goes from seed to full plant and flower and sets seed in a single season.

A "biennial" is a plant which requires two years to grow from seed to mature plant capable of producing seed and then dies.

A "perennial" is a plant which lives more than one or two years and usually produces seeds for more than a few years.

A "fern" is a perennial flowerless plant which reproduce by spores.

An "association" is a grouping of many plant species over a wide area sharing a common habitat and similar geographic conditions.

A "community" is a series of plants, animals, algae, fungi, grasses, trees, shrubs, herbs and other life forms which characteristically

grow and live together in harmony creating a balanced biological environment.

Part II.

Description of Natural Features defined in Section 103-10 (NATURAL FEATURES).

A. Geologic Features

1. Rock Outcrop

A rock outcrop shows the type of rock underlying the area, the results of surface abrasion by glacier, waterborne or wind-borne matter, or the results of chemical or temperature weathering.

2. Geologic Deposits

Geologic deposits include:

Soils of different origins, such as Loess, mineral deposits, such as artinite, garnets, zircon, topaz, beryl, tourmaline, algite, tremolite, serpentine, muscovite, amethyst, peridot, jadeite, geodes and other elements of the Precambrian, Ordovician, Triassic, Cretaceous, Pleistocene and Holocene geology found in New York City.

An erratic boulder is a relatively large mass of rock which has been moved significant distances from its parent rock to be left amidst a geologic area which has a different history and origin than the parent.



ERRATIC BOULDER

B. Topographic Features

1. Steep Slope

A steep slope includes ground formation with sharp inclines such as hills and palisades.

2. Existing Natural Topography

Existing natural topography includes terrain other than steep slope areas.

C. Aquatic Features

1. Laminarian Zone

a. Rock Bottom

Characteristic Plants:

Chaetomorpha melagonium }
Cladophora gracillis } Green algae
Codium fragile }

BLUE MUSSEL



ROCK BARNACLE



WATER MILFOIL



Ascopyllum nodosum }
Sargassum filipendula } Brown algae
Agarum cribosum }

Rhodymenia palmata (Dulse) }
Ceramium robrum } Red algae
Ahnefeltia plicata }
Polysiphonia lanosa }
Seirospora griffithsiana }
Callithamnion corymbosum }

Characteristic animals:

Diadumene leucolena } Pallid sea anemone
Ceriantheopsis americanus } Worm sea anemone
Astrangia danae } Star coral
Crisia denticulata } Fringed moss animal
Bugula turrita } Turreted moss animal
Membranipora monostachys } Sea mat
Lepas fasticularis } Northern sea barnacle
Balanus balanoides } Rock barnacle
Littorina littorea } Common periwinkle
Littorina littorea } Smooth periwinkle
Littorina obtusata } Salt marsh periwinkle
Crepidula fornicata } Common boatshell
Polinices dubicatus } Shark eye
Urosalpinx cinera } Oyster drill
Mytilus edulus } Blue mussel
Modiolus demissus } Ribbed mussel
Crassostrea virginica } Virginia oyster
Petricola pholadiformis } False angelwing

b. Mud or Sand Bottom

Characteristic plants:

Chaetomorpha melangonium }
Cladophora gracillis } Green algae

Sargassum filipendula }
Laminaria agardhi } Brown algae
Agarum cribosum }

Rhodymenia palmata (Dulse)
 Cystoclonium purpureum
 Ahnfeltia plicata
 Polysiphonia lanosa
 Sierospora griffithsiana
 Callithamnion corymbosum

Red algae

Characteristic animals:

Ceriantheopsis americanus	Worm sea anemone
Littorina Littorea	Common periwinkle
Littorina obtusata	Smooth periwinkle
Littorina irrorata	Salt marsh periwinkle
Crepidula fornicata	Common boatshell
Polinices dublicatus	Shark eye
Lunatia heros	Common moonshell
Mytilus edulus	Blue mussel
Modiolus demissus	Ribbed mussel
Nucula proxima	Atlantic nut clam
Aequipecten irradians	Bay scallop

Mercenaria mercenaria	Northern quahog
Macome baltica	Baltic macoma
Tagelus plebeius	Stout razor
Mya arenaria	Soft shell clam
Corbulua contracta	Common basket clam

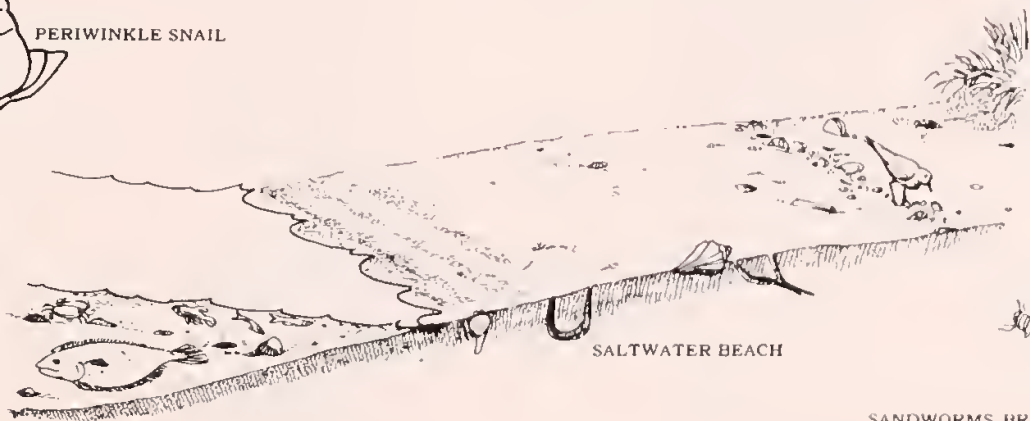
2. Beach

Characteristic saltwater beach animals:

Orchestia Agilis	} Beach Flea
Talitrus Longicornis	
Nereis Virens	} Sandworms or Bristleworms
Nereis Limbata	
Nephtys Picata	
Arabella Opalina	
Lumbriconereis Tenuis	
Glycera Americana	
Nerine Agilis	
Cirratulus Grandis	
Cistenides Gouldii	
Clymenella Torquata	
Maldane Elongata	



PERIWINKLE SNAIL



SALTWATER BEACH



SANDWORMS, BRISTLEWORMS

Penaeus Brasiliensis
Laldemonetes Vulgaris
Crangon Vulgaris } Ghost Shrimp

Ocypoda Arenaria } Ghost Crab
 Limulus Polyphemus } Horseshoe Crab
 Carcinides Moenas } Green Crab

Callinectes Sapidus
Callinectes hastatus } Blue Crab

Ovalipes Ocellatus
Platyonichus Ocellatus
Cancer Irroratus } Lady Crab or Sand Crab
 Rock Crab

Uca Minax
Gelasimus Minax
UCA Pubnax
Gelasimus Pugnax
UCA Pugilator
Gelasimus Pugilator } Fiddler Crabs

Pinnotheres Maculatum } Oyster Crab
Venus Mercenaria } Hardshell Clam
Mya Arenaria } Softshell Clam
Ensis Directus } Razor Clam
Tagelus Gibbus } Clam
Psilaster Florae } Starfish
Amphiura Squamata } Brittlestars
Echinarachncus Parma } Sand Dollar

Haminae Solitaria
Scala Lineata
Scala Multistriata
Polynices Heros
Polynices Triseriata
Polynices Duplicata
Crepidula Fornicata
Crepidula Plana
Littorina Litorea (Periwinkle)
Urosalpinx Linera
 (Oyster Drill)
Eupleura Caudata } Snails

Columbella Avara
Columbella Similis
Columbella Anachis
Columbella Astyris
Columbella Lunata
Nassa Trivittata
Nassa Obsoleta } Snails

3. Tidal Wetland or Saltwater Littoral Zone

a. Rock Bottom

Characteristic plants:

Callothrix spp.
Rivularia atra } Blue-green algae

Ulothrix flacca
Enteromorpha intestinalis
Ulva lactuca (Sea lettuce)
Monostroma oxyspermum
Codium fragile } Green algae

Fucus vesiculosus
Fucus vesiculosus
 var *spiralis*
Fucus spiralis
Ascophyllum nodosum } Brown algae

Hildenbrandia prototypus
Agardhiella tenera
Chondrus crispus (Irish moss)
Bangia fuscopurpurea
Porphyra umbilicalis
Ceratium rubrum
Ahnfeltia plicata
Polysiphonia lanosa
Scirospora griffithsiana
Callithamnion corymbosum } Red algae.

Characteristic animals:	
<i>Lepas fascicularis</i>	Northern sea barnacle
<i>Balanus balanoides</i>	Rock barnacle
<i>Littorina littorea</i>	Common periwinkle
<i>Littorina obtusata</i>	Smooth periwinkle
<i>Littorina saxatilis</i>	Rough periwinkle
<i>Littorina irrorata</i>	Salt marsh periwinkle
<i>Crepidula fornicata</i>	Common boatshell
b. Mud or Sand Bottom	
Characteristic plants:	
<i>Callithrix</i> spp.	} Blue-green algae
<i>Lyngbya majuscula</i>	
<i>Rivularia atra</i> (Mermaid's hair)	
<i>Rhizoslonium</i> spp.	
<i>Enteromorpha linza</i>	} Green algae
<i>Ulva lactuca</i> (Sea lettuce)	
<i>Monostroma oxyspermum</i>	
<i>Codium fragile</i>	
<i>Chondrus crispus</i> (Irish moss)	} Red algae
<i>Bangia fuscopurpurea</i>	
<i>Porphyra umbilicalis</i>	
<i>Ceramium rubrum</i>	
<i>Ahnfeltia plicata</i>	
<i>Polysiphonia lanosa</i>	
<i>Sierospora griffithsiana</i>	
<i>Callithamnion corymbosum</i>	
<i>Bacchairs halmilifolia</i>	Groundsel tree
<i>Distichlis spicata</i>	Alkali grass
<i>Hybiscus palustris</i>	Marsh mallow
<i>Iva frutescens</i>	Marsh elder
<i>Juncus gerardi</i>	Black grass
<i>Limonium carolinianum</i>	Sea lavender
<i>Phragmites communis</i>	Reed
<i>Ruppia maritima</i>	Widgeon grass
<i>Salicornia</i> spp.	Perennial saltwort
<i>Spartina Alternifolia</i>	Smooth cordgrass

<i>Spartina cynosuroides</i>	Salt reedgrass
<i>Spartina patens</i>	Salt hay
<i>Spartina pectinata</i>	Freshwater cordgrass
<i>Zostera marina</i>	Eelgrass
Characteristic animals:	
<i>Ceriantheopsis americanus</i>	Worm sea anemone
<i>Littorina littorea</i>	Common periwinkle
<i>Littorina saxatilis</i>	Rough periwinkle
<i>Littorina littorea</i>	Salt marsh periwinkle
4. Swamp	
Characteristic plants:	
<i>Acer rubrum</i>	Red maple
<i>Acer</i>	Silver maple
<i>Alnus</i> spp.	Alder
<i>Arisaema triphyllum</i>	Jack in the pulpit
<i>Cephalanthus occidentalis</i>	Buttonbush
<i>Cornus florida</i>	Dogwood
<i>Epilobium hirsutum</i>	Willowherb
<i>Hibiscus moscheutos</i>	Rosemallow
<i>Salix</i> spp.	Willow
<i>Smilax glauca</i>	Catbrier
<i>Smilax rotundifolia</i>	Bulbrier
<i>Quercus palustris</i>	Pin oak
5. Marsh	
Characteristic plants:	
<i>Acnida</i>	Waterhemp
<i>Acorus Calamus</i>	Sweetflag
<i>Cyperus</i> spp.	Chufa
<i>Echinochola</i>	Wild millets
<i>Eleocharis</i>	Spikerushes
<i>Inpatiens pallida</i>	Jewelweed
<i>Leersia oryoides</i>	Rise cutgrass
<i>Phragmites communis</i>	Reeds



SEDGE



BLACKBERRY

Pontederia cordata
Polygonum
Sagittaria
Scirpus cyperinus
Typha latifolia
Zizania aquatica

Pickerelweed
 Smartweed
 Arrowhead
 Sedge, bullrush
 Cattails
 Wild rice

6. Bog

Characteristic plants:

Andromeda folifolia
Arethusa bulbosa
Caldopogon pulcherlus
Chamaedaphne calyculata
Drosera rotundifolia
Eriophorum virginidum
Iris versicolor
Ledum groenlandicum
Menyanthes trifoliata
Myrica gale
Peltandra virginica
Pogonia ophioglossoides
Rhododendron viscosum
Sarracenia purpurea
Solidago uliginosa
Sphagnum
Utricularia conuta
Vaccinium macrocarpon
Vaccinium oxycoccus

Bog rosemary
 Swamp pink
 Grass pink
 Leatherleaf, marsh cinquefoil
 Sundew plant
 Cottongrass
 Blue flag, wild iris
 Labrador tea
 Bogbean
 Sweetgale
 Arrow arum
 Snakes-mouth orchid
 Swamp azalea
 Pitcher plant
 Bog goldenrod
 Sphagnum moss
 Horned bladderword
 American cranberry
 Dwarf cranberry

7. Meadow

Characteristic plants:

Amelanchier canadensis
Apios americana
Lilium supurbum

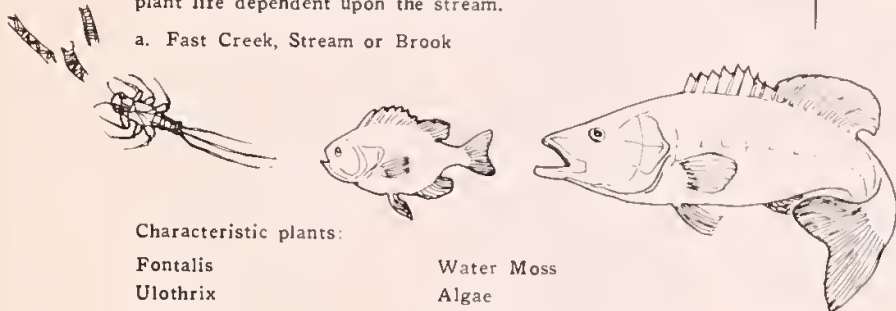
Shadbush
 Groundnut
 Turk's Cap lily

- | | |
|-----------------------------|--------------------|
| <i>Impatiens pallida</i> | Jewelweed |
| <i>Lysmachia terrestris</i> | Swamp-candles |
| <i>Lythrum salicaria</i> | Spiked loosestrife |
| <i>Sambucus canadensis</i> | Elderberry |
| <i>Spireea tomentosa</i> | Steeplebush |

8. Creek, Stream or Brook

Creeks, streams and brooks are often classified by the rate at which the water flows, a fast stream being a water flow of about 2' a second. Creeks, streams and brooks are valuable for their drainage function, the fish they contain both as a source of sport and for the other forms of life which relate to the animal and plant life dependent upon the stream.

a. Fast Creek, Stream or Brook



Characteristic plants:

- | | |
|------------|------------|
| Fontalis | Water Moss |
| Ulothrix | Algae |
| Diatoma | Diatoms |
| Gomphonema | |

Characteristic Animals:

- | | |
|---|---------------|
| <ul style="list-style-type: none"> Trichoptera Phyganea Rhyacophila Philopotamidae Hydropsychidae Hydropsyche Pharyganeidae Limnephilidae Leptoceruq Leptocella Anthrpsodes Oecetis Brachycentridae Helicopsychidae | } Caddisflies |
|---|---------------|

- | | |
|-----------------------|-----------------|
| Simulium | Blackfly |
| Ple Coptera | Stonefly |
| Tipulidae | Crane-fly |
| Neuroptera | Dobsonfly |
| Ephemeroptera | Mayfly |
| Osonychia | |
| Percina Caprodes | Log Perch |
| Salvelinus Fontinalis | Brook Trout |
| Salmo Gairdneri | Steelhead Trout |
| Salmo Trutta | Brown Trout |
| Salmo Salar | Atlantic Salmon |

b. Slow Creek, Stream or Brook

Characteristic plants are the same as those in a lake or pond

Characteristic animals:

- | | | |
|-------------------------|---|-----------------|
| Anisoptera | } | Dragon Fly |
| Iodonata | | |
| Gerridae | } | Water Striders |
| Hemiptera | | |
| Odonata | | Damselflies |
| Zygoptera | | |
| Orixidae | | Waterboatmen |
| Hexagenia | | Mayfly |
| Sphaerium | | Fingernail Clam |
| Semotilus Atromaculatus | | Creek Chub |
| Ictalurus Punctatus | | Channel Catfish |
| Ictalurus Catus | | White Catfish |
| Ictalurus Melas | | Black Catfish |
| Cyprinus Carpio | | Carp |
| Esox Lucius | | Northern Pike |
| Esox Americanus | | Little Pickerel |
| Esox Niger | | Chain Pickerel |
| Roccus Americana | | White Perch |
| Roccus Saxatilis | | Striped Bass |

9. Lake or Pond

Characteristic plants:

<i>Ceratophyllum demersum</i>	Coontail						
<table border="0"> <tr> <td>Lemna</td> <td rowspan="4">}</td> <td rowspan="4">Duckweeds</td> </tr> <tr> <td>Spirodella</td> </tr> <tr> <td>Wolffia</td> </tr> <tr> <td>Wolffella</td> </tr> </table>	Lemna	}	Duckweeds	Spirodella	Wolffia	Wolffella	
Lemna	}			Duckweeds			
Spirodella							
Wolffia							
Wolffella							
<i>Myriophyllum</i>	Watermillfois						
<i>Najas</i>	Naiads						
<i>Nuphar</i>	Cowlillies						
<i>Nymphaea</i>	Waterlillies						
<i>Potamogeton</i>	Pondweeds						
<i>Vallisneria spiralis</i>	Wildcelery						

10. Spring

Characteristic plants and animals are the same as those found in a swamp, a marsh, a bog, a meadow, a creek, stream, a brook, or a lake or pond.

D. Botanic Environment

1. Primary Succession Community Area

Characteristic plants:

<i>Achillea millefolium</i>	Yarrow
<i>Anagallis arvensis</i>	Scarlet pimpernel
<i>Anaphalis margaritacea</i>	Pearly everlasting
<i>Antennaria plantaginifolia</i>	Pussy's Toes
<i>Artemisia caudata</i>	Tall wormwood
<i>Asclepias syriaca</i>	Common milkweed
<i>Asclepias tuberosa</i>	Orange milkweed
<i>Asparagus officinalis</i>	Garden asparagus
<i>Aster ericoides</i>	Heath aster
<i>Aster linariifolius</i>	Stiff-leaved aster
<i>Brassica nigra</i>	Black mustard
<i>Chrysanthemum leucanthemum</i>	Ox-eye daisy

GOLDENROD



<i>Cichorium intybus</i>	Chicory
<i>Cirsium arvense</i>	Canada thistle
<i>Cirsium discolor</i>	Field thistle
<i>Convolvulus sepium</i>	Wild morning glory
<i>Coreopsis lanceolata</i>	Coreopsis
<i>Cytisus scoparius</i>	Scotch broom
<i>Datura stramonium</i>	Jimsonweed
<i>Daucus carota</i>	Queen Anne's-lace
<i>Dianthus armeria</i>	Deptford pink
<i>Dianthus plumarius</i>	Garden pink
<i>Epilobium angustifolium</i>	Fireweed
<i>Erodium cicutarium</i>	Storks bill
<i>Eupatorium hyssopifolium</i>	Hyssop-leaved boneset
<i>Euphorbia cyparissias</i>	Cypress spurge
<i>Frageria virginiana</i>	Wild strawberries
<i>Gnaphalium obtusifolium</i>	Sweet everlasting
<i>Holcus lanatus</i>	Velvetgrass
<i>Hypericum gentianoides</i>	Pinweed
<i>Hypericum perforatum</i>	Common St. John's-wort
<i>Hypochoeris radicata</i>	Cat's ear
<i>Linaria canadensis</i>	Old-field-toadflax
<i>Linaria vulgaris</i>	Butter-and-eggs
<i>Lonicera japonica</i>	Japanese honeysuckle

<i>Lychnis alba</i>	White campion
<i>Matricaria matricarioides</i>	Pineappleweed
<i>Oenothera biennis</i>	Evening primrose
<i>Opuntia humifusa</i>	Prickly pear cactus
<i>Oxalis stricta</i>	Yellow woodsorrel
<i>Phytolacca americana</i>	Pokeweed
<i>Plantago lanceolata</i>	English plantain
<i>Polygonum persicaria</i>	Lady's thumb
<i>Polygonum pennsylvanicum</i>	Pinkweed
<i>Potentilla canadensis</i>	Old-field cinquefoil
<i>Potentilla recta</i>	Sulphur cinquefoil
<i>Rana unculus repens</i>	Creeping buttercup
<i>Rosa virginiana</i>	Virginia rose
<i>Rudebeckia hirta</i>	Black-eyed-susan
<i>Saponaria officinalis</i>	Bouncing-bet
<i>Sedum acre</i>	Stone crop
<i>Solanum americanum</i>	Black nightshade
<i>Solanum dulcamara</i>	Bitter nightshade
<i>Solidago nemoralis</i>	Grey goldenrod
<i>Solidago puberula</i>	Purple-stemmed goldenrod
<i>Solidago tenuifolia</i>	Grass-leaved goldenrod
<i>Spergularia rubra</i>	Pink sand-spurry
<i>Tanacetum vulgare</i>	Tansy
<i>Taraxicum officinale</i>	Dandelion
<i>Trichostemma Dichotomum</i>	Blue curls
<i>Trifolium arvense</i>	Rabbitfoot clover
<i>Verbascum thapsus</i>	Mullein
<i>Yucca filamentosa</i>	Yucca
<i>Linaria canadensis</i>	Old-field-toadflax
<i>Linaria vulgaris</i>	Butter-and-eggs
<i>Lonicera japonica</i>	Japanese honeysuckle
<i>Lychnis acba</i>	White campion
<i>Matricaria matricarioides</i>	Pineappleweed
<i>Oenothera biennis</i>	Evening primrose
<i>Opuntia humifusa</i>	Prickly pear cactus

<i>Oxalis stricta</i>	Yellow woodsorrel
<i>Phytocaccia americana</i>	Pokeweed
<i>Plantago lanceolata</i>	English Plantain
<i>Polygonum persicaria</i>	Lady's thumb
<i>Polygonum pensylvanicum</i>	Pinkweed
<i>Potentilla canadensis</i>	Old-field cinquefoil
<i>Potentilla recta</i>	Sulphur cinquefoil
<i>Ranunculus repens</i>	Creeping buttercup
<i>Rhus radicans</i>	Poison ivy
<i>Rosa virginiana</i>	Virginia rose
<i>Rudebeckia hirta</i>	Black-eyed-susan
<i>Saponaria officinalis</i>	Bouncing-bet
<i>Sedum acre</i>	Stone crop
<i>Solanum americanum</i>	Black nightshade
<i>Solanum dulcamara</i>	Bitter nightshade
<i>Solidago nemoralis</i>	Grey goldenrod
<i>Solidago puberula</i>	Purple-stemmed goldenrod
<i>Solidago tenuifolia</i>	Grass-leaved goldenrod
<i>Spergularia rubra</i>	Pink sand-spurry
<i>Tanacetum vulgare</i>	Tansy
<i>Taraxicum officinale</i>	Dandelion
<i>Trichostemma Dichotomum</i>	Blue curls

2. Secondary Succession Community Area

Characteristic plants of a secondary succession community area include the species found in a primary succession community area, a swamp, a meadow, and the following species:

<i>Acer Rubra</i>	Red maple
<i>Amelanchier Canadensis</i>	Shadbush
<i>Amelanchier Obonalis</i>	Servicecherry
<i>Betula Lenta</i>	Sweet birch
<i>Betula Lutea</i>	Yellow birch
<i>Betula Populifolia</i>	Grey birch
<i>Cornus Florida</i>	Flowering Dogwood
<i>Larix Laricina</i>	Larch
<i>Picea Mariana</i>	Black spruce



RED MAPLE



CLIMAX FOREST

Pinus Rigida
 Pinus Strobus
 Prunus Serotina
 Prunus Virginiana
 Rhus Copallina
 Rhus Glasbra
 Rhus Typhina
 Rubus spp.
 Salix spp.
 Sambucus Canadensis
 Smilax Rotunoifolia
 Tilia Americana
 Vaccinium

Pitch pine
 White pine
 Black cherry
 Choke cherry
 Dwarf sumac
 Smooth sumac
 Staehorn sumac
 Blackberries
 Willow
 Elderberry
 Bull brier
 Bass wood, linden
 Blueberry

3. Climax Community Area

Characteristic plants:

Acer rubra
 Acer saccharum
 Amelanchier obovalis
 Azalea spp.
 Betula lenta
 Betula lutea
 Betula populifolia
 Carpinus caroliniana
 Carya alba
 Carya glabra
 Carya ovata
 Carya tomentosa
 Castanea dentata
 Chamaecyparis thyoides
 Cornus florida
 Diospyros virginiana
 Fagus grandifolia
 Fraxinus americana
 Gaylussacia
 Hamamelis virginiana
 Ilex opaca
 Juglans cinera
 Juniperus virginiana
 Kalmia latifolia
 Larix laricina
 Liquidambar styraciflua
 Nyssa sylvatica
 Ostrya virginiana
 Picea mariana
 Pinus rigida
 Pinus strobus
 Prunus serotina
 Prunus virginiana
 Quercus acuminata

Red maple
 Sugar maple
 Serviceberry
 Azalea
 Sweet birch
 Yellow birch
 Grey birch
 Ironwood
 Shalbark hickory
 Pignut hickory
 Shagbark hickory
 Mockernut hickory
 American chestnut
 Atlantic white cedar
 Flowering dogwood
 Persimmon
 American beech
 White ash
 Huckleberry
 Witchhazel
 Holly
 Butternut
 Red cedar
 Laurel
 Larch
 Tulip
 Sour gum
 Hop hornbean
 Black spruce
 Pitch pine
 White pine
 Black cherry
 Choke cherry
 Chestnut oak

<i>Quercus alba</i>	White oak
<i>Quercus bicolor</i>	Swamp oak
<i>Quercus coccinea</i>	Scarlet oak
<i>Quercus pallustris</i>	Pin oak
<i>Quercus rubra</i>	Red oak
<i>Quercus velutina</i>	Black oak
<i>Sambucus canadensis</i>	Elderberry
<i>Sassafras variifolium</i>	Sassafras
<i>Tilia americana</i>	Basswood, linden
<i>Tsuga canadensis</i>	Hemlock
<i>Ulmus americana</i>	White elm
<i>Vaccinium</i>	Blueberry

4. Dune and Heathland

Characteristic plants:

<i>Aster undulatus</i>	Skydrop aster
<i>Ammophila Breviligulata</i>	Beachgrass
<i>Baptisia tinctoria</i>	Wild indigo, rattle box
<i>Corema couradii</i>	Broom crowberry
<i>Comptonia peregrina</i>	Sweetfern
<i>Deschampaia flexuosa</i>	Wavyhair grass
<i>Gaylussacia baccata</i>	Black huckleberry
<i>Helianthum canadense</i>	Frostweed
<i>Hieracium venosum</i>	Rattlesnake weed
<i>Hudsonia ericoides</i>	Golden beachheather
<i>Hudsonia tomentosa</i>	Wooly beachheather

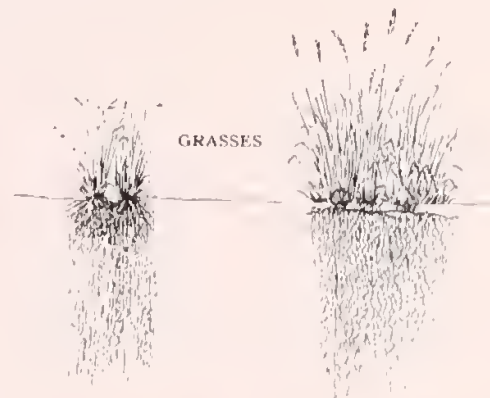


<i>Myrica pennsylvanica</i>	Bayberry
<i>Potentilla tridentata</i>	Three toothed cinquefoil
<i>Rubus spp.</i>	Black berries, raspberries
<i>Vaccinium angustifolium</i>	Low sweet blueberries

5. Wild Grassland

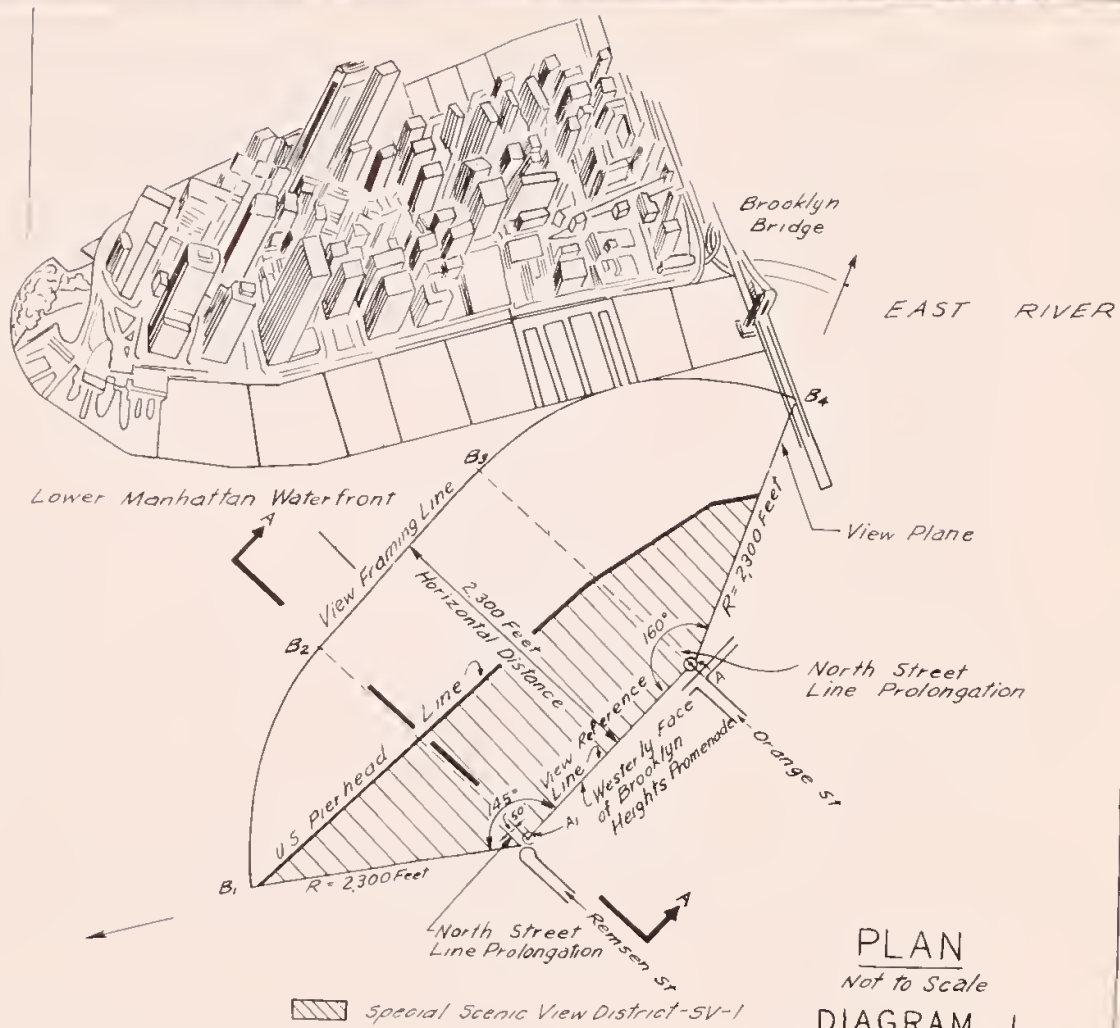
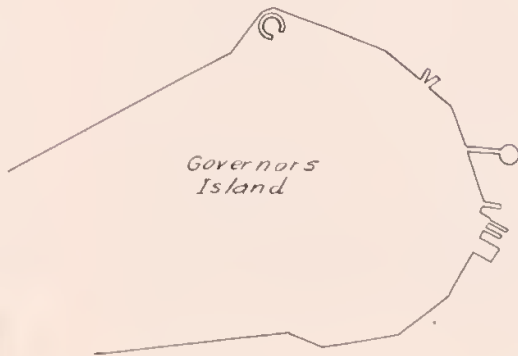
A wild grassland exists usually on poor soils and is composed of a mixture of native grasses, such as the following:

<i>Danthonia spicata</i>	Poverty oat grass
<i>Andropogon virginicus</i>	Broomsedge
<i>Bromus spp.</i>	Brome grass



APPENDIX C

This area in Brooklyn is the first Special Scenic View District in New York City





Lower Manhattan from Brooklyn Heights View protected by Brooklyn Heights Scenic View District Adopted on October 24, 1974

Article X

Special Purpose Districts

Chapter 2 Special Scenic View Districts

TABLE OF CONTENTS

	<u>Section</u>
GENERAL PURPOSES	102-00
Definitions	102-01
General Provisions	102-02
Requirement for application	102-021
Action by the Board of Estimate	102-022
Relationship to public improvement projects	102-023
HEIGHT REGULATIONS FOR BUILDINGS, SIGNS OR OTHER STRUCTURES	102-10
MANDATORY LANDSCAPING PLAN	102-20
SPECIAL PERMIT PROVISIONS	102-30
SPECIAL DISTRICT DESIGNATION ON PUBLIC PARKS	102-40
SPECIAL PROVISIONS FOR CITY-OWNED LANDS	102-50

CHAPTER 2—Special Scenic View District

102-00 GENERAL PURPOSES

The Special Scenic View District (hereinafter also referred to as the "Special District") established in this Resolution is designed to promote and protect public health, safety, and general welfare. These general goals include, among others, the following specific purposes:

- (a) To preserve, protect and prevent obstruction of outstanding scenic views as seen from a mapped *public park* or an esplanade or a mapped public place directly accessible to the public.
- (b) To promote the most desirable use of land and direction of *building development*, to assure the maintenance and enhancement of the aesthetic aspects of scenic views, to conserve the value of land and *buildings* and to protect the City's tax revenues.

102-01

Definitions

Definitions specially applicable to this Chapter are set forth in this Section. The definitions of other defined terms are as set forth in Section 12-10 (DEFINITIONS).

Scenic View

A "scenic view" is an outstanding or unique view from a mapped *public park* or an esplanade or a mapped public place which is protected by the regulations of this Chapter. "Scenic views" shall be limited to:

- (a) distant landscape of scenic grandeur which contains *natural features* such as hills, palisades or similar features; or
- (b) outstanding views of large bodies of water such as rivers, streams, lakes, harbors, waterfalls or similar aquatic features; or
- (c) panoramic views of the waterfront profile of the skyline formed by manmade and natural elements.

The minimum horizontal distance between the *scenic view* and a *view reference line* shall be at least 1,500 feet and shall not contain distractions which reduce the quality of such view. The specific view to be preserved under the regulation of this *Special Scenic View District* shall be described and made part of this Chapter.

View Reference Line

The "view reference line" is a line within a mapped public park or an esplanade or a mapped public place from which at any point an outstanding scenic view may be observed. A *view reference line* and its elevation applicable to each *Scenic View District* are to be located and identified and made part of this Chapter.

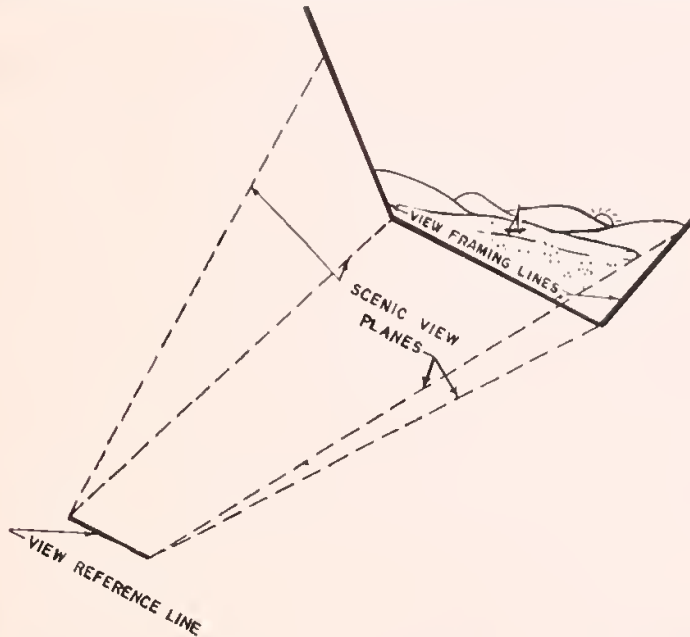
The mapped *public park* or an esplanade or a mapped public place in which such *view reference line* is located shall be directly accessible from a *street*.

View Framing Line

The "view framing line" is a line or lines which establish the outer edge of the *scenic view* to be protected. For each *scenic view*, the *view framing line* or lines and their elevation are to be located and identified and made part of this Chapter.

View Plane

A "view plane" is an imaginary plane above which no obstructions shall be permitted within a *Special Scenic View District* unless authorized by the Commission. Position of the *view plane* may be conical surfaces. Such *view plane* or *planes* are established by joining the *View Reference Line* with the *View Framing Lines* as illustrated below:



View planes and their elevation, length and slopes applicable to each *Scenic View District* are to be located and identified and made part of this Chapter.

Special Scenic View District (repeated from Section 12-10)

The "Special Scenic View District" is a Special Purpose District designated by the letters "SV", in which special regulations set forth in this Chapter apply to all *developments*, *enlargements*, and *signs*. Each *Special Scenic View District* shall appear on the zoning maps superimposed on other districts, when designated, and its regulations supplement or modify those of the districts on which it is superimposed. The *Special Scenic View District* is that portion of the area as specified in Section 102-60 beneath a view plane where the regulations of this Chapter shall apply. The *Special Scenic View District* includes any district whose designation begins with the letters "SV". The boundaries of each *Special Scenic View District* shall be described and made part of this Chapter.

Special Scenic View Districts may be mapped only in areas where the control of the height of a *building* or *other structure* and *signs* is necessary to preserve outstanding *scenic views* from a mapped *public park* or an esplanade or a mapped public place.

102-02

General Provisions

In harmony with the general purpose and intent of this resolution and the general purposes of the *Special Scenic View District*, the regulations of the districts upon which this Special District is superimposed are supplemented or modified in accordance with the provisions of this Chapter. Except as so modified, each *development* or *enlargement* within a Special District shall be subject to all the applicable regulations of the underlying districts.

102-021

Requirement for application

An application to the City Planning Commission for special permit respecting any *development*, or *enlargement*, pursuant to Section 102-30 within the Special District, shall include maps, plans or other documents showing topography, elevations, and site plans showing arrangement and spacing of *buildings* and *other structures* and other information necessary to determine the impact of this *development* proposal on the *scenic view* to be protected.

102-022

Action by the Board of Estimate

The Resolution of approval by the City Planning Commission, together with a copy of the application for the grant of a special permit, shall be filed with the Secretary of the Board of Estimate, and the Board of Estimate shall act upon such Resolution in accordance with the provisions of Section 200 of the New York City Charter.

102-023

Relationship to public improvement projects

In all cases the Commission shall deny a special permit application whenever the *development* will interfere with a public improvement project (including highways, public *buildings* or facilities), redevelopment or renewal projects, or rights-of-way for sewers, transit, or other public facilities) which is approved by or pending before the Board of Estimate, the City Planning Commission, or the Site Selection Board as determined from the calendar of each such agency issued prior to the date of the public hearing on the application for a special permit.

102-10 HEIGHT REGULATIONS FOR BUILDINGS, SIGNS OR STRUCTURES

Notwithstanding any other provisions of this resolution, the highest projection of any *building* or *other structure* hereafter constructed, or of any *sign* hereafter erected, or of any existing *building* or *other structure* hereafter relocated, *enlarged* or reconstructed shall not penetrate a *view plane* unless authorized by the City Planning Commission pursuant to Section 102-30 (SPECIAL PERMIT PROVISIONS).

102-11

Damage or Destruction

If an existing *building* or *other structure* which penetrates the *view plane* of a Special Scenic View District is damaged or destroyed by any means, such *building* or *other structure* may be reconstructed provided that such reconstruction shall not create a new non-compliance nor increase the pre-existing degree of non-compliance.

102-20 MANDATORY LANDSCAPING PLAN

The requirements of this section shall apply to *zoning lots*, any portion of whose finished ground elevation is within 30 feet of the elevation of the *view plane* located above the *zoning lot*. At the time of filing with the Department of Buildings, for any application for an excavation permit or a building permit for a *development* or *enlargement* or *site improvement* on such *zoning lots* within a Special Scenic View District, a landscaping plan shall be submitted to the Commission indicating that future landscaping on the site will not impair *scenic view* from the *view reference line*. Such plan shall indicate existing topography, trees, shrubs, *buildings* and *other structures* and proposed landscaping. All future landscaping on the site shall be in accordance with the approved landscaping plan on file with the Commission. The Commission shall submit a copy of the approved landscaping plan to the Department of Buildings or other appropriate city agencies.

102-30 SPECIAL PERMIT PROVISIONS

On all *zoning lots* located entirely or partially within a *Special Scenic View*

District, the City Planning Commission, by special permit after public notice and hearing and subject to Board of Estimate action, may permit penetration by a *sign*, *building* or *other structure* of a *view plane*, allow in R1 and R2 Districts attached and semi-attached *single-family residences*, and allow in R3-1 Districts attached *single-family* or *two-family residences*, and grant minor modifications of *open space*, *lot coverage*, *yards* and height and setback regulations of the underlying district. As a condition for such modifications, the Commission shall find:

(a) that any penetration of a *view plane* shall not significantly obstruct the *scenic view* which is to be protected by the provisions of this Chapter; and

(b) that any penetration of a *view plane* will cause the minimal obstruction consistent with reasonable *development* and *bulk* distribution on the *zoning lot*; and

(c) that any use and *bulk* modifications on a *zoning lot* will not affect adversely any other *zoning lots* outside the *development*, by restricting access of light and air.

In reaching a determination for such modifications, the Commission shall be guided by the description of the *scenic view* to be made part of this Chapter at the time of the designation of a *Special Scenic View District*.

The Commission may prescribe appropriate conditions and safeguards to protect the *scenic view* and to minimize the adverse effects on the character of the surrounding areas.

102-40 SPECIAL DISTRICT DESIGNATION ON PUBLIC PARKS

When a *Special Scenic View District* is designated on a *public park* or portion thereof, any future landscaping, erection of new *signs*, *buildings* or *other structures* thereon shall not penetrate a *view plane* unless authorized by the City Planning Commission. As a condition for such authorization, the Commission shall find that any penetration of a *view plane* shall not significantly obstruct the *scenic view* which is to be protected by the provisions of this Chapter.

102-50 SPECIAL PROVISIONS FOR CITY-OWNED LANDS

For any *development* or *site improvement* on a city-owned *zoning lot* located within a *Special Scenic View District*, the provisions of this Chapter shall apply except that modifications permitted under Section 102-30 (Special Permit Provisions) may be approved by authorization of the City Planning Commission.

102-60 SPECIAL SCENIC VIEW DISTRICTS SPECIFIED

102-61

SV-1 Brooklyn Heights Scenic View District

The SV-1 Brooklyn Heights Scenic View District is hereby established. The regulations of Section 102-00 to 102-50, inclusive, as well as the regulations of this Section shall be applicable in this Special District.

102-611

District boundary description

The boundaries of the SV-1 District as shown on the zoning maps shall be interpreted in accordance with the following description.

The SV-1 District is bounded by:

- (a) The view reference line located along the westerly face of the Brooklyn Heights Promenade;
- (b) The northwesterly edge of the view plane which forms an angle of 160° measured in a horizontal plane with respect to the view reference line at point A;
- (c) The southwesterly edge of the view plane which forms an angle of 145° , measured in a horizontal plane, with respect to the view reference line at point A; and
- (d) The pierhead line which is located between the intersection of northwesterly and southwesterly view framing lines and the pierhead line.

102-612

View reference line

The view reference line of the SV-1 Special District is a line at an elevation of 66 feet located along the westerly vertical face of the Brooklyn Heights Promenade and which is approximately 4 feet above the Promenade. The view reference line is formed by joining two end points A and A₁ as shown in Diagram 1.

The point A is located at the intersection of the westerly face of the Promenade and the prolongation of the north side of Orange Street.

The point A₁ is located 50 feet north of the intersection of the westerly face of the Promenade and the prolongation of the north side of Remsen Street.

102-613

View framing line

The view framing line of the SV-1 Special District is a line which establishes the outer edge of the scenic view to be protected. The two extreme ends of the view framing line are B and B₁ (Diagram 1).

The elevation of the view framing line at all points between B and B₁ is 2.5 feet as shown in Diagram 2.

102-614

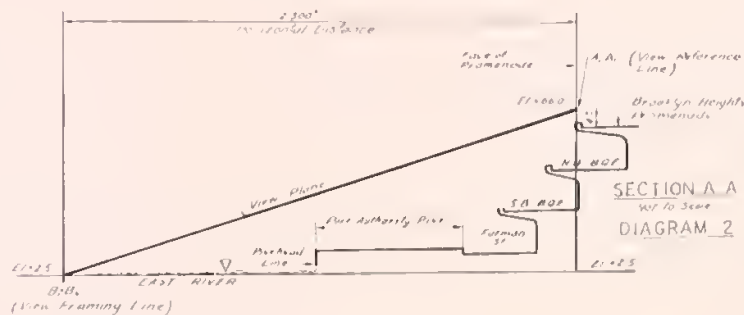
View plane

The view plane of the SV-1 Special District is an imaginary plane formed by joining the elevation of the view reference line with the elevation of the view framing line as shown in Diagram 2. The horizontal distance between the view reference line and the view framing line is 2,300 feet. Those portions of the plane formed by A, B₁, B₂ and A₁, B₁, B₂ are conical surfaces.

102-615

Description of scenic view

The scenic view to be protected pursuant to the provisions of this Section includes: the panoramic view of the lower Manhattan skyline which includes such landmarks as the Brooklyn Bridge archway, the South Street Seaport, and the Whitehall Ferry Terminal, and the vistas of the Statue of Liberty and Governor's Island.



CLARKE AND RAPUANO, INC.

Raymond J. Heimhuch, *Vice President for Engineering*
Bradford M. Greene, *Project Manager*

HAINES LUNDBERG & WAEHLER

Jack C. Smith, *Project Director*
Millard Humstone, *Principal Project Planner*
Roland Zunde, *Senior Planner*

NEW YORK DEPARTMENT OF CITY PLANNING

John E. Zuccotti, *Chairman*
Charles M. Smith, Jr., *Executive Director*
Lloyd A. Kaplan, *Director of Public Affairs*
Philip B. Wallick, *Director of Operations*
Norman Marcus, *Counsel*

Nancy D. Rosan, *Project Director*

John Davis, *Natural Systems Analysis*

Draft Legislation

Pares C. Bhattacharji, *Principal Planning Consultant*
Gerard George, *Senior Planner*

Staten Island Office

William Wood, *Director*
Robert E. Millward, *Former Director*
Henry Stephenson, *Urban Designer*

Bronx Office

Robert Esnard, *Director*
Rosemary Ginty, *Planner*

Editorial Review

Sally Reno

Technical Review

Irwin Fruchtman, *Chief Engineer*
Julius Spector, *Deputy Chief Engineer*

Graphics & Production

Phil Sacks, *Director of Graphics*
Stan Shabronsky, *Deputy Director*

Lorraine Fierro

Henry Nicholas
Norman Shilepsky

Barbara Bartlett

Photographs: Marc Rodwin

Sketches: Patrick Ping-Tze Too

