

HIDDEN FALLS 70  
CROSBY FARM 70  
70



August 25, 1970

City of St. Paul  
Department of Parks and Recreation  
and Public Buildings  
15 West Kellogg Boulevard  
St. Paul, Minnesota 55102

RE: Hidden Falls-Crosby Farm River Study

Gentlemen:

Too often a municipality fails to recognize its natural assets before space, time, and money run out. The people of St. Paul should consider themselves fortunate that there still remains an area near the heart of downtown, relatively untouched by aggressive development.



The Hidden Falls-Crosby Farm area is a unique combination of topography, vegetation, water, and geology. Its recreation potential was first recognized by Landscape Architect, H.W.S. Cleveland in 1887.

With a program and design that respects the sites' natural amenities, this area will benefit the Twin Cities now and for future generations.

The cooperation and assistance of Bernard Edmonds and his staff from the St. Paul Department of Parks and Recreation in the preparation of this report has been greatly appreciated.

BRAUER & ASSOCIATES, INC.

  
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pyt

  
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PLANNERS  LANDSCAPE ARCHITECTS  ENGINEERS  SURVEYORS  ARCHITECTS

FJARE STUDIO



## ACKNOWLEDGMENT

We wish to acknowledge the cooperation and data provided by the following in the preparation of this document:

- \* Bernard Edmonds and staff  
St. Paul Department of Parks and Recreation
  
- \* Northern States Power Company
  
- \* St. Paul Public Works Department



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**ABSTRACT**



## ABSTRACT

BRAUER & ASSOCIATES, INC. was commissioned by the City of Saint Paul to conduct a site evaluation, program recommendations, master plan, and cost estimates for the *Hidden Falls-Crosby Farm* parks in accordance with a contract dated June 25, 1970. This report is the culmination of the site inventory and definition of program objectives.

## SCOPE OF STUDY

The primary purpose of this planning report was to record the landscape resources of the *Hidden Falls-Crosby Farm* site and develop a program compatible with these resources. It was considered essential to evaluate the entire site, peripheral land use and the Minneapolis St. Paul recreation and open space systems in developing this program.

## PROCEDURE

The planning procedure began with collection and review of basic data in order to arrive at conclusions and program recommendations.

1. Review of all existing data including:
  - \* Boundary definitions and descriptions
  - \* Topographic mapping
  - \* Soils data
  - \* Hydrological data
  - \* Fish and wildlife data
  - \* Aerial photographic data
  - \* Climate data
  - \* Geologic data
  - \* Previous studies for the area
2. On site field study of the *Hidden Falls-Crosby Farm* site by landscape architects and naturalist.
3. Preparation of preliminary report with program for review through presentation to staff.
4. Following staff feedback this report was finalized as completion of site analysis and program recommendations.

## THE REPORT

The report is submitted complete with supporting data and program. The report contains seven sections:

1. Regional Identity
2. Site Inventory



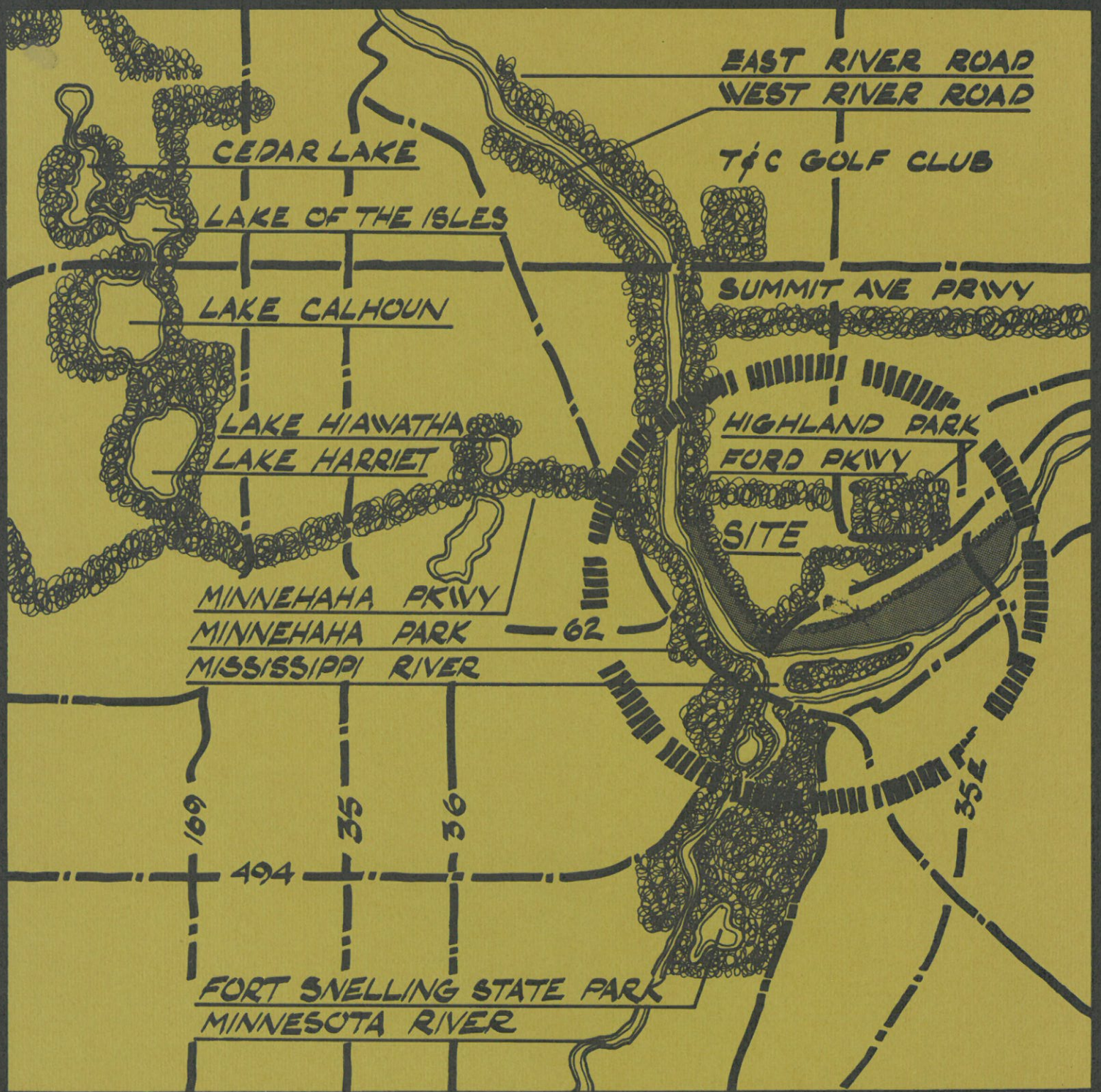
3. Environs
4. Summary of Findings
5. Summary of Recommendations
6. Program
7. Naturalist's Evaluation

This report is the only evidence of the initial steps of the planning process. The effect of this report will not be realized until the analysis and recommendations contained herein are applied to the master plan and subsequent progression to development. This report is a beginning, a major device to be utilized in successive steps of plan coordination.



**IDENTITY**





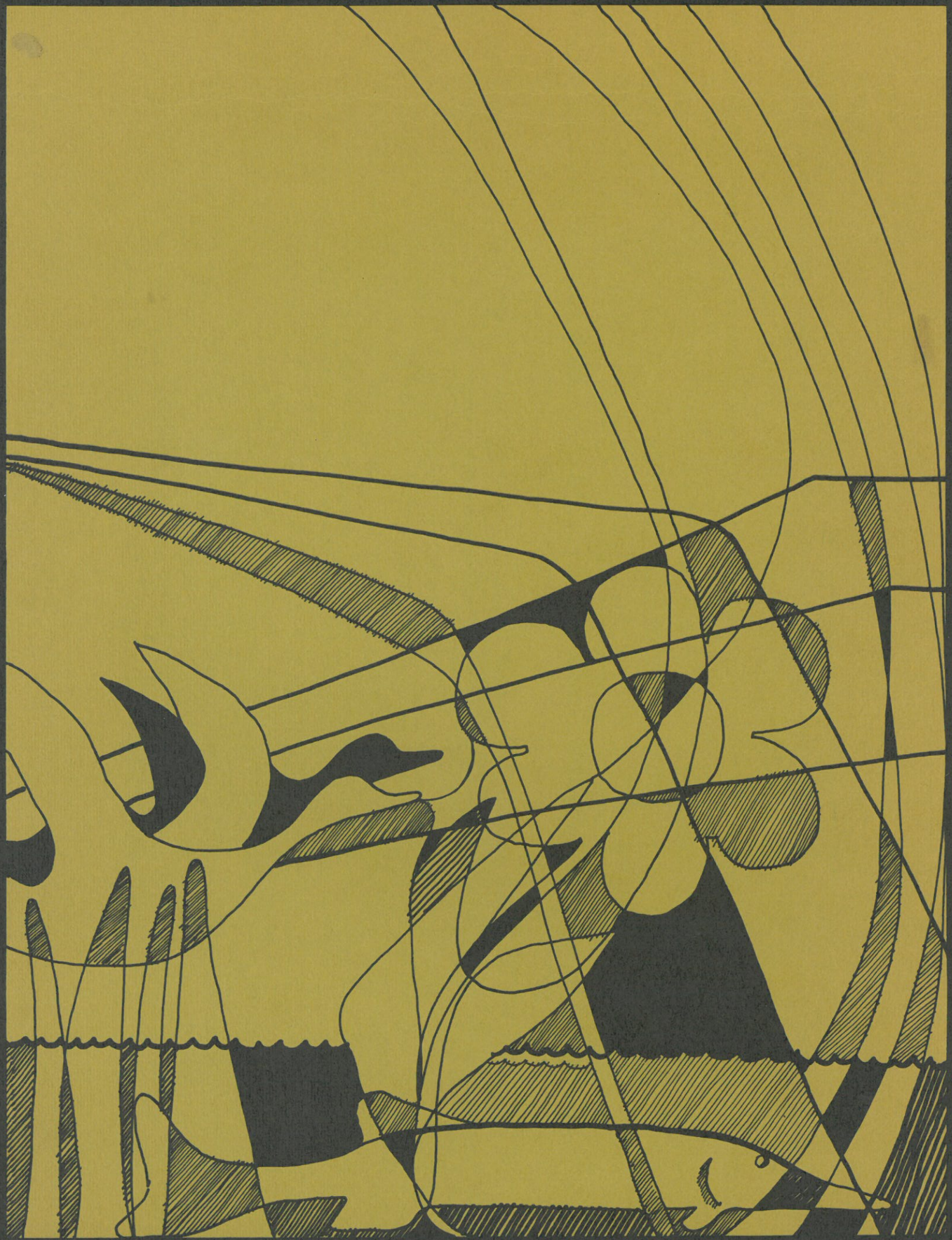
## REGIONAL IDENTITY

The location of the Hidden Falls-Crosby Farm site is on the southern edge of an extensive park and parkway system.

The advantages of integrating the Hidden Falls-Crosby Farm site with these existing open spaces are obvious. The possibilities of joint programming, continuous biking and hiking trails, and visual continuity should be capitalized upon. Proximity to the Mississippi and Minnesota Rivers offer additional opportunities for an expanded recreation program.

# IDENTITY





**SITE**



## SITE INVENTORY

"From the abundance of superlatives in this report, it is obvious that I rank the Crosby Lake Forest very high as a natural area. Here, both the serious student and the layman hiker can do their thing in a forest large enough to absorb many visitors without losing its "cool".

I am grateful for the privilege of being called upon to help in decision making in these fine areas. To me, each area dictates its own potential uses. Closeness to nature is a full time occupation with me, so I took, and listen, and write down what each area tells me it should do." - Les Blacklock

It became apparent early in the study that the physical magnitude of the site would require some specific resolve in graphic delineation to be meaningful. For graphic clarity the *Hidden Falls-Crosby Farm* plan sheets have been divided into eight segments for presentation purposes.

A clear overlay technique has been used to illustrate soils, slopes, and vegetation data. This technique was employed so that patterns of these three important landscape components could be related. Soils, slopes, or vegetation that present the severest limitation to development are shown with the darkest pattern, those with few limitations have the lightest pattern.

A fold out composite sheet illustrates these patterns for the entire site. When the overlays are combined, those areas with the lightest combined pattern represent areas most suitable for recreation activities. Areas with the darkest combined pattern represent areas least suitable for recreation activities.



## PERCEPTUAL ANALYSIS

"I AM WILDLY ENTHUSIASTIC ABOUT THE GREAT WILD AREA AROUND CROSBY LAKE, AND THE OPPORTUNITY TO PRESENT THIS UNIQUE AREA TO THE PUBLIC IN SUCH MANNER THAT IT WILL RETAIN ITS UNIQUENESS!

Why did I say that? Because it's true, that's why. Never have I seen so many plusses fall into place so beautifully as here." - Les Blacklock

The Hidden Falls-Crosby Farm site is unique. It offers a nature oriented experience in the heart of a metropolitan area. Seasonal changes make it a year round attraction. Some of the site's outstanding characteristics include the bluffs, Hidden Falls, the woodland, Crosby Lake, and the Mississippi River.

The enclosing bluffs, in places 100 feet above the valley floor offer dramatic vistas of the river valley. Hidden Falls, at the top of the bluff, is a somewhat neglected, but beautiful natural feature. It's uniqueness makes it a feature worth reclaiming. The bluffs and dense vegetation screen out the urban environment when viewed from the valley.

On the valley floor the woodlands form a variety of canopied spaces. The trees and low understory create a cathedral like effect. Many of the cottonwoods and elms are of tremendous size--natural landmarks. The woodland impact is one of quiet seclusion with a variety of spatial enclosures defined by vegetation and topography.

Upper Crosby Lake and Crosby Lake form two major open spaces in the forest canopy. These two focal points add interest and variety to the site.

The river bank offers a variety of moods and experiences. It may be a slow moving compliment to the surrounding woodlands. Beautiful vistas both up and down the river are afforded along the sites entire length. It may be active with the sights and sounds of powerboats, barges, lock activities, excursion boats, swimmers, fishermen, and picnickers adding interest and color. The river is obviously the site's main attraction.

Wildlife throughout the site can be seen and heard. They add an expansive dimension to the site; a welcome contrast to urban sights and sounds.

The four major features with negative effects upon the scene are: the noise of traffic crossing the bridges, the scream of jets approaching and leaving Wold Chamberlain Field, garbage scattered throughout the site, and unsightly power transmission lines.

Additional perceptual information is included in the Naturalist's, Les Blacklock, evaluation.



## GEOLOGY AND SOILS

GEOLOGY - The *Hidden Falls-Crosby Farm* site is a product of the degradation action of the Mississippi River. The character of the river has constantly changed over thousands of years. The resulting landform in the *Hidden Falls-Crosby Farm* vicinity is a steep sided canyon flaring to an open valley south of the Minnesota River. The enclosing bluffs are comprised of drift, and Platteville limestone, overlaying St. Peter Sandstone.

The substrata of the *Hidden Falls-Crosby Farm* site consists of approximately 75 feet of alluvium and drift overlaying Shakopee Oneota Polomite. Upper Crosby and Crosby Lake were formed in the alluvium by a change in the rivers' course, isolating these lakes from the main channel. The soils in the Minneapolis-St. Paul area have been divided into eight groups - Soils of the Twin Cities Metropolitan Area. Five of the eight groups are found on the site.

### SOILS

GROUP 1 (53.3 acres) Level to gently sloping sandy soils with sandy or gravelly substratum.

#### Development Characteristics

##### POTENTIAL:

1. Ease of excavation.
2. Suitable for roads and foundations.
3. Rapid removal of drainage water.
4. Reduced grading cost.
5. Sewage effluent rapidly dispersed.

##### LIMITATIONS:

6. High water table may preclude proper operations of on site disposal systems.
7. Wind erosion is a potential problem where vegetation is disturbed.

The 53.3 acres of group one soils are a suitable base for all types of recreation activities. Precautions are necessary however regarding water table and vegetation disturbances. Because of the high sand content vegetation in open areas are subject to drought.

GROUP 2 (15.2 acres) Level to gently sloping soils with silty or loamy surfaces and with sandy or gravelly substratum. Slopes are less than 12%.

#### Development Characteristics

##### POTENTIAL:

1. Ease of excavation.
2. Suitable for roads and foundations.
3. Sewage effluent is rapidly dispersed.
4. Rapid internal drainage.



LIMITATIONS:

5. On slopes over 6% erosion is a hazard if soil is disturbed.

The 15.2 acres of group two soils are a suitable base for all types of recreational activity. These soils are not as subject to erosion or drought as group one soils. Precautions against erosion are necessary on slopes over 6%.

GROUP 3 (136.1 acres) Rolling to hilly soils with sandy to loamy surfaces and with coarse substratum; slopes are 12% or greater.

Development Characteristics

POTENTIAL:

1. Rapid internal drainage.

LIMITATIONS:

2. Water erosion a constant hazard when vegetation is disturbed.

The 136.1 acres of group 3 soils are severely limited as to suitability for all intense recreation uses. The limiting factor is the high degree of erosive character.

GROUPS 6 (390 acres) Depressional and level wet soils, and adequately drained soils subject to flooding.

Development Characteristics

POTENTIAL:

1. Suitable for most recreational activities if adequately drained.

LIMITATIONS:

2. Development costs are very high because of poor foundation conditions.
3. On site sewage disposal systems are not adequate.
4. Road construction cost higher in peat and wet sand areas.

The 390 acres of group 6 soils are moderately limiting to most intense recreation use particularly those that would involve extensive construction. The major limiting factors are the structural instability of the soils when wet, and the characteristic high water table. Development cost in this soil area would be high. Precaution regarding the effect of drainage on the plant community is essential.

GROUP 8 (40.7 acres) Soils Shallow to rock or rock outcrops.

Development Characteristics

POTENTIAL:

1. Suitable for foundations.



LIMITATIONS:

2. Variable drainage.
3. High development costs.

The 40.7 acres of group 8 soils are suitable for most recreation activities. However, because of the location of these soils at the top of the bluff, their usability is limited.

SOILS SUMMARY

Soil Group 1 - Where extensive areas of level land are required for recreation these soils are excellent. However, group two soils are more desirable for recreational activities that need good turf development.

Soil Group 2 - See above.

Soil Group 3 - Severe erosion problems resulting from the steep slope of this soil group eliminates most intensive recreation uses. Skiing, sliding, and trails are possible uses providing adequate precautions are taken.

Soil Group 4 - Not present.

Soil Group 5 - Not present.

Soil Group 6 - Areas in this soil group are suitable for most types of recreation but demands adequate surface and sub-surface drainage.

Soil Group 7 - Not present.

Soil Group 8 - These soils offer few restrictions for recreation use.



## SLOPE ANALYSIS

Landform configuration is an important recreation land use determinate. Three slope categories were established to define areas on the site most suited for various activities.

0-5% (460.4 acres) - Flat to gently sloping sites suitable for most recreation activities. Potential drainage problems exist in areas with slopes of less than 2%. Subsurface drainage is generally required with subsequent higher development costs.

5-15% (61.8 acres) - Moderately sloping sites with potential erosion problems and high development costs.

15% plus (25.4 acres) - Steeply sloping sites with potential erosion problems and high development costs.

The following categories of limitation effecting recreational activities are generalized. Variables including economics, design, detailing, and maintenance would make overlaps within these categories possible.

### RECREATION ACTIVITY - SLOPE CHART

0 - 5%	<u>No Limitation</u>	<u>Moderate Limitations</u>	<u>Severe Limitations</u>
	Hiking trails Bridle trails Nature trails Tent sites Trailer sites Playgrounds Intensive play areas Picnic areas Recreation Bldgs. Athletic fields Trail biking Snowmobiling Utilities Roadways Parking Snowshoeing Cross country skiing	Utilities Roadways Parking Golf courses (potential limitations if slopes are less than 2%)	Downhill Skiing Sliding
6 - 15%	Hiking trails Bridle trails Nature trails Tent sites Playgrounds Trail biking	Trailer sites Intensive play areas Picnic areas Recreation Bldgs. Roadways	Athletic fields Skating Parking



	<u>No Limitation</u>	<u>Moderate Limitations</u>	<u>Severe Limitations</u>
	Snowmobiling Snowshoeing Cross country skiing	Utilities Downhill Skiing	
15% plus	Downhill skiing Sliding	Hiking trails Bridle trails Nature trails (potential erosion problems)	Trail biking Snowmobiling Skating Parking Tent sites Trailer sites Playgrounds Intensive play areas Roadways Utilities Athletic fields Snowshoeing Cross country skiing



## VEGETATION ANALYSIS

The *Hidden Falls-Crosby Farm* site contains an interesting mosaic of plant associations. The two basic associations are the flood plain and hillside which cover 121 acres. Within these associations are several important subgroups; *riverside, floodplain, hillside, lakeside, old field groups and reforestation*. Each of these groups plays an important part in the sites' successional change and or stability.

"The entire hillside is an exciting place, relatively untouched by man, and with rich variety in vegetation, geology and wildlife. Sheer cliffs near the top are crested with gnarled red cedar, and some rock slide areas below the cliffs are quite bare of plant life. But mostly the steep slope is floored with moist, black humus, and this soil is growing deeper and richer yearly, as each year's layer of leaves, stems and rotting wood is added.

The flood plain ecosystem is performing as it has for hundreds of years, much of it unchanged by man, almost downtown in a large metropolitan city!

Here are huge trees, silence, wild trails, great beauty, wildlife and a magnificent, living laboratory-and-history-book, in a package owned by the people and easily available to the people." - *Les Blacklock*

**THE RIVERSIDE GROUP** - The sand and gravel beaches and bars along the Mississippi form an extremely fragile environment for plant life. These sites were initially colonized by animals, willows, and cottonwoods. Within a few years, dense stands of willows and cottonwoods predominate. In older more stable areas, elm, silver maple and ash are dominant.

**DEVELOPMENT CONSIDERATIONS** - The riverside group absorbs the brunt of the flood waters force. Their fibrous root system is vital in bank retention thus protecting inland plant communities. This plant group must not be disturbed.

### Riverside Group:

#### Major Overstory Plants

Willow, common  
Big Leaf Cottonwood, common  
Silver Maple, occasional  
Elm, occasional  
Ash, occasional

#### Major Understory Plants

Annuals  
Virginia Creeper



FLOOD PLAIN ASSOCIATION - The flood plain association covers the majority of the valley floor. It is characterized by large silver maple, ash, cottonwood, and elm. These trees frequently are devoid of limbs on the lower half of the trunk. The understory is comprised of shade tolerant plants predominantly (stinging) nettle.

DESIGN CONSIDERATIONS - This plant association serves several important functions. The fibrous root systems help retain the loose sandy soil. The tree trunks and understory vegetation reduce the flood water velocity thereby protecting the hillside community. Any excessive cut, fill, compaction, clearing, drainage, or undue disturbance could have a harmful physical effect. If extensively disturbed, the site stabilizing qualities of this plant association would be impaired.

Flood Plain Association:

Predominant Overstory Trees

Silver Maple, common  
Cottonwood, common  
American Elm, common  
Hackberry, common  
Boxelder, moderately common  
Ash, moderately common

Predominant Understory Plants

Nettle, common  
Willow, common  
Grasses, common  
Virginia Creeper, moderately common  
Gooseberry, occasional  
Dogwood, occasional  
Elderberry, occasional

Seedlings and saplings of silver maple, elm, and boxelder are common, indicating the plant association is viable.

HILLSIDE ASSOCIATION - Slopes in excess of 15% shallow soils rock outcroppings and a dry south to west facing exposure characterize the hillside association. The plant composition could be termed mixed mesophytic. It is characterized by a variety of deciduous trees, the most common are elm, Basswood, Bur Oak, Red Oak, and ash. Common understory plants are Virginia Creeper, poison ivy, nettle, dogwood, sumac, and blackberry.

DESIGN CONSIDERATION - This plant association is responsible for maintaining the slope. In areas where vegetation has been removed serious gully erosion is evident. Even minor disturbance of this plant community could result in irreparable erosion damage.



Hillside Association:

Predominant Overstory Plants

American Elm, common  
Basswood, common  
Ash, common  
Red Oak, common  
Bur Oak, common  
Hackberry, moderately common  
Boxelder, moderately common  
Mulberry, occasional  
Cedar, occasional

Predominant Understory Plants

Blackberry, common  
Raspberry, common  
Wild Rose, common  
Virginia Creeper, common  
Buckhorn, common  
Gooseberry, common  
Chokecherry, common  
Ironwood, occasional  
Sumac, common  
Grasses, common

Seedlings and saplings of all overstory trees are common indicating the plant association is viable.

LAKESIDE GROUP - The shoreline plants around Crosby Lake and upper Crosby Lake, form a subgroup within the flood plain association.

Shoreline Plants:

Cattail  
Willow  
Wild Iris

Aquatic Plants:

Duckweed  
Whitelily  
White Water Buttercup  
Pondweed

This plant group is part of a successional process that is slowly filling in Crosby Lake. It is an important part of the wildlife habitat of the area. The maintenance of this community is essential for the continued reproduction of fish, particularly northern pike.

OLD FIELD GROUP AND REFORESTATION - Several abandoned farm plots exist on the site near Crosby Lake. Annual grasses and perennial plants such as golden rod and milk weed have taken over the pioneered revegetation. However, saplings of Elm, ash, and Cottonwood indicate that succession toward a flood plain association is occurring. In one of the old



fields a reforestation project has been undertaken. Austrian Pine and White Spruce were the plants used. Some of these plants are doing quite well while other areas are being crowded out by deciduous tree saplings.

DESIGN CONSIDERATIONS - These two plant groups are revegetating previous disturbed land. They are helping to retain and rebuild easily erodable topsoil.



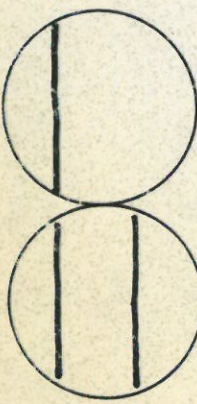
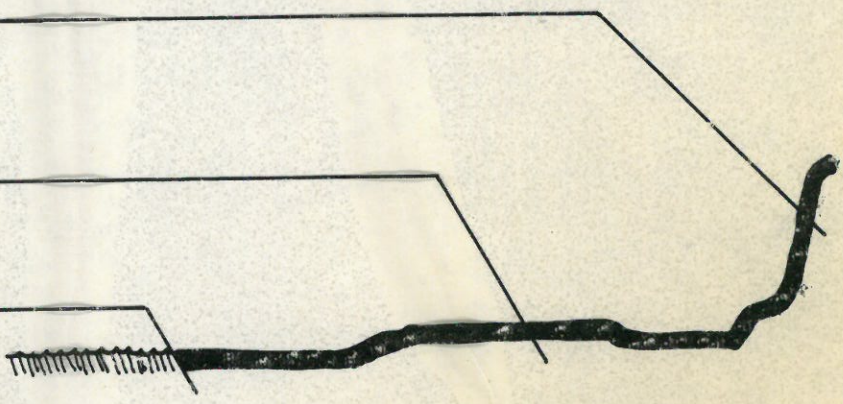


**2**  
**1**  
**3**

GROUP 2

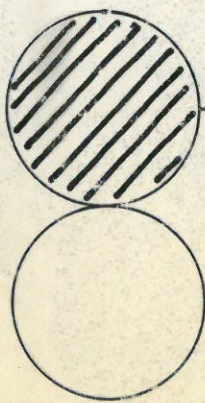
GROUP 1

GROUP 3

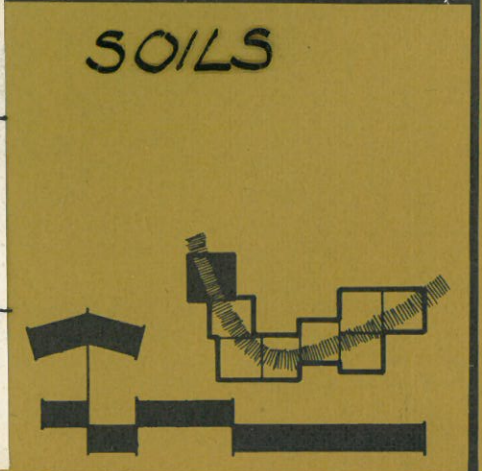


GROUP 1  
BUILDABLE

GROUP 2  
BUILDABLE



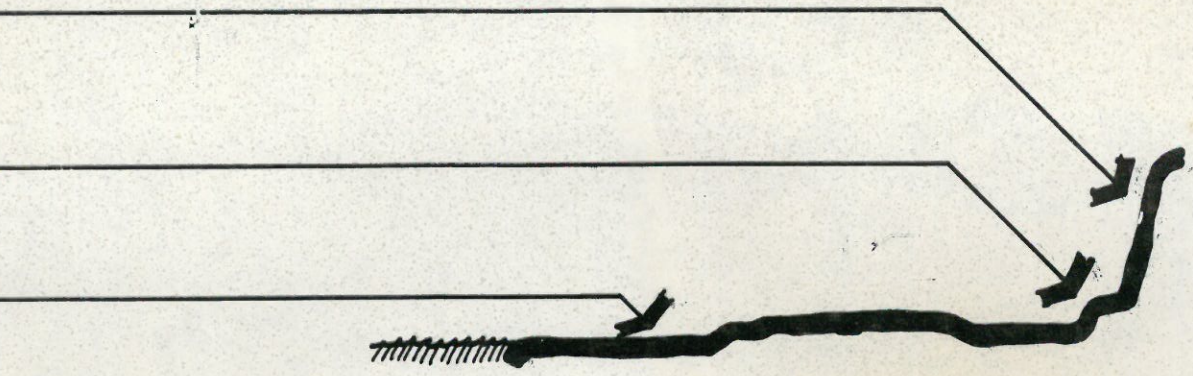
GROUP 3  
LIMITATIONS







+  
15  
6  
15  
05



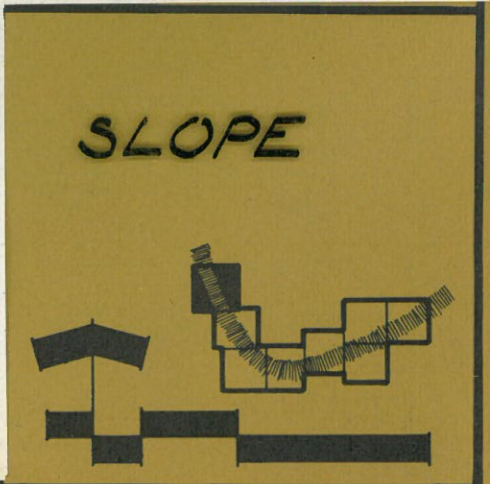
0.5% SLOPE - POTENTIALLY BUILDABLE

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6-15% SLOPE - LIMITED POTENTIAL

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15+ % SLOPE - SEVERE LIMITATIONS







HILLSIDE ASSOCIATION



FLOOD PLAIN ASSOCIATION



RIVERSIDE GROUP



FLOOD PLAIN ASSOCIATION

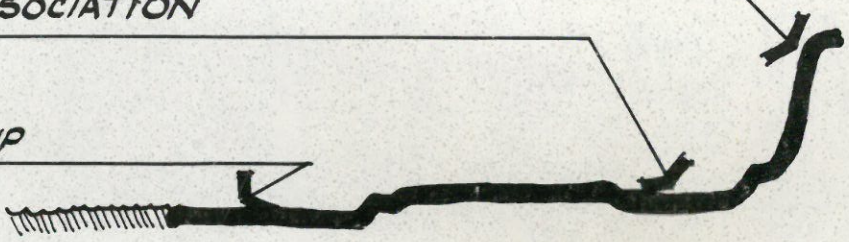


HILLSIDE ASSOCIATION

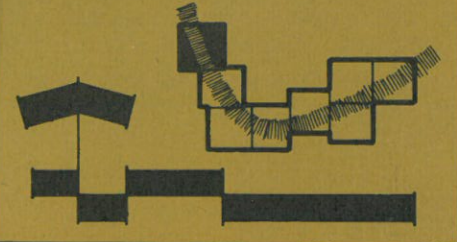
EROSION ABATEMENT



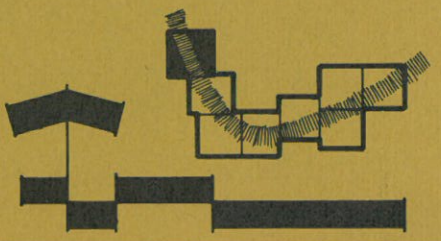
OPEN SPACE



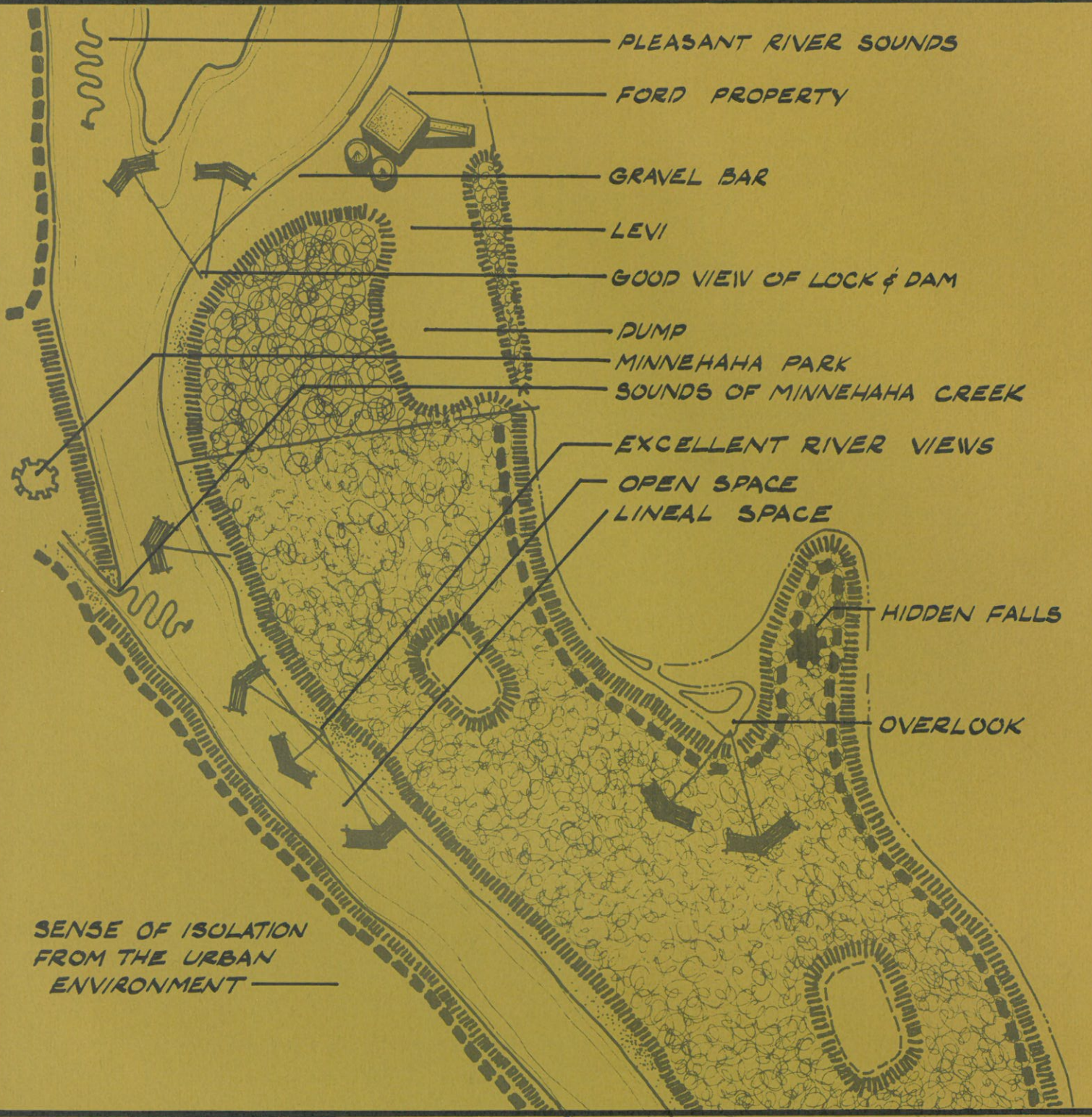
VEGETATION











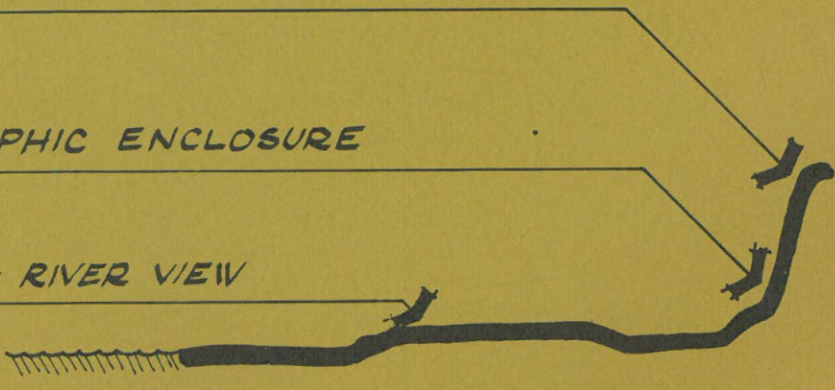
OVERVIEW FROM RIDGE TOP



STEEP TOPOGRAPHIC ENCLOSURE



CANOPIED SPACE - RIVER VIEW



VEGETATIVE ENCLOSURE



TOPOGRAPHIC ENCLOSURE



VIEWS



PLEASANT SOUNDS



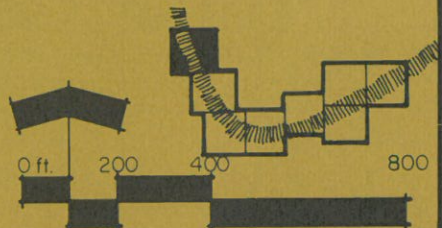
LANDMARKS



OPEN SPACE



PERCEPTUAL





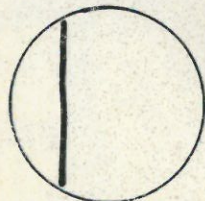
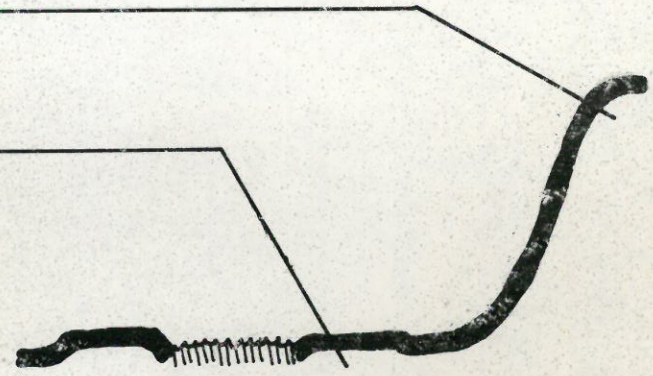


**1**

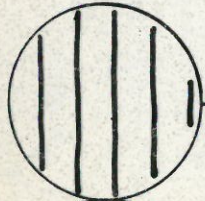
GROUP 1

**3**

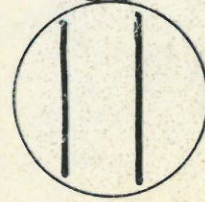
GROUP 3



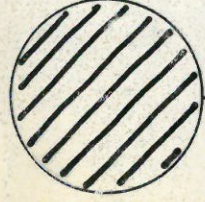
GROUP 1  
BUILDABLE



GROUP 6  
LIMITED

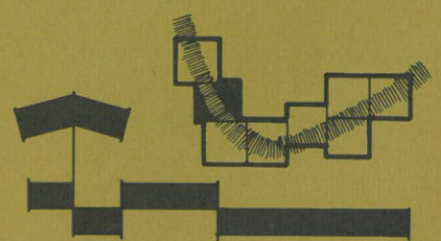


GROUP 2  
BUILDABLE



GROUP 3  
LIMITED

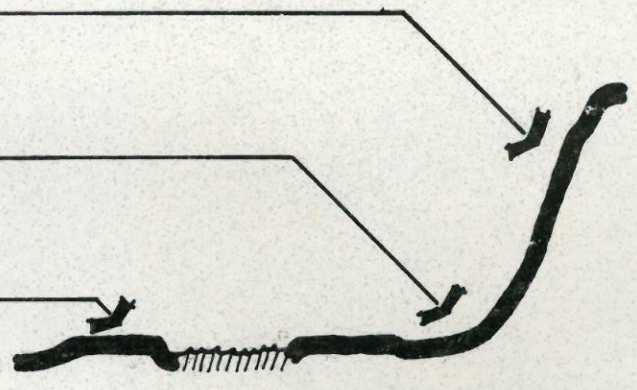
SOILS







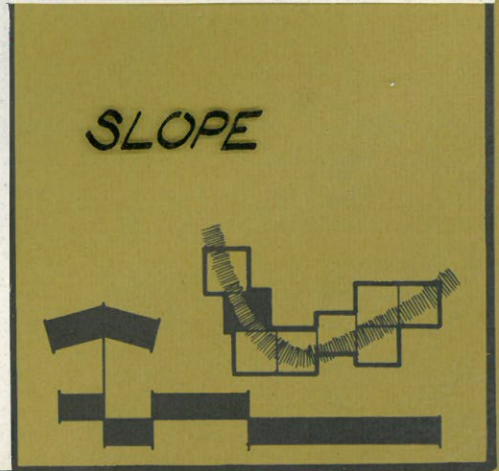
+  
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 6  
**15**  
 05



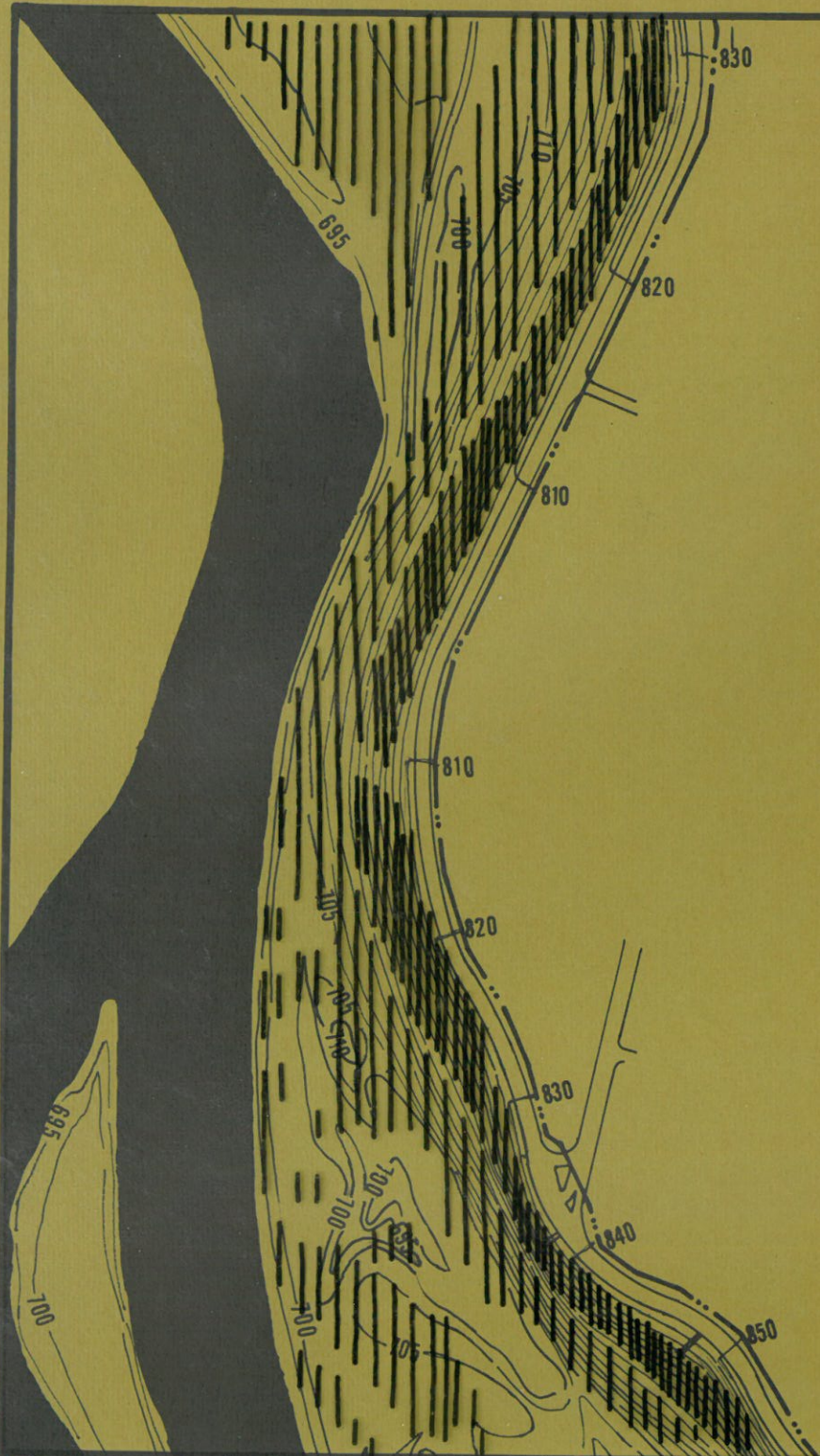
0-5% SLOPE - POTENTIALLY BUILDABLE

6-15% SLOPE - LIMITED POTENTIAL

15+ % SLOPE - SEVERE LIMITATIONS







HILLSIDE ASSOCIATION



FLOOD PLAIN ASSOCIATION



RIVERSIDE GROUP



FLOOD PLAIN ASSOCIATION



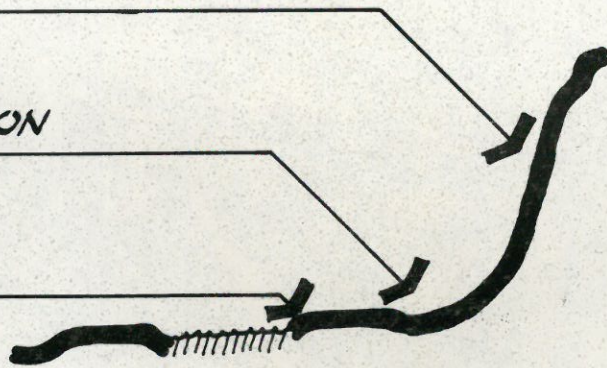
HILLSIDE ASSOCIATION



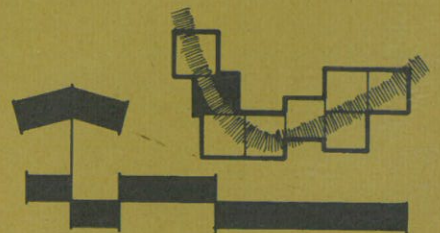
EROSION ABATEMENT



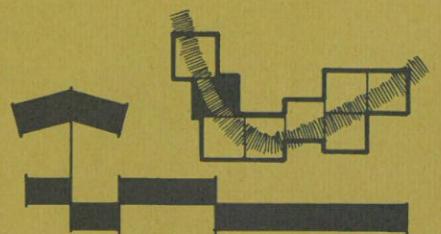
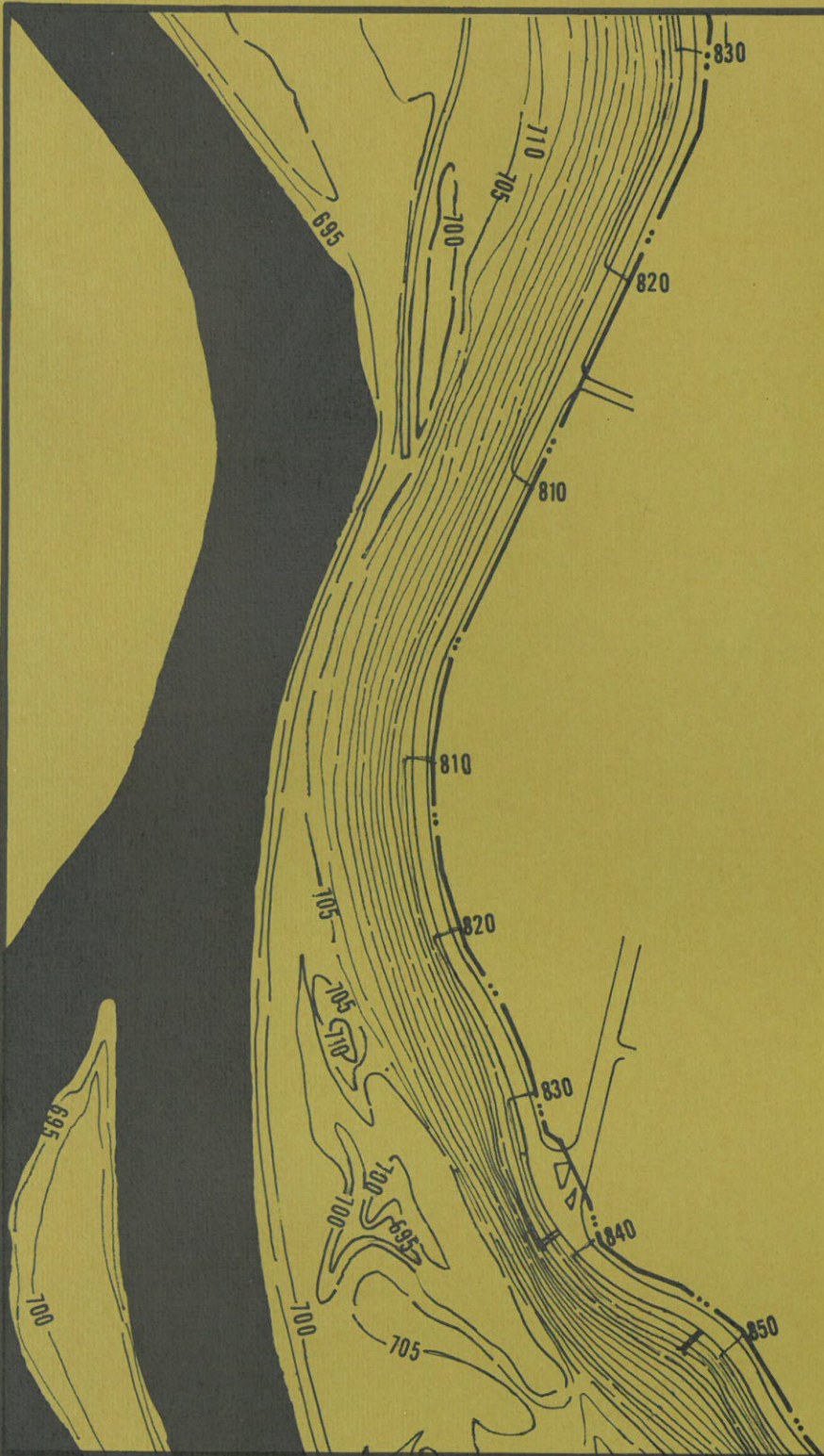
OPEN SPACE



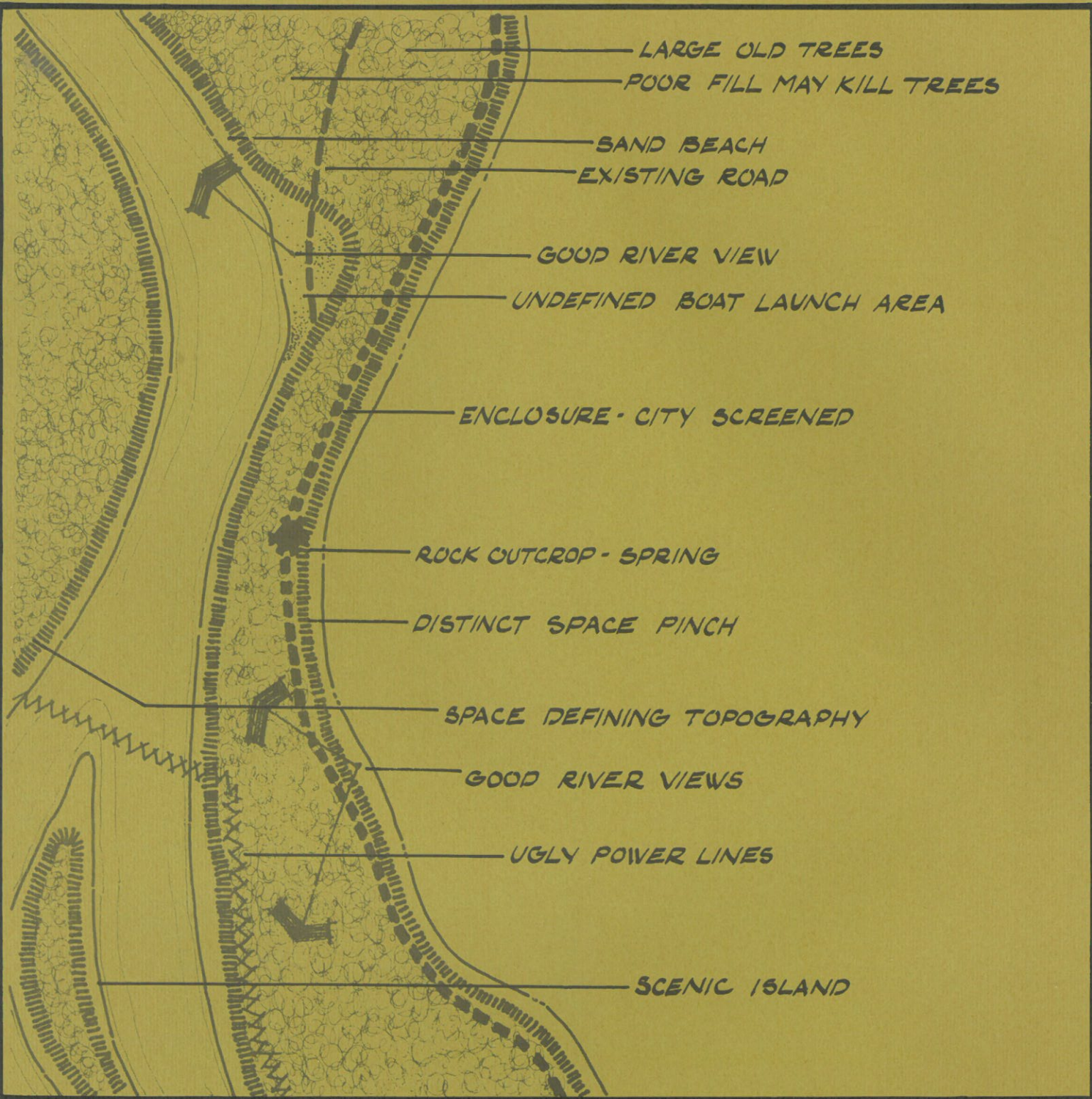
VEGETATION











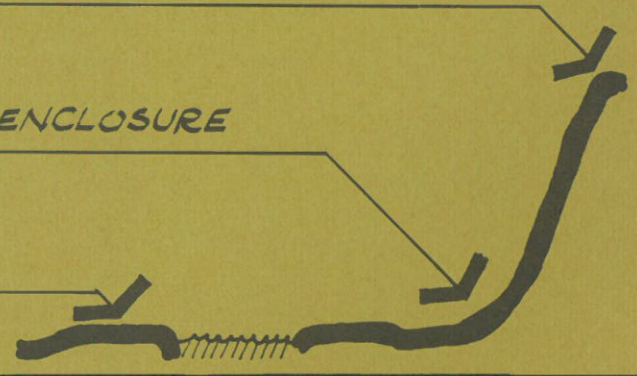
OVERVIEW FROM RIDGE TOP



CANOPIED SPACE - TOPO ENCLOSURE



ISLAND LANDMARK



VEGETATIVE

ENCLOSURE



TOPOGRAPHIC

ENCLOSURE



VIEWS



LANDMARK



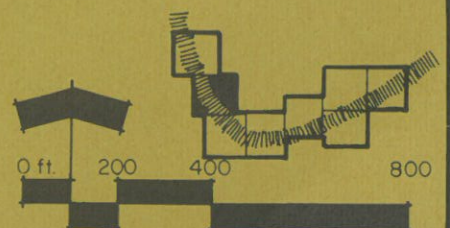
POWER LINES



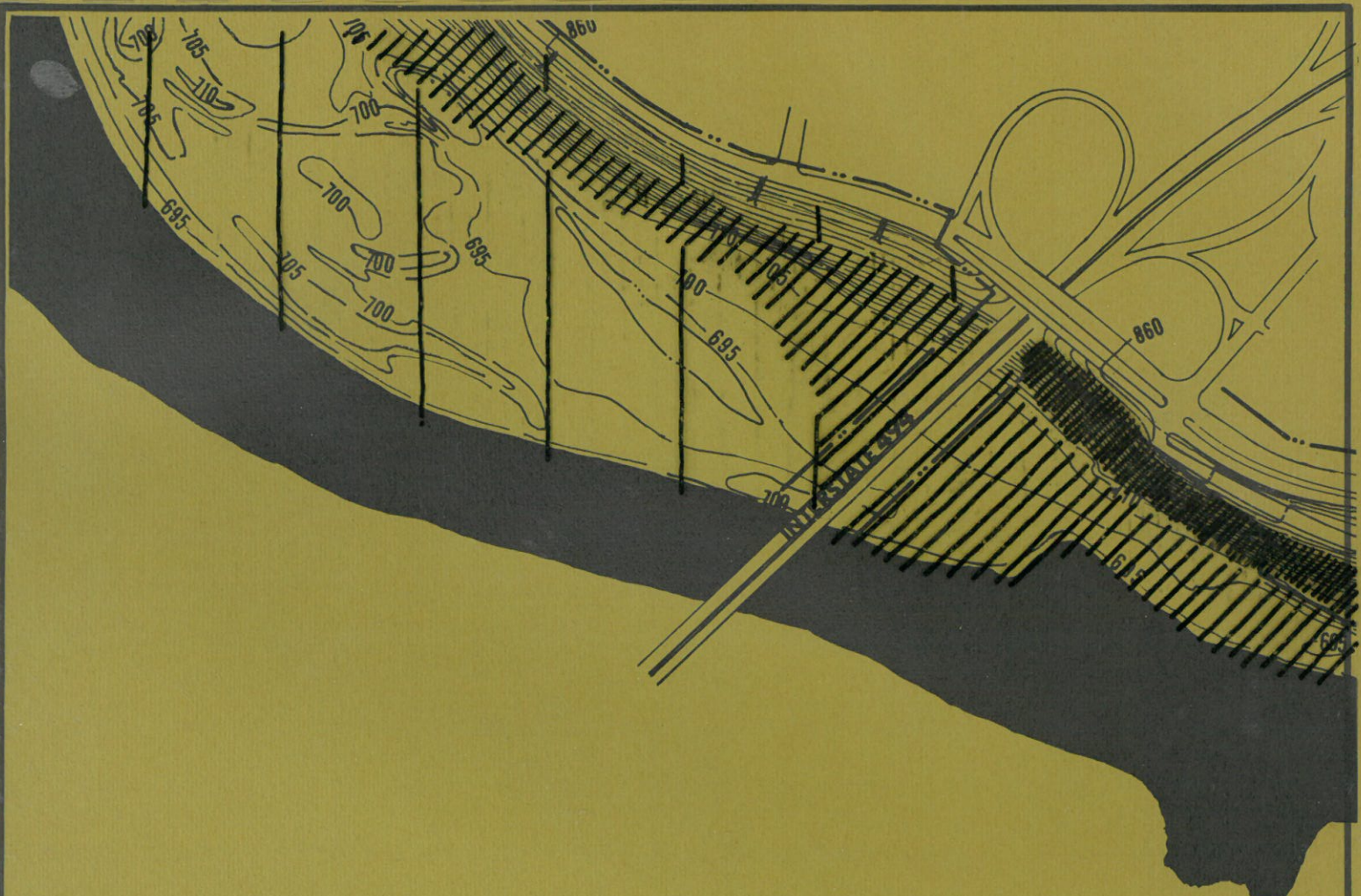
ACCESS ROAD



PERCEPTUAL







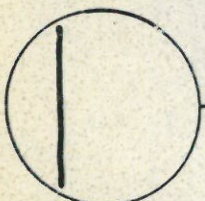
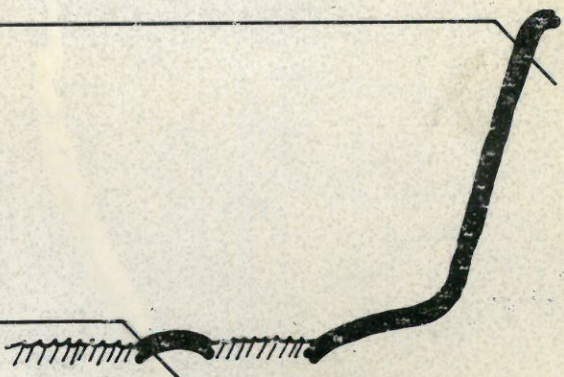
**1**

GROUP 1



**3**

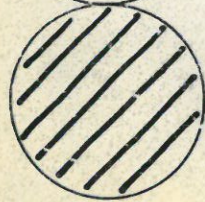
GROUP 3



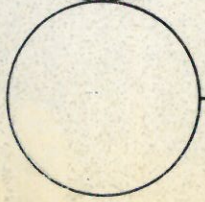
GROUP 1  
BUILDABLE



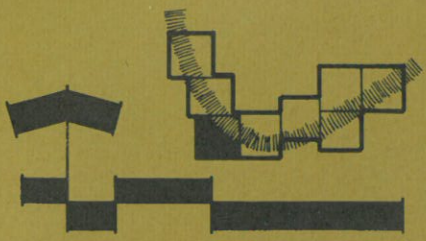
GROUP 3



GROUP 3  
LIMITED



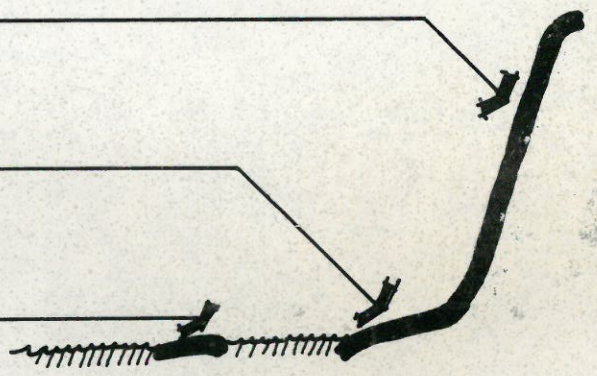
SOILS







+  
**15**  
 6  
**15**  
 05

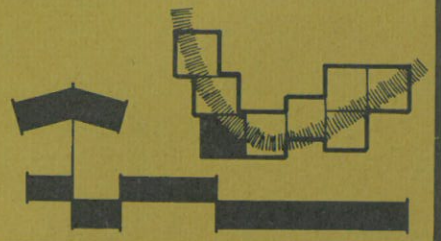


0-5% SLOPE - POTENTIALLY BUILDABLE

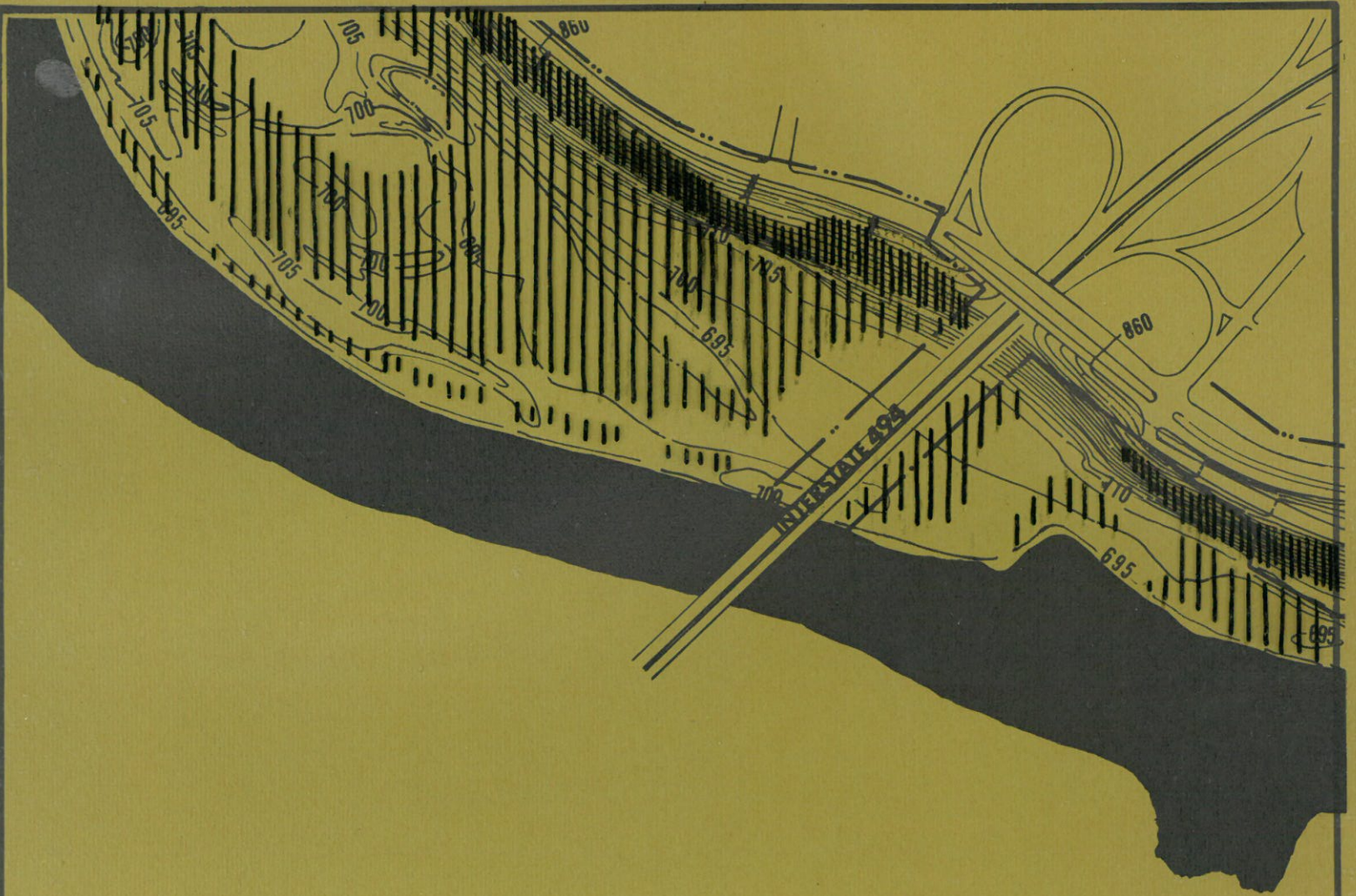
6-15% SLOPE - LIMITED POTENTIAL

15%+ SLOPE - SEVERE LIMITATIONS

SLOPE







HILLSIDE ASSOCIATION



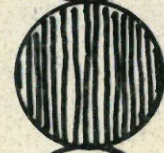
FLOOD PLAIN ASSOCIATION



RIVERSIDE GROUP



FLOOD PLAIN ASSOCIATION

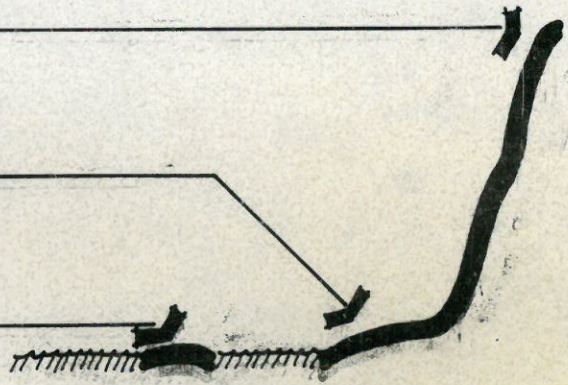


HILLSIDE ASSOCIATION

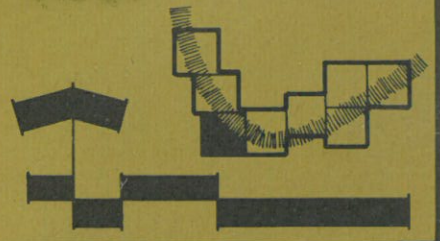
EROSION ABATEMENT



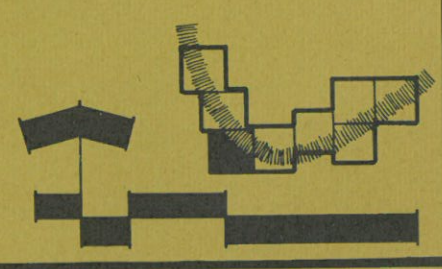
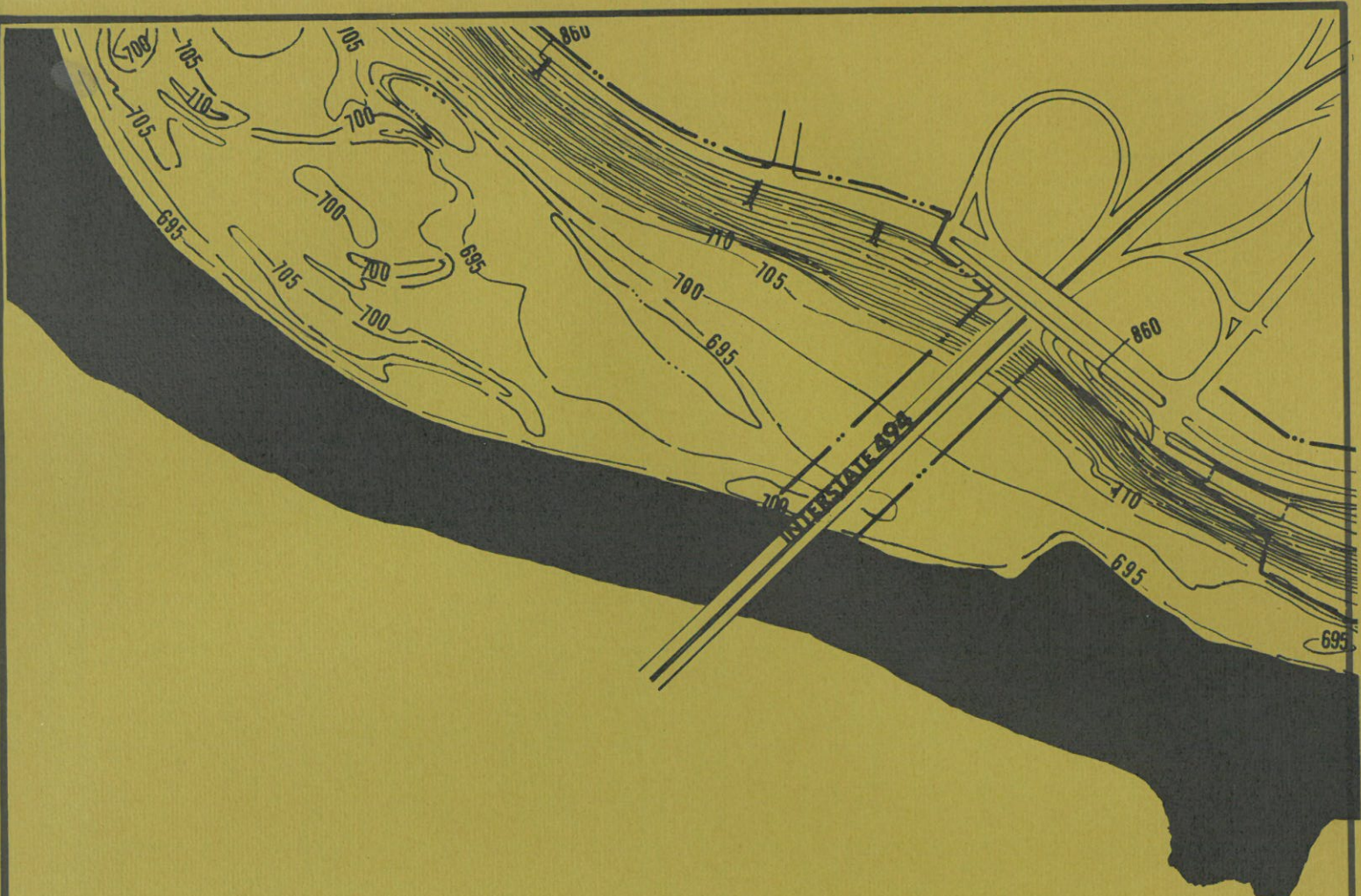
OPEN SPACE



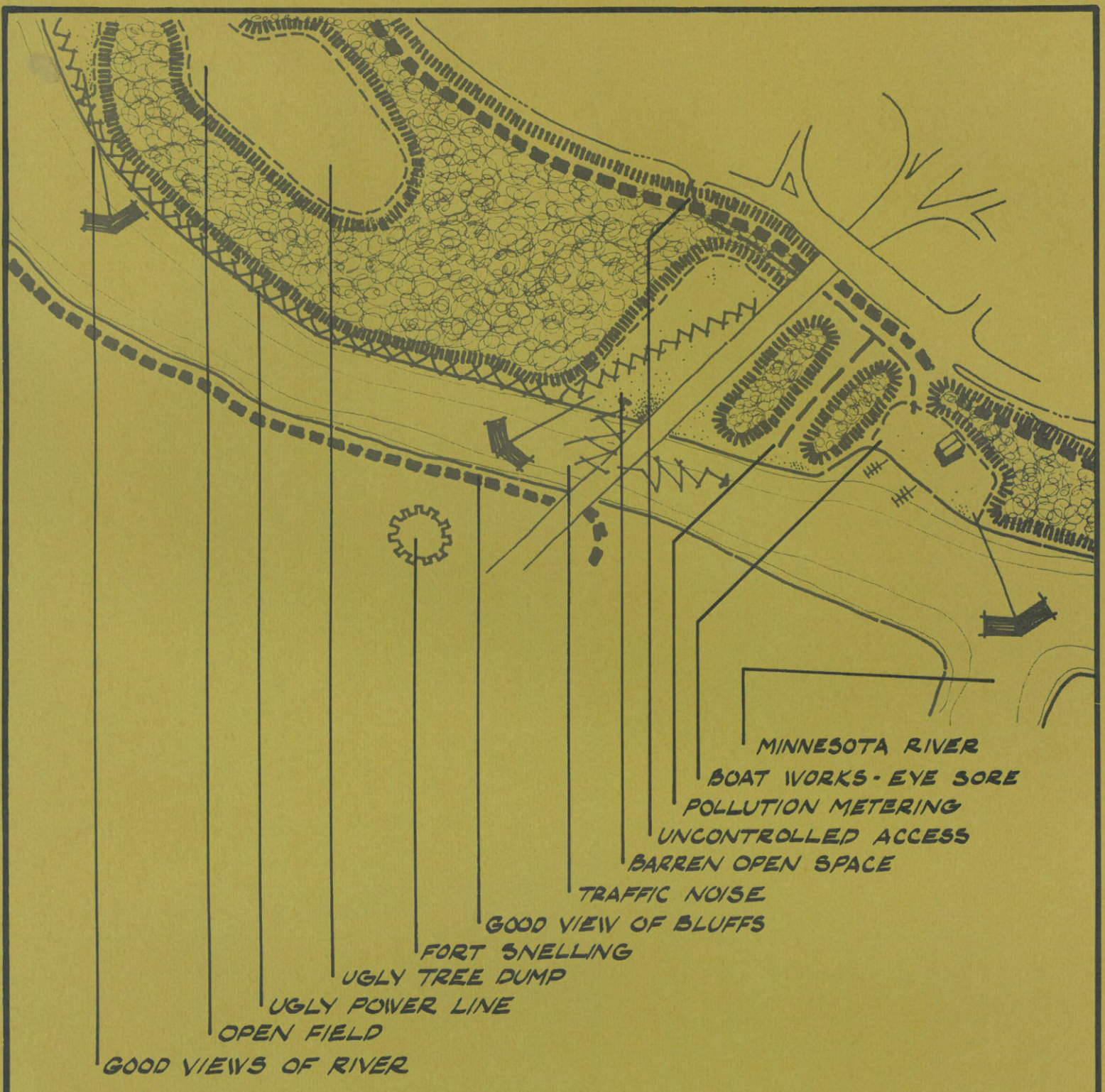
VEGETATION











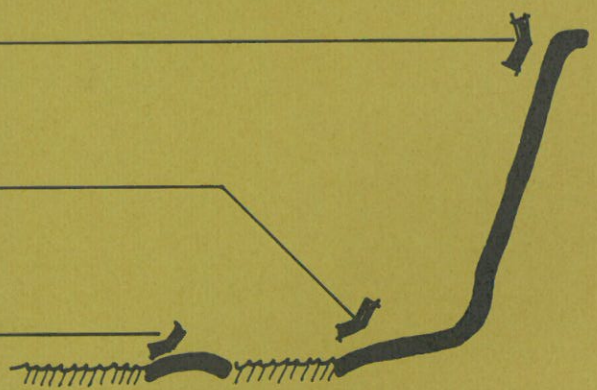
VIEWS - OLD FORT SNELLING



TOPOGRAPHIC ENCLOSURE



CANOPIED SPACE - RIVER VIEW



VEGETATIVE ENCLOSURE



LANDMARK



TOPOGRAPHIC ENCLOSURE



OPEN SPACE



VIEWS



POWER LINE

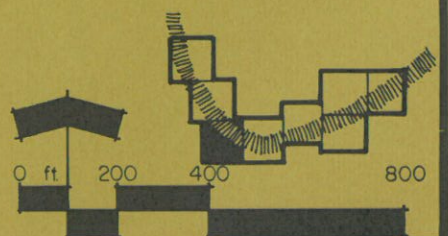


NOISE



ACCESS ROAD

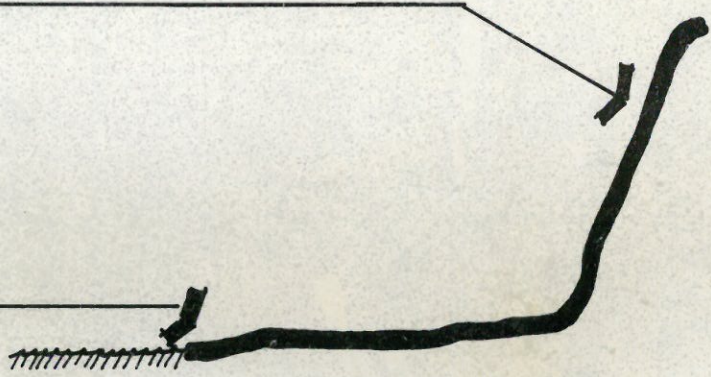
PERCEPTUAL









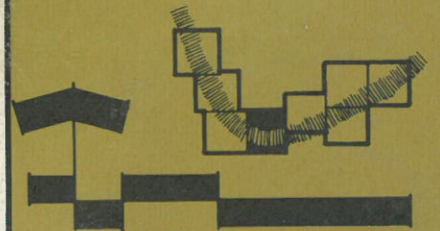


0-5% SLOPE - POTENTIALLY BUILDABLE

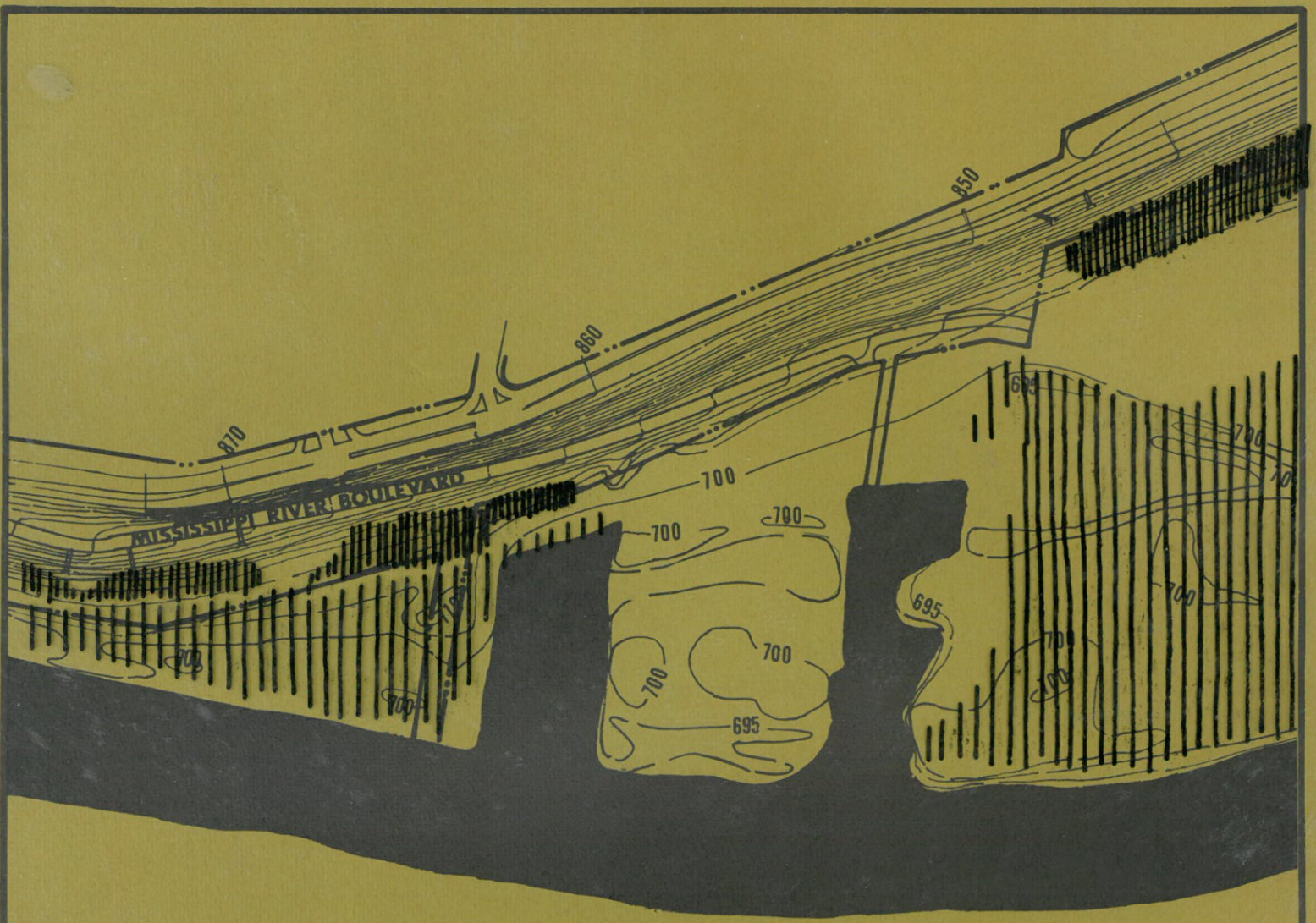
6-15% SLOPE - LIMITED POTENTIAL

15+ % SLOPE - SEVERE LIMITATIONS

SLOPE







*FEW PIONEER GRASS*



*PIONEER GRASSES - SAPLINGS*



*RIVERSIDE COMMUNITY*

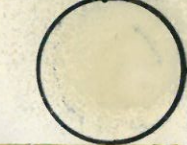


*FLOOD PLAIN ASSOCIATION*

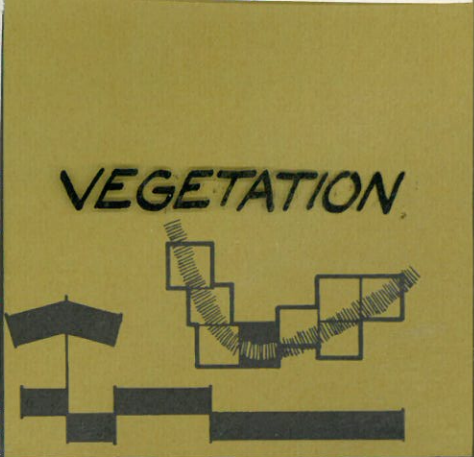
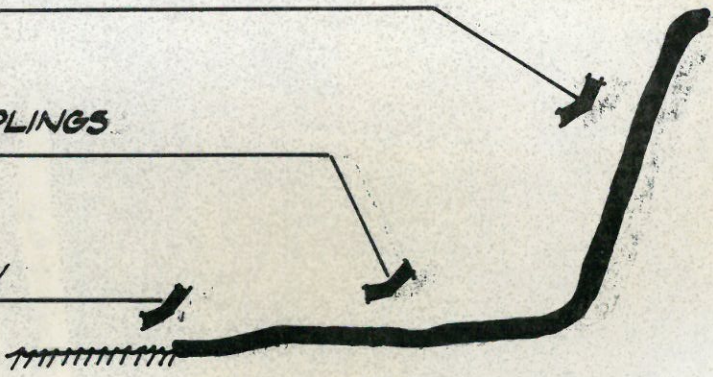


*HILLSIDE ASSOCIATION*

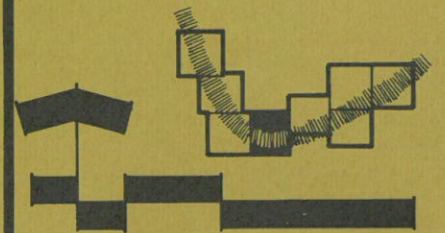
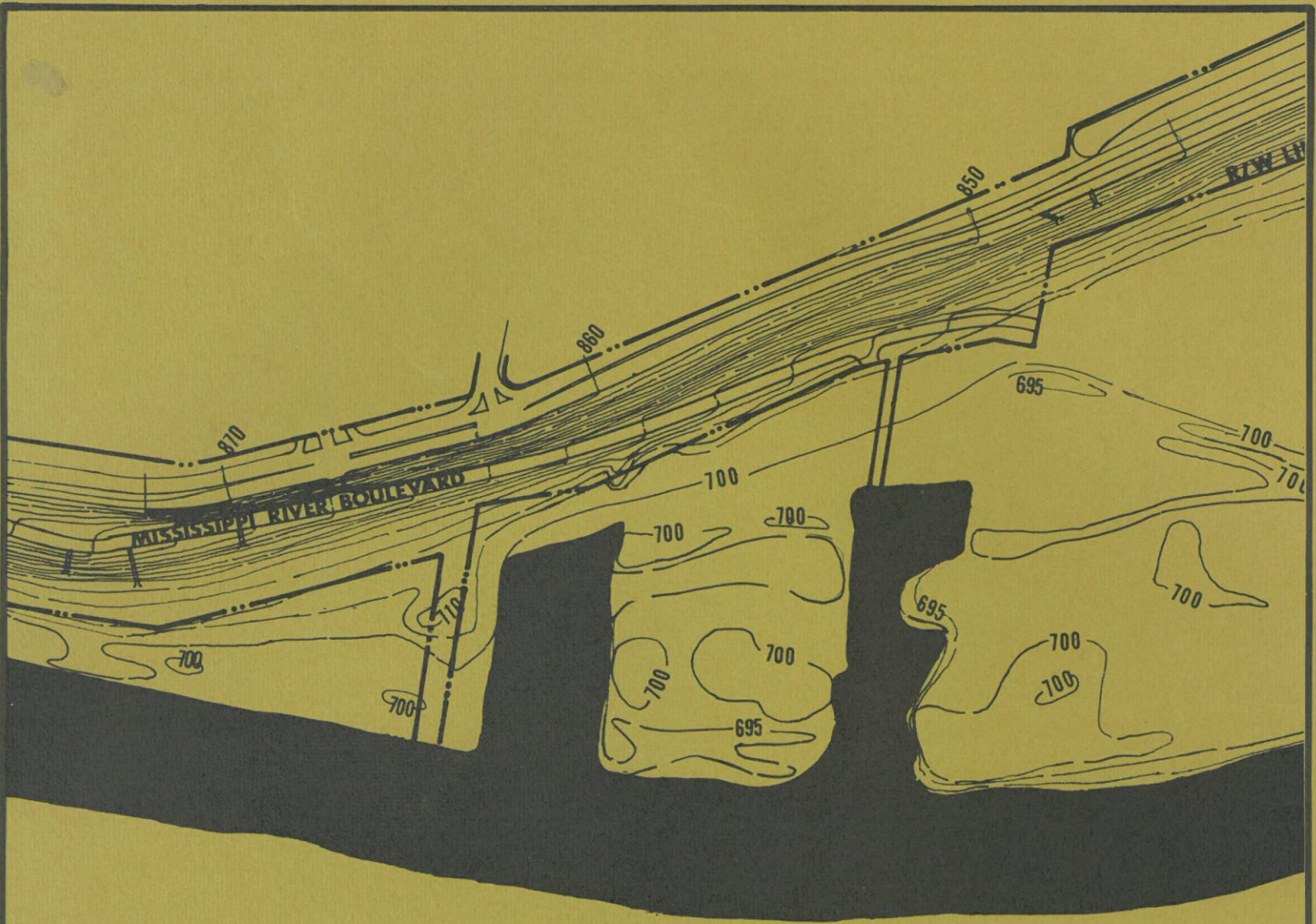
*EROSION ABATEMENT*



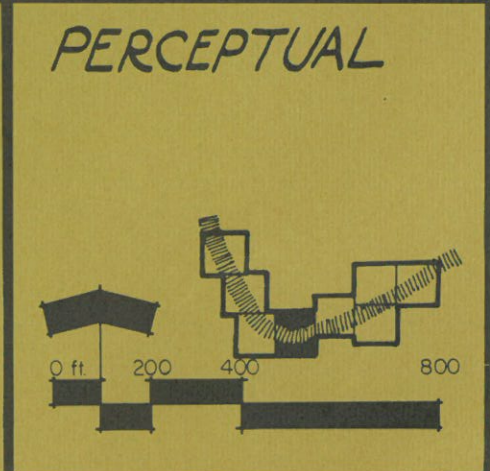
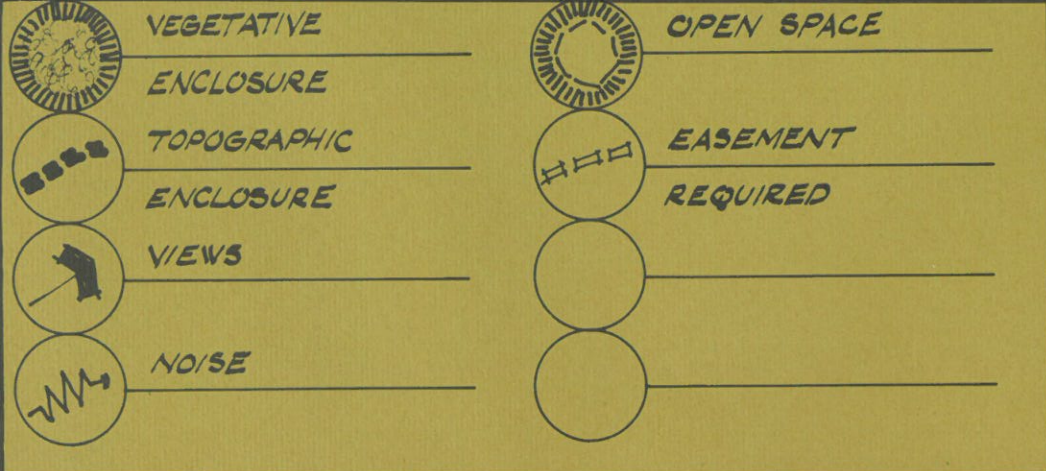
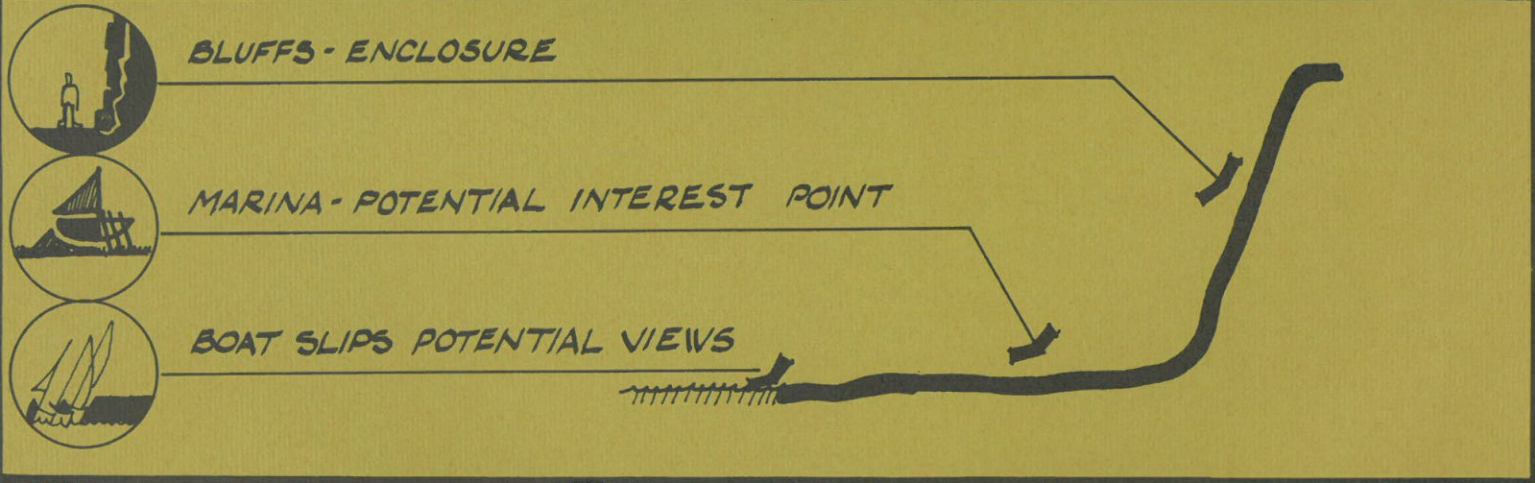
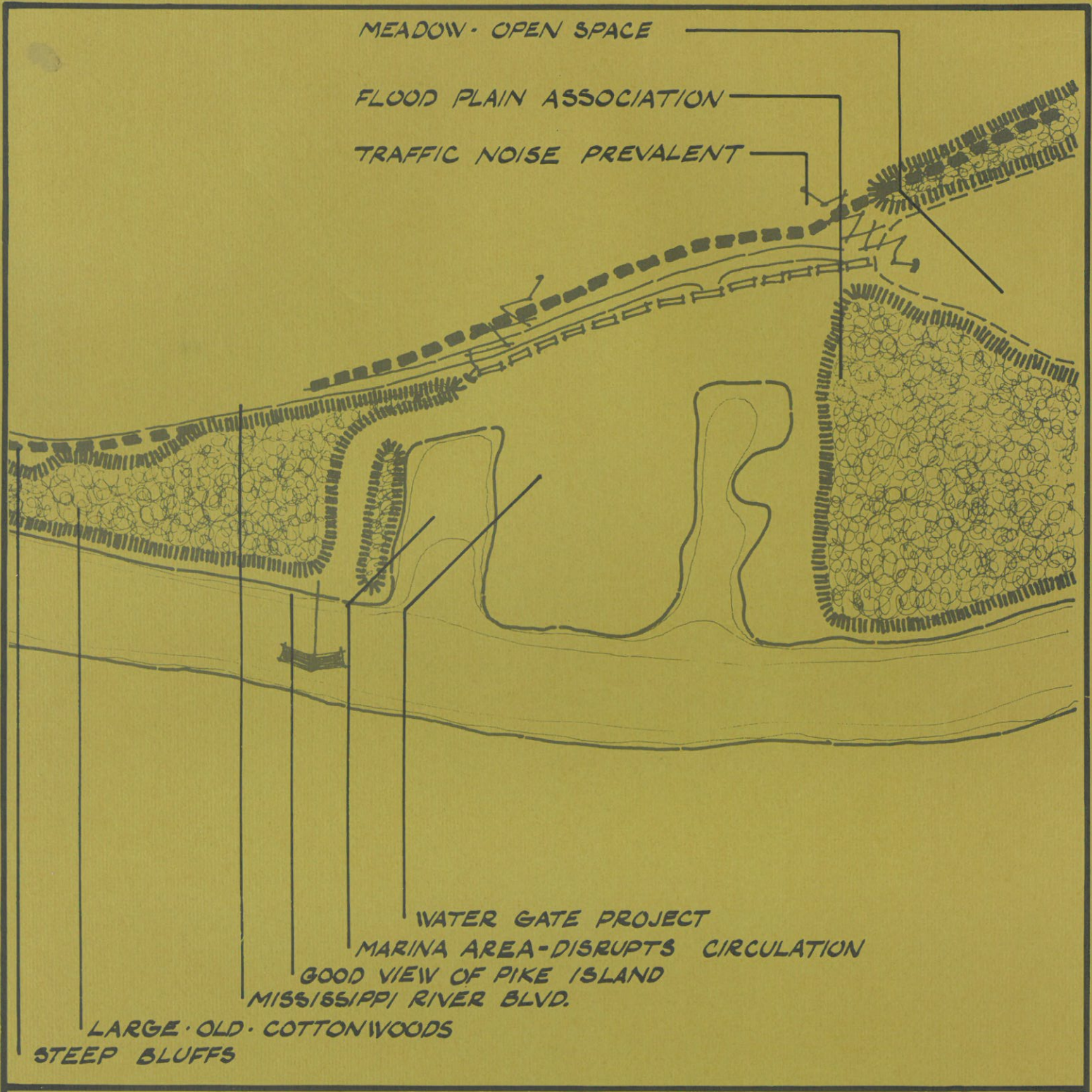
*OPEN SPACE*











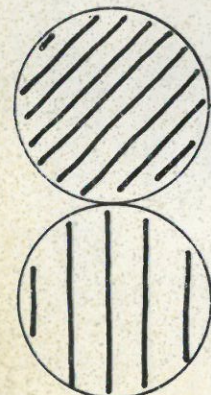




GROUP 8

GROUP 3

GROUP 6

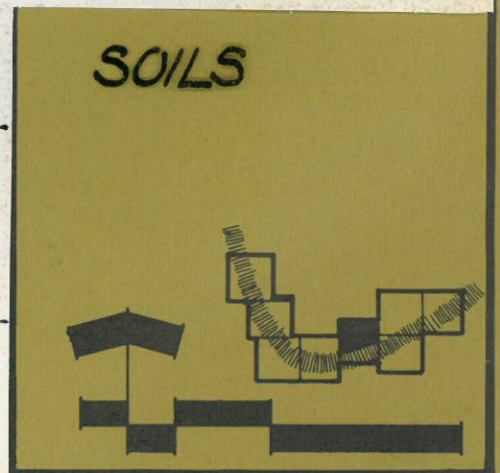


GROUP 3  
LIMITED

GROUP 6  
LIMITED



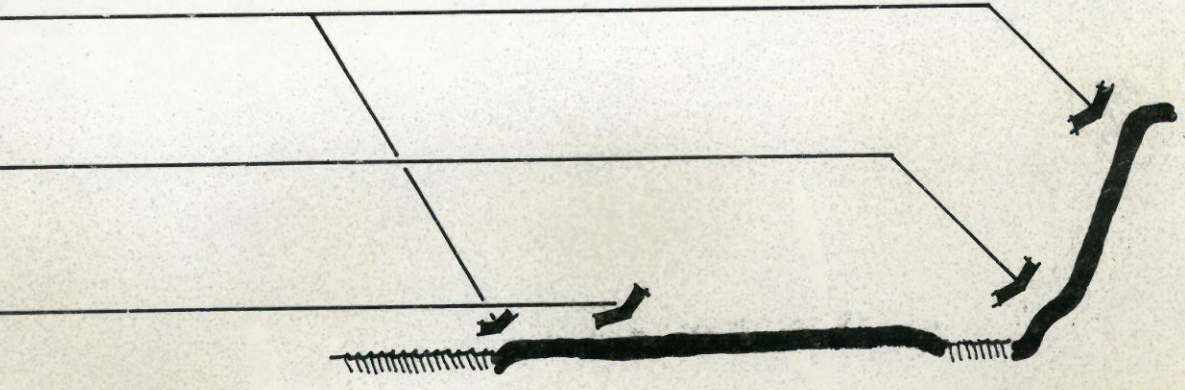
GROUP 8







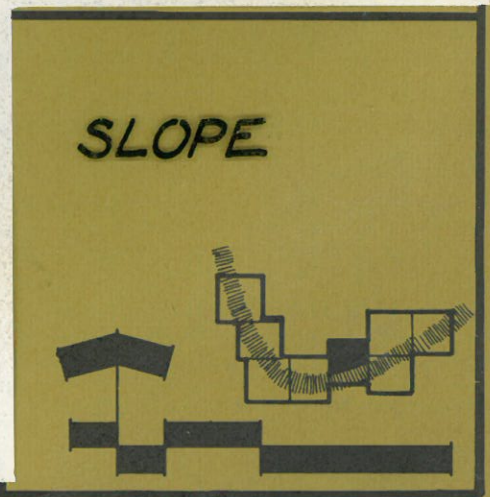
+15  
6  
15  
0.5



0-5% SLOPE - POTENTIALLY BUILDABLE

6-15% SLOPE - LIMITED POTENTIAL

15+ % SLOPE - SEVERE LIMITATIONS







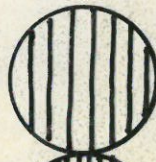
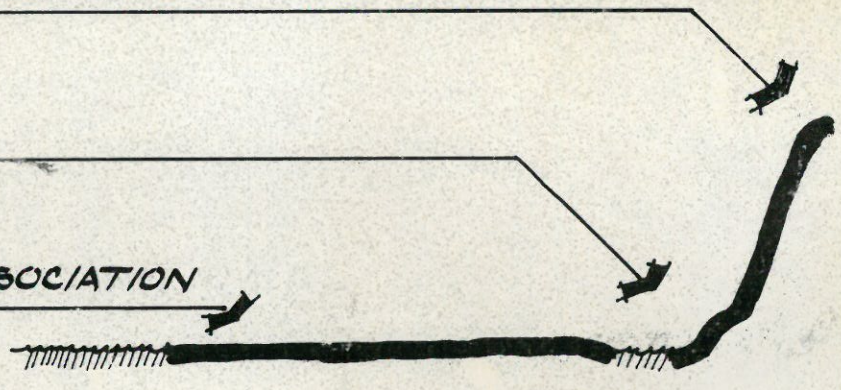
HILLSIDE ASSOCIATION



MARSH



FLOODPLAIN ASSOCIATION



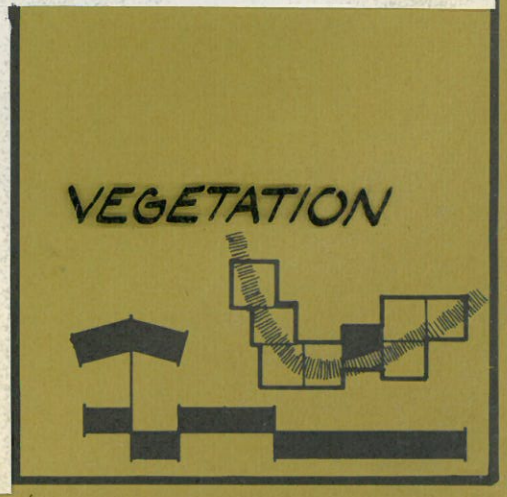
FLOOD PLAIN ASSOCIATION



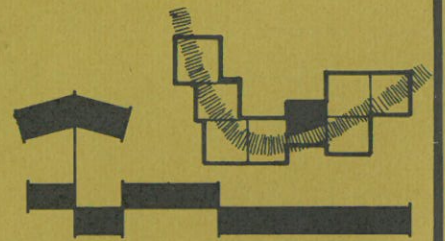
HILLSIDE ASSOCIATION  
EROSION ABATEMENT



REFORESTATION









GOOD VIEW OF MEADOW

UGLY BIKE TRAILS

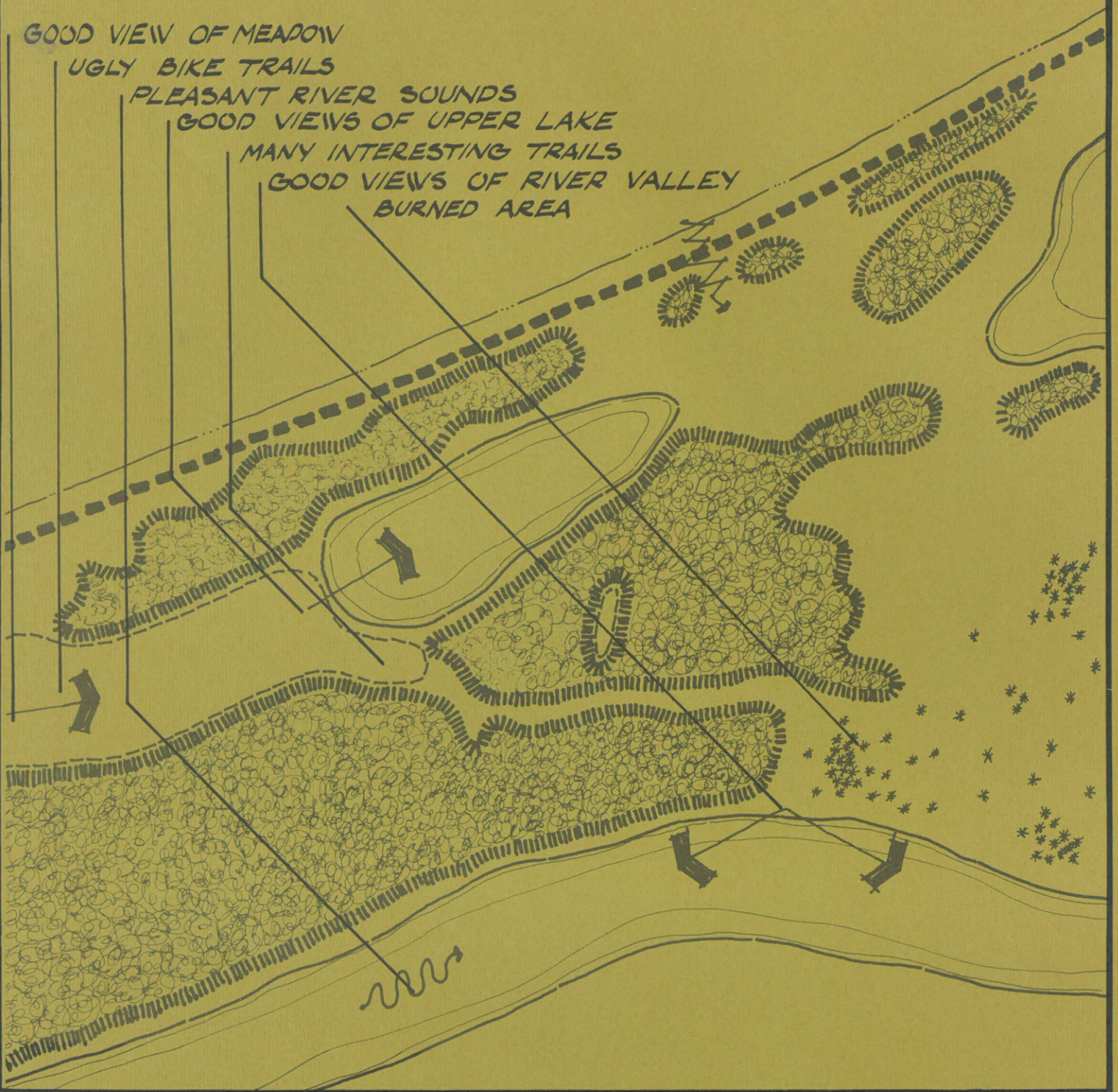
PLEASANT RIVER SOUNDS

GOOD VIEWS OF UPPER LAKE

MANY INTERESTING TRAILS

GOOD VIEWS OF RIVER VALLEY

BURNED AREA



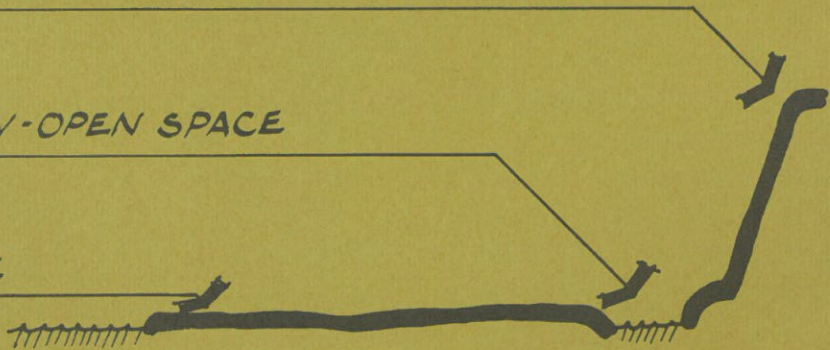
OVERVIEW FROM RIDGE TOP



MARSH MEADOW-OPEN SPACE



CANOPIED SPACE



VEGETATIVE

ENCLOSURE



TOPOGRAPHIC

ENCLOSURE



VIEWS



PLEASANT

SOUNDS



NOISE



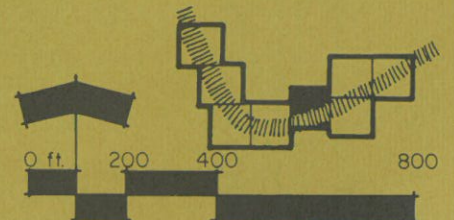
OPEN SPACE



REFORESTATION



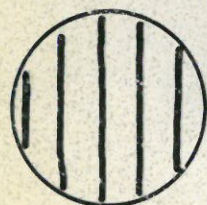
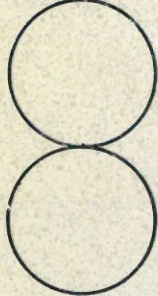
PERCEPTUAL



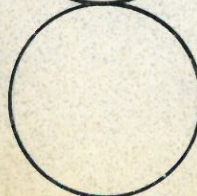
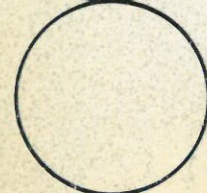
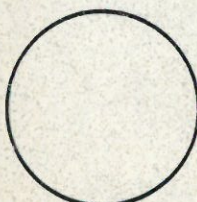




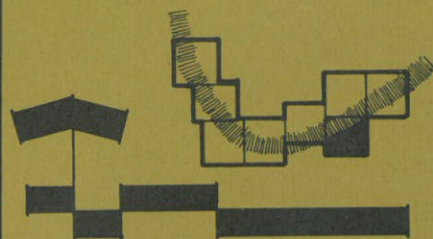
GROUP 6



GROUP 6  
LIMITED



SOILS







+  
 15  
 6  
 15  
 0.5



0-5% SLOPE - POTENTIALLY BUILDABLE

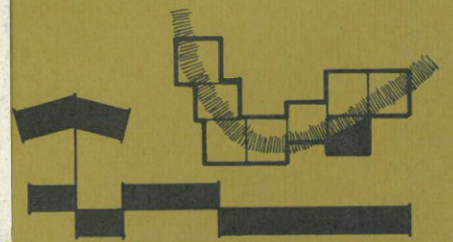


6-15% SLOPE - LIMITED POTENTIAL

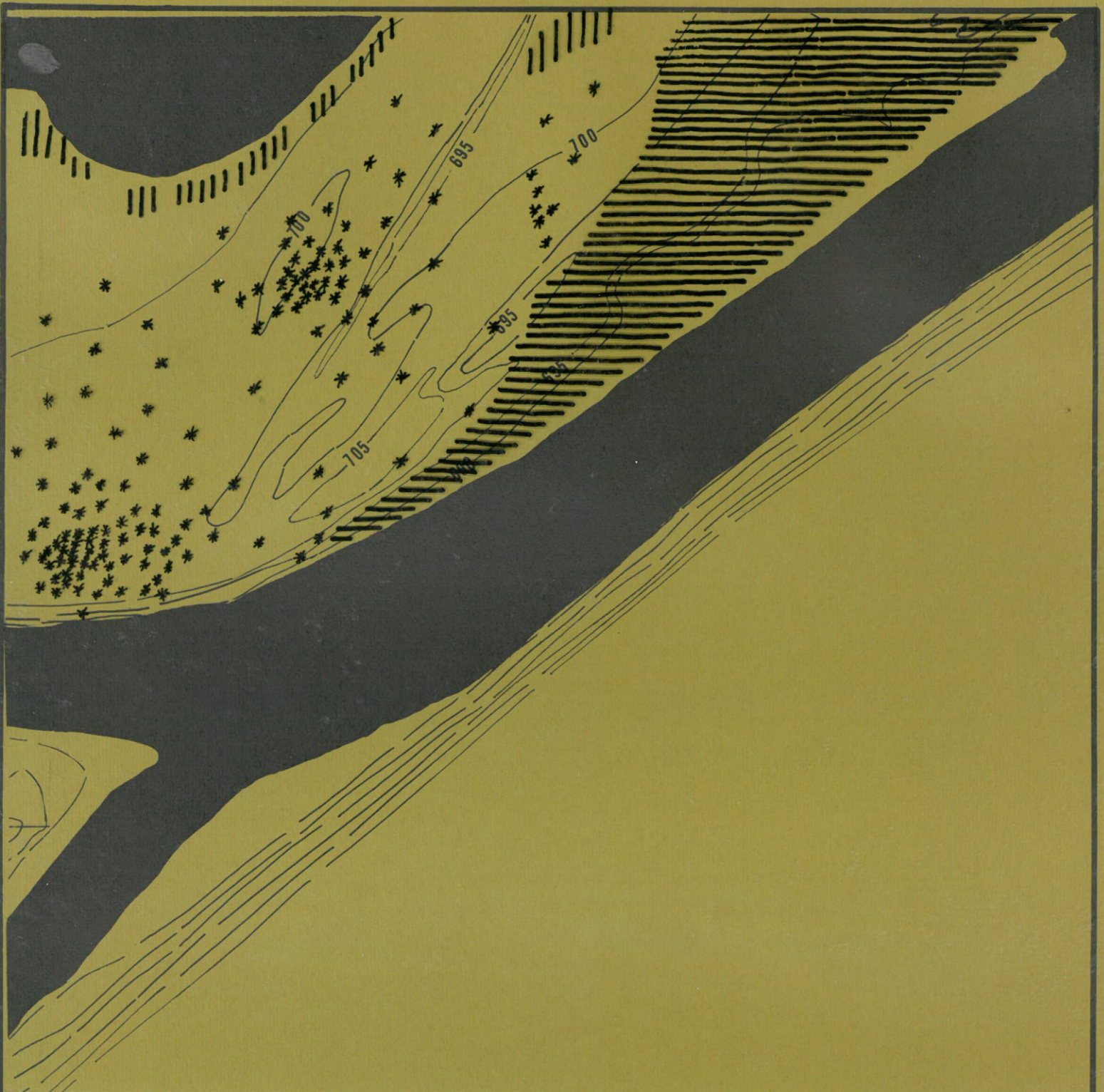


15+ % SLOPE - SEVERE LIMITATIONS

SLOPE







FLOOD PLAIN ASSOCIATION



GRASSES · PINES · DECIDUOUS SAPLINGS



RIVERSIDE GROUP



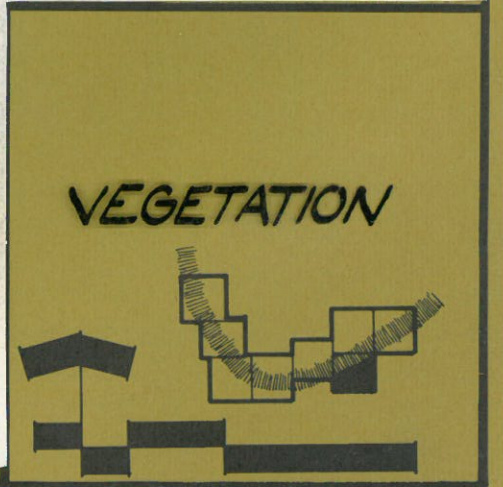
FLOOD PLAIN ASSOCIATION



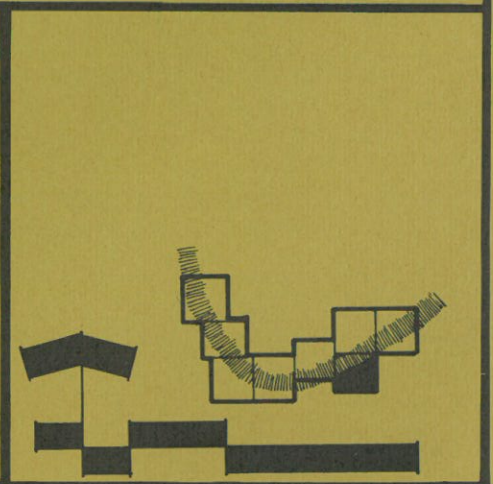
REFORESTATION



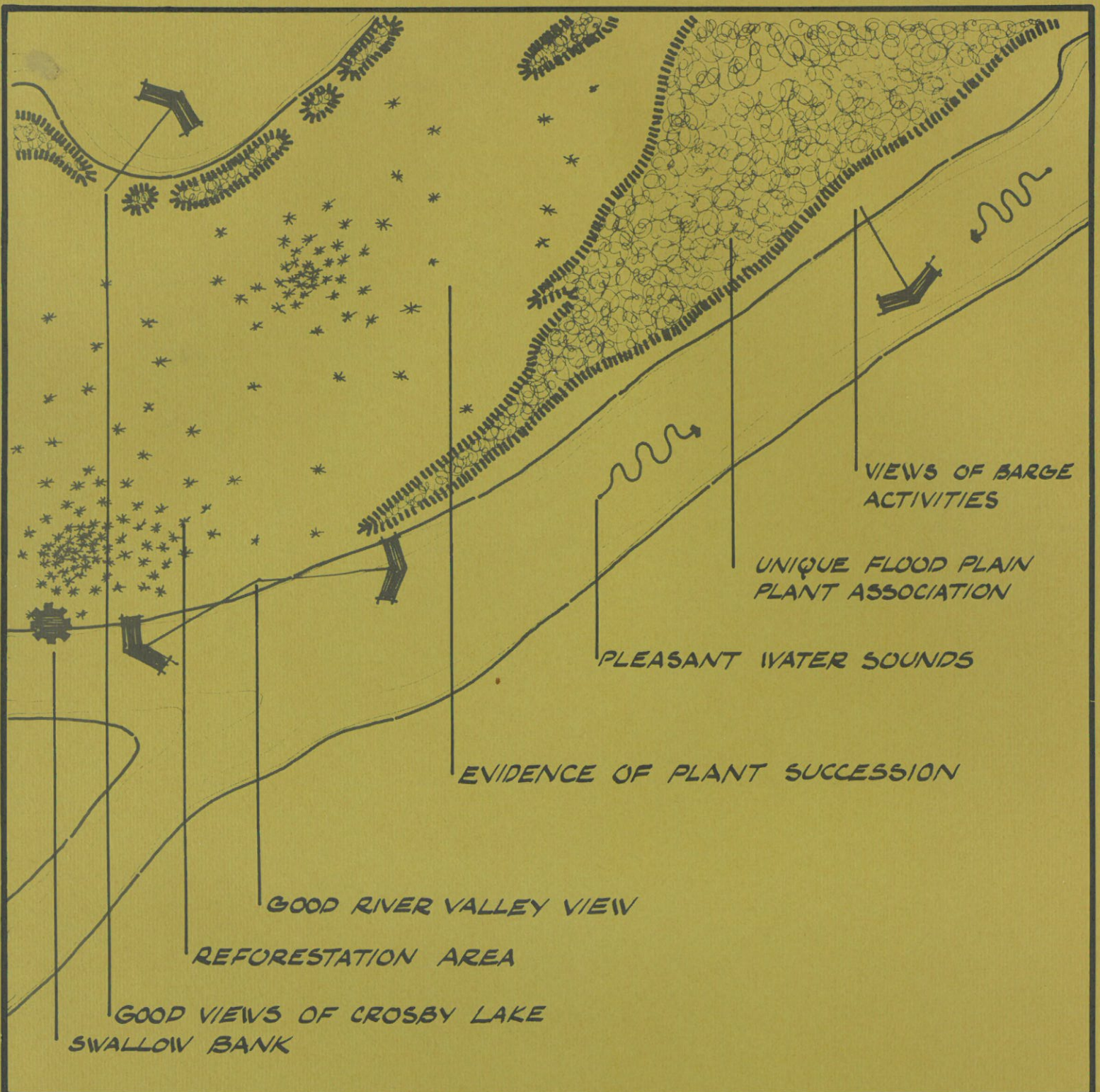
HILLSIDE ASSOCIATION  
EROSION ABATEMENT











LAKE - OPEN SPACE



REFORESTATION OPEN MEADOW



RIVER PANORAMA



VEGETATIVE ENCLOSURE



REFORESTATION



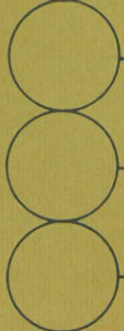
VIEWS



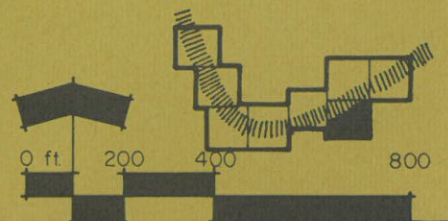
PLEASANT SOUNDS



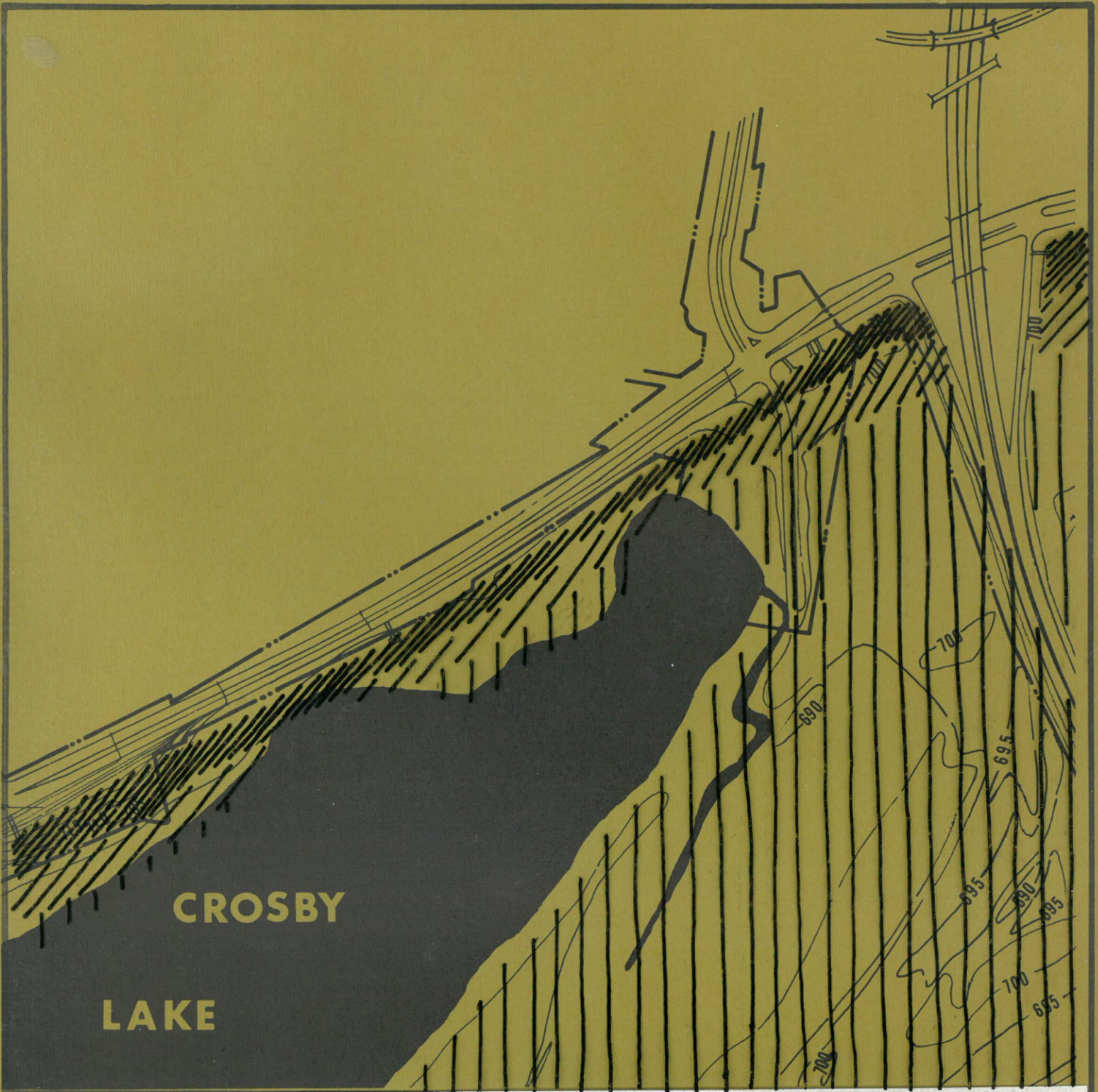
LANDMARKS



PERCEPTUAL







**CROSBY**

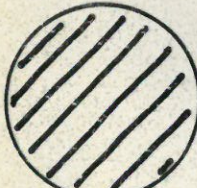
**LAKE**



GROUP 8

GROUP 3

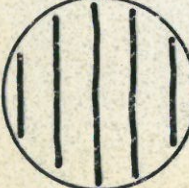
GROUP 6



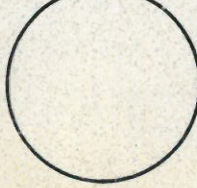
GROUP 3  
LIMITED



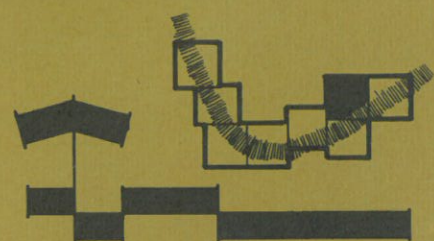
GROUP 8



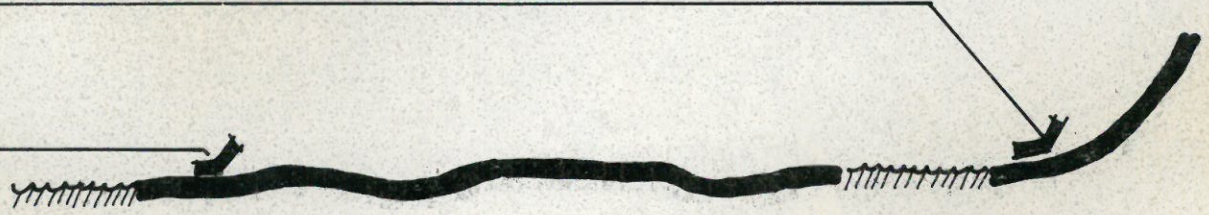
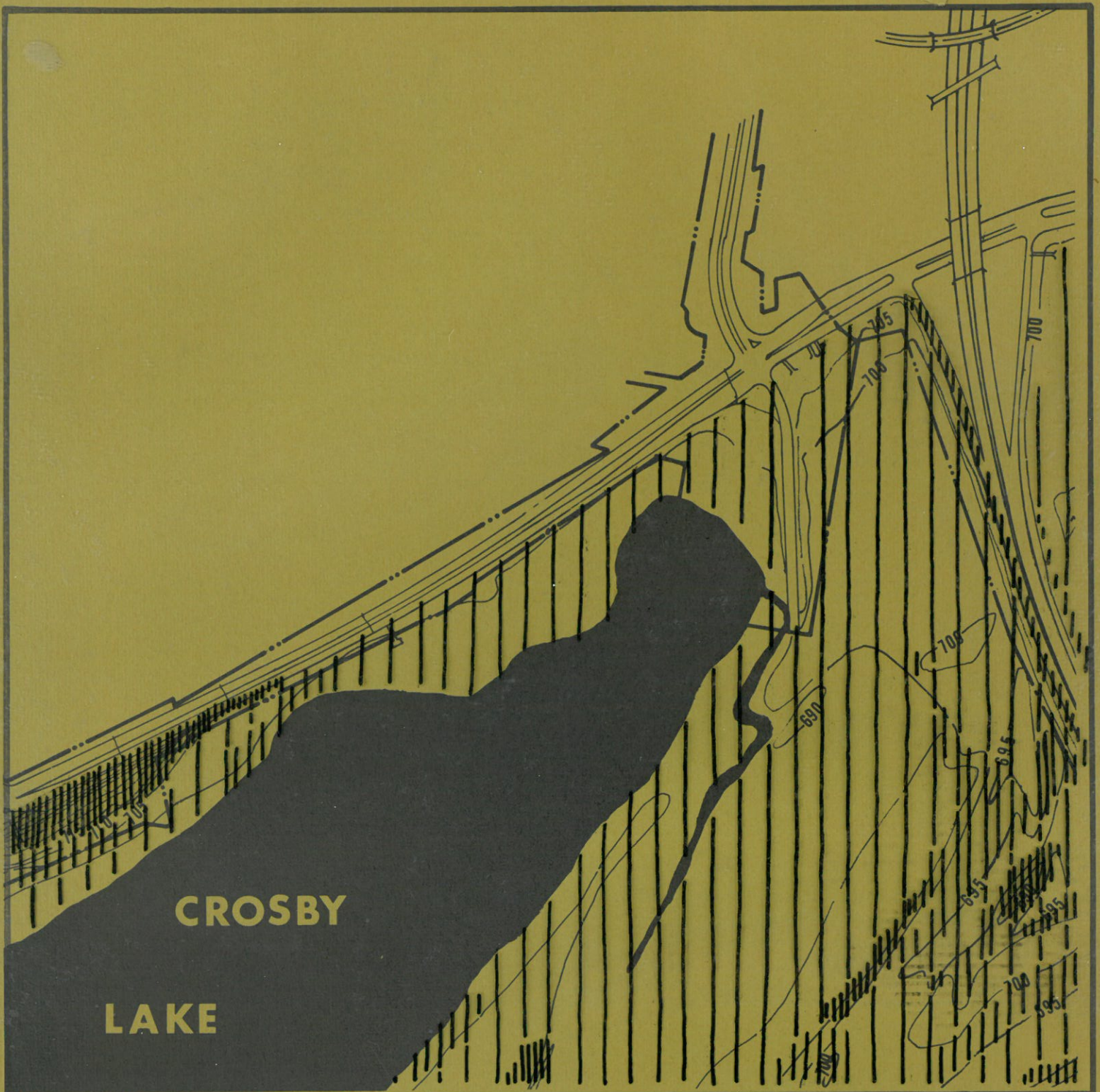
GROUP 6  
LIMITED






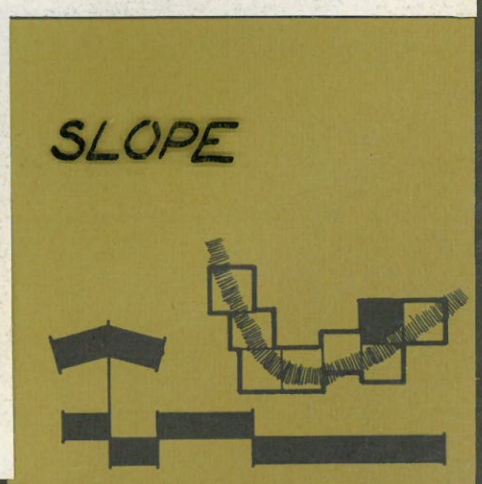
**SOILS**



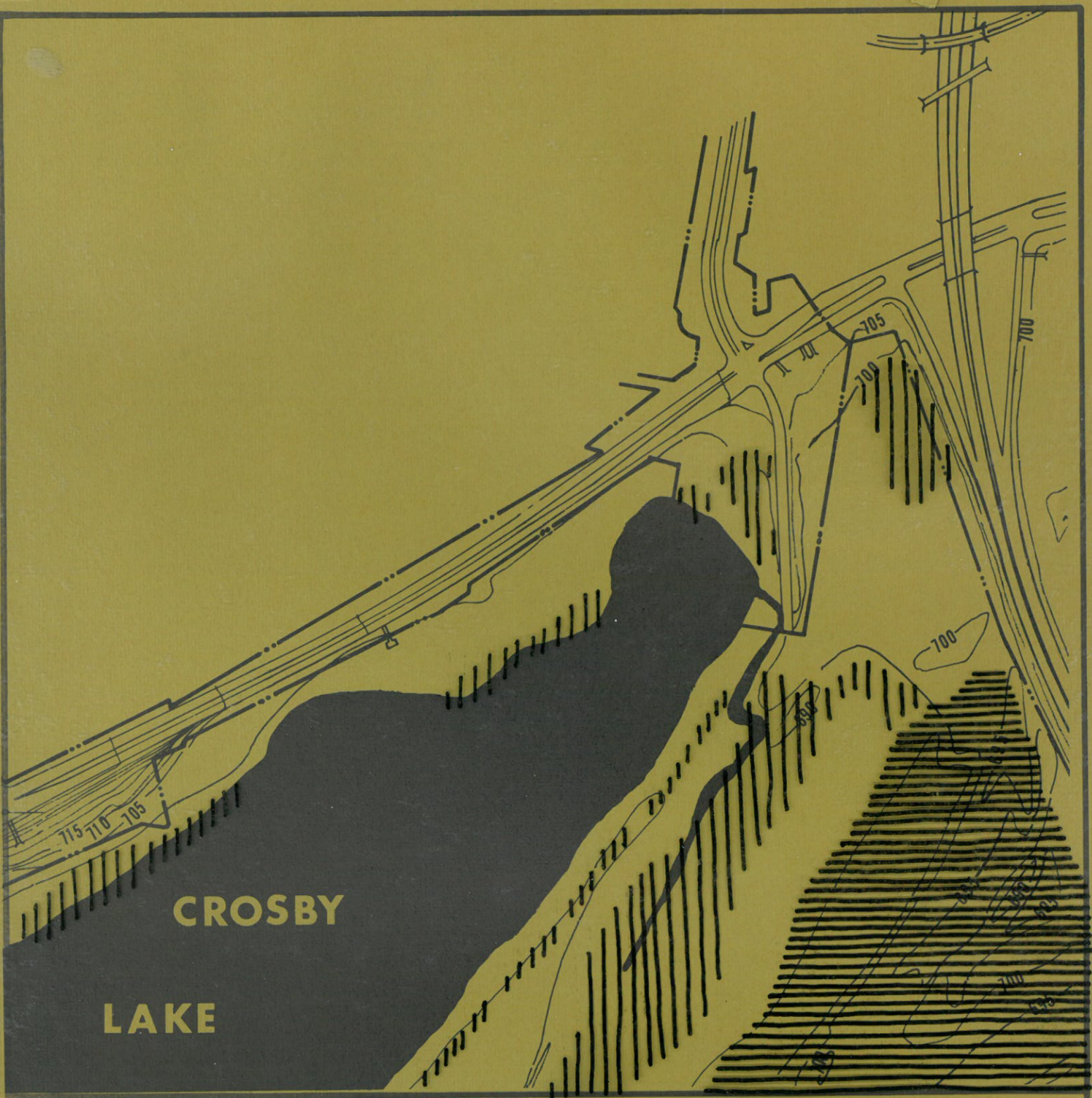




-  0-5% SLOPE - POTENTIALLY BUILDABLE
-  6-15% SLOPE - LIMITED POTENTIAL
-  15%+ SLOPE - SEVERE LIMITATIONS







PIONEER GRASSES - DECIDUOUS SAPLINGS



LAKE SIDE GROUP



FLOOD PLAIN ASSOCIATION



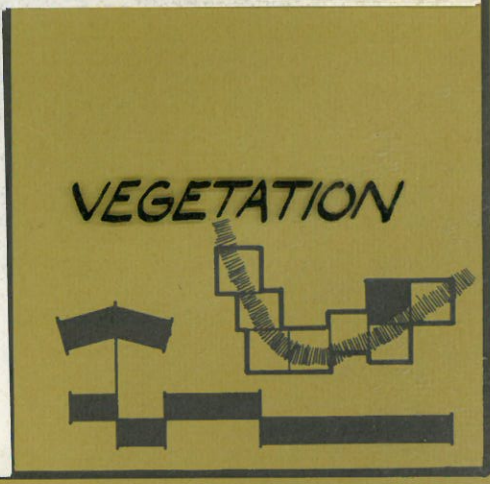
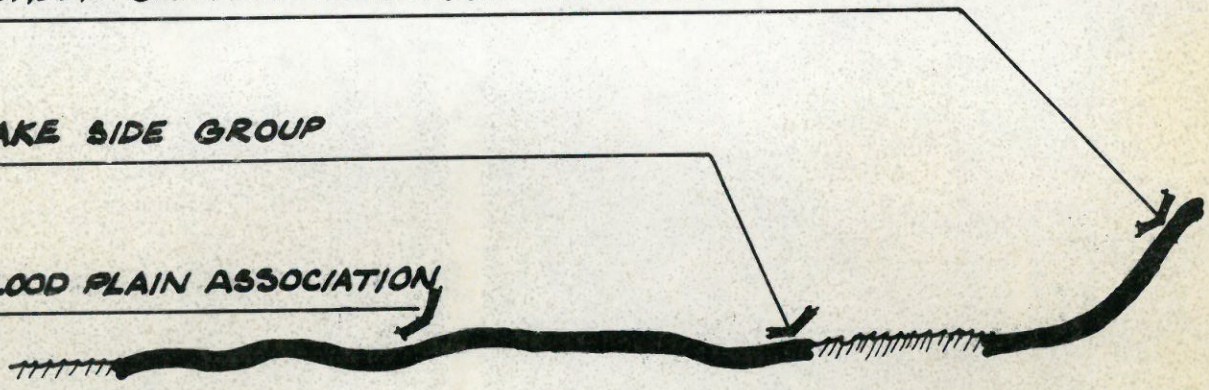
FLOOD PLAIN ASSOCIATION



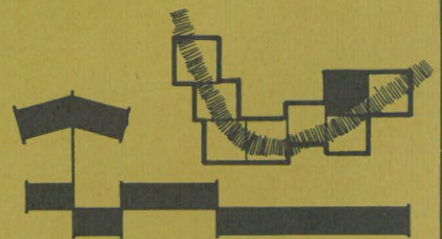
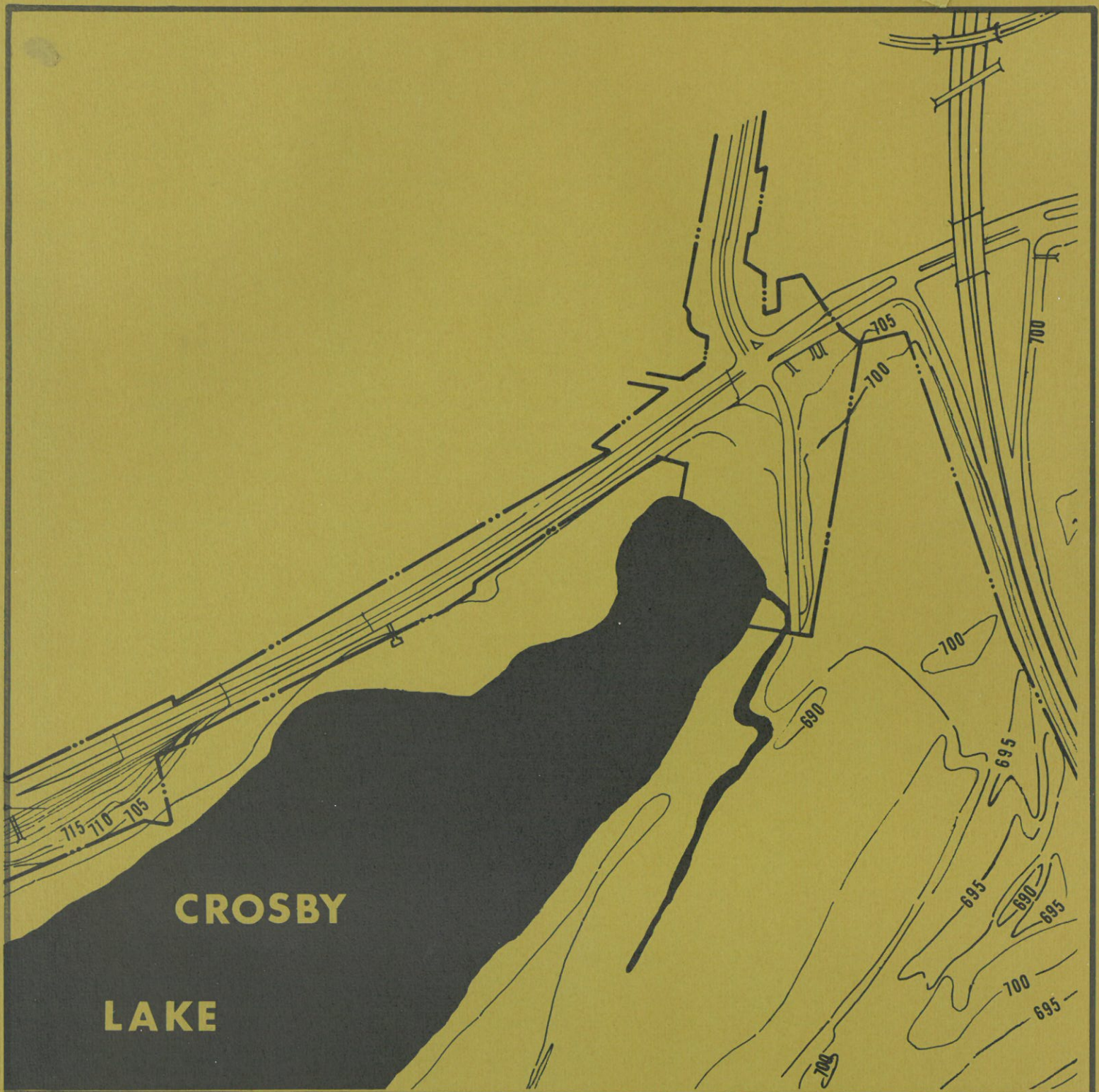
HILLSIDE ASSOCIATION  
EROSION ABATEMENT



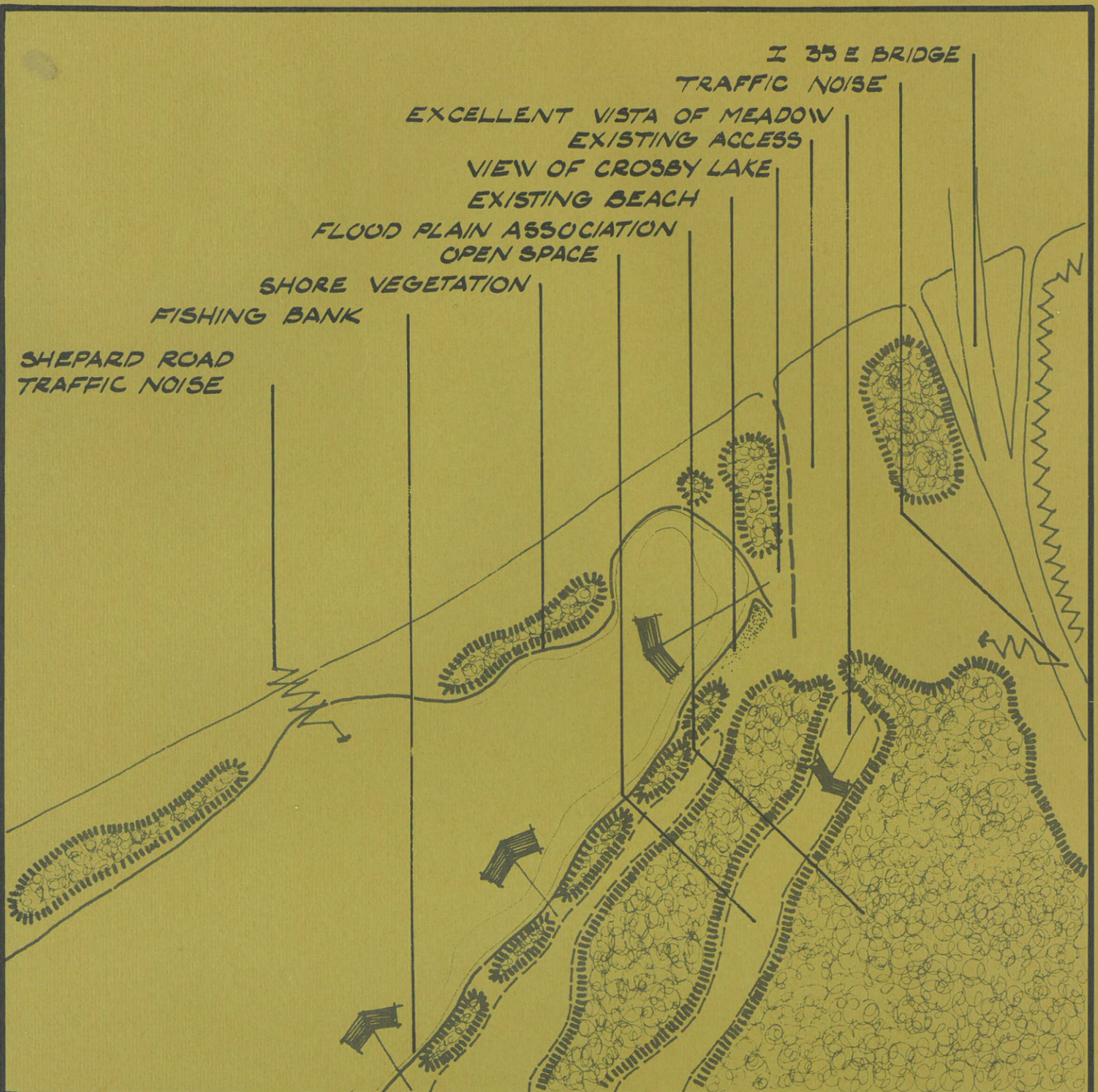
OPEN SPACE











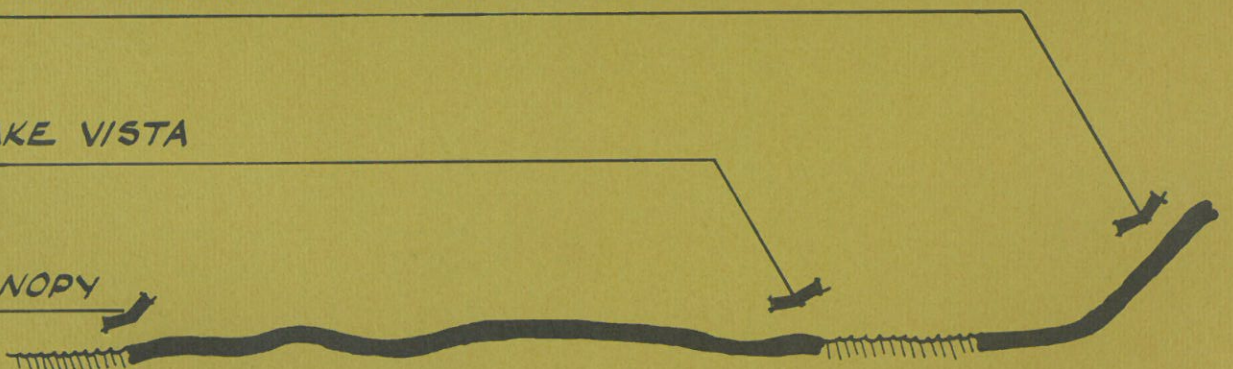
OVERVIEW- BARE SLOPE - AUTOS VISIBLE



LAKE VISTA



CANOPY



VEGETATIVE ENCLOSURE



VIEWS



NOISE



OPEN SPACE



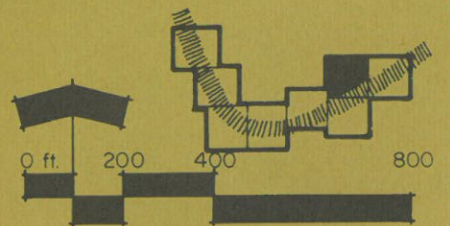
POWER LINE



ACCESS ROAD



PERCEPTUAL



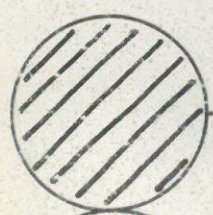




GROUP 8

GROUP 3

GROUP 6



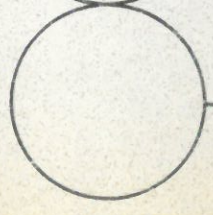
GROUP 3  
LIMITED



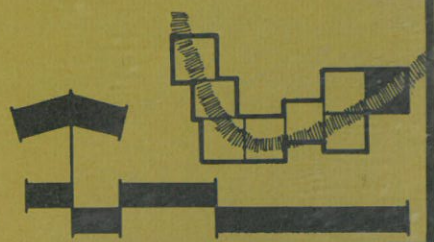
GROUP 8



GROUP 6  
LIMITED



SOILS



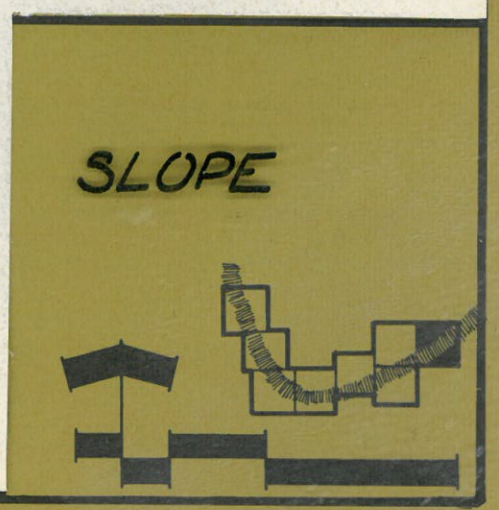




- 15
- 16
- 0.5



- 0-5% SLOPE - POTENTIALLY BUILDABLE
- 6-15% SLOPE - LIMITED POTENTIAL
- 15+ % SLOPE SEVERE LIMITATIONS







FLOOD PLAIN ASSOCIATION



FLOOD PLAIN-OLD MARSH ASSOCIATION



RIVERSIDE GROUP



FLOOD PLAIN ASSOCIATION



HILLSIDE ASSOCIATION

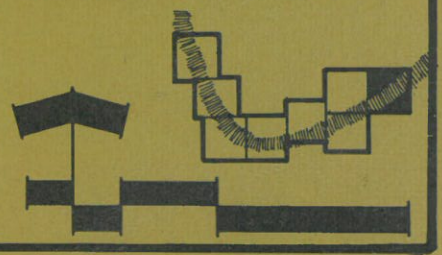
EROSION ABATEMENT



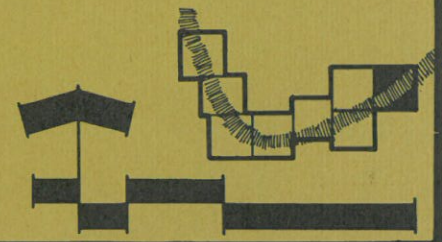
OPEN SPACE



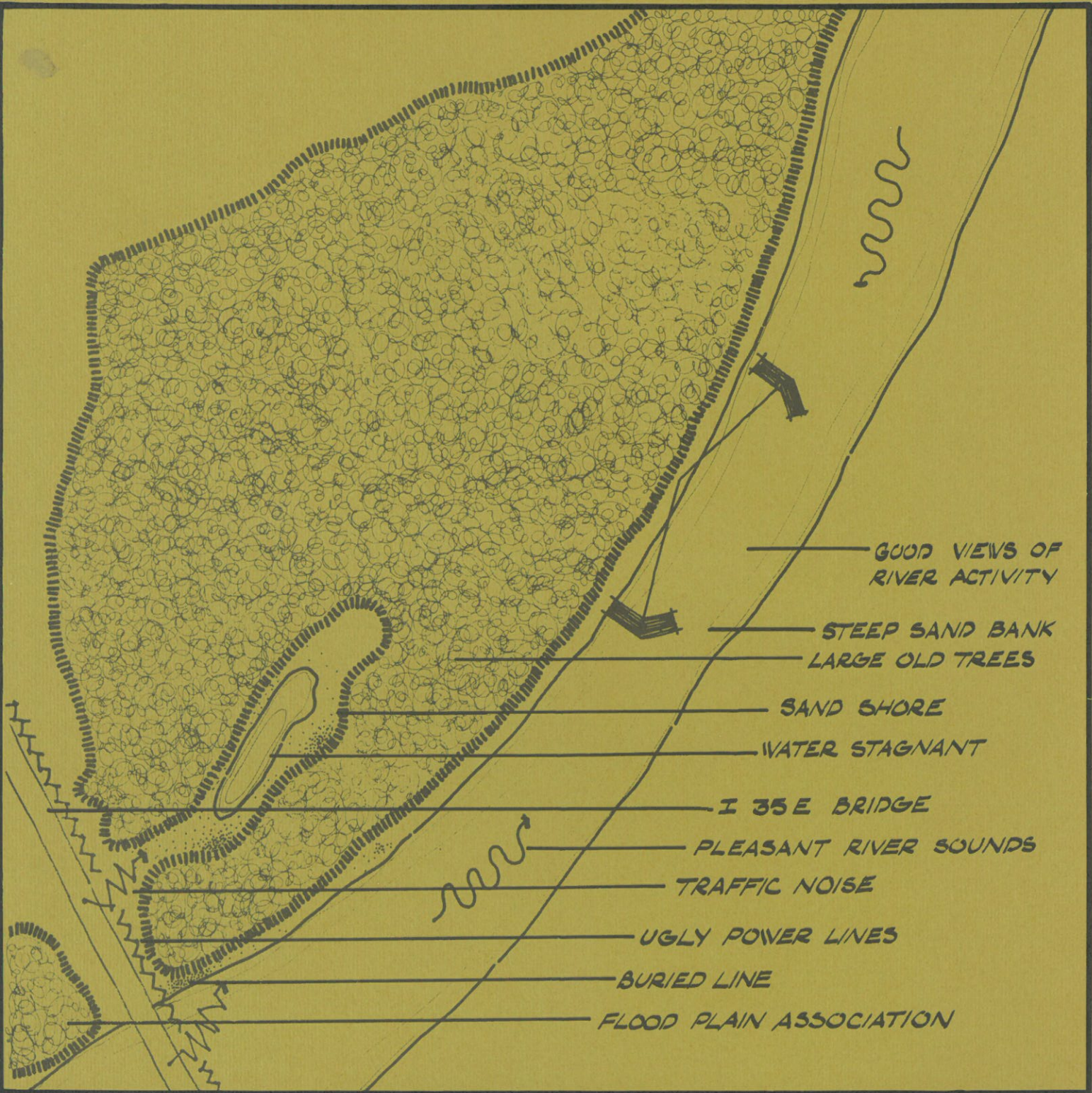
VEGETATION











CANOPIED SPACE

INTERNAL MARSH FOCAL AREA

VIEWS OF BARGES



VEGETATIVE ENCLOSURE

VIEWS

PLEASANT SOUNDS

NOISE

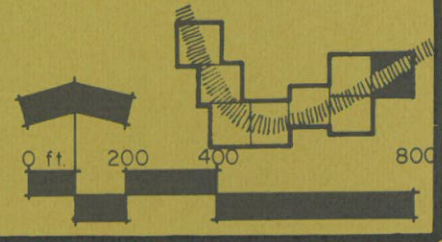


POWER LINE

ACCESS ROAD

TOPOGRAPHIC ENCLOSURE

PERCEPTUAL





## CLIMATE

The climate of the Twin Cities Area, classified as continental, is characterized by great temperature variations, abundant summer rainfall, limited winter precipitation, and a tendency toward extremes in all climatic features. High and low pressure systems are continually passing over the area from west to east, bringing alternate periods of warm and cool weather, as well as rain and clear skies. This variable weather is a result of the cyclonic control of the climate.

TEMPERATURE - To say that the mean annual temperature in the MPA is 45.1 degrees does not adequately describe the temperature characteristics of this land of contrasts. During a thirty year period, the temperature extremes ranged from a low of 34 degrees below zero to a high of 108 degrees above a range of 142 degrees! Both of these temperatures occurred in 1936.

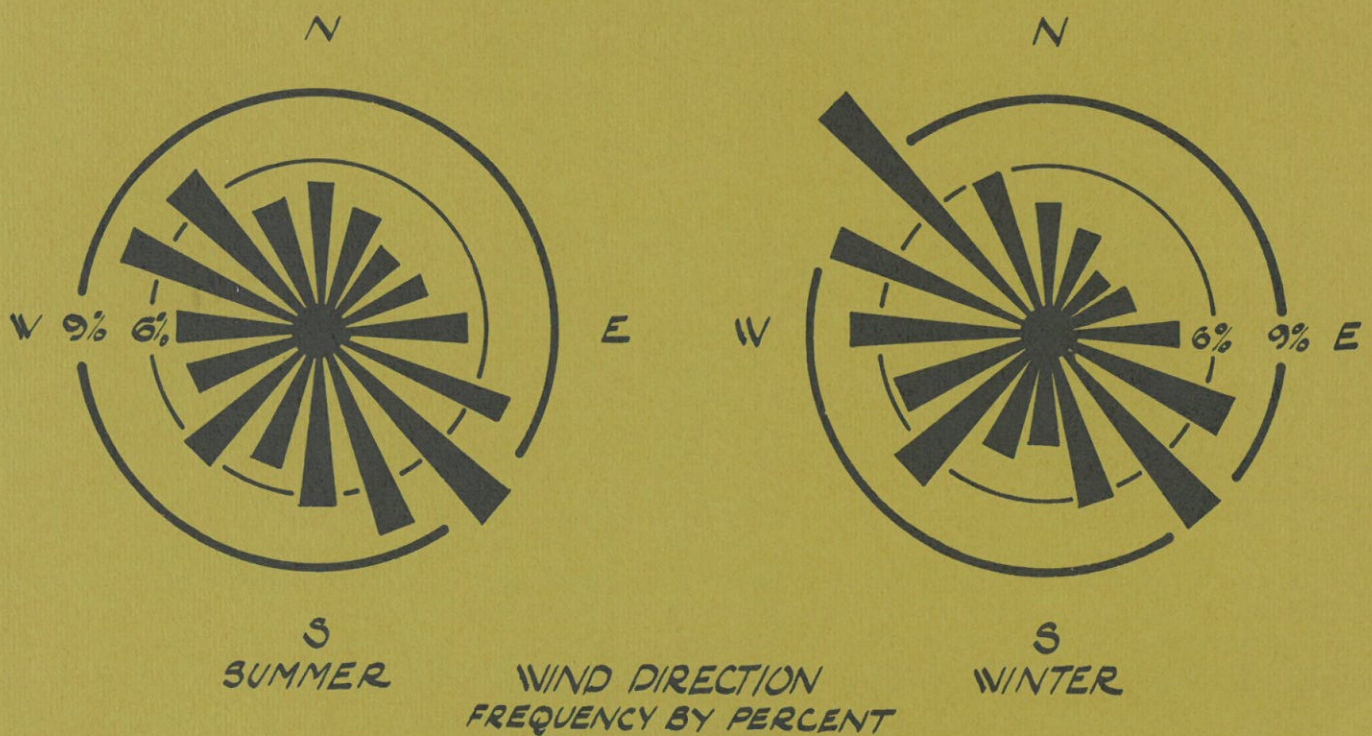
The normal temperature pattern in the metropolitan area, depicted in Plate 58a, shows that the area experiences approximately three months of sub-freezing temperatures in a normal winter. As a result, the frost depth in some parts of the area will at times exceed five feet. Some effects of the low winter temperatures are a short construction season, a need for deep footings and utility installations, and a curtailed shipping season on the rivers.

PRECIPITATION - During the last 54 years of record, the annual precipitation in the Twin Cities has ranged from a low of 11.6 inches to a high of 40.2 inches. Normally however, the annual precipitation will be within 3.8 inches of the mean annual precipitation of 26.1 inches. The precipitation pattern in the Mississippi Minnesota Watershed above the Twin Cities has a great effect on the river flows. Both water supply and sewage disposal are largely dependent upon the maintenance of a minimum flow in these rivers.

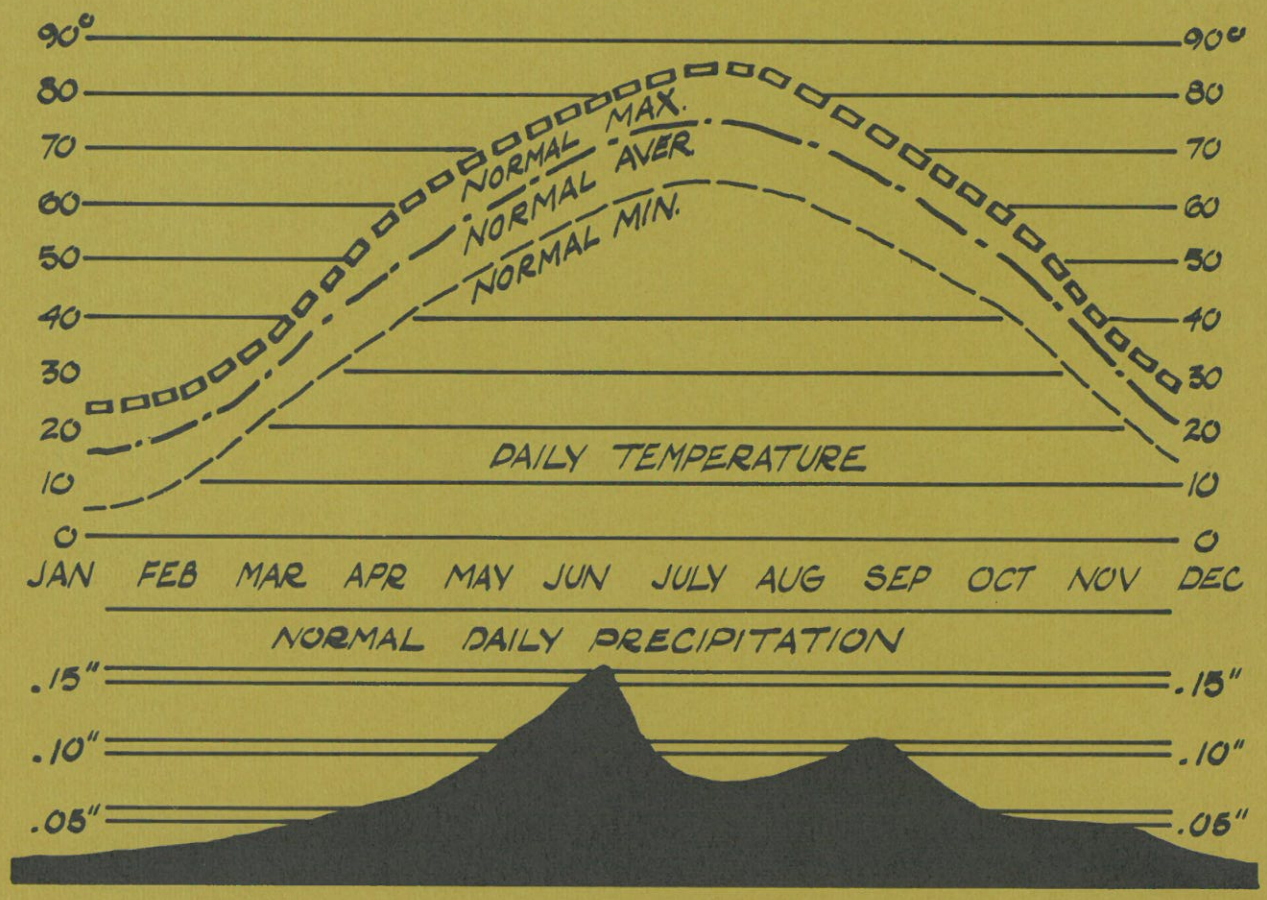
Approximately 64 percent of the normal annual precipitation occurs during the five month growing season (average of 166 days). During the growing season, thunderstorms provide most of the rainfall, while at other times of the year, the precipitation is caused by frontal activity and is therefore more gentle and longer lasting. The snowfall averages 42.4 inches a season; severe storms, such as tornadoes and hail, do not occur frequently.

The intensity of rainfall is another important climatic characteristic. The maximum precipitation recorded for a 24 hour period is 4.1 inches. In determining the level of storm drainage protection a community wishes to provide, the relative frequency of high intensity storm must be considered.





NOTE: WIND BLOWS TO CENTER OF DIAGRAM





WIND - Another aspect of climate that has great influence on area-wide planning is the wind pattern. As more sources of pollutants are created, air pollution is becoming more of a problem each year. Windblown odors, irritants, and particles do not respect political boundaries; hence, they have area-wide impact. The most serious air pollution problems occur when the wind velocity is under eight miles per hour; higher wind velocities tend to disperse the pollutants.

The micro-climate of the *Hidden Falls-Crosby Farm* site varies somewhat from the area norms. Temperature and wind are slightly modified.

The hillside slopes will have warmer than average temperatures, particularly in spring and fall. This results from more direct solar radiation on the south and west facing slopes. These areas will be more usable sooner in the spring than the valley floor. These same slopes will be poor for winter sports activities.

The valley floor will exhibit the opposite effect. During the spring, fall and winter, it becomes a cold air pocket. With the dense foliage of summer this area will be cooler during the day and warmer in the evening. Five to ten degree temperature variations would not be uncommon. This phenomenon results from reduced solar radiation during the day and reradiation <sup>at</sup> ~~of~~ night because of the dense foliage cover. The result is a rather "close" feeling during warm summer days.

The majority of the site is 50 to 100 feet below the surrounding plateau areas; thus, wind velocities are reduced. During the winter this causes a desirable reduction in the chill factor. However, refreshing summer breezes are also reduced.

DESIGN CONSIDERATIONS - The valley floor micro-climate indicates several factors to be considered. Air pollution is a potential problem because of the poor air drainage. Poor air drainage, dense foliage canopy, and flat land create poor conditions for ground surface drying during the summer. The "close" atmosphere generated by these same conditions may discriminate against some active types of recreation.

HYDROLOGY - The *Hidden Falls-Crosby Farm* site is a part of the Mississippi River Watershed. The rivers fluctuation is perhaps the single most important factor <sup>a</sup> ~~e~~ffecting site development. A large proportion of the flood plain on the site has an average elevation of 700.

<u>Flooding Level</u>	<u>Frequency</u>
695	2 out of every 3 years
705	once in 10 years
710	once in 25 years



Highest flood level at lock one was elevation 720 recorded in 1965. The site may remain flooded for a period of one or two days up to a week during a major flood. The average water level fluctuates little after the spring runoff.

The valley floor acts as a sponge absorbing surface run-off and spring water from the adjacent bluffs. Plant types indicate a high water table in the flood plain areas. Data pertaining to water levels for Crosby Lake indicates the water table fluctuates very little except in the spring.

Crosby Lake is small, shallow, and fertile. The main inlet is in the northeast corner of the Lake from the Highland Park area. Additional water seeps in from springs in the adjacent bluffs. The outlet is in the southeast corner draining to the Mississippi. The lake level is rather constant, fluctuating from 1 foot above to 3 feet below normal water elevation of approximately 690 feet. Average lake depth is 3 feet with a maximum depth of 15 feet.

DESIGN CONSIDERATIONS - The fact that virtually the entire valley floor floods to a depth of 5 feet once every ten years greatly limits economic building possibilities. Design and program possibilities, forms, and material selections will also be affected. Because of the intricate relationship between many plants and the water table precautions must be taken in regards to all aspects of site construction.



## HISTORY

Interest in the *Hidden Falls-Crosby Farm* site as a park dates back to 1887. Nationally known landscape architect H.W.S. Cleveland selected Hidden Falls as one of four major park sites for the City of St. Paul. In 1906 the 128 acre tract containing Hidden Falls was acquired. Development of the area did not begin until 1936-37 when W.P.A. crews constructed stone stairs, walls, overlooks, and public council rings. Hidden Falls Park lapsed into a period of neglect until the 1960's when welfare crews began clean up operations.

The Crosby Farm area has been used for a variety of activities. Evidence and the name suggest that the area was once farmed. A large portion of the site has been reclaimed with a reforestation project. Proposals for the area have included subdivision into residential lots and a sand and gravel operation.

Several recent studies have rekindled interest in developing the *Hidden Falls-Crosby Farm* site. The Twin Cities Metropolitan Planning Commission has considered this a key part of a potential 2,500 acre park in the Fort Snelling area. The Mississippi River Study and the Crosby Park Study both noted the areas potential for nature interpretive facilities and family recreation.

## UTILITIES

Electric - Necessary power can be brought off existing lines located in easements on adjacent property to the north of Mississippi River Boulevard and Shepard Road.

Sanitary Sewer - Lift stations would be required in order to tie into existing lines north of the site.

Water - Existing mains to the north may be tapped into to supply the site with the necessary water.

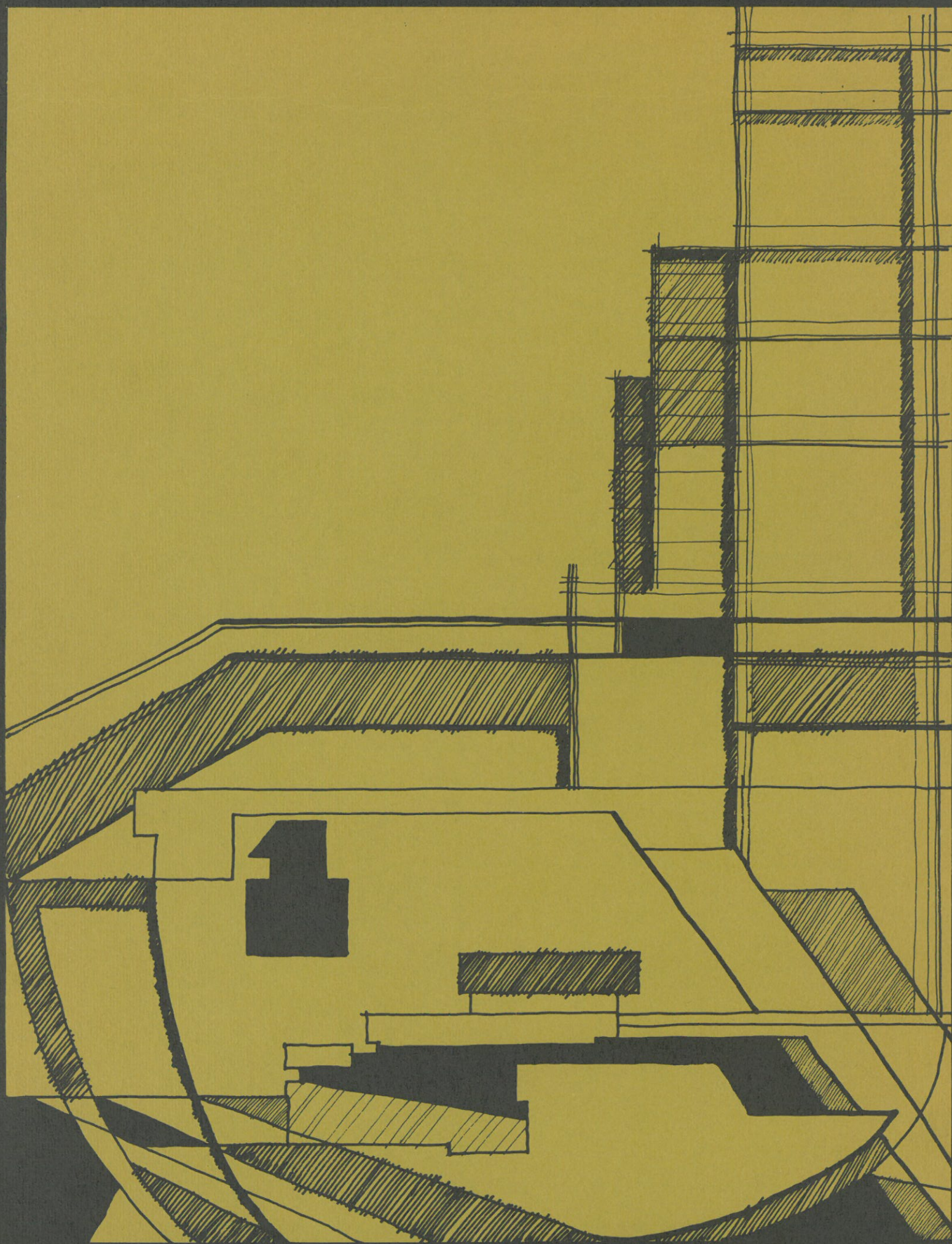
Storm Sewer - There are several existing storm sewers that empty onto the site. Erosion around each outfall area should be avoided. Further development should respect existing drainage by not concentrating water through critical areas.

Gas - There are existing lines north of the site which can supply gas to any proposed facility

### GENERAL NOTE: re Utilities

The location of the utilities to be installed must respect and preserve the sites' natural integrity and amenities.





**ENVIRONS**



## ENVIRONS

A variety of land uses abut the site at the top of the bluff.

High quality single family homes are present from Hidden Falls to Shepard Road. No doubt the presence of the park has helped keep this a quality neighborhood. A large number of children were noted indicating that many of the week day users will come from the residential area.

Numerous new apartment complexes are cropping up along Shepard Road from Highway 494 to Elway. The majority of the occupants are single or young married couples with no children. It is anticipated that these people will utilize the park during the evenings and on weekends.

Several industrial facilities including Ford Motor Company, Univac, and Webb Paper Company face onto Mississippi Blvd. and Shepard Road. Both Ford and Univac generate heavy traffic volumes both morning and afternoon during week days. Other than large unsightly parking lots and warehouse facilities no other distracting noises, smells, or pollutants emanate from these industries. Many employees were observed relaxing along the top of the bluff during the noon hour.

Wold Chamberlain Airport is not an adjacent land use but has a definite effect upon the site. The noise of jet aircraft landings and departures is a constant distraction. The problem becomes particularly acute when the wind direction requires a northeast - southwest flight path, as it passes directly over the Hidden Falls area, which is approximately 10% of the time - more frequently during the summer months. The proposed new airport may reduce this problem somewhat but it will remain a constant nuisance.

FORD PROPERTY - The Ford property owned by Ford Motor Company abuts the sites' northern boundary and extends to the Ford Bridge. Its former use was an industrial sand mine. A large unsightly haul road constructed with broken concrete and other debris bisects the property. With the exception of the haul road this property contains many of the natural amenities of other sections of the site.

Acquisition of the Ford property appears advisable for several reasons:

1. Inclusion of this property would provide a pedestrian link with the Mississippi River Boulevard north of the Ford Bridge.
2. The river frontage of this site is excellent for viewing the activities at Lock #1. No area now within the study area has as good a view of the Lock.
3. Acquisition of the property would eliminate trespassing and policing problems that are presently a headache to all parties involved. Present controls are ineffective.



If acquisition of the entire property is not feasible the establishment of an easement along the riverside would be an excellent alternative. This would allow pedestrian access from Mississippi River Boulevard and would eliminate the unsightly and unsuccessful trespasser control at the rivers edge.

SVOBODA PROPERTY - This inholding is located just east of the Highway 5 Bridge across from Fort Snelling. It is the site of the Svoboda Boat Works. The boat works appears to be a marginal operation. Much of the marina is unused and in disrepair. The general appearance is one of disorganization and presents a rather unattractive view from Fort Snelling State Park.

The Svoboda property presents an obstacle to pedestrian access along the river front in an area where river and bluff come close together. Acquisition of this property would insure a continuous park experience through the *Hidden Falls-Crosby Farm* site. In addition, the visual environment of Fort Snelling State Park would be improved immeasurably.

WATERGATE - A very substantial development is proposed 1/2 mile east of the Highway 5 Bridge. New marina facilities are under construction and two 25 story high rise apartment buildings are projected. A development of this scale will be a visual intrusion into the sites' natural character. At the same time it offers the potential of exciting views of the marina and its' activities.

The two marinas block pedestrian access along the river forcing circulation along the bluffs to the north. Pedestrian circulation here will be complicated by service and access roads into the Watergate development. An access corridor by passing Watergate is necessary if the *Hidden Falls-Crosby Farm* site is to function as a continuous park. Coordinated planning with the developers will be essential in assuring a design acceptable to both parties.

35E PARCEL - Studies are being prepared for the parcel north east of Highway 35E. It is suggested that this area be left undisturbed for several reasons:

1. This area is the least disturbed of all areas studied. As such, it is ideal as a reserve for study by students working on projects where undisturbed natural conditions are a requisite. An area of this type is an essential compliment to a quality nature center facility.
2. The 35E parcel provides the most ideal deer habitat in the area of the study. It provides browse that helps retain a balance between deer herd and habitat. Major development or a use introducing large numbers of people would eliminate this habitat thus eliminating the deer. Losing a major species of wildlife would greatly diminish the quality of a nature centers' program.



3. The wild undisturbed character of the 35E parcel is an excellent introduction to the park site when approaching from Shepard Road or 35E. Destruction of this wild character would distract from the park visitors experience.
4. For the boater traveling upstream the 35E parcel and Fort Snelling State Park form a beautiful natural gate into an area devoted to recreation. Extensive development would distract from this entrance experience.
5. This area is subject to flood over its entirety once every ten years to a depth of 5 feet.
6. Development in this area would require extensive filling for flood protection. Filling in excess of 2 feet would bury the understory plants and suffocate the large trees unless costly tree wells were constructed. If the developed area is not filled, extensive and expensive maintenance costs for flood clean up are inevitable.





# FINDINGS



## SUMMARY OF FINDINGS

LOCATION - The sites' location in the heart of the Minneapolis St. Paul metropolitan area gives easy access to a large population segment.

ACCESSIBILITY - Automobile and bike access to the valley floor is possible from both Shepard Road and Mississippi River Boulevard. Pedestrian access is possible but hampered by these roads and the steep topography. The entire site is accessible via boat from the river.

ADJACENT OPEN SPACES - One of the sites' outstanding aspects is proximity to other open spaces in Minneapolis St. Paul. These include -- Minnehaha Park and Parkway, Mississippi River Boulevard, Fort Snelling State Park, and Pike Island. The potential integration of the *Hidden Falls-Crosby Farm* site and program with these open spaces is excellent.

NATURAL FEATURES - The combination of steep topography, waterfalls, lakes, marshes, the river, and dense vegetation provide a setting of outstanding natural beauty. The enclosing bluffs and vegetative cover screen out offensive sights and sounds of adjacent urban activities.

LAND CONFIGURATION - The site is physically two parks. The upper and lower parks are physically separated by private land ownership yet connected by water, continuous steep slopes and level plateaus. This split configuration offers some unique program possibilities.

SPACES - The *Hidden Falls-Crosby Farm* site offers a diversity of space defined by topography, vegetation, and water. Broad panoramas, intimate spaces, and dramatic cathedral like enclosures blend together into an exciting variety of experiences.

WILDLIFE AND HABITAT - Wildlife on the site is abundant and is attracted by a diversity of natural habitat. Deer, numerous small animals, and a variety of birds can be seen.

THE RIVER - The Mississippi River with its' recreation potential still untapped, is a major site asset. Access and pollution abatement appear to be keys to more intensive use of the river.

SOILS - The site contains five distinct soil groups. Soil structure and composition on the hillsides are very fragile. Excessive disturbance could do irreparable damage. Engineering properties of the valley floor soils are limiting for construction of major structures and sewage systems.



SLOPES - Hillside slopes in excess of 15% are severely limited for development. Extreme care will be necessary in the location of trails and similar minor development. The level valley floor presents poor drainage and problems for many recreational activities.

VEGETATION - Existing vegetation on the property presents two distinct plant associations -- the hillside association and the flood plain association. The hillside association is a major erosion deterrent and must be protected. The flood plain association is very durable but excessive cutting, filling, or drainage could cause irreparable damage.

FLOODING - Flooding will be a major limitation affecting recreation program, site design, material selection, and development cost. Periodic flooding of the Mississippi River covers the valley floor to a depth of five feet once in every 10 years.

CIRCULATION - At the present time circulation within the site is undefined. Roads and trails meander everywhere cutting the site into a thousand bits and pieces. Erosion problems on the hillside and destruction of plant life on valley floor is evident. Pedestrian circulation past the existing inholdings is also somewhat undefined and presents a problem to unified development.

TRASH - Trash and garbage of all types is scattered throughout the entire site. Certain areas of the site are being used as dump grounds for trees. Trash not only distracts from the beauty of the surroundings but is a source of pollution.

BRIDGES - The Highway 5 and 35E bridges which bisect the site are major distractions from the sites natural character. The auto traffic they carry is the major generator of noise and offensive odors penetrating the site. The area beneath both bridges is barren. These areas present major design problems.

SURROUNDING LAND USE - The adjacent land uses will supply many of the week day park users. Much of this use particularly by industrial employees will occur along the top of the bluff.

PROPERTY INHOLDINGS - The Svoboda and Watergate properties present obstacles to pedestrian circulation through the park. These inclusions destroy the parks' continuity. The Ford property affords an experience not possible within the present park boundaries, viewing the dam and lock. The man modified landscape of this property possess recreation potential.





**RECOMMEND**



## SUMMARY OF RECOMMENDATIONS

LOCATION - The aesthetic and intrinsic implications to expansion of park and recreation open space program demand that this site be preserved, upgraded and incorporated within that program serving a major population base.

ACCESSIBILITY - Access by foot, car, and boat must be upgraded to facilitate ease of approach while complimenting the overall environmental quality of the site.

ADJACENT OPEN SPACES - Top priority consideration should be given to program possibilities through coordination with adjacent park and recreation spaces and the resultant extended linear corridor pattern.

NATURAL FEATURES - Those existing on-site at present must be preserved, protected, and enlarged through judicious site utilization and maintenance.

LAND CONFIGURATION - The linear and vertical qualities of the site must be protected. Irreparable damage to physical and visual qualities would result through site penetration or disruption from a non-conforming use.

SPACES - The site analysis pinpoints unique natural features that **MUST BE PRESERVED** to maintain the integrity of the *Hidden Falls-Crosby Farm* site through development.

WILDLIFE AND HABITAT - It is imperative the existing natural habitat (vegetation and spaces) be preserved, protected and expanded with additional plantings to maintain the quality wildlife character of the site.

THE RIVER - Concerted and coordinated effort with other communities must be extended by the City of St. Paul in restoring the water and adjacent river banks to a quality and environmentally satisfying resource -- a resource largely untapped.

SOILS - Soil conditions dictate judicious site development, programming and maintenance coordination. Development should take place only in those areas determined suitable for that development. Sequence and distribution of program areas should allow for rotation of specific thrusts. Diligent maintenance practices based on program-use areas **MUST** be regularly scheduled.

SLOPES - Detail design for specific development **MUST** recognize the implications of slopes -- site preservation through development and program services.



# RECOMMENDATIONS

VEGETATION - Plant materials associations presently existing on the site must be protected and preserved with compatible supplemental planting extending initial concerns to future generations.

FLOODING - Frequent flooding of approximately 60% of the site cannot be effectively and economically controlled due to the proximity of the Mississippi River. Extensive maintenance practices -- money and manpower must be available and pre-programmed to maximize effective overall site restoration and subsequent program utilization.

MANAGEMENT RECOMMENDATIONS - Crosby Lake - "Eliminate pollution and control siltation. Presently considerable garbage and trash etc. has been and possibly is still being deposited around the lake. Land fill, if any, should be abolished unless for specific recreational development purposes. Deposition of snow from any removal operation should be discouraged as this also adds pollutants such as salt and anti-rust compounds etc. which can be harmful to soils and water, etc." - Earl Huber, Fisheries Biologist

CIRCULATION - Of both pedestrians and vehicles MUST be controlled and directed through proper design of roads, parking areas, barriers, plant materials, paths, lighting, benches, waste receptacles, etc. to preserve the quality of this resource.

SURROUNDING LAND USES - Adequate crosswalk connections to adjacent residential and industrial areas are essential. Facilities for eating lunch and general noon hour relaxation adjacent to industrial property will foster additional park utilization.

## PROPERTY INHOLDINGS

Svoboda Property - Acquire

Watergate Property - Negotiate a pedestrian easement bypassing the property.

Ford Property - Acquire all the property or at least a strip of land along the river front.

35E Parcel - Leave the area in an undisturbed state or if development is imminent, acquire a strip along the river front.

SNOWMOBILES AND MOTOR BIKES - The use of snowmobiles and motor bikes are not recommended for use in the Hidden Falls-Crosby Farm area. Their use would require very comprehensive control measures in order to preserve and maintain the sites' natural integrity and amenities for the benefit of all the people of St. Paul.

<sup>LE</sup>  
BRIDLE TRAILS - The use of horses in this area is not recommended because it would require duplication of trails, adequate control measures, and an extensive maintenance program.



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PROGRAM



## PROGRAM

Specific objectives are as follows:

1. Compliment the existing recreation program of the St. Paul Parks and Recreation Department through expansion of program services to the *Hidden Falls-Crosby Farm* site.
2. Maximize involvement and site utilization through diversity and progression of activities and experiences.
3. Integrate through design and program the *Hidden Falls-Crosby Farm* site with adjacent parks.
4. Develop a program that is compatible in content and use intensity with the carrying capacity of the landscape resource.
5. Create a unique recreation experience that capitalizes on the sites' inherent amenities.
6. Conserve and protect outstanding natural features, wildlife, wildlife habitat, and sensitive landscape areas.
7. Develop a design that is unified visually and functionally.
8. Concentrate development and activities in areas with no serious natural limitations.
9. Minimize the area devoted to automobile circulation and storage. Separate automobile and pedestrian circulation.

Specific activities and experiences within the *Hidden Falls-Crosby Farm* site and supportive qualities of each are as follows:

1. Nature Interpretive Center and Day Camp
  - a. This type of center with exhibits and educational facilities has been suggested by previous groups studying the area; Crosby Park Study, Mississippi River Study.
  - b. The City of St. Paul has no such facility in the present park system.
  - c. The variety of plant types, wildlife, and geological features make the site ideal for an interpretive area.



- d. The sites' location would make the center readily accessible to young children, school groups, families and those living in the city with no means to travel to similar natural areas elsewhere.

## 2. Nature Trails

- a. The variety of topography, plant associations, water features, and wildlife, lend themselves to an interesting interpretive experience.
- b. The trail system would compliment interpretive center facilities.
- c. The trails would provide year round recreational activities for all age groups.
- d. Trails can be incorporated with minimum disturbance to the ecosystem.

## 3. Hiking and Bicycle Trails

- a. These trails can be integrated with adjacent path and parkway systems. This circulation system would form a physical link with the parks in the vicinity.
- b. The site is ideally suited for trails with its' variety of spaces, views, and natural amenities.
- c. Trails can be accommodated on the site with a minimum of disturbance.

## 4. Cross River Shuttle Ferry

- a. A ferry for pedestrians linking Minnehaha Park to the *Hidden Falls-Crosby Farm* site would serve as a positive link between these two large urban open spaces.
- b. Access between the parks at the river level would allow the visitor to double his choice of recreational experiences.

## 5. Snowshoe and Cross Country Ski Trails

- a. Trails of this type would add to the diversity of winter recreational activities.
- b. Such activities could utilize the space used for summer hiking trails.
- c. These activities would have little or no adverse effect on the ecosystem.



6. Picnic Areas

- a. The Minnesota Outdoor Recreation Plan noted a deficiency of 27,825 picnic sites in the Metropolitan areas indicating a definite need for such facilities.
- b. The site contains a combination of shaded spaces and open areas with level topography ideal for group or family picnicking.
- c. Picnic areas could serve all site visitors including those arriving via auto, bike, foot, or boat.
- d. Picnicking is a low intensity use compatible with the sites' landscape resources.

7. Open Play Areas

- a. The site contains numerous level clearings suitable for open play.
- b. Open play activities are compatible with and usually an integral part of the picnic experience.

8. Creative Play

- a. Creative play areas provide activity centers for young children.
- b. Childrens play facilities are compatible with picnic activities providing a play experience different than neighborhood play lots.
- c. Facilities of this type would stimulate midweek use and participation from the neighborhoods abutting the site.

9. Concession and Canoe and Bike Rentals

- a. Portable concessions would serve as an integral part of picnics, concerts, festivals, and other special activities.
- b. Both canoeing and biking are compatible with and utilize the sites natural amenities.
- c. A bike rental facility would make this activity available to those who do not own bikes or are unable to transport them to the site.
- d. Biking is an ideal way to experience this lineal site in two or three hours time. The flat topography of the valley floor makes cycling easy.
- e. Canoeing is becoming a very popular summer activity in Minnesota.
- f. There are at the present time limited canoe rental facilities in the metropolitan area.



- g. The site, with immediate access to the Mississippi and Minnesota Rivers offers an excellent opportunity for canoeing.
- h. The significance of the canoe in Minnesota history and in particular around Fort Snelling offers potential for the development of an historical canoe tour.

10. Gathering Space

- a. The site has numerous large open areas suitable for this type of activity.
- b. Concerts, festivals and similar activities are compatible with the picnic experience.

11. Marina

- a. A lack of boat launching facilities as noted in the Mississippi River Study has discouraged boaters from using the river. A definite need for launching sites in the Metropolitan Area has been established.
- b. The existing boat launch area on the site has established a precedent for such activities.
- c. The site has excellent potential for boat launching facilities with good access roads and gentle river bank slopes.
- d. A marina in this area could capitalize on existing tour boat activities. This could expand the dimension of river cruises to park visitors experiences.

12. Fishing and Bait Casting

- a. Bullheads, carp, suckers, bass, northern pike and panfish populations are common in both the river and Crosby Lake.
- b. Fishing would provide year round recreation for all age groups. Winter fishing on Crosby Lake is already popular.

13. Swimming and or Wading

- a. The strong river current particularly near Lock 1 limits the possibilities for safe swimming or wading. However, in downstream areas where the river widens swimming would be possible.
- b. The polluted nature of the water would render this a marginal activity.

14. Ice Skating and Sliding

- a. Both Crosby Lake and Upper Crosby Lake freeze to a thickness safe for skating.
- b. Skating is part of the existing use pattern.



- c. Maintaining an area of the lake for skating will encourage winter use of the park.
- d. The river valley microclimate is favorable for outdoor winter activities.
- e. Most of the sites' sloping land has a south to west exposure and heavy tree cover. These characteristics are not desirable for sliding. There are, however, some open slopes that would be usable for sliding on new snow.

15. Motor Bikes and Snowmobiles

- a. These two popular but controversial forms of recreation have established a use pattern in the park. This area is used, because there are challenging trails and few people to complain about the noise.
- b. This use pattern will change however, once the proposed facilities are completed. Picnicking, hiking, and nature study activities suited to this area would be in conflict with noisy and undefined motor bike traffic. Likewise snowmobiling would disturb snowshoeing, skiing, ice fishing, skating, and sliding. Both motor bikes and snowmobiles will disturb wildlife and wildlife habitat as noted in studies made by the U.S. Forest Service.
- c. The solution to this conflict would be either to eliminate trail bikes and snowmobiles or designate an area on the site in which these activities can occur without disturbing other forms of recreation as suggested by Les Blacklock. The Ford property, a man modified landscape, would be a possible site where disturbance to other uses and the landscape would be minimized. If the Ford property can not be purchased, it is suggested that serious consideration be given to eliminating motor bikes and snowmobiles from the Hidden Falls and Crosby Farm Parks and another site without the above mentioned conflicts, be found.

16. Overlooks and View Points

- a. The sites' dramatic topographic change affords excellent views from the upper level.
- b. Outstanding landmarks can be seen from many areas within the site.



HIDDEN FALLS - CROSBY FARM  
HIDDEN FALLS - CROSBY FARM

FIELD NOTES



Birds - robins, blue jay, bank swallows, downy woodpecker, wood ducks - concentrated on edges of open fields, along river, and about Crosby Lake.

yellow throat -  
red wing

Bluffs - provide sense of enclosure - some fine limestone rock outcroppings. Oaks predominant plants - mention soil quality and building process.

snowmobile noise



Crosby Lake Area - tremendous nature potential - go! center

ideal wildlife habitat - sitting area -

do it!



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## INTRODUCTION

Ever since I saw a bald eagle sailing over Shepard Road as I drove home from a Metro Park Board meeting one night, I've had a strong curiosity about that green jungle below the bank. It looked as wild as before Columbus, and I wondered as to its status. Was it protected, or doomed to eventual development?

My answer came in a phone call from Don Brauer. Would I do a study on the Crosby Lake area for them? Would I! Just give me a map, some pemmican, and turn me loose!

The strip of bank called for in the study is in four distinct pieces, or "blobs", separated by pinches between river and bluff, by private development and by Interstate 35E. I'll look at each piece and then recommend, from this naturalist's viewpoint, how the land should be treated.

## FROM ABOVE

I drove my camper, The Wild Goose, from Ft. Snelling across the Highway 5 Bridge, curved up and around to Shepard Road as I have every two weeks for two years to attend Metro Open Space and Park Board meetings. Only this time I turned west on Shepard Road and immediately found myself on a handsome, quiet residential street with beautiful homes and spacious lawns to my right, and a lovely, narrow, bluff-top park on my left. Bur oaks sheltered occasional benches from the hot sun, and here and there an opening in the vegetation, beyond the mowed grass, revealed the deep Mississippi Valley and the thickly forested banks of the far slope.

Because my assignment started at the bluff-top edge of mowed grass, and dropped down from there to the river itself, I stopped The Wild Goose and strolled along the bluff edge to survey the bluff below me. I was impressed by the variety of growth clinging to the side of the steep bluff. I noted basswood, bur oak, cottonwood, elm, red cedar (a classic cliff-hanger), woodbine, low juneberry, black raspberry and snowberry.

At some spots the bluff, hidden by the lush vegetation, dropped abruptly away just inches from the mowed edge. I couldn't help but speculate whether anyone had ever stepped into those bushes, dropped from sight, and never a trace found.

Many home owners north and east of Mississippi River Blvd. dump grass and leaves over the edge of the bluff. This practice appears to do little or no harm, unless a future bluff-side nature or hiking trail will be affected.

In spite of the steepness of the bluff, I was surprised to find several places where descent is possible, and in one spot, quite easy. So down I went. Not all the way, but far enough to record considerable bluffsides ecology.



There were false Solomon's seal, wild grape, wild rose and columbine. Deep woods alternated with shrubby, grassy opening, so varied wildlife, as well as vegetation, is found. I saw a woodchuck climbing quite high in a sapling to reach some succulent leaves. High for a woodchuck, anyway -- about four feet off the ground!

There were ironwood and prickly ash, poison ivy and green ash, wild geranium and cow vetch. Large bloodroot leaves no longer hugged the flowered stem, so lovely a month earlier. The broad leaf of the Canada moonseed is on the slope, along with alderleaf buckthorn and the violet-colored flowers of Virginia waterleaf. The showy, bright purple spiderwort blooms in sunny trailside openings.

The transition from city parkway to remote trail was accomplished the instant my head dropped below the bluff edge. Traffic sounds were erased and bird songs were loud and clear. But this apparent wildness was of course an illusion.

A sound of civilization becoming increasingly familiar, the trail bike, or trail motorcycle, was coming nearer below me. I hurried along the trail, parallel to the hill, until I found a peek-through opening, then waited. Far below I could see a patch of gravel through the dense cover, and saw a young, red-helmeted cyclist go buzzing by. From the closeness of the road to the base of the bluff, I knew I was in the "inch", where the river and bluff come together. Again, all was quiet. But now, not so wild.

This first taste of my assignment was exciting and interesting. I was tempted to follow the trail further, but in the interest of continuity, I climbed back up to the Wild Goose and headed for the road down to the flood plain.

## THE HIDDEN FALLS BLOB

The only indication of a public facility at the bluff-top entrance to the "park" below is a swing gate across the road, and a sign stating that the gate will be locked at 11 p.m. The reason for the lack of a big welcome sign is of course the unfinished state of the park, but the amount of traffic using the road is proof that many people are using, and enjoying, the park now.

My first reaction on viewing the flood plain as I drove down the hill was one of disappointment. A large area to the right of the road was being filled, and the scene was un-parklike and un-beautiful.

I parked The Wild Goose and walked around the fill on two ruts that I felt must go somewhere. Some deep puddles told me not to drive there, but I hiked along until I joined another small road, and another, and another! The whole bottomland here seems to be a network of roads and trails, all more-or-less well used.



Then I found the reason why. As I hiked these meandering trails, up and down over what appeared to be old fill, now covered with vegetation except where the trails are, I began meeting an occasional car quietly creeping over the moguls and around the trees. Trail bikes too, were leaving their marks -- narrow, studded tracks.

The cars were from ancient stock to shiny new, from family sedans to dune buggies. But mostly there were two wheeled vehicles, big motorcycles, trail bikes and scooters.

The wildest of the trails are the most littered. Guilty consciences lead litterbugs away from the sight of their fellow man before they deposit their unwanted wares. A car body here and there begs to be re-cycled.

Some littering is beyond understanding. Large plastic bags of leaves and grass would turn into rich soil if they were but emptied and the bags kept for the next load. Presumably the throwers are neat around their own yards, but litterbugs here.

The floodplain is mostly shaded by broad, tall crowns of box elder, silver maple, cottonwood and peachleaf willow.

I followed one of the trails to the bank of the Mississippi. A monarch butterfly flapped along ahead of me. Near the river is a large double cottonwood. I wrapped my arms around it three times plus, and came up with a circumference breast high of about 18 feet!

Just beyond, two "dirty old men" were peering through bushes at young lovers in bathing suits, quietly conversing on the soft sand. The old men stood up and began studying the structure of surrounding trees as I approached, but went back to their sport as I moved on.

The secluded beach is a pleasant place, with deep, soft sand, nice for bare feet, all along the bank and extending in many places to the water. The uncertainty of cleanliness of the water and the boiling current prevent much swimming, but two boys were inner-tubing the river from bank to bank and having a good time.

At the north end of the beach (near the Ford fence), two young men were fishing. I inquired as to their luck and experience fishing from this shore, and found that they come often and always have action, though they carefully release all fish (for reasons of possible pollution). They have caught sheepshead, carp, walleyes and bullheads, and know of others catching crappies.

A sandy car trail on the bank above the beach gets daily use. There are undeveloped turn-offs where some park for beach picnics. I saw signs of stuck vehicles where the sand is soft and deep. Horesetail grows profusely in this sandy soil.

I walked inland parallel to the Ford fence, photographing industrial desolation on the Ford bluff, and noting the lush, rich forest above me on the park bluff. But along this back trail were deposits of junk, as if in a dump.



In my quiet walking, photographing and note-taking, I disturb wildlife very little, and am aware of their movements as I study and write. I noted more woodchucks here than I've seen anywhere for years.

I climbed the lower slopes of the bluff and walked downstream toward my camper. In an opening in the forest I found sumac and the orange flowers of hoary puccoon. I noticed that any trail that can be walked, no matter how steep, can also be traversed by a trail bike. Their tracks are found in unbelievable places.

## HIDDEN FALLS

There is no trail, and certainly no indication that Hidden Falls exists, from below. I picked my way up through the swampy delta-like runoff area, and found that above that, the stream is gurgling happily over a rocky bed. A kitchen stove in the stream doesn't add to the charm, nor the metal chair or other pieces of trash. But the basic charm is still there, and memories came back as I hiked upstream. My wife introduced me to this delightful spot 23 years ago, before we were married. And now I would see the falls again for the first time since then.

What a shock! Old stone fire rings stand like Aztec ruins, overgrown and not used. The broad stone stairway from above is unused and is deteriorating, and the dam holding the pool below the falls has washed out. A rubber hose in the wash of the falls caps the eerie feeling of man having been here in modern times, yet hardly at all for a number of years.

And yet Hidden Falls itself is even more charming than I had remembered. The falls drops from a broad overhang, as does Minnehaha, but this is much smaller, much more intimate. One can walk behind the falls without getting wet, and study the stubby moss covered stalactites under the lip of the overhang. To the sides of the falls, woodbine and gooseberry decorate the face of the overhanging sandstone, and hang down in front of the dark shadows.

There is life in this forgotten place, though man seldom visits here. Chipmunks perch on the walls of the fire rings undisturbed by cub scouts on weenie roasts (because there aren't any). And gray squirrels scamper on the hillsides. A pair of mallards flew from the stream as I returned to the flood plain. They had been feeding in a pool not much bigger than a dishpan.

Back at the camper I found human activity again. Traffic flowed quite regularly on the broad main road on which I had parked. I decided to see where it went.



## THE PUBLIC LANDING

The road led to a wherever-there's-room parking area and a gentle slope to the water -- a public landing. Cars and boat trailers were parked here and there. Others were putting in and taking out. Visiting cruisers would cut their motors and drift in and barefoot owners would jump off to beach them. That practice bothered me when I found jagged broken glass at the water's edge. Some of the beach is sand and some stony. There seems to be a practice of breaking liquor bottles where land and water meet.

The road continues downstream beyond the public landing, but removable posts in the road stop four-wheeled vehicles. Two wheelers scoot between the posts and continue downstream, past the "pinch" where the river cuts close to the bluff, and into the next blob, which I will call the Highway 5 Bridge Blob. I walked down this road in hot, late-afternoon sun, to check the link between the two flood plains. It is an unpicturesque, dusty gravel road, obviously a service road for city trucks.

But trail bikes whizzed by with determined-looking young riders staring straight ahead, kicking up gravel and a cloud of dust, and, I suppose, having a good time.

A handsome young black man came strolling upstream along the road. We introduced ourselves and headed back upstream, well past supper time. He grew up nearby, but now lives in Brooklyn Center and attends Junior College up there. He was here for nostalgic reasons, where he roamed the wild bottomlands as a youngster. On a hunch, I asked him about Hidden Falls. "Hidden" is right! He had never heard of it! From first grade through high school he had hiked these trails and fished the river, but he first heard about Hidden Falls from me. The falls is well named.

## THE HIGHWAY 5 BRIDGE BLOB

Early the next morning I made the same swing up the curving ramp to Shepard Road, and again turned right. But this time I took the first left turn, to my left rear and down the hill under the Highway 5 Bridge, almost to the private boat builder at the bottom, but I swung around to my right and parked the Wild Goose under the bridge. I donned my small pack of reference books, film and energy food, slipped my camera strap around my neck, grabbed my map and took off.

I walked around the only private residence in the whole study area, a made-over houseboat, and started upstream near the river. A sharp-topped hump in the trail stops 4-wheel vehicles from continuing on this trail, but it's well used by trail bikes. I angled inland to find the artificial pond I had heard about. It's there, and it still looks very man-made. Raw gravel is piled in great heaps and ridges around the pond. Even so, three mallards were there. They eyed me warily with stretched necks before they took off. And a spotted sandpiper bobbed on the shore near me.



The uphill side of the pond is against the bluff, so I walked the gravel ridge to that side to check growth on the slope. A yellowthroat sang as I walked around the end of the pond, and many orioles sang and flew by.

It is not surprising that a trail bike trail has already been worn on the crest of this uneven gravel ridge.

But as I walked that roller-coaster trail, I studied the slope to my right. There was obviously very rich soil there, from the lushness of the growth.

I slid down the gravel ridge and climbed into the sloping forest. Jack-in-the-pulpits are common on this forest floor. A handsome shrub here is the alternate-leaf dogwood. Bristly greenbrier climbs among butternut trees. A bluejay screamed as I measured the bole of a giant cottonwood, approximately 16' circumference breast high. The rich, moist soil hosts wild sarsaparilla, touch-me-not, violets and pasture gooseberry.

Upstream from the artificial pond is a large, undeveloped activity area of some kind, filled and flattened for parking, field sports or some such.

I explored the bluff from base to top above the pond and the big flat, and upstream to the pinch, meeting the trail where I had come down the bluff from above, the day before.

The entire slope is an exciting place, relatively untouched by man, and with rich variety in vegetation, geology and wildlife. Sheer cliffs near the top are crested with gnarled red cedar, and some rock slide areas below the cliffs are quite bare of plant life. But mostly the steep slope is floored with moist, black humus, and this soil is growing deeper and richer yearly, as each year's layer of leaves, stems and rotting wood is added.

A steep-sloped ravine creases the bluff where a dry stream flows in wet weather. Damp logs here host forests of mushrooms. This moist cut is also a moss garden area.

There are bitternut hickories on the Bridge Blob slopes, and red-panicle dogwood and violet wood-sorrel. Chickadees flit about and the rose-breasted grosbeak sings its liquid melody.

A disturbing note here cannot be ignored. The jet noise from take-offs at Wold Chamberlain borders on being unbearable. If this is an interim condition during construction, then it has no bearing on my evaluation. But that morning the howl came every few minutes, and that wall of the valley seemed especially vulnerable.

I dropped to the flood plain at the upstream end of the Highway 5 Bridge Blob, to study the plain and river bank from there back to the bridge. Silver maple, box elder, cottonwood and shining willow shade the hiker; common elderberry, common fleabane and dame's rocket enhance trailside scenery. But here, too, man's manipulation has changed or is changing natural transition, so this blob, too, no longer contains



an undisturbed flood plain forest. City trucks drove by as I walked the riverbank road. Hot dust coated my sweat-dampened clothes and skin.

The bank from road to river is too steep a pitch for river edge activity at the upstream end. Downstream the soil gets sandy, as in the Hidden Falls Blob, and there is a small stretch of sand beach, still wild enough to be clean. Trail bikes grind through deep sand here, but in general, this blob is wilder and less used than the Hidden Falls Blob.

## THE CROSBY LAKE BLOB

Eureka! this is it! Virgin, unspoiled, floodplain forest. Huge, dark trunks rising from an undulating green carpet support a spacious, living roof far above. The peace of it! the unspoiled-ness of it! The coolness of it!

I parked at the marina to hike downstream near the river through this unbelievable place. It is unbelievable because city traffic flows just blocks away, and the city center is but three miles away!

Yet today, the singing of birds is the prominent sound, except in midday, when one can experience that wonder of wonders, quietness!

I entered this sanctuary in early afternoon, and was at once caught up in the peaceful silence of the place. Had someone been with me, I'm sure we would have spoken in whispers.

There was no trail where I entered, and there was a stinging on the front of my thighs as I waded through the wood nettles. "Good"! I thought. "This will keep this beautiful carpet from being trampled". For it is the broad sweep of this handsome plant that beautifies the floor of this cathedral. Where recent moisture prevented growth of the nettles, dead, gray leaves carpet the ground. A meandering traffic over either surface would soon expose bare soil. Behemoth cottonwoods, silver maples, box elder, elm and ash are the only extensions above the green carpet. One cottonwood measures 16' CBH.

I hadn't seen deer tracks, but one twenty-foot circle of wood nettles had the tops eaten off. It must be deer. What else could it be? Wouldn't that be great -- deer almost downtown!

A vehicle trail led further downstream, or in the other direction, curved back toward Shepard Road. I followed back, away from the river. A roller coaster swoop-and-climb brought me into an old field, now in native grasses and scattered shrubs. I could see back nearly to the marina upstream, and downstream lay the blue surface of Upper Lake. Canada anemone bloomed in the grass. A shrub begged identification, and I decided it must be the dull-leaf indigobush.

As I walked to the shore of Upper Lake, I had as yet not seen another person in the Crosby Lake Blob. Nor did I here. I stood alone on the shore of a wild, marsh-edged lake, within the borders of a large city.



Yellow pond lillies and their large, round pads floated on the reflected blue sky. Duckweed grew near the shore, tiny green surface plants divided by a watery trail where a duck or muskrat had glided by. Black terns dipped and wheeled over the surface and redwings rang their bells from the shore.

A few pieces of man's clutter are in the water, but very few. Clean up here will be easy.

Upper lake is very open, with an almost prairie-like field to the southwest, and grassy borders between water and the varied shrub and tree growth around the other three sides.

A vehicle trail veers to the right, into willows and the other low growth. I followed and found that the trail has various branches. Some thickets contain scattered large trees. Two giant cottonwood measured about 17' and 18' CBH.

The variety of habitat through which I walked opened ever-changing packages of wild beauty, and the many "edges" (borders between field, forest, shrubbery and water) multiplied the chances of seeing wildlife. As the afternoon shadows lengthened, mid-day quiet was replaced by a chorus of bird songs.

A long, straight, sandy trail between Upper Lake and Crosby Lake is crowded by sandbar willows and other shrubby growth along some of its length. It reminds me of the narrow roads through the Big Bog country 300 miles north. And it was just about that wild until I was off the trail to check some vegetation when I heard the buzz of a trail bike. I stood quietly and watched. The buzz became a loud howl as the young man roared past, head cocked forward aggressively, body part of the machine, conscious only of the trail ahead. The dust slowly settled on the roadside leaves as the sound again became a buzz in the distance.

What must have been a field cleared for some agricultural purpose is now in the first stages of reverting to forest. But man's hand has changed the natural transition. Red and white pines lift new candles of growth among young native trees and shrubs. Red osier dogwood among the young pines made me think of deer again. It always does, because red osier is top notch deer browse.

Farther along I could sense the presence of Crosby Lake to my left, so I worked quietly through the nettles, brush and trees toward the shore. In the shade of lakeside trees a low area of sparse, short grass was wet and muddy. And there they were! The tracks of two deer, so fresh they must have moved out just minutes before. I revelled at this discovery, proof of a presence I had felt must be.

The shoreline is in among the trees along this southeast shore of Crosby, and logs in the water make excellent sleeping platforms for ducks and fishing docks for the black-crowned night herons I flushed. I walked on logs to the shore and caught the backlight flash of wings as a pair of wood ducks left Crosby and flew southwest toward Upper Lake.



Still flushed with the richness of my find, I returned to the two-rut trail and continued toward the business end of Crosby Lake. Farther on, the trail touches the lake. I stopped to look and listen. A pied-billed grebe called its weird mating call from across the lake, and a painted turtle slipped from a driftwood perch into the water.

The late sun had reddened, enriching the color of all of nature. As I again continued my quiet walk I saw a young man approaching me along the trail, pushing a bicycle. Birds were singing as if in competition. He sensed the magic of the moment as I did, and we withheld our greeting until we were close enough to whisper it. This was my second contact with man since entering the Crosby Lake Blob, but how different from the first!

Even though he drove Shepard Road to work each day, this was the first time he had come out onto the flood plain. He had met a raccoon on the trail. It stood on its hind legs and the two had stared at each other in disbelief. While we quietly talked of the wonders of the place, he spotted a red admiral butterfly, then another, and another! As we walked slowly toward the "beach" end of Crosby Lake, a cottontail rabbit hopped across the trail. Knowing there were deer here, I watched for tracks, and was that young man thrilled when I found some!

I stopped to compose a picture of a really dramatic elm, a huge tree with character almost bursting with health and vigor. He had never seen much difference in trees before, and thanked me for showing him the beauty of it.

By the time we arrived at the end of the ramp down from Shepard Road, I was over two miles from the truck, it was eight o'clock, and I was about to topple from hunger. Two cars were there, and the owners were chatting in the pleasant cool of the evening. I joined the conversation to see if they knew any interesting facets of the area I could crank into this report, and also to gain a friend, so I could ask my friend for a ride back to The Wild Goose.

The next morning I returned to the ramp by Crosby Lake, parked The Wild Goose on the bottom end (there are posts to confine 4-wheelers to the ramp), and opened the windows so the breeze would keep my camper cool. I put on pack and camera, took a map, and was off. I wanted to check out the country between Crosby Lake and the river before going into the next blob, downstream.

From the end of the ramp I walked on a trail angling toward Interstate 35E, which separates the Crosby Lake Blob from the 35E Blob. The trail then curves toward the river and enters a forest. Out again into what must have been a man made field, now in grass, shrubs, saplings and man-planted red and white pines. Then there was a choice; continue in the old field or swing left into a tall forest.

I swung left and was once again in a climax floodplain forest, with thigh-high wood nettles the only understory. The trail I chose to follow (there are oases) angles away from 35E,



so traffic noise again dwindled to unimportance. In its place the morning cool was enhanced by the calls of orioles, cardinals and rose-breasted grosbeaks. A brown thrasher at the forest edge tried to immitate the others. I forgot to mention, where the trail first entered the forest from the field is a huge drift of logs and timbers, left by floods and proof of their power. Tufts of grass and branches far up in the trees tell us the water gets deep here at times.

Trails curve, dip and swoop over the undulating land of the forest, enticing motorcyclists to come here for kicks. Eventually the trail nears the river, and spur trails lead to it. I found an open beach, gradual to the water's edge. The end of Pike Island is visible upstream. A big marker on its tip gives river folks an important message.

Delicate colors are iridescent in the shells of river clams along the beach. A question mark butterfly flitted by, then landed on the sand long enough so I had a good, long look and could identify it. The beach is long and spacious. It's a fun place to be, and provides the best seats in the house for watching river traffic.

On my way to pass under 35E, I wondered at the size of a big elm. All these big trees get bigger as you walk up to the base, and this elm was no exception. It was 14' plus CBH.

The trail around the fill of 35E and under the bridge is of course too noisy to seem wild, and it's open there, so I was anxious to get on by and into the cool shade again. There is a city facility just east of the bridge that needs occasional servicing, so a service road comes to the river on the downstream side of 35E.

### 35E BLOB

From the beach-like area just east of the 35E bridge, I angled inland on a sandy trail to a place where it seems someone was trying to fill a duck pond. I walked out onto the fill and a black-crowned night heron flew up from the water's edge behind the lip of the fill as I approached. While that commotion was still in progress, an excited motor wood duck with ten or twelve tiny, fuzzy ducklings swam by me from a backwater to my left, and a pair of mallards moved into mid-pond from my right, then sprang into the air, the hen quacking loudly. I apologized and backed out immediately. After all, I only wanted to see what was there!

As I walked downriver near the shore, I crossed one low, grassy opening, but from there on I was in tall timber along the entire near-the-river route. There was little sign of man here; no worn trails, very little litter. There was another big cottonwood a short way downstream from the bridge, about 16' CBH.

A red squirrel chattered at me from a rotting log. Otherwise there was very little wildlife movement or sound in the forest. My mid-day circle through this end probably accounted for that.



Near the downstream point where the river swings in to meet Shepard Road, I could see an opening ahead. Here, near the edge, the forest changed from predominantly silver maple, elm, and cottonwood to green ash, box elder and shining willow.

The opening was a road, big, aluminum-painted pipes, and some no-trespassing type facilities. There was very little acreage beyond this pipe barrier, but I thought I'd take a look, anyway.

So what did I find? A tight little triangle of 10' - 15' sandbar willows, so thick that one has to push them apart to navigate. So why is this worth mentioning? Because there were deer tracks there, and fresh beaver cuttings, that's why!

There's a shallow channel between this last, narrow point and a tiny island. The current makes ripples just a few inches deep. So where did some deer tracks go? You guessed it; out onto the island. I waded out to see why. I guess it's for the same reason people climb mountains. I walked the perimeter in about a minute, searching for a deer bed, or better yet, a beaver house.

Finding neither, I wound my way back through the willows and under the big pipe barrier (I'm sure the deer must go under, rather than walk on those slippery, close-together tubes. My crepe soled boots went over them fine, but deer hooves?). Knowing this, how do wild deer dare cut themselves off from escape into so tiny a corner? But deer being deer, they aren't really cut off; they can, and would, if pressed, splash out into the current and swim for Lillydale.

I started upstream again along the bottom of the bank of Shepard Road, and found myself on a deer trail! Several tracks followed the base of the highway bank most of the half-mile back to the service ramp. This seemed very exposed, yet as I looked up to Shepard Road I could just see the top of an occasional tall truck. Deer certainly do adjust to civilization (to a point).

Some old barbed wire in the forest to my left again gives a hint of some attempt at farming this flood plain "way back when".

Cattails and arrowhead told me that some low areas below the bank are wet most of the growing season. From the tracks I found there, these areas seemed very attractive to the deer. Wetlands grow many succulent plants for summer browsing and grazing.

Before I reached the service ramp, I angled off through the woods and open lowlands toward the river again. Again, there was little sign of man having been in this area.

But a small loop road does leave the service road, penetrate the wild area a short distance, then curves back to the service road near the river. A little-used spur of this road slips in behind the duck pond I saw at the beginning of this



section. As I walked down this spur I flushed wood ducks from another tiny pond, screened by willows. Inside the curve where the loop road turns back toward the service road is another impressive bole of a giant cottonwood, this one more than 17' CBH.

#### THANKS FOR COMING ALONG

I have taken you with me on this tour of the four areas being considered, with the hope that my recommendations for the use of these areas will seem reasonable in light of what "we" saw there. In spite of the length of this inspection diary, taken from my field notes, I actually saw more, listed more, and walked more miles than are recorded here. I hope that my reactions and yours are similar enough to give you the "feel" of each area.

Now we'll go back and look at each "blob" again, in the same order, and I'll allow both my book-and-field naturalist background and my love of unspoiled nature to influence my recommendations.



## RECOMMENDATIONS

### HIDDEN FALLS TO HIGHWAY 5 BRIDGE

#### HIDDEN FALLS

Hidden Falls is there. It's for real. It's beautiful. Surely if the public knew of this lovely spot, it would be seen and appreciated by many.

Access from above is the romantic, surprising approach. That Hidden Falls is there at all is a phenomenon; that it is but a few feet from a city street, yet set like a gem in a picturesque woodland setting, is almost unbelievable.

Restoration of the remarkable stonework is necessary, both on the overlook above and all stonework in the ravine. Perhaps a protective railing of stone, or stone-and-pipe, on the exposed edge of the stairway would make visitors feel more secure. Restoration and clean-up, plus a tasteful sign at the upstairs parking area, should again avail this lovely spot to the public.

I can see Cub Scouts and Brownies, Girl Scouts and family groups using the fire rings for weenie roasts and singing around the fire (bring your own firewood, maybe?). And I can see factory and office workers packing a lunch down there for a pleasant noon break. And I can see the necessity for daily clean-up of litter (any litter acts as a decoy to attract more litter). Perhaps a bench or two, and maybe a couple of picnic tables are in order. Attractive trash containers certainly are.

One sour note is that bare culvert sticking out above the falls, visible from below. That pipe could be cut off and re-attached at an angle to deposit the water directly onto the rock pan, rather than splattering down upon it. That way it would accomplish the same erosion prevention purpose without spoiling the scene from below.

Hidden Falls is not suited to large crowds, so I would not bring an access trail up from below. There's that other reason, too. It will seem much more special if the only access is by way of that romantic hidden stairway! The small parking lot will then govern crowd size.

#### THE FLOOD PLAIN

The flood plain of the first two blobs in this study has been so changed and so used by man, that it must be considered in that light. There are lots of birds about, and birding is possible here, but that experience will certainly be more satisfying in other settings covered in this study.

So what do we do with a lot of sand bumps and dips, a sand shore on an unswimmable river, and a public boat landing?



I think the present users have already decided what to do with it. It's trail bike heaven! The trail bike (small motorcycle geared for tough trail use) seems to be here to stay. And there are very few places in the Metro area where these snarling machines are welcome off the highway, for obvious reasons. Their narrow, studded tires can dig deep ruts in moist soil, and a rutted trail across mowed green grass, either public or private, is maddening. Another problem is the noise factor. The buzz and howl of the motorcycle is not welcomed by the general public.

So is this the place for the trail bike enthusiast? I think so, for a number of reasons.

Because they are already congregating here, winding back and forth through the trees, almost getting stuck in the deep sand, and buzzing up and down over the humps, it is obvious that the cyclists themselves think this place is great!

The steep bluffs confine the sounds to the valley, so nearby residents should not be bothered by the churning machines. Jet air traffic is so loud at this point on Mississippi River Blvd. that the brief entrances and exits of motorcycles from the playground below should go unnoticed.

Because the land is flood plain, and not high enough for gullying to take place, there is little or no erosion problem here from motorcycle activities.

Perhaps if we provide places for trail bikes to do their thing, there will be less invasion and destruction elsewhere by frustrated motorcycle owners.

If there are no facilities down there to vandalize, then vandalism should be no problem.

The single access point, with the Ford fence at one end, another similar fence at the Highway 5 Bridge end, (the private dwelling could be either included or excluded now, to be picked up when the owner is ready to sell), and the rest cut off by bluff and river, gives control over all users.

With this control is an opportunity to get acquainted with users and to imbue in them the wish to practice trail biking in a manner so they will be welcome back; to ride only in designated areas, to drive so they will not endanger others, etc. Perhaps a small plastic pocket-size card of rules that is also a free pass to use the area could be issued, and revoked for violation of rules.

The public landing, river-bank picnics, sunbathing and fishing seem compatible with trail bike use because all are going on smoothly now. The only changes I would recommend would be permanent police presence, a complete junk clean-up and a strong anti-litter campaign.

If the large, flat opening near the man-deepened pond is planned for automobile use, then a road to that point will be necessary. If not, and the field and pond can be motorcycle oriented, then I would revert the present road through



the "pinch" to trail status to eliminate dust-cloud speeding and flying gravel on that road, presently a dangerous, straight, loose-gravel surface.

#### SNOWMOBILES?

Snowmobiles? I'd say yes. For the same reasons as the trail bikes, and more.

If there's enough snow, and if the entrance road is sanded, so trailer-pulling cars won't have to back down, all systems are go. The sound will be confined. They can't hurt a thing (except themselves and each other), and there's considerable room to roam, between the Ford fence and the Highway 5 Bridge fence.

And in winter, there's no one boating, fishing, picnicking, sunbathing, smooching or anything down there, so they'd have it all to themselves (now watch that lone snowshoer get mad at me!). In the interest of safety, trails had better be one-way.

#### THE BLUFF NATURE TRAIL

From "the pinch" to the Highway 5 Bridge, the bluff slope is a rich natural area. The sandstone cliffs, abundant vegetation and many birds and small mammals would make a bluffside nature trail an exciting place to be for early morning walks.

The black humus on the shady bluffs, an accumulation of hundreds of years of rotting leaves and wood, grows flowers, trees and shrubs of the upland hardwoods, quite different from those down on the flood plain. Safe (with rules) from invasion by motorcycles, these bluffs should stay wild and unspoiled indefinitely.

But this can only happen if the birder, flower enthusiast or hiker does his looking from the trail. Not only is one apt to slip on these steep slopes, but the fragile vegetation cannot withstand random foot traffic. No matter. A loop trail just under the bluffs at the top and just above the base at the bottom (with variation to visit special places) will expose visitors to the best of everything on the bluff. Flowers native to such a forest, but not now present, can of course be planted near the trail.

Perhaps the lower loop can dip into the bottom land for a stretch to look at flood plain species. A barrier may be necessary to protect this wild area from cycle invasion.

The trail should be designed to thwart erosion. Water will not start running and gullying in a trail parallel to the slope of course. But both material and design can lessen erosion potential on sloping trails.

There could very easily be access from either or both the top and bottom of the bluff to the Bluffside Nature Trail (my name). Mississippi River Boulevard residents may have strong feelings either for or against access from above. One access (from below) would make control easier, and at that point hikers could be given orientation (written, verbal or both) to help them enjoy the park.



BIRDS SEEN ON OR FROM BLUFFSIDE

killdeer	bluejay	rough-wing swallow
catbird	cowbird	red-headed woodpecker
Baltimore oriole	redwing	rose-breasted grosbeak
cardinal	starling	great crested flycatcher
bronzed grackle	bank swallow	goldfinch
black tern	spotted sandpiper	mallard
cedar waxwing	common tern	mourning dove
song sparrow	flicker	rock dove
robin	red-eyed vireo	chickadee
crow	indigo bunting	yellow throat

CROSBY LAKE FOREST AND FLOOD PLAIN INTERPRETATION CENTER

I'll stand up, right here and now, and say it in front of everybody, loud and clear:

I AM WILDLY ENTHUSIASTIC ABOUT THE GREAT WILD AREA  
AROUND CROSBY LAKE, AND THE OPPORTUNITY TO PRESENT  
THIS UNIQUE AREA TO THE PUBLIC IN SUCH MANNER THAT  
IT WILL RETAIN ITS UNIQUENESS!

Why did I say that? Because it's true, that's why. Never have I seen so many plusses fall into place so beautifully as here.

Here is an ecosystem, the Flood Plain, performing as it has for hundreds of years, much of it unchanged by man, almost downtown in a large metropolitan city!

Here are huge trees, silence, wild trails, great beauty, wildlife and a magnificent, living laboratory-and-history-book, in a package owned by the people and easily available to the people!

Here are riverbank picnics, the best seats in the house for watching river traffic, early morning and evening bird hikes, chances of seeing deer, fox, raccoon and other wildlife, cool shade on hot days, SPACE to swing your legs and arms and maybe be alone and quiet for a while.

The entrance ramp is already built! The parking area (to the left of the Crosby Lake ramp as you go down) is almost flat enough to surface now.

What a great opportunity! Ideas are flowing so fast, I'm continually jotting more notes to myself as I write.

FENCES

So where do we start? I'd say "Fences". This place should be sacred. Oh, all are welcome (so long as they don't spoil the pleasure of others), but without vehicles. In today's world, quietness, and a slow stroll in a forest setting, are an experience to be treasured. Within the borders of a city, this experience could be unique to St. Paul, and to Crosby Lake Forest.



It is essential that access be limited to one point, the Crosby Lake ramp. So I would advise placing a tall, strong fence from bluff to river against the marina property, and fencing and gating the ramp east of 35E, and any other possible access points where a trail bike could be squeezed through or lifted over.

#### PARKING

I have only one suggestion for the parking area. Could the "islands" separating parking slots be broad enough to support shade trees? Silver maples or ash could grow quickly, and make it possible for visitors to return to a cool car on a hot day.

#### FLOOD PLAIN INTERPRETATION CENTER

I see a building on stilts -- thick, concrete posts, more than likely, in the "beach" area overlooking Crosby Lake. The "highest likely" flood level is just below the floor. Actual flood levels of recent history are marked on the posts, with little blue waves (like the state marks them on Hwy. 169 just north of Shakopee).

A broad, concrete ramp (or steps) to the Center relates to the parking area. Another ramp (or steps) goes down from another side of the building, arriving at ground level inside the protective fence. In other words, all visitors enter through the Interpretation Center.

The Center building should be of material and construction so that displays can be removed, and no major damage will be done, if the unexpected "hundred year flood" should arrive and enter the building.

#### DISPLAYS

Permanent displays of the more interesting plant life (artificial, life-like displays of the same quality as at the Bell Museum) will spur visitors to watch for those plants on the trail. Photographs and art work can enhance all displays.

A display describing the geological and ecological history of this flood plain should interest many.

Early human history, the time of the first white explorers, and recent history, the agricultural use of this flood plain, can be documented in interesting displays. A core boring from one of the big trees could have dates and events in history marked at their respective annual rings. Perhaps a life size painting representing a cross-section of one of the large trees (with dates, as above) could be displayed near the base of the actual tree in the forest.

Flood history of the Upper Mississippi could be documented with photographs, news stories of destruction, etc. That this forest withstands these floods without apparent damage, while buildings are badly damaged or even swept away, demonstrates the good sense of leaving flood plains in their natural condition and building man's structures elsewhere.



## NATURALISTS

A naturalist, or naturalists, should be staffed to conduct scheduled school tours. Perhaps he, she or they could be employed by St. Paul Schools, and conduct field trips daily in all seasons (nature happens in winter, too!). Classroom preparation can make field trips much more interesting and meaningful. Hennepin County Park Reserve conducts all-season field trips at Carver Park. Winter trips on kid-size snowshoes are very much enjoyed. I suggest you contact Jack Mauritz, Chief Naturalist, Hennepin County Park Reserve District, and go out to Carver Park and see how it's done.

Reference books should be available at the Center so visitors can look up (with help, if they need it) the bird, mammal, fern, tree, flower, mushroom, or whatever that they saw in the woods. Perhaps field guides, with plastic protective covers, could be rented for a small fee, with a deposit to insure their return. How about inexpensive binoculars for rent with a deposit? And magnifying glasses for close-up looks at flowers, seeds, insects, etc. Could there be a small shop to sell reference books, nature-related equipment etc.?

## OBSERVATION DECK

A deck overlooking Crosby Lake could have good mounted binoculars or telescopes for visitors to watch ducks, herons, turtles, muskrats, deer (a salt block will help arrange that) etc.

Crosby Lake can be made more attractive for wildlife at the "beach" end by planting favorite foods, by building small natural-appearing islands for nesting and resting, (they can float, but must be anchored), by laying dead trees at water's edge for ducks to sleep and preen on, and by scattering cracked corn and/or other favorite foods on the beach to feed ducks.

## TRAILS

There is a mud problem in wet weather with some of the present trails, but when they are dry, the present surfaces seem very satisfactory. Wood nettles along the forest trails not only make an attractive understory, but they furnish food for the deer and keep hikers on the trail. That helps keep wild places wild, so does with fawns are not disturbed, and fragile vegetation isn't trampled.

There may be some trails where there shouldn't be, and perhaps some spots of interest need trails, but the present system of vehicle trails certainly is a fine network for a starter.

## TRASH DISPOSAL

A quiet, jeep-like vehicle with large, soft tires (to prevent rutting) could travel the park once a day on a loop of the broader trails to pick up trash from strategically placed, attractive (as possible) cans. Perhaps the man could merely exchange plastic bags, to minimize the bulk of his load. A large-tired vehicle might tend to keep the trails smooth and broad, so hikers won't brush against the stinging nettles. Be sure to leave a gate in the fence for this vehicle.



## SIGNS

I think the main sign, at the gate, and all signs for direction and interpretation throughout the forest should be of the type used in our National and State Parks. The thick, chocolate-painted wood with chiseled, yellow lettering seems best to blend with nature in a tasteful way. Interpretive signs along trails could call visitors' attention to: flood-deposited debris high in the branches of a tree, "drifts" of flood-carried logs at the edge of a forest, earth formations formed by swirling currents etc.

Each visitor, or group, should receive a small, but very clear and explicit, map of the forest. Numbers on the map, at trail junctions and points of interest, would coincide with numbers on signs along the trails. Thus, even a novice could find himself easily, on the map. Forest rules should also be printed on the map: put trash only in containers (marked on map), do not pick flowers or other vegetation, please stay on trails (fragile forest floor vegetation, mostly stinging nettles, cannot stand random foot traffic), etc. These should be written in a manner to make visitors want to take care of their forest.

## RIVER ACCESS

Access to the Crosby Lake Forest by way of the Mississippi River is a romantic way to arrive and certainly a fine way to come. Tasteful signs along the beach should welcome river visitors, but encourage them to leave only their footprints. Boat visitors should be sign oriented to the existence of, and be directed to, the Flood Plain Interpretive Center, so they, to, can get the most out of their visit to the Crosby Lake Forest.

## THE PINES

I am a transplanted northern Minnesotan with a great love for our pines, spruces, fir and cedar. When I moved to Eden Prairie, I tried to turn my surroundings into the north woods by planting those species on our land.

As the years have passed, I have come to appreciate native trees in their natural succession in the forest. Now, when I enter a supposedly untouched wild area, and find non-native trees growing there, I know man has planted them. I find this a jarring note. No longer can I feel "how wonderful that this was preserved". Instead, I wonder who planted the pines, and why (especially in rows), when native trees are so beautiful.

Pines have been planted in the Crosby Lake Forest. The planting was so recent that they do not have historic significance (as would farmyard spruces from the turn of the century). Any knowing person will realize they are not native to this flood plain. I'm sure they were planted with TLC and can make a handsome forest, if they survive to maturity. The question is this: In a flood plain exhibit, altered somewhat, but not much, by man's activities, do we allow these exotics to compete with native species (probably unsuccessfully) and explain their presence as best we can; or do we eliminate them now and keep the flood plain ecology as pure and as true as we can?



I recommend the latter, but if there are strong feelings against this (if, for instance, the pines were planted by Boy Scouts) time will more than likely bring about a true flood plain ecology.

#### WATERSHED MISMANAGEMENT

Concurrent with man's obvious folly of building things on flood plains (where they'll get wet), is his buildup of flood potential by mismanagement of natural watersheds.

It seems to me that watershed management should be cranked into the educational displays and discussions at the Interpretation Center.

Man tiles, ditches and straightens streams high on the watershed, getting the water off the land as fast as he can so he can plant crops where the marsh used to be. Without the "sponge" of the marsh to slow the run-off, spring torrents race downstream unimpeded to gather in ever-greater floods.

#### NORTHEAST OF 35E

The 35E Blob is considerably smaller than the Crosby Lake Blob, but as of now, it is wilder and less visited.

I consider it part of the Crosby Lake Forest, and hope you will, too.

Wildness is so special, that I'd like to see this part kept trail-less at this time. Should user pressure demand it be opened to give more miles of trail in the future, that can always be done.

But for now, perhaps it should be inviolable to the general public, reserved for study by individual students working on projects where undisturbed natural conditions are a requisite. Only as many students should work here at one time as can do so without disturbing the others. It may be as few as one or as many as eight or ten, at the discretion of the Chief Naturalist (or equivalent official).

That city children could conduct such studies just minutes from their schools and homes is a rare opportunity.

Here's a for-instance. A semi-permanent, portable blind could be set up, perhaps on the fill, overlooking the small pond where I saw the black-crowned night heron, the wood duck family and the mallards. A student could observe daily activity from the moment ducklings are hatched until they can fly, and study the predation of ducklings and many other aspects of their lives. That pond should be good for many studies, and photographs to back them up. A sunning log could be placed in the water near the blind, and a wood duck house, placed on a post near the pond, could be observed from the blind. A burlap-covered tunnel would make it possible for the student to come and go un-noticed by wildlife.

This is possible only if this area is reserved for that student, for as long as the study takes.



And all the while this beautiful forest would remain intact, appreciated by those who drive Shepard Road and Interstate 35E, and of course by the many people who cruise the great river.

Deer that find haven in this wild triangle can, and do, move to the Crosby Lake side of 35E at will, so the entire Crosby Lake Forest is habitat for the entire herd. A four foot fence, which may be needed to separate the special studies area from the general public area (try signs first), would not be a barrier to the deer. Thus the deer will not tend to over-browse either side of 35E, but will spread browsing pressure over the entire area. They may move seasonally, too, wintering in one area, summering in another, governed by available food and cover, and by man's activities.

## SUMMARY

From the abundance of superlatives in this report, it is obvious that I rank the Crosby Lake Forest very high as a natural area. Here, both the serious student and the layman hiker can do their thing in a forest large enough to absorb many visitors without losing its "cool".

But at the same time I'm very anxious to see reaction to my permissive recommendations around the curve upstream. Will the release of this "pressure valve" for trail bikes and snow-mobiles find champions in the park business? Will sanction here ease up on pressures elsewhere?

I am grateful for the privilege of being called upon to help in decision making in these fine areas. To me, each area dictates its own potential uses. Closeness to nature is a full time occupation with me, so I look, and listen, and write down what each area tells me it should do.

If there are questions about my interpretation of what I have seen here, or about my recommendations, please feel free to contact me.



BIBLIOGRAPHY