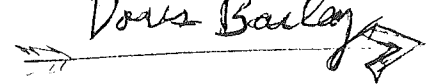


*Doris Bailey* 

MINIPLAN FOR SOUTHEAST

SOUTH BURLINGTON

MUDDY BROOK

BOYER QUARRY

POTASH SOURCE

SOUTH BURLINGTON NATURAL RESOURCES COMMITTEES

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May 1972

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# MINIPLAN FOR SOUTHEAST SOUTH BURLINGTON

## MUDDY BROOK-BOYER QUARRY-POTASH SOURCE

### I. Introduction

The first comprehensive plan for South Burlington was made in 1961 by Sargent, Webster, Crenshaw, and Foley. This plan was updated in 1969 by the South Burlington Planning Commission and Technical Planning Associates of New Haven, Connecticut.

The 1969 plan focused on the more developed sections of South Burlington and dealt with the southeast quadrant with less detail. In the continuing process of planning we now find that it is desirable to plan this section of town in detail. In developing the plan for this section we are following the planning principles enunciated in the "Conservation and Recreation Plan" for South Burlington which was incorporated into the 1969 plan. We are also following the "Natural Resources Inventory"--a report prepared by the Chittenden County Natural Resources Technical Team as a basis for the quality environment plan.

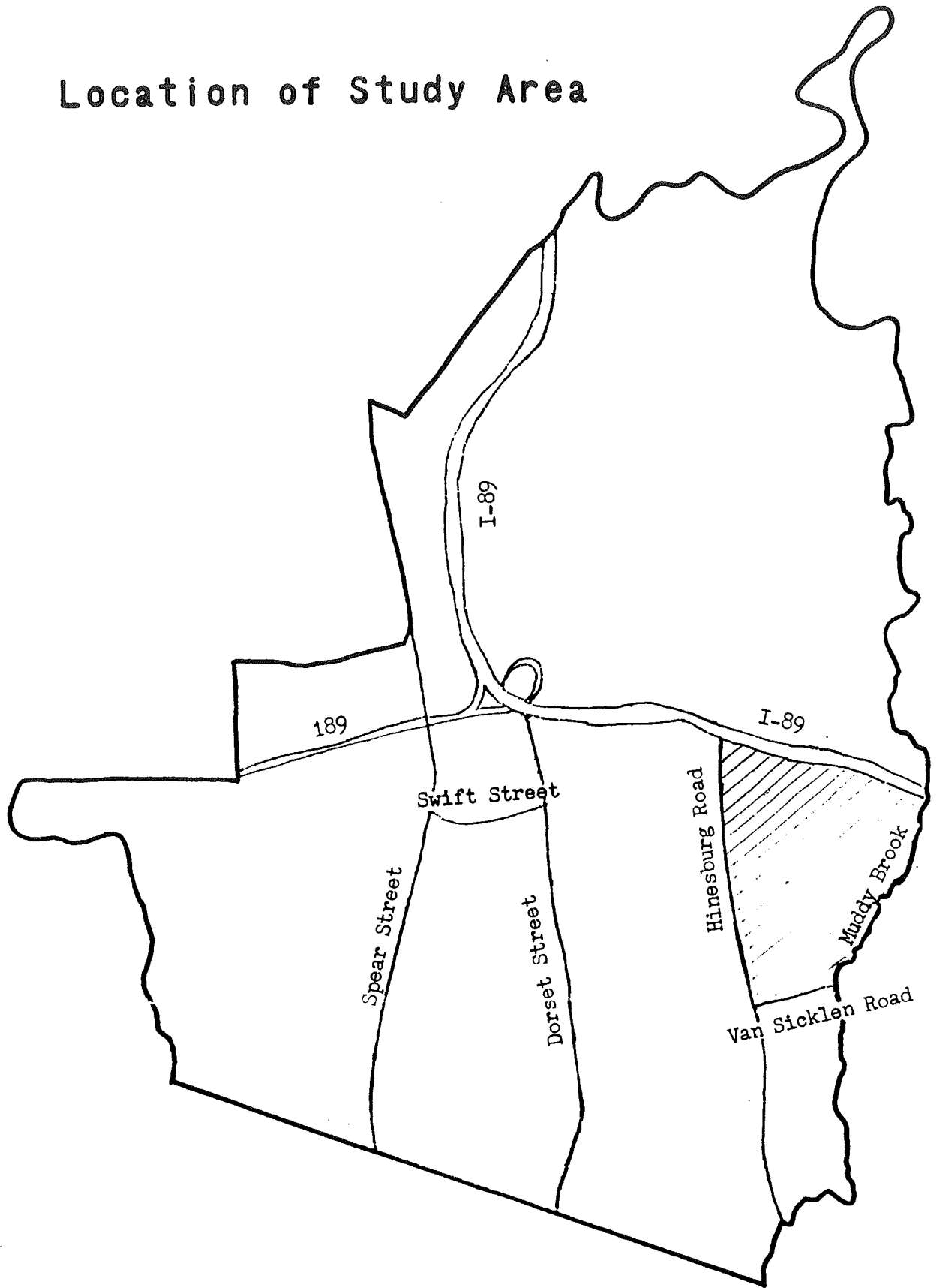
This miniplan deals specifically with the land bounded by I-89, Muddy Brook, Van Sicklen Road, and Hinesburg Road (approximately 800 acres). It takes into consideration soil and topographical conditions which are common to the entire southeast quarter and will, we hope, serve as a guide to planning other sections. Our purpose is to present a plan based on the suitability and characteristics of the natural resource base and to provide a model for planning the remainder of the southeast quadrant. We urge its serious consideration in reconsideration of the southeast quadrant.

We also urge you to consider the alternatives to this type of planning which are intermittent urban sprawl, disruption of water table, stream pollution, loss of an aesthetically pleasing countryside, and valuable recreational sites--in short, poor land use and wasted resources.

### Physical Characteristics

We have chosen to focus on this section of the southeast quadrant to provide a model for planning the remaining sections. The land is beautifully rolling and rural in character. A considerable part of the area is still farmed and the soils are suited to this use. The area is mostly open fields, with a circular wooded area on the east side--a 36-acre woods on the south of Boyer Quarry, the greenbelt along Muddy Brook, a 15-acre woodlot to the north of Van Sicklen Road, and a 17-acre wooded swamp just above which feeds Potash Brook. This natural greenbelt includes two streams and the clear, cool water of the quarry. These are the dominant features. All are listed in the Natural Resources Inventory as outstanding sites in South Burlington.

# Location of Study Area



## II. Soils

The method of quality environment planning consists of analysis and interpretation of the natural resource base and then planning land use suitable and compatible with the characteristics of that base. Applying this method to the southeast quadrant of South Burlington requires a careful analysis of the soils and the suitabilities for onsite sewage disposal and farming; then an analysis of the natural resource base for open space and recreation.

### Soils

We are fortunate in Chittenden County that the soil survey has been completed and we have detailed soil information and interpretations for the area of study. The Hinesburg-Interstate-Muddy Brook-Van Sicklen Road quadrant includes eight major soil types. These types are located by symbol on the accompanying map and their characteristics, permeability, and suitability for agriculture and septic tank and leach fields indicated in Table 1. Additional detailed information concerning each of these soils is available from the Soil Conservation Service's "Report on Soils in Chittenden County." Following is a brief report on each of these eight major categories.

Covington soil is found in a broad band encircling the cluster of trees at the source of Potash Brook and paralleling Muddy Brook. This soil was formed in water-deposited clayey sediments. The surface layer is typically dark brown, silty clay. The permeability is very slow. The water table of these soils is near the surface unless the area is artificially drained. These soils are very poor for cultivated crops, fair for pasture and hay, and very poor for septic tanks and onsite sewage disposal.

A small patch of Enosburg soil is found between the Covington and Limerick parallel to Muddy Brook. This is a fine sandy loam soil with rapid permeability in the upper sandy layer but slow permeability in the lower silty material. The ground water table of this soil is near the surface during the wet seasons. It is poor for farming and very poor for onsite sewage disposal.

Stockbridge soil is found in two places in the open fields. These soils are well drained, loamy, and were formed in glacial till deeper than 40 inches to bedrock. Permeability is moderate in the upper part of the subsoil but slow in the underlying material. Depth to seasonal high water table and bedrock typically exceeds five feet. This is the best agricultural soil in this section. However, it is rated by the Soil Conservation Service as having severe limitations for septic tanks and onsite sewage disposal.

Farmington soils are found in two phases--rocky and extremely rocky. These silty loam soils are fair for pasture and hay, but like all the other soils in this section, have severe limitations for onsite septic tank sewage disposal.

Livingston and Limerick soils run in a 1,000-foot band along Muddy Brook. Both of these soils are poor for pasture and hay and also have severe limitations for onsite sewage disposal. While some phases of the Limerick soils are more permeable than others, their location on the banks of Muddy Brook would preclude any consideration for building on them.

Vergennes soils along with the Covington make up the major soil type of this area. Vergennes soil runs in a wide band along the western boundary and the northern boundary with a large island of this soil southeast of the center of the quadrant. These soils occupy the level to undulating lake plains of the Champlain Valley. This soil has slight to moderate limitations for cultivated crops and for hay in pasture. However, its limitations for community development purposes such as building, sanitary land fills, street and access roads, and septic tank sewage disposal is severe.

Table 1. Soil Characteristics

Muddy Brook-Interstate-Hinesburg Road-Van Sicklen Road Quadrant, South Burlington

Soil	Map symbol	Character	Permeability	Suitability for agriculture pasture and hay	Limitations for septic tanks
Covington	Cv	Silty clay	Slow	Fair	Severe
Enosburg	EWA	Sandy loam	Moderately slow	Fair	Severe
Stockbridge	SUB	Silt loam	Moderate to slow	Good	Severe
Farmington	FAC	Silt loam	Fair	Fair	Severe
Farmington-Rocky	FAE	Silt loam	Fair	Poor	Severe
Farmington-Stockbridge	FSC	Loam-Silt loam	Moderate	Poor	Severe
Livingston	Lk, Lh	Silty clay	Very slow	Poor	Severe
Limerick	Le, Lf	Fine sandy loam	Fair	Poor	Severe
Vergennes	VeB, VeC	Silty clay loam	Very slow	Fair to Poor	Severe

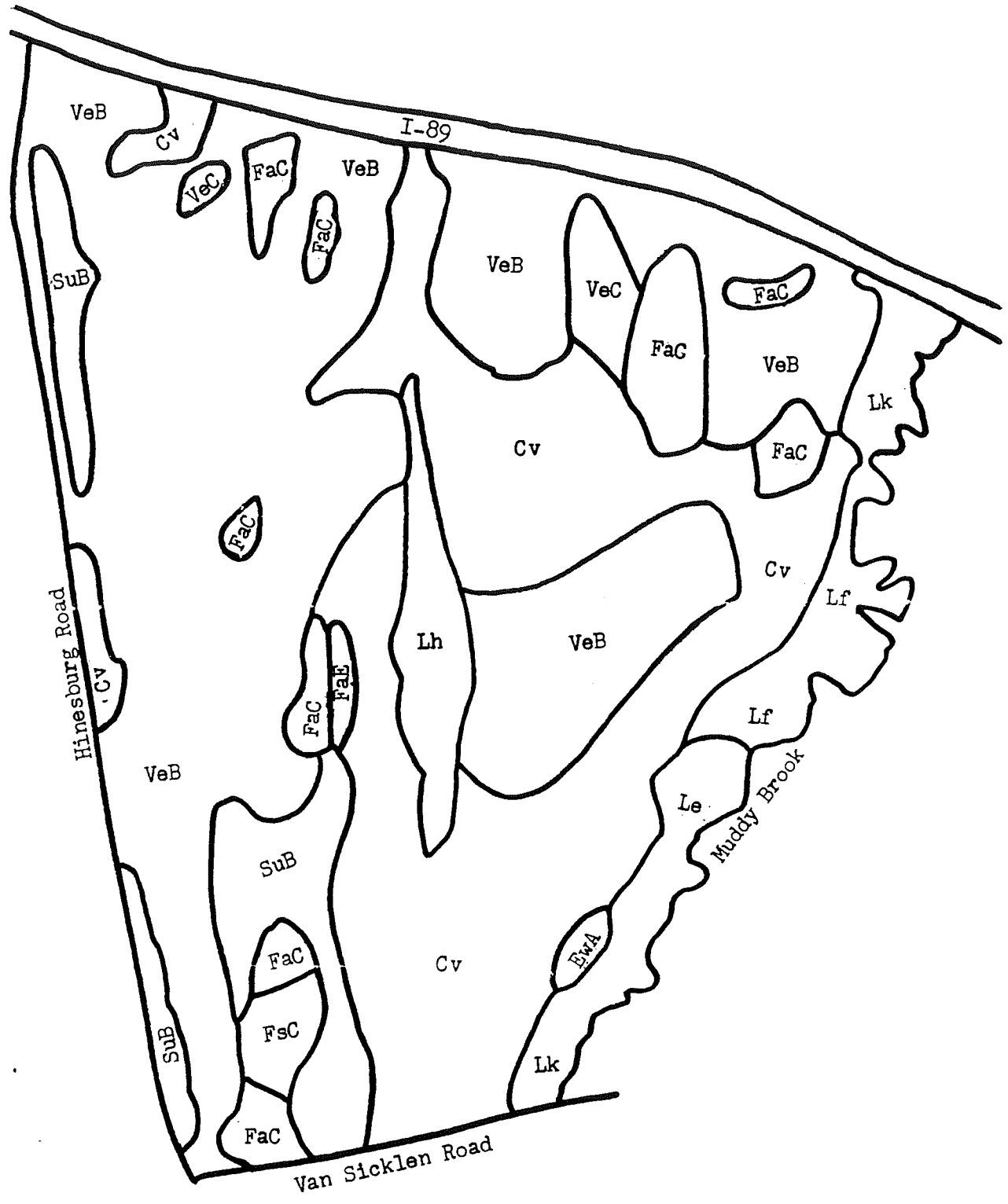
Note: This table is an over-simplification. For more accurate and detailed soils information refer to the USDA Soil Conservation Service, Essex Junction.

## Soil Code

<b>VeB</b>	Vergennes Clay 2-6 percent slope
<b>VeC</b>	Vergennes Clay 6-12 percent slope
<b>Cv</b>	Covington silty clay
<b>FaC</b>	Farmington extremely rocky 5-20 percent slope
<b>FaE</b>	Farmington extremely rocky 20-60 percent slope
<b>FsC</b>	Farmington-Stockbridge rocky loam 12-20 percent slope
<b>EWÀ</b>	Enosburg-Whately 0-3 percent slope
<b>Lh</b>	Livingston clay
<b>Lk</b>	Livingston silty clay occasionally flooded
<b>Le</b>	Limerick silt loam
<b>Lf</b>	Limerick silt loam very wet
<b>Sub</b>	Stockbridge Nellis stony loams 3-8 percent slope



# Soil Types



### III. Land Use Recommendations

#### Streambank Protection

The banks of both Potash Brook and Muddy Brook should be protected from building or any intensive land uses in order to protect the water quality and prevent soil erosion. We recommend that a streambank zone be adopted which will prevent any building or intensive land uses other than agriculture within 100 feet of the center of the streams.

#### Building Sites

Since all the soils in this area are unsuitable for onsite sewage disposal, as explained in the previous chapter on soils, we recommend that no buildings be permitted in the Muddy Brook-Boyer Quarry-Potash Brook Source section until municipal sewers have been installed.

The Natural Resources Committee has discussed the possibility of large lot zoning in this area. We believe that large lot zoning is unsuitable. Any building on this type of soil with a high water table and low permeability is not suitable in South Burlington where superior building sites exist. Large lot zoning is also unsuitable in an urban area where they involve high cost for provision of utilities. We recommend very strongly with no qualifications or exceptions that no buildings be permitted in this area until municipal sewers are installed.

*I believe that  
are referring  
large lot zoning*

#### Pedestrian Trails

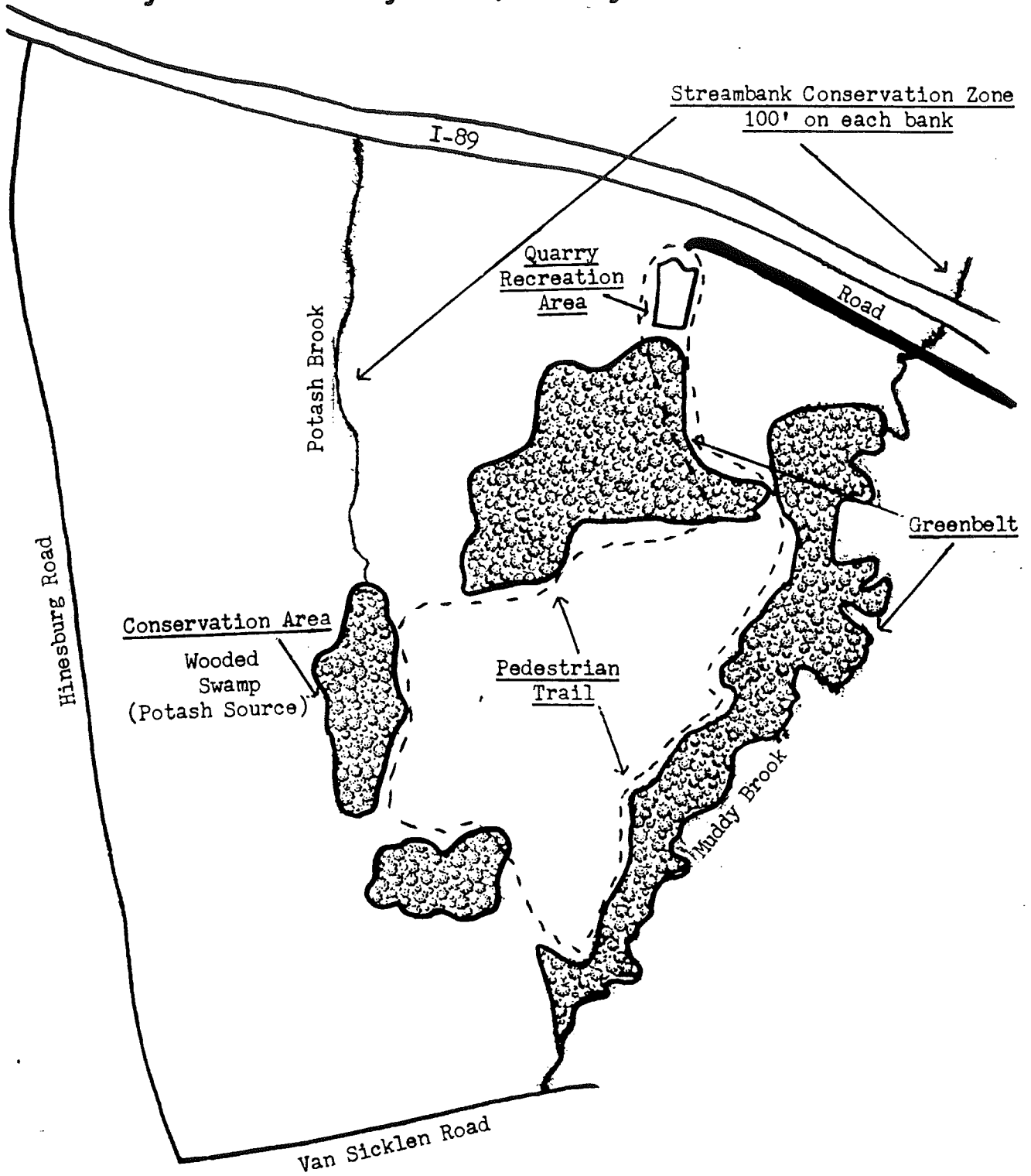
The adopted master plan for South Burlington includes the concept of a pedestrian trail system and actual layout of some of the trails. Additional trails are being laid out. This area lends itself naturally to a location of two pedestrian trails--one running along Muddy Brook, the other a circuit trail running from the Boyer Quarry through the circle of the Greenbelt Woods as indicated on the map. This trail should be of minimum size and development, suitable for walking in the summer, and cross-country skiing and snowshoeing in the winter. The actual location of the summer and winter trails will vary some according to water conditions.

#### Source of Potash Brook

The swampy area which is a source of Potash Brook should be protected through zoning as a conservation area to protect the water quality of the headwaters of Potash Brook. This is a necessary step in the program proposed in our master plan of protecting the quality of all waters in the town.

# Proposed Land Use

## Muddy Brook-Boyer Quarry-Potash Source



#### IV. Boyer Quarry Recreational Area

##### Description of Site

The area includes a brook meandering through woodland and meadow; a quarry large in size filled with clear, cold water with two access ramps; a high ramp where the rock crusher was formerly located; fields and woods surrounding the quarry area; a roadbed to the ramp and quarry; and good access to the entire area for the townspeople.

This quarry is currently receiving considerable unauthorized use as a swimming-recreation area. The landowner must contend with large numbers of unauthorized swimmers on hot summer weekends. This unauthorized use points up the shortage and need for swimming facilities in South Burlington.

##### Proposal

It is recommended that a family outdoor center be developed on 100 acres of land around the quarry. This would provide an opportunity to walk, enjoy the scenery, picnic, and participate in a variety of recreational activities.

The area should include:

1. Picnic facilities along the edge of the woods.
2. Swimming in the quarry. The swimming area should be concentrated in one end of the quarry to facilitate supervision and maintaining safety standards.
3. Rowboating and paddle wheels could be provided in the other end of the quarry.
4. Recreational facilities including playing fields, and areas for basketball, volleyball, badminton, and horseshoes should be provided.
5. The elevated ramp near the quarry could have a shelter. It provides a fine scenic overlook of the entire area, including the surrounding mountains.
6. Necessary sanitary facilities should be provided.

## V. Implementation

We recommend that after adoption of this plan with whatever revisions are made by the Planning Commission and the people of South Burlington, that the Planning Commission request a planning consultant or committee to draw up the zoning ordinances to accomplish the streambank zoning and Potash Brook source zoning. We recommend that the Planning Commission request this committee to make specific recommendations for the exact location of the proposed trail system. We recommend that the Planning Commission take the immediate action to regulate land use in this area to prevent any buildings before municipal sewers are installed.

### The Remainder of Southeast South Burlington

We recommend that the remainder of the southeast quadrant of South Burlington be planned according to the concepts and principles presented for the Muddy Brook-Boyer Quarry-Potash Source Section. These concepts are (1) soil suitabilities should determine land use, (2) where soils have severe limitations for onsite sewage disposal, there should be no building in advance of installation of sewers, (3) water sources and flows should be protected from encroachment in the interests of public health, and (4) land use planning should consider people and provide pedestrian trails and recreation areas in all sections of town.