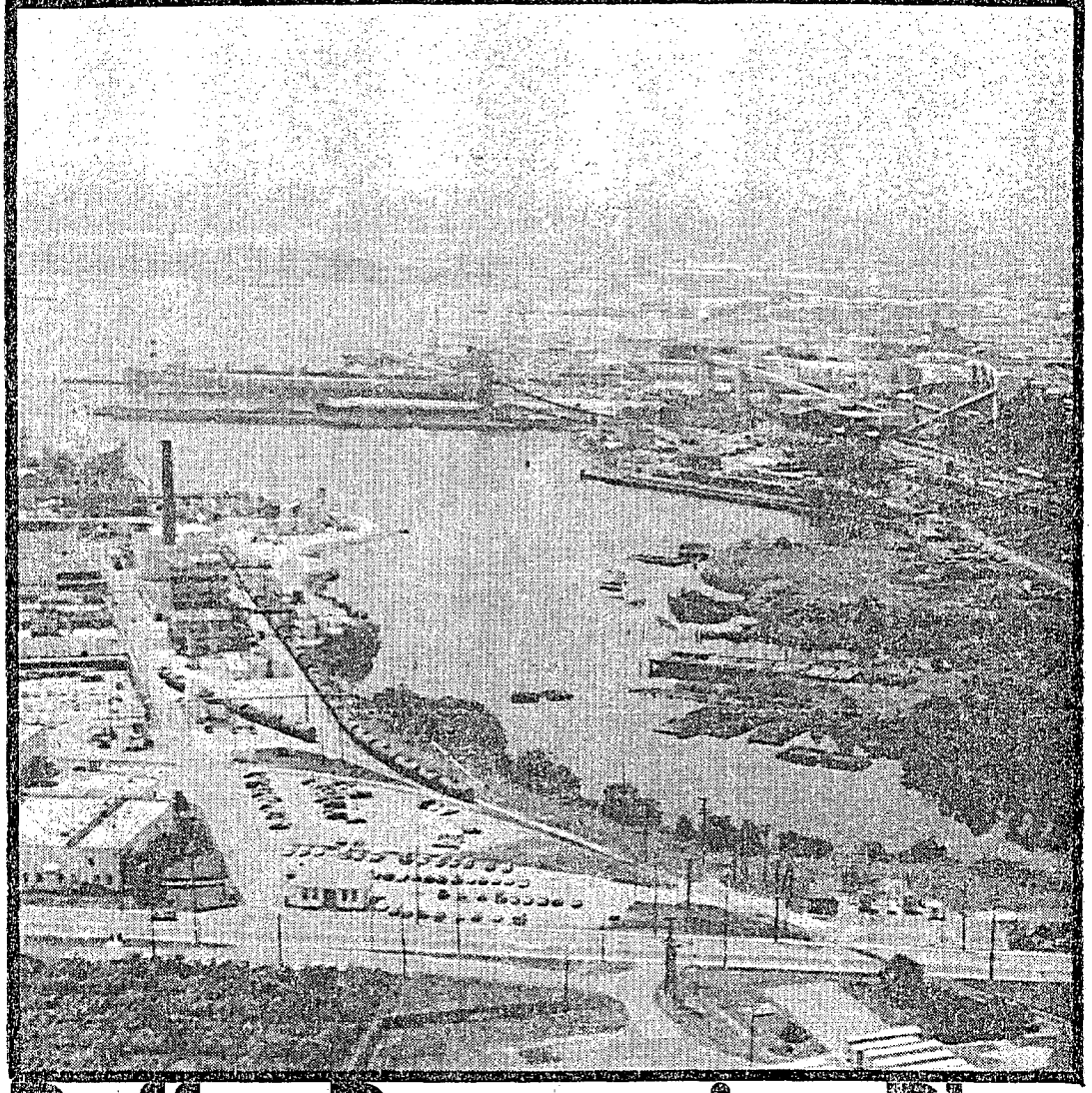
CRITICAL AREA



Buffer Restoration Plan

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eric Administration, Office of Coastal Resources Management.

Baltimore.
THE CITY THAT READS
Kurt L. Schmoke, Mayor

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CRITICAL AREA BUFFER RESTORATION PLAN

A PROCESS FOR USING BUFFER OFFSET FUNDS

Prepared by the

Baltimore City Department of Planning

Kurt L. Schmoke, Mayor
Ernest Freeman, AICP, Director

This study was partially funded by the Coastal Resources Division of the Maryland Department of Natural Resources through a grant from the National Oceanic and Atmospheric Administration, Office of Coastal Resources Management.

EXECUTIVE SUMMARY

This report provides the first phase of a plan to facilitate the expenditure of funds accumulated in the Buffer Offset Fund, a dedicated fund for restoration of the 100-foot buffer in degraded areas of Baltimore City's Critical Area shoreline. It develops criteria for expending funds, establishes a review and approval process, identifies appropriate sites for buffer restoration, and proposes two prototypical approaches to buffer restoration on public and private land.

Baltimore's Critical Area Management Program (CAMP) adopted in 1988 was enacted by State law to protect and improve shoreline habitat and tidal waters of the Chesapeake Bay and its tributaries. The Buffer Offset Program, administered by the Department of Planning, provides opportunities for developers to replace shoreline vegetation displaced by development. Those unable to comply with the Buffer requirements on-site, are required to contribute a fee to the Buffer Offset Fund or propose off-site mitigation. This report sets standards and provides a formal process for selecting and funding these off-site restoration projects.

This Buffer Offset Program is designed to offer a number of advantages to both developers and landowners while, at the same time, providing substantial water quality and wildlife habitat benefits. This program incorporates incentives for a much broader participation in buffer restoration than might be expected from a more traditional approach to

Critical Area mitigation. Indeed, the program proposed in this report solicits input and proposals from every sector of the community interested in the Bay and affected by the health and vitality of the Bay.

The analysis consisted of a two-part effort. The first step identified all possible sites that might accommodate buffer enhancement or establishment. A chart summarizing all these sites was developed based on the following seven criteria. They are:

1. Sites characterized as having compacted soils or impervious surfaces **and** having a strong likelihood that portions of the buffer may be reserved for future planting
2. Sites having vegetated shorelines **and** good potential for buffer enhancement
3. Greenway areas
4. Sites in, or adjacent to, proposed Habitat Protection Areas
5. Sites adjacent to properties with significant vegetation and/ or wildlife habitat
6. Potential for accommodating a stormwater retrofit project
7. Sites that are likely to be redeveloped
8. Amount of shoreline that can be vegetated with available funds

The second part of the analysis identified a range of generalized conditions and site constraints that could affect the design and location of Buffer Restoration projects in an urban setting. These include:

Critical Area Lines	Shoreline Conditions
Existing Vegetation	Ownership
Development Patterns	Topography and Flooding

This process provided for the proposal of prototypical approaches to the use of Buffer Offset Funds while taking into account the above six conditions. As a result, two different Buffer restoration approaches evolved from the process. These approaches were based on land ownership and the need to make maximum economic use of a site. The scenarios are illustrated for a hypothetical site within the City's Critical Area. One scenario describes a typical development site, and the second describes a City-owned site (generally parkland).

The report recommends that a "Critical Area Awards Committee" be appointed to award Critical Area Buffer Offset Funds to winning entries in an annual competition of buffer restoration projects. The Awards Committee, consisting of representatives from local professional associations, environmental organizations, State and local agencies, and the Critical Area Commission, would be supported by a Management Team staffed by the Baltimore City Department of Planning. The competition, sponsored by the City, would solicit entries from any source for sites located within the City's Critical Area Buffer.

This approach would help to reduce buffer restoration design costs and encourage a diversity of applicants, while at the same time delivering important public information and fostering public relations benefits for the City's Critical Area Program.

A list of criteria to be used by the Awards Committeefor proposal evaluation and funding were developed based on a project's potential for enhancing an existing environmentally significant area; its linkage with, or connection to, adjacent habitats; its potential for creating and/or maintaining maximum undisturbed habitat; its potential for meeting multiple environmental objectives; amount of in-kind contributions or matching funds to supplementCritical Area Buffer Offset Funds; and the project's potential for encouraging public awareness of environmental issues or public enjoyment of naturalized areas.

The report describes seven illustrative solutions that could greatly enhance the environmental quality of an area without severely restricting the development potential of City or privately-owned parcels. Each prototypical site is described separately along with the potential for enhancements through Buffer offsets.

Finally, the report discusses project implementaion which involves a two stage process. The first step considers the process for review, approval, and award as well as incorporating provisions for accepting proposals outside the annual awards process. The second step details the process for the design, engineering, and construction of Buffer Restoration Projects. Whether the City or a private entity takes the lead on the implementation of the selected project, responsibility must be assigned for area maintenance and dead material replacement. The City, with the assistance of the Award Committee, would inspect the projects annually.

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Cover photo: Looking south from Patapsco Avenue in Fairfield toward Curtis Bay, Stonehouse Cove (bottom right) supports a wide variety of waterfowl, and a naturally vegetated Buffer. As the cove widens into Curtis Bay, industrial uses encroach on the Buffer.

CHAPTER I: INTRODUCTION

PROJECT PURPOSE

The purpose of this report is to provide the first phase of a plan for the use of funds accumulated in the Buffer Offset Fund, a dedicated fund for restoration of the 100-foot buffer in degraded areas of the Baltimore City shoreline. The report presents information about the technical and institutional considerations which underlie the development of measures in four major areas:

(1) criteria for the expenditure of funds

(2) a mechanism for reviewing and approving eligible projects

(3) identification of appropriate sites for buffer restoration

(4) identification of two prototypical approaches to buffer restoration on public and private land

This report summarizes project activities and makes specific recommendations that should help to facilitate the expenditure of funds accumulated in the Buffer Offset Fund.

BACKGROUND

Baltimore City adopted the Critical Area Management Program (CAMP) on January 4, 1988 as required by the Chesapeake Bay Critical Area Law. The "Critical Area" is a strip of land 1,000 feet from mean high tide extending along the entire length of the shoreline. Within this Critical Area, the "Buffer" is defined as a strip of land extending 100 feet inland from the water's edge. This legislation was enacted to protect and improve the shoreline habitat and tidal waters of the Chesapeake Bay and its

tributaries (Figure 1). All land use within the Critical Area is regulated for two purposes:

(1) to minimize the adverse impact on water quality caused by water running off the land during significant new development or redevelopment. The requirement is to reduce pollutants by 10% and to protect and improve plant and animal habitat.

(2) to conserve fish, plants and wildlife habitat while accommodating growth. This element requires the establishment of a 100-foot buffer (setback) along the shoreline to protect existing, naturally-vegetated areas or areas planted and managed to protect shoreline and nearby water habitats.

To accomplish these two goals, the City's Critical Area Program requires that all development located in the Critical Area reduce the post-development pollutant loading to 90% or less than the pre-development loading. Developers are encouraged to avoid development within the Buffer, particularly when such development would result in an increase in the amount of impervious surface within the Buffer. Throughout the City's Critical Area, developers are required to replace existing vegetation disturbed by development and to correct any shore erosion problems. All development proposed for any portion of the Buffer must be granted a Buffer exemption as required by the Critical Area Regulations. Such exemptions may be granted by the City, provided it can be sufficiently demonstrated that the existing conditions preclude a naturally vegetated Buffer, and provided that the developer agrees to an appropriate offset so that water quality and habitat objectives can be met elsewhere in the City's Critical Area.

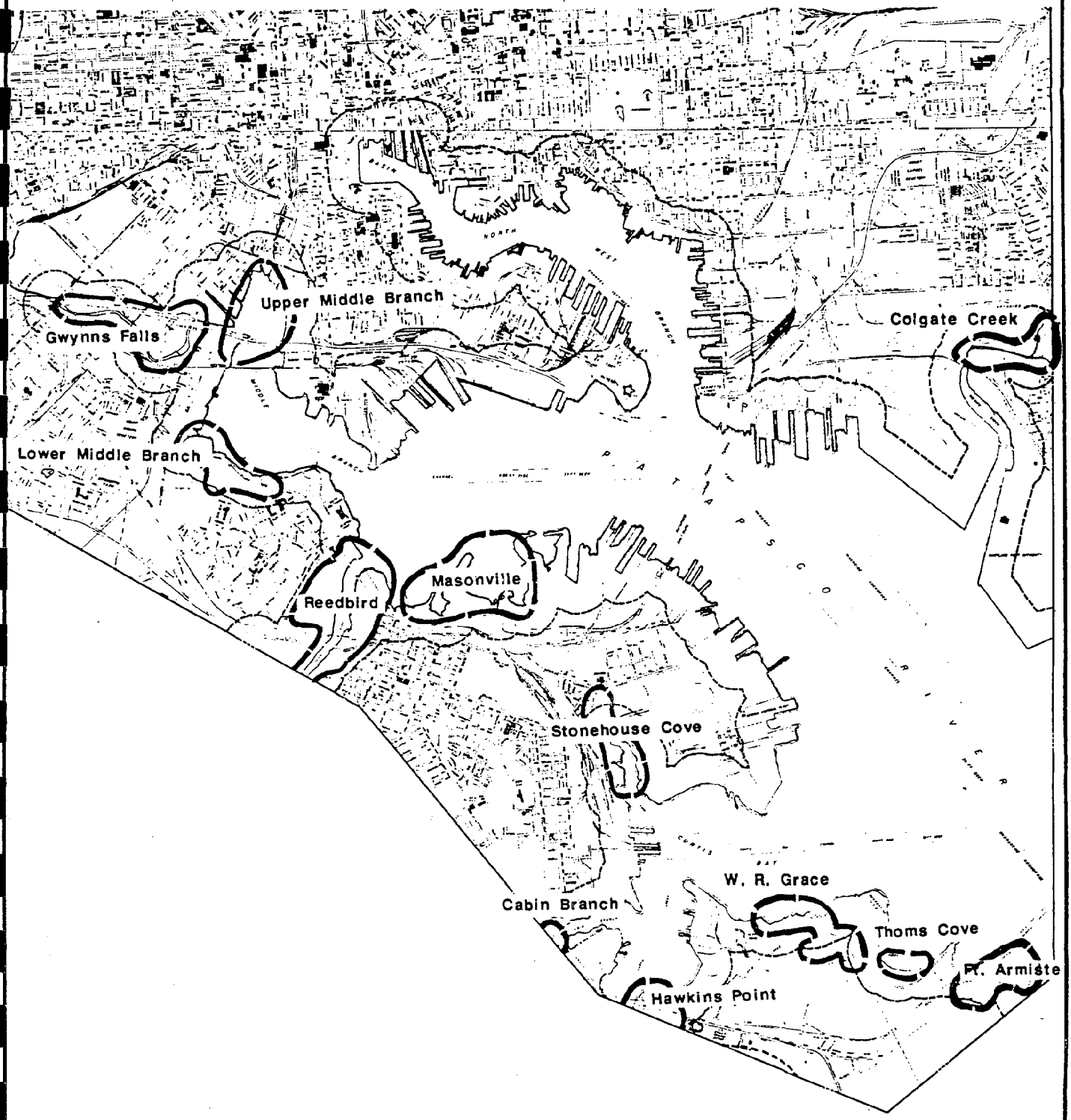


FIG.1

CRITICAL AREA

HABITAT PROTECTION AREA

Buffer Restoration Plan

SCALE 1"=1000'

Baltimore City Department of Planning

The City's Critical Area review process is triggered in many areas where the 100-foot buffer requirement and/or runoff pollution reduction requirement cannot be met on the site. Anticipating such difficulties in fully developed urban areas, the State Critical Area legislation includes provisions for environmental offsets in these cases. To allow necessary development and redevelopment to proceed while meeting the Critical Area legislative requirements, Baltimore City has established two offset programs: (1) a Buffer Offset Program (BOP), and (2) a Runoff Pollution Reduction Offset Program. The focus of this report is the BOP.

BUFFER OFFSET PROGRAM SUMMARY

The BOP is an important tool for the City to reclaim shoreline habitat which have long been displaced by development along the water's edge. These reclamation efforts will include the creation of new riparian forests as well as tidal and non-tidal wetlands. Opportunities will be created for shoreline property owners to grant public easements on lands which the City will restore in vegetation. Designated receiving areas will be designed, planted, maintained and monitored in accordance with guidelines established by the City to insure maximum habitat value.

Developers who are unable to comply with the Buffer requirements must contribute a fee to the Buffer Offset Fund or propose off-site Buffer restoration. The amount of the offset fee is based on costs associated with installing and maintaining a properly vegetated Buffer equal in area to the amount of Buffer used for development or as otherwise determined. Buffer establishment costs are determined on a square foot basis and may be

amended periodically by the Baltimore City Board of Estimates. The current Buffer offset fee is $2.50 per square foot.

The offset program is administered by the Department of Planning. Funds collected from developers will be used to implant a diverse plant community, including elements of a stratified forest where it is deemed feasible. This report will set standards and provide a formal process for selecting and funding alternative offset restoration projects.

Alternative offset projects may be considered where developers arrange for off-site offsets. The developer must be able to satisfy the City and the Chesapeake Bay Critical Area Commission that the proposed alternative will benefit the City's overall Critical Area. This offset project planting should be equivalent to that prescribed for the development site. If an applicant chooses to develop a Buffer restoration project off-site, the Department of Planning must approve the Project.

The City will designate sites throughout its Critical Area as receiving areas for the Buffer offsets described above. In selecting sites for receiving areas, the City will give priority to lands covered with an impervious surface or having compacted soils. The City will encourage landowners within its Critical Area to allow Buffer offset projects to be installed on private property in exchange for the granting of conservation easements. Participating landowners will be granted a credit toward Buffer offset requirements in the event that future development takes place in portions of the Buffer which remain unvegetated. The City will explore additional incentives to encourage the use of private lands as receiving

areas for Buffer offsets. These additional incentives will be incorporated in this report and be considered amendments to the City's offset program.

If suitable private land is not available, City-owned land within the Resource Conservation Area may be used as stated in the Habitat Protection Plan. The focus in these areas will be to enhance existing vegetation and habitat.

The City is required to divide its Critical Area according to land use types and densities described in the State Law. These sub-areas are subject to different guidelines and restrictions governing new development and redevelopment. The City has identified three types of development areas within its Critical Area:

(1) Waterfront Revitalization Area

(2) Waterfront Industrial Area

(3) Resource Conservation Area

Appendix A provides a summary of developer requirements within the Buffer by sub-area.

DOCUMENT UTILITY

The greatest benefit this report provides to the City is a written framework for the City's Critical Area Buffer Offset Program. That framework was constructed with the goal of soliciting the widest possible public input into the decision-making process for restoring the shoreline to a natural state. This process will leverage as much private investment as possible and will insure maximum public exposure for restoration

projects coordinated or funded through the Offset Program. The process also requires the active participation of landowners, advocacy groups, and community groups as well as landscape, design and engineering professionals.

Its utility for other jurisdictions lies in the uniqueness of the approach taken to restore vegetation to the shoreline. This approach is unequalled, not only in the way it solicits maximum public participation, but also in how it approaches the task of restoring a natural Buffer in areas where the existing shoreline has been severely degraded or where the intensity of the land use is such that one would not normally identify the site as a likely candidate for a restoration project. As such, this approach encourages a local jurisdiction to more closely examine the range of possibilities for undertaking buffer restoration projects. Also, it will provide an opportunity for smaller projects and projects located in "less desirable" areas of the Chesapeake Bay to be considered for implementation.

CHAPTER II: ANALYSIS

The analysis consisted of a two-part effort. The first step was to identify all the possible sites that might accommodate buffer enhancement or establishment. The second was to identify the range of conditions and site constraints that are presented by these sites. This process provides for the proposal of prototypical approaches to the use of Buffer Offset Funds.

POTENTIAL SITE IDENTIFICATION

The study involved an exhaustive examination of the shoreline of the Baltimore Harbor. Reference materials included aerial photographs, topographical maps, area plans, video tapes of the shoreline, soils maps, and a variety of other sources available to us. The areas ultimately selected for consideration as potential Buffer restoration locations represent the broad spectrum of shoreline conditions which exist throughout the harbor.

Minimum requirements for qualification as potential receiving areas were established in the CAMP:

(a) the site is determined by the City as being unlikely to be redeveloped for a water-dependent use, and

(b) the planting plan includes at least 50 linear feet along the shoreline for the entire depth of the Buffer. Planting may extend outside the Buffer provided it is contiguous to the vegetated portion of the Buffer and is no less than 25 feet in width.

The criteria used to select these areas are as follows:

1. Sites characterized as having compacted soils or impervious surfaces **and** having a strong likelihood that portions of the buffer may be reserved for future planting
2. Sites having vegetated shorelines and good potential for buffer enhancement
3. Greenway areas
4. Sites in, or adjacent to, proposed Habitat Protection Areas
5. Sites adjacent to properties with significant vegetation and/ or wildlife habitat
6. Potential for accommodating a stormwater retrofit project
7. Sites that are likely to be redeveloped
8. Amount of shoreline that can be vegetated with available funds

This diversity of the selected criteria reflects our interest in funding and coordinating through a competitive process, a variety of Buffer restoration projects throughout the Harbor. Some of these projects may be small and relatively unnoticed by the public. Some will be chosen for their strategic value relative to adjacent vegetated properties or greenways.

Summarized in the chart on the following pages are the sites identified as potential Buffer restoration areas. A site location map (Figure 2) preceeds the Site Selection Criteria chart. The reader should be cautioned that this map does not indicate how large or how small an area would be

FIG. 2

POTENTIAL SITES

Buffer Restoration Plan

SCALE 1"=1000'

Baltimore City Department of Planning

considered for buffer restoration at each of these locations. The map is intended only to show relative locations throughout the Harbor.

SITE SELECTION CRITERIA

Sites	City Owned	Compacted Soils	Impervious Surfaces	Vegetated Shoreline	Greenway Area	Proposed Habitat Protection Area	Adjacent to Existing Habitat/ Vegetated Shoreline	Potential for Stormwater Retrofit	Likelihood for Redevelopment
1. Colgate Creek	X			X		X		X	
2. Newgate Ave.		X							X
3. Canton Waterfront Park	X	X							
4. Harris Creek	X	X		X					
5. Allied Chemical		X	X						X
6. Harborview		X	X						X
7. Port Covington		X		X			X		X
8. CSX/Central Garage	X	X		X			X		
9. BG&E-Spring Garden		X				X	X		X
10. Upper Middle Branch-West	X			X		X	X		
11. Gwynns Falls	X	X		X	X	X	X	X	
12. Westport Ball Field	X			X	X	X	X		
13. BG&E-Westport Power Plant			X				X		
14. Carr-Lowrey Glass Company		X		X			X		
15. Merit Concrete		X		X			X		X
16. Waterview West	X			X		X			
17. Waterview Woodlot						X			
18. Middle Branch Park	X			X		X			
19. Harbor Hospital Center							X		
20. Reedbird Park/Cherry Hill	X			X	X	X	X		
21. Reedbird Park/Brooklyn	X			X	X	X	X		
22. Masonville-West				X		X			
23. Masonville-East				X					
24. Port Liberty		X							X
25. Vista Chemical									X
26. Patapsco Treatment Plant	X		X						
27. Amoco/Wagner's Point		X	X						X
28. FMC		X				X	X		
29. Stonehouse Cove-Tributary Stream				X	X	X	X	X	X
30. Stonehouse Cove-West				X		X	X		
31. Cabin Branch				X		X			
32. Curtis Creek				X		X			
33. W.R. Grace		X		X		X		X	
34. Quarantine Station							X		
35. Thoms Cove				X		X			
36. Eastalco				X					
37. Fort Armistead	X			X		X	X		

GENERALIZED CONDITIONS FOR BUFFER RESTORATION IN AN URBAN SETTING

Several conditions affect the potential for success of Buffer Restoration projects in an urban setting. Typical conditions for the two approaches are illustrated in an imaginary portion of the City's Critical Area shown in Figures 3 through 9. These include:

Critical Area Lines - The Critical Area in Baltimore City is largely classified as an Intensely Developed Area with a small portion classified as a Resource Conservation Area. Differing restrictions accompany the development allowed in each type of area based on the CAMP (Figure 3).

Shoreline Conditions - A variety of shoreline conditions occur in the harbor including filled areas, natural shoreline, concrete rubble stabilization, bulkheads and mixtures of all the above. These conditions need to be taken into account when planning restoration projects. These sites are not without problems. Many have housed uses in the past that contributed pollutants to the soil, and in most cases, previous uses have left compacted soils with little natural soil structure or nutrient content necessary for plant growth. Similar to other development sites found near the shoreline, site clearance, soil amendments, and/or toxics remediation may be necessary prior to planting. (Figure 4).

Existing Vegetation - Areas not occupied by buildings or paving exhibit all stages of vegetation. Occasional patches of mature forest remain

along with wetlands, but most of the undeveloped Critical Area is covered with mowed lawns, old fields or shrub communities that mark previously cleared areas (Figure 5).

Ownership - The current ownership and status of the use is also important. Both public and private lands may be in use, available for development or land banked for future development (Figure 6).

Development patterns - Existing buildings and paving have been defined over time by land ownership and the uses which it has accommodated. In most cases, established uses are going to want to retain the buildings and paved areas they already occupy. The only real opportunity for change comes when redevelopment or expansion of the use is planned (Figure 7).

Topography and Flooding - The topography of the shoreline determines the extent of flooding and the ability to accommodate wetlands and stormwater management projects (Figure 8).

This plan looks at two different approaches to Buffer restoration based on ownership and the need to make maximum economic use of a site while taking into account the above conditions. The first approach describes a typical development site, and the second describes a site owned by the City (generally parkland).

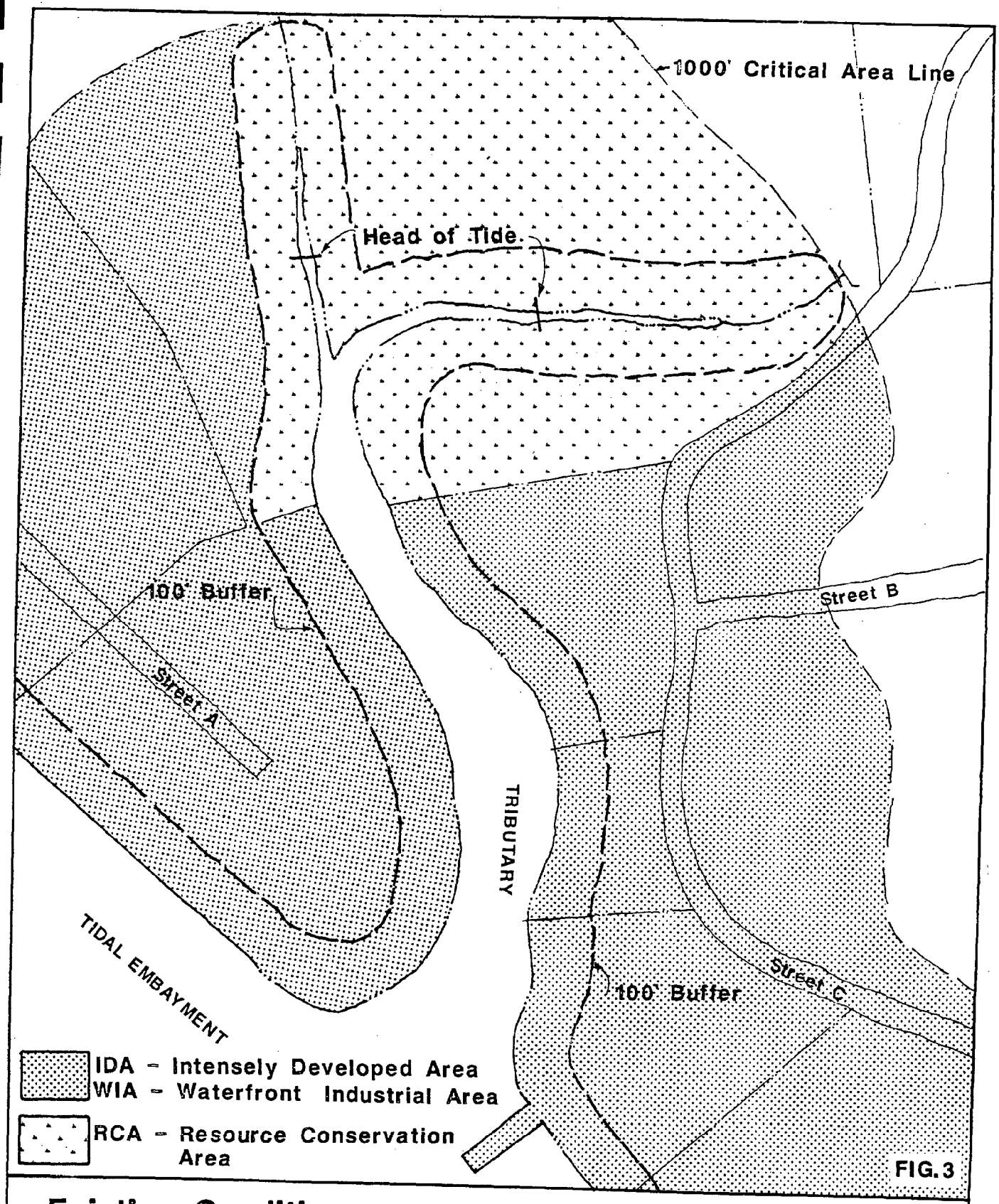


FIG. 3

Existing Conditions

CRITICAL AREA

Buffer Restoration Plan

Baltimore City Department of Planning

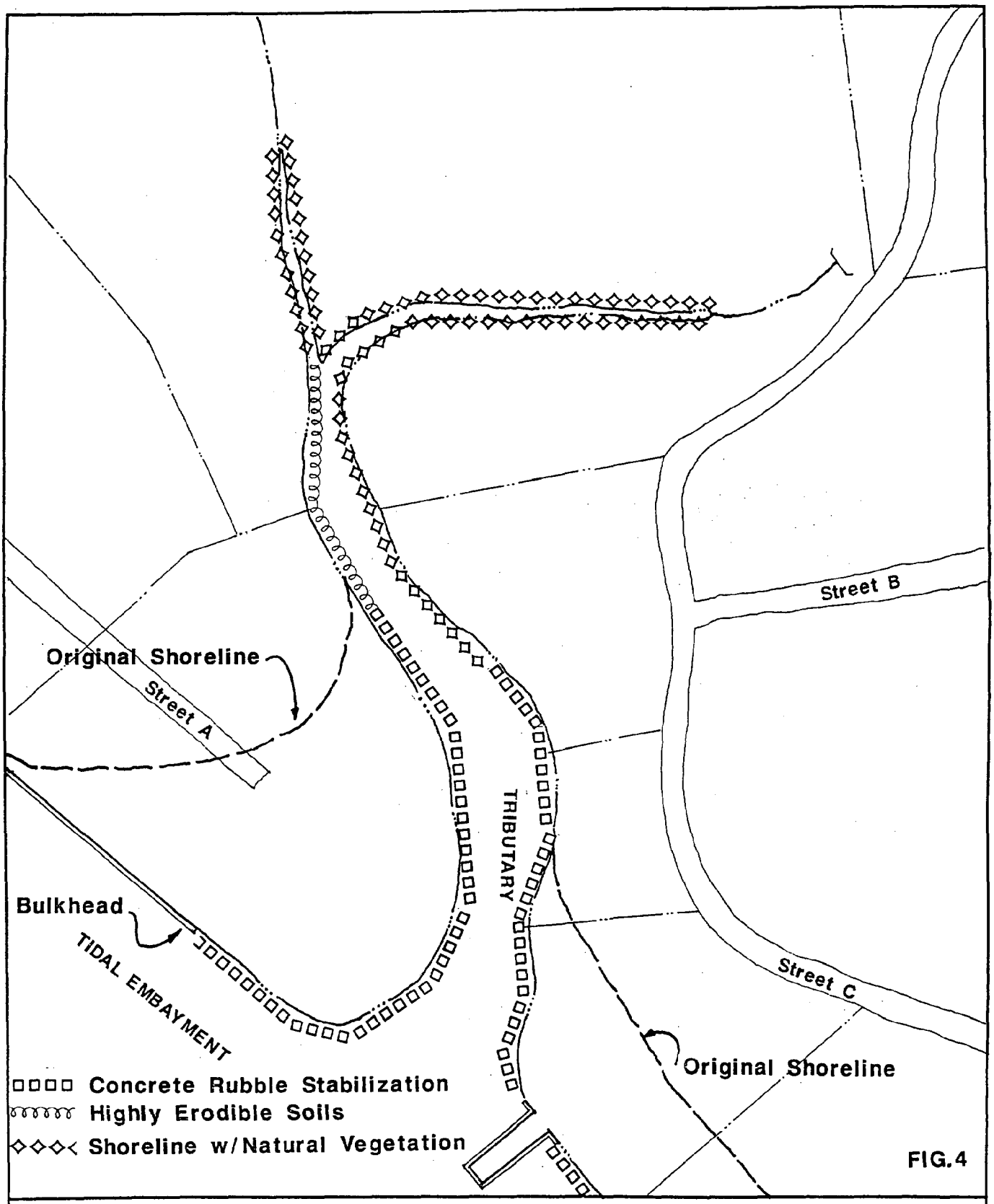


FIG. 4

Existing Conditions

SHORELINE

Buffer Restoration Plan

Baltimore City Department of Planning

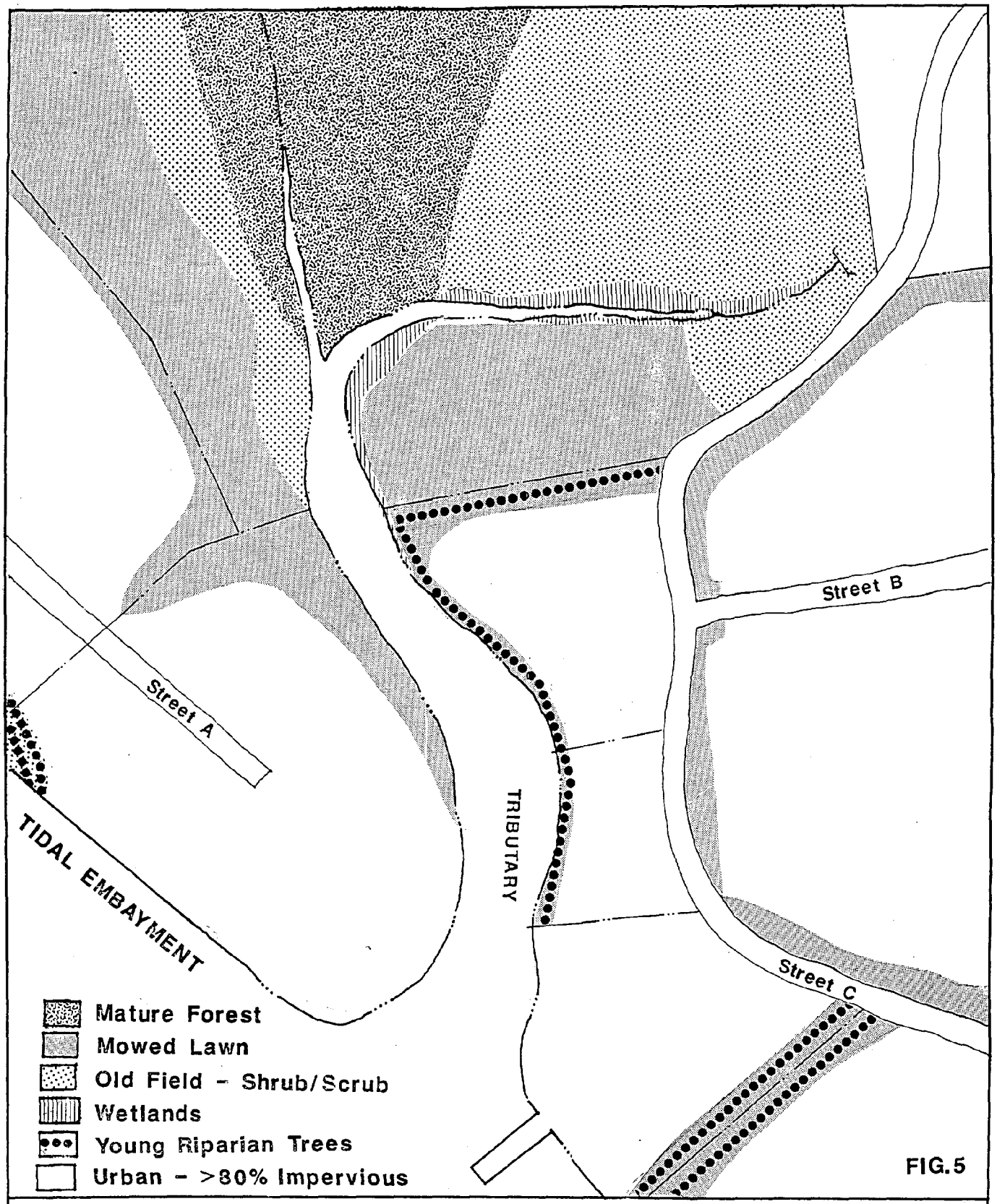


FIG. 5

Existing Conditions

VEGETATION

Buffer Restoration Plan

Baltimore City Department of Planning

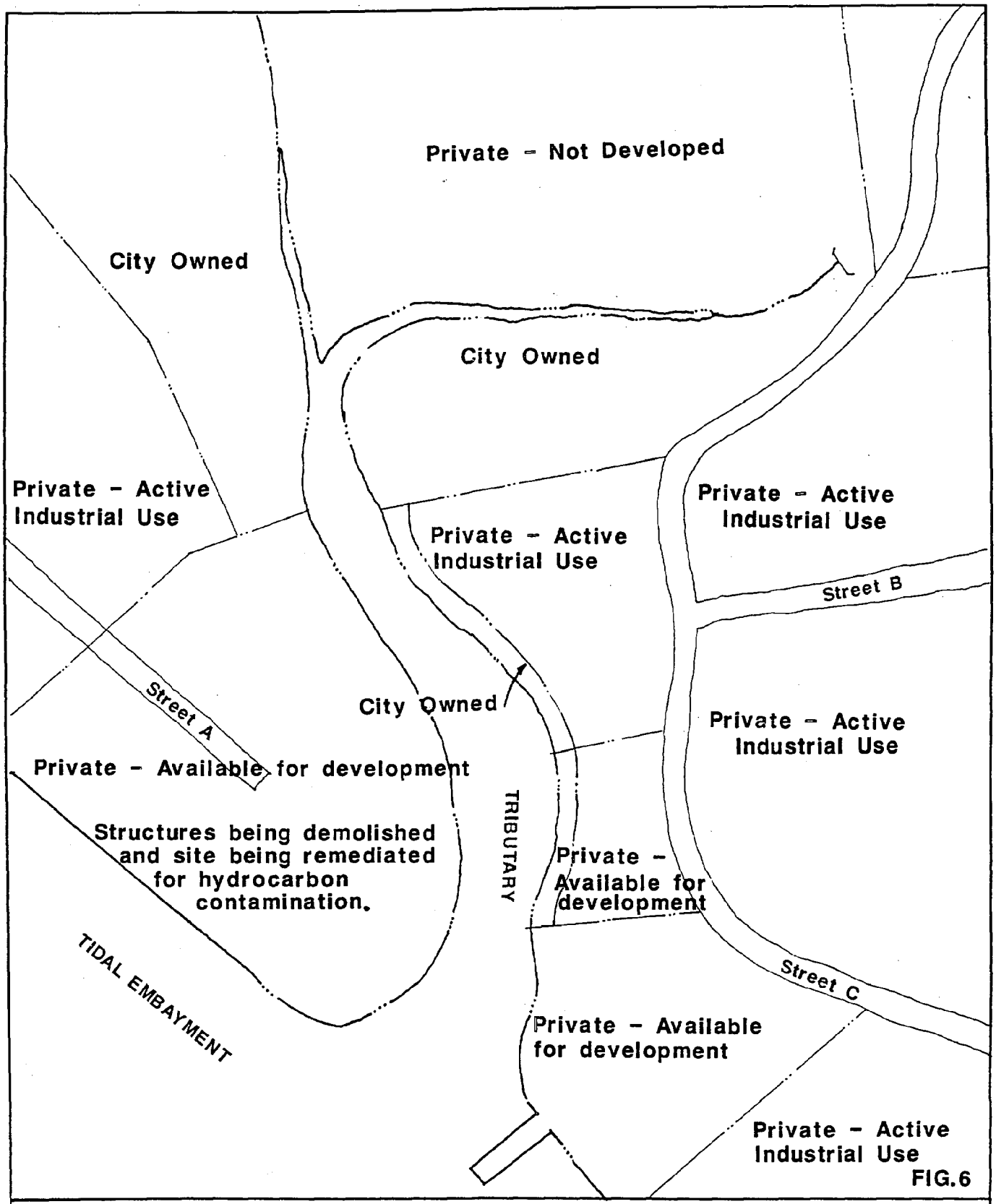


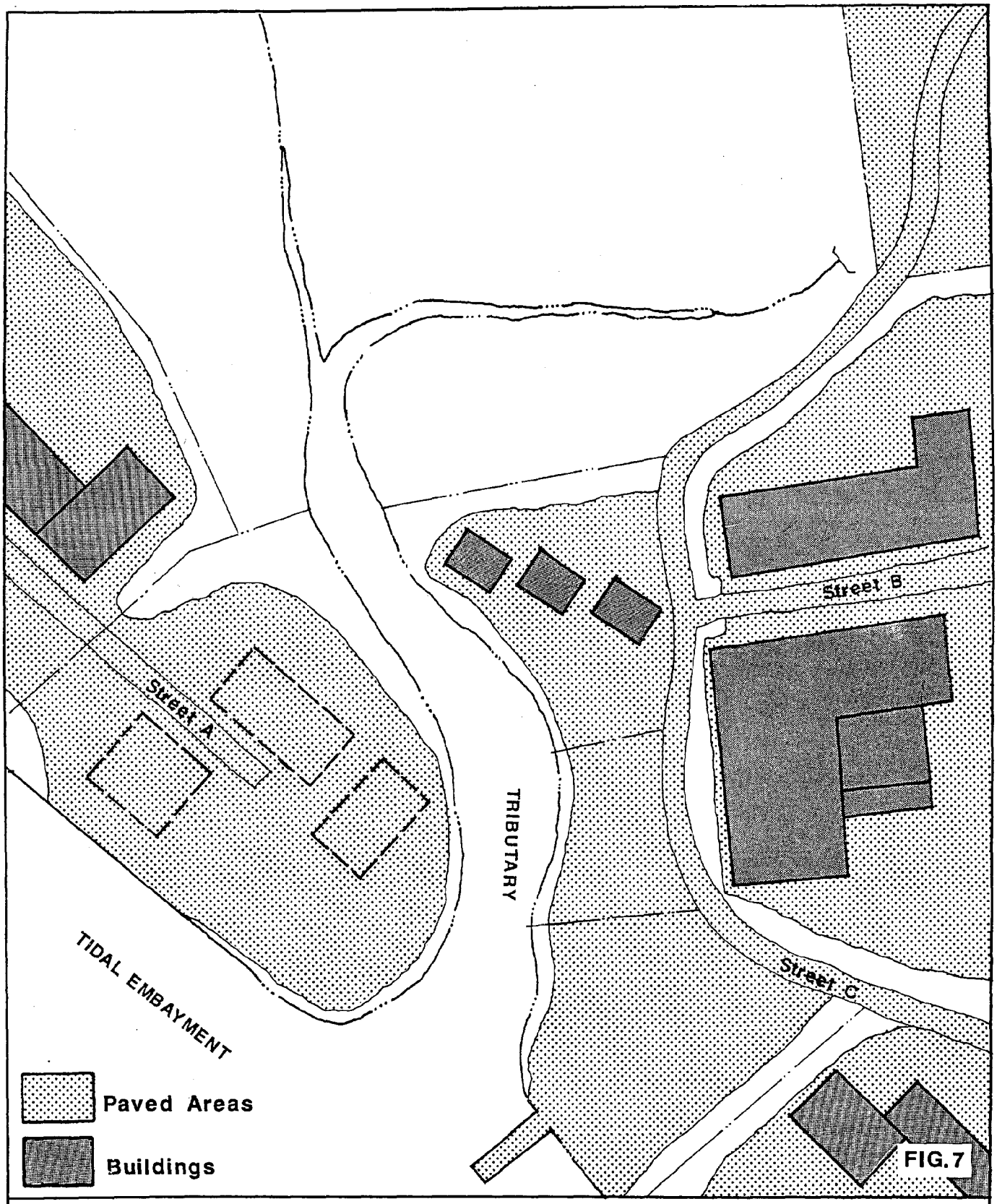
FIG.6

Existing Conditions

OWNERSHIP

Buffer Restoration Plan

Baltimore City Department of Planning



Existing Conditions
DEVELOPMENT PATTERNS

Buffer Restoration Plan

Baltimore City Department of Planning

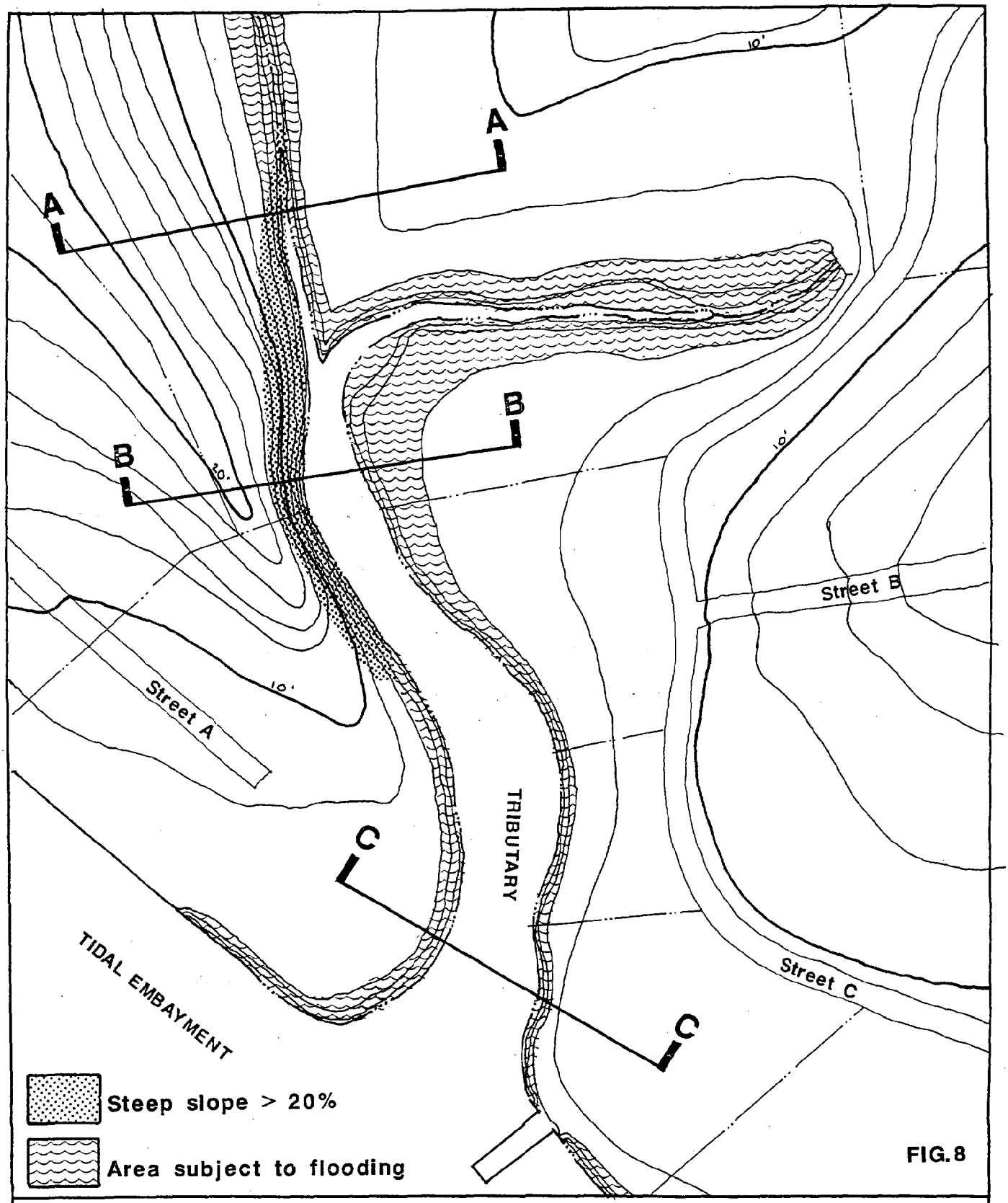


FIG. 8

Existing Conditions

TOPOGRAPHY/FLOOD

Buffer Restoration Plan

Baltimore City Department of Planning

SECTION A-A

THIS AREA CONTAINS A NATURAL FOREST BUFFER BORDERED BY OLD FIELD-SHRUB/SCRUB COMMUNITIES. THE WESTERN BUFFER IS NARROWER THAN THE EASTERN SIDE, WITH A LARGE AREA OF MOWED GRASS. THE STREAM IS NON-TIDAL AT THIS POINT.

SECTION B-B

THE STREAM IN THIS AREA HAS WIDENED AND BECOME TIDALLY INFLUENCED. THE WESTERN STREAM EDGE IS BORDERED BY A NARROW BAND OF SHRUB/SCRUB VEGETATION ON A STEEP SLOPE WITH HIGHLY ERODIBLE SOILS. THE EASTERN SIDE SUPPORTS A NARROW BAND OF WETLAND VEGETATION AND A GENTLER SLOPE. A WIDE BAND OF MOWED LAWN BORDERS BOTH SIDES BEYOND THE SHORELINE VEGETATION.

SECTION C-C

HERE THE STREAM BECOMES FULLY TIDAL, WITH RIP-RAP ARMORING BOTH SHORELINES. NO VEGETATION IS PRESENT.

FIG.9

Buffer Restoration Plan

SCALE 1"=1000'

Baltimore City Department of Planning

DEVELOPMENT PARCELS

Private land or land owned by a government agency for purposes of building a facility are the most common types of sites along the shoreline. Due to the development densities existing throughout the City, virtually every site not purchased specifically to redress past environmental damage is expected to be used to the level of surrounding densities for some combination of buildings and paved space. In a bid for more tax dollars, the City encourages and assists commercial and industrial developers to make maximum use of developable space. Government agencies have also purchased land along the shore for sewage treatment plants, economic development, and general infrastructure construction. As private enterprises and government facilities are built and existing facilities continue to expand, additional growth is often restricted by the surrounding uses which results in an intense use of every available square foot.

Within the Critical Area, especially in proposed Habitat Protection Areas, the 100-foot Buffer would be protected where it is not already developed. In many cases, however, the Buffer is at least partially in use on parcels which have undergone through some type of development. We are working with industries and landowners to interest them in participating in the Buffer Restoration program by either granting easements to the City or contributing funds for off-site restoration projects. Two things are necessary for this program to be successful: 1) a simple process for designing, engineering and constructing the restoration so that it does not interfere with the purpose of the use; and 2) tangible public relations and/or financial benefits to the landowner.

As a result, Buffer restoration projects on such sites must make use of steep slopes, watercourses, low areas and other "undevelopable" portions of the parcels. Also, the site must be designed to accommodate the layout of existing buildings and their operations as well as future plans for the property. Rather than a uniform 100-foot buffer, a restoration project may be confined to a much narrower strip or one of varying width. It may have to be located along only one side of the property.

The design of any restoration must be sensitive to the nature of the developed (or proposed) use of the site and its visability to customers or the general public. The "image" of the restoration must fit the desires of the landowner as much as possible and still provide water quality and habitat benefits. The landowner may desire a formal design for public presentation or the wild appearance of natural wildlife plantings.

EASEMENTS

One viable and commonly used approach to preserve land and protect our valuable natural resources is through the use of a Conservation Easement. The Maryland Environmental Trust's Conservation Easement Program created by the General Assembly in 1967 is a good example of such an effort. The Trust arranges for the donation of land, conservation easements, and cash all of which are designed to ensure the protection of open spaces.

An easement is a right which one person has to the land of another. It can be created by a reservation of rights or rights can be incorporated in the deed conveying the property or by separate agreement. Although there are several types of easements, the one most applicable for the BOP is referred

to as an "easement in gross" whereby the conveyed rights benefit a person or persons who do not own or occupy nearby land. This easement would be granted to an agency or governmental body to restrict development.

A landowner who donates a conservation easement only gives up his/her development rights on the right-of-way in perpetuity while still retaining ownership of the property. Any type of land can be protected by a conservation easement provided it meets the goals and objectives of the City's CAMP. One disadvantage associated with the donation of an easement is the potential reduction in the fair market value of the land due to the restrictions imposed, although an easement donation can qualify for favorable federal income tax and estate tax treatment if it is for the benefit of the general public or it meets specific government policy such as the state imposed Critical Area regulations.

PUBLIC PARKLAND

The City has purchased parkland along the shoreline for both active and passive recreational use and for environmental restoration. Both types of parcels, as well as parcels that are no longer needed for their original purpose, are candidates for Buffer restoration. Generally, these parcels allow for more generous buffers along the shore and tributary watercourses. Goals for natural vegetation and environmental benefits are more immediately compatible with the primary use of the property. Such parcels give more freedom to combine various types of habitat restoration in large areas which are less constrained by existing uses.

Generally, wildlife plantings are appropriate for parklands, especially for those areas purchased to eliminate undesireable uses. There are opportunities to combine wetland restoration/creation with forest buffers, wildflower meadows, and edge habitats to create a complex and varied habitat in the Critical Area. Where possible, these would build on or connect existing habitat to maximize the benefits to wildlife.

CHAPTER III: FINDINGS AND RECOMMENDATIONS

APPROACH TO CRITICAL AREA BUFFER RESTORATION

The Baltimore City Department of Planning recommends the appointment of a "Critical Area Awards Committee" (CAAC) to award Critical Area Buffer Offset Funds to winning entries in an annual competition of buffer restoration projects. The competition, sponsored by the City of Baltimore, would solicit entries from any source provided that the project submission was for a site located within the buffer of the City's Critical Area.

This approach to funding buffer restoration projects is proposed because it offers a number of advantages to the City and should help to reduce buffer restoration costs. For example, normal costs associated with project design would effectively be reduced or eliminated. Staff time spent on negotiating with landowners, selecting contractors, selecting sites, etc. would be greatly reduced. This approach should foster a diverse variety of projects submitted for funding.

There is a public awareness and educational spinoff from this approach that should yield some important public relations benefits for the City's Critical Area Program. At a time when fiscal constraints are as severe as they have been in a generation, the City's ability to award money--perhaps as much as $100,000 for a single project--can be expected to attract national as well as regional interest from the development and environmental communities. Trade magazines and local news

papers will be invited to report on the entries submitted and the projects funded. Such competitions are not uncommon in the world of the built environment, and their use for funding environmental projects locally promises to attract a great deal of attention.

The CAAC would consist of representatives from local professional associations (landscape, horticulture), environmental organizations (Sierra Club, Audubon Society, Chesapeake Bay Foundation), State and local agencies, and the Critical Area Commission. The CAAC would be supported by a Management Team staffed by the Baltimore City Department of Planning.

CRITERIA FOR SELECTING PROJECTS FOR FUNDING

The following are the criteria to be used by the CAAC to evaluate proposals submitted for funding. The Department of Planning recognizes that once the committee has been selected, that committee may wish to modify these criteria. The criteria presented here reflect the broad goals of the City's Critical Area Management Program and should serve as a guide in the event the committee wishes to make changes.

1. The project's potential for enhancing an existing environmentally significant area.

By establishing this criterion, the City will endeavor to encourage submissions whose design and location is such that it already offers enhancement or protection to sections of the City's Critical Area, or is soon to be identified as environmentally significant. Such areas would include habitat protection areas, greenways, etc.

2. The project's potential for linking with, or connecting, adjacent habitats.

This criterion is established to recognize the strategic importance of some projects in linking existing or soon-to-be-created habitat areas. It assumes that such projects, if planned for a more isolated location, would have less habitat value and be less likely to receive funding approval.

3. The project's potential for creating and/or maintaining maximum undisturbed habitat.

This criterion is established to recognize the importance of creating and maintaining habitat areas that will not be disturbed by human activity.

4. The project's potential for meeting multiple environmental objectives.

The City desires to promote buffer restoration projects which incorporate a variety of features aimed at achieving multiple environmental objectives. It is hoped that future buffer restoration proposals will piggyback on different types of on-site mitigation. For example, a Buffer restoration project might be proposed for a site wherein a wetland is to be created or a stormwater retrofit is to be installed.

5. The use of in-kind contributions or matching funds to supplement Critical Area Buffer Offset Funds.

There are a variety of ways in which a community or advocacy group, landowner, developer or other interested party can contribute to a proposal in order to make a good proposal better and improve its chances for funding under this program. Indeed, a primary goal of our Critical Area program is to use Buffer Offset Funds to leverage as much private investment and community involvement as possible. The task of improving the water quality of the Harbor and enhancing habitat opportunities along the shoreline is much greater than we can reasonably expect to fund solely through the collection of Buffer Offset Fees.

6. The project's potential for encouraging public awareness of environmental issues or public enjoyment of naturalized areas.

The Critical Area Criteria have the mandate to "encourage the creation of opportunities for interaction between people and natural environments without destroying the fragile components of natural habitats" (COMAR 14.15.08.02). For this reason, some proposals may be selected on the basis of their ability to meet this difficult challenge.

PROTOTYPICAL EXAMPLES OF BUFFER RESTORATION PROJECTS

While two types of approaches to buffer restoration were described in the analysis section, they interact with the existing conditions to present a whole array of varying solutions to buffer restoration. We have taken the imaginary conditions illustrated in the Analysis, and developed illustrative solutions that would greatly enhance the environmental quality of the area without severely restricting the development potential of the

City or privately-owned parcels. Each site is described separately along with the potential for enhancements through Buffer offsets. (see figures 10 and 11)

1. This site is being remediated for hydrocarbon contamination of soils. While it may eventually be developed, it is likely to be vacant for some time due to liability problems associated with the contamination. The site is fairly large and could accommodate a 100-foot or wider buffer without severely restricting reuse. The bulkhead on the west side should be kept free for potential water dependent use. The approach here would be to fully plant the 100-foot buffer, incorporating shoreline stabilization along the northeast side to stop the erosion, and widening the planted area to match with the proposed vegetation on the adjacent site.

2. This City-owned site is proposed for a park facility (perhaps a nature center) and associated parking. The existing mature forest and old field areas would be retained, and a generous forest planting would be introduced on the southern third of the site.

3. This private, undeveloped site could accommodate a large building and parking/truck handling area while retaining the mature forest and wetlands vegetation on the site. The non-tidal wetlands could be further enhanced by the addition of a forested buffer planting.

4. This City-owned site has been selected to accommodate environmental enhancement. The existing tidal wetland along the shoreline would be

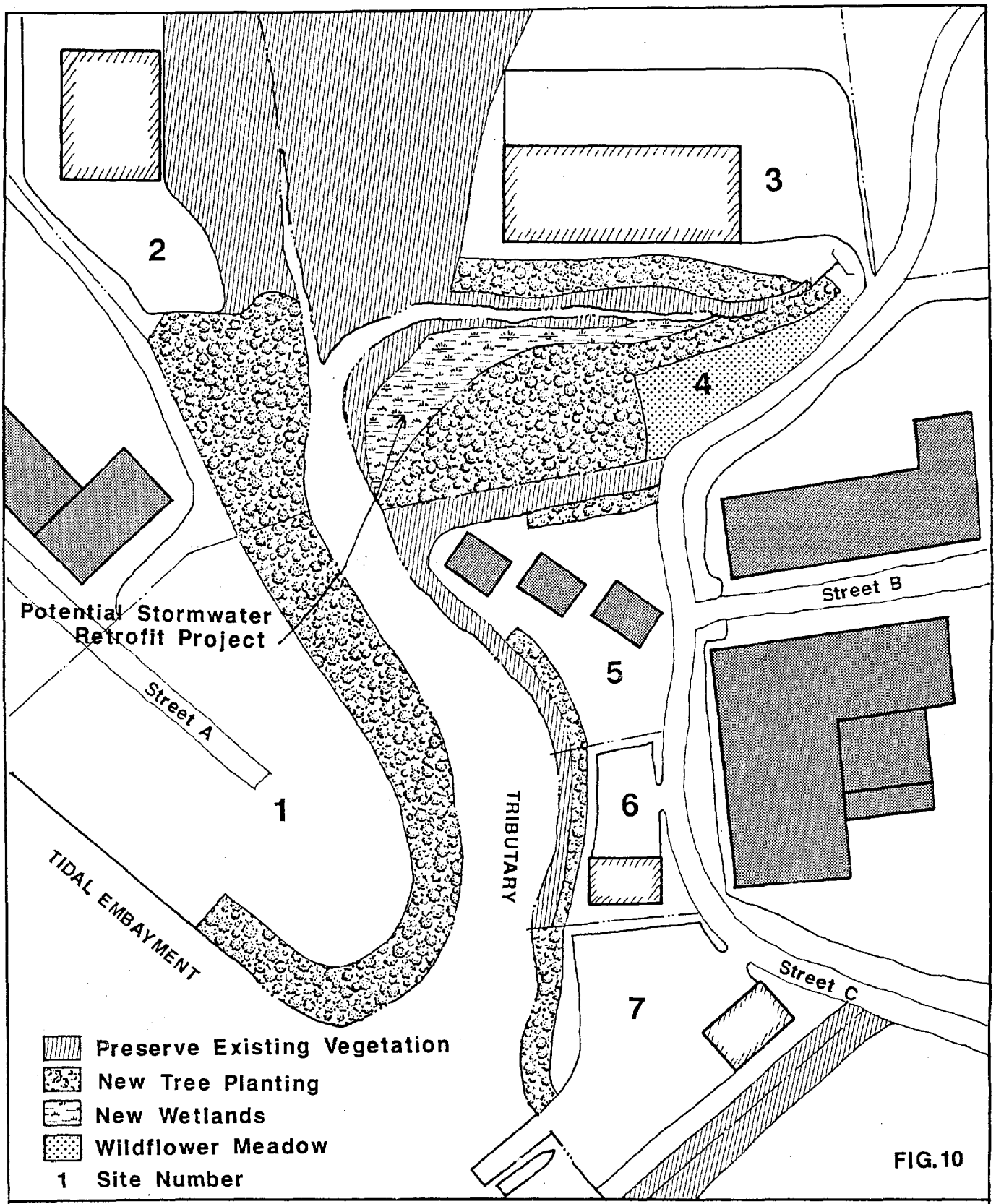


FIG. 10

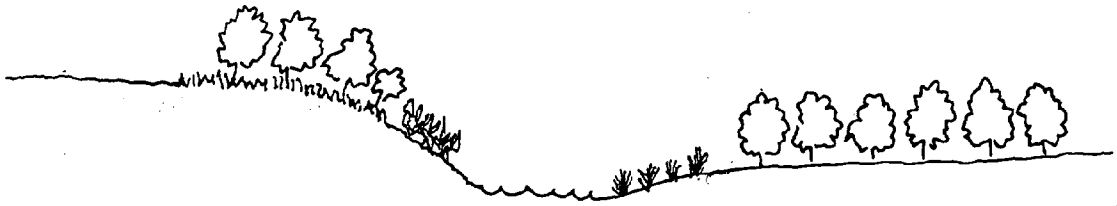
Buffer Restoration Plan

PROTOTYPICAL APPROACH

Baltimore City Department of Planning

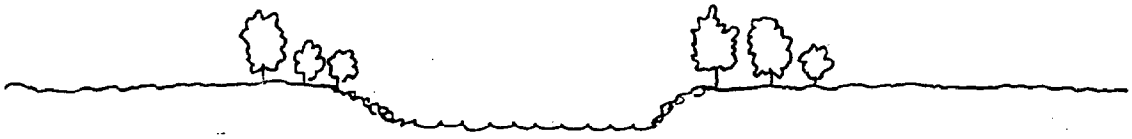
SECTION A-A

THIS AREA PRESERVES THE NATURAL VEGETATION, AVOIDING DISTURBANCE BY NEW CONSTRUCTION.



SECTION B-B

A SUBSTANTIAL FOREST BUFFER IS ADDED TO BOTH EDGES OF THE STREAM, WITH STABILIZING VEGETATION ADDED TO THE EASTERN SLOPE. ON THE WESTERN SIDE, THE TIDAL WETLAND IS SIGNIFICANTLY ENLARGED.



SECTION C-C

A NARROW FORESTED BUFFER IS ADDED TO BOTH SIDES OF THE STREAM.

FIG.11

Buffer Restoration Plan

SCALE 1"=1000'

Baltimore City Department of Planning

enlarged to compensate for tidal wetlands loss elsewhere. The potential exists to design this to accomplish stormwater retrofit goals. A large portion of the site would be planted in forest with a wild flower meadow enhancing the street side of the property.

5. This site is actively in use, however the owner is willing to participate in the Buffer offset program to enhance the habitat and the company's image. A narrow forest planting is designed to accommodate his current buildings and enhance the existing riparian vegetation.

6. This privately-owned site is very small and could accommodate only a fringe area of trees to compliment the existing riparian vegetation.

7. This privately-owned site is proposed for a substantial water-dependent use. A 50-foot forested buffer can be accommodated only on one side of the property. Existing vegetation on the south side is retained.

PROJECT IMPLEMENTATION

REVIEW and APPROVAL MECHANISM FOR PROJECT AWARDS

The process for awarding funds would begin with an announcement by the Management Team of the availability of funds and the application deadline. The announcement would be made through all daily newspapers published in Baltimore City as well as a direct mailing to interested parties.

Within 30 days of the proposal deadline, the CAAC would meet to consider all submitted applications. Criteria for judging the applications would be established by the Management Team. Recommendations would be presented to the Director of Planning, local community groups and the Mayor of Baltimore. (A flowchart of the process and award step sheet are proposed in Appendices B and C.)

Provision would also be made for accepting proposals outside the annual awards process. Proposals accepted outside the annual award process should contain special circumstances and/or benefits to the City.

PROCESS FOR DESIGN, ENGINEERING, and CONSTRUCTION OF BUFFER RESTORATION PROJECTS

Generally, the project would have a nearly final design prepared for the competition. The remainder of the process would depend on whether the City or a private landowner (or environmental group) is taking the lead on the implementation of the selected project.

CITY PROJECTS ON CITY LAND

Depending on the complexity of the proposal, specifications for the design would be developed in-house by the Departments of Recreation and Parks and Planning. If necessary, engineering services would be submitted for bid proposal. Engineering services would be needed for complex surface grading, shoreline stabilization, soil remediation, and other work beyond the capabilities of in-house staff. Once a design and its specifications

are approved by the Departments of Recreation and Parks and Planning, the Department of Recreation and Parks would send the package to the Bureau of Purchases to advertise the project for bid. Bids would be opened and then assessed to see if they meet project specifications and conform to existing budgeted funds and other City contracting standards. Once a satisfactory bid is selected, the contractor would be given Notice To Proceed and construction would begin. The Department of Recreation and Parks would be responsible for verifying that the work proceeds correctly and is completed satisfactorily. The Department of Planning would make at least one inspection upon project completion to assure that Critical Area goals and criteria are met. Once the project is completed to the satisfaction of all parties, final payment would be authorized.

PRIVATE PROJECTS USING OFFSET FUNDS

The competition may select projects which are to be undertaken on private land with the contribution of in-kind services, land or easements and cash. Generally, these will be handled with an agreement approved by the Board of Estimates as to the process, each party's contribution, easement agreements and any other conditions. The private landowner or their designee would arrange all the contracting services, and the City would retain the right to approve the project as completed.

The City would require that a conservation easement be dedicated on all projects using Buffer Offset funds, and that the property owner be required to maintain the planted areas and remove trash as part of the easement agreement.

MONITORING COMPLETED PROJECTS

In either of the above cases, responsibility must be assigned for keeping the areas free of trash and replacing dead material. The City, with the assistance of the Award Committee, would inspect the projects annually to assure that the plantings are healthy and no encroachment has taken place.

APPENDIX A

Summary of Requirements Within the Buffer

Sub-Area	Developer Requirements	Offset
Waterfront Revitalization Area	Developer may develop up to 100% of Buffer area. Developer must offset for total Buffer area (including the promenade easement) that is not landscaped.	$2.50 per sq. ft. for total Buffer area not landscaped, regardless of the amount of Buffer developed.
Waterfront Industrial Area Water-Dependent Use	Developer may use any portion (up to 100%) of the Buffer for development. Developer must establish new vegetation for the portion of the Buffer used for development. Developer may plant vegetation on-site or contribute to the	$2.50 per sq. - ft. for total Buffer area developed or increase the runoff pollution 20% (minimum) for the entire Buffer on the

	offset fund.	site.
Non-Water-Dependent Use	Developer may develop up to 50% of the Buffer provided he/she: 1) plants vegetation on the remaining 50% of Buffer on-site: or 2) contributes to offset fund, an amount equal to 100% of the area of the Buffer not vegetated	For alternative #2, $2.50 per sq. ft. for total Buffer area not planted in vegetation.

Within the Waterfront Industrial Area, the total liability for buffer offsets shall not exceed 2% of the cost of the proposed new development or redevelopment.

Resource Conservation Areas	All land is either publicly owned or restricted by floodplain regulations. Only water-dependent facilities for public use may be developed within the Buffer. Natural vegetation must be planted elsewhere in the Buffer equal to twice the land area disturbed by development.	$2.50 per sq. ft. for twice the Buffer area developed.

APPENDIX B

SOLICITATION, REVIEW, and APPROVAL FLOWCHART

Directed to Offer

Receive Unsolicited Proposal

Advertisement

Proposal Deadline

a) Critical Area Award
b) Community Presentations
(8 wks)

Recommendation to Director

Exclusive Negotiating Priority

Plans Review

a) Site Plan Review
b) CAAC
c) Staff Review

Financial Negotiations

a) Determine Terms
b) Agreement Approved by B.O.E.
c) Prepared

Commission Sign-off

Settlement Scheduled

Aggreement Recorded

Building Permit Approved

Construction Start

Certificate of Completion

APPENDIX C

Award Step Sheet

Location/Address: _____

Project Name: _____

Applicant: _____

Purpose: _____

Amount Requested: _____

I. Develop amount of offering _____

a) Develop standards and controls _____

b) Prepare offering documents _____

c) Obtain Critical Area Award Committee approval _____

d) Obtain Director's approval _____

II. Offer Award _____

a) Advertise Offering _____

b) Proposal deadline _____

c) Prepare summary of proposal for Committee _____

d) Hold Critical Area Award Committee meeting _____

e) Recommend awards to Director _____

f) Hold Community Presentations _____

g) Obtain Mayor's approval _____

III. Exclusive Grant Negotiating Priorities _____

a) Send award letters _____

b) Establish Plans due date _____

c) Establish Financial commitments due date _____

d) Termination date _____

IV. Plans Review _____

a) Hold Post-Concept Review meeting _____

b) Obtain preliminary plans from Developer _____

c) Obtain CAAC comments _____

d) Obtain staff comments _____

e) Obtain City Agency comments _____

f) Post-Plan Revision meeting _____

g) Obtain Working Drawings from Developer _____

h) Obtain Staff final review _____

i) Obtain Director's approval _____

V. a) Convey Award _____

b) Establish Schedule _____

VI. a) Start Construction _____

b) Confirm Building Approval _____

VII. a) Complete Construction _____

b) Obtain Final Inspection _____

c) Send Certificate of Completion to Developer _____

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