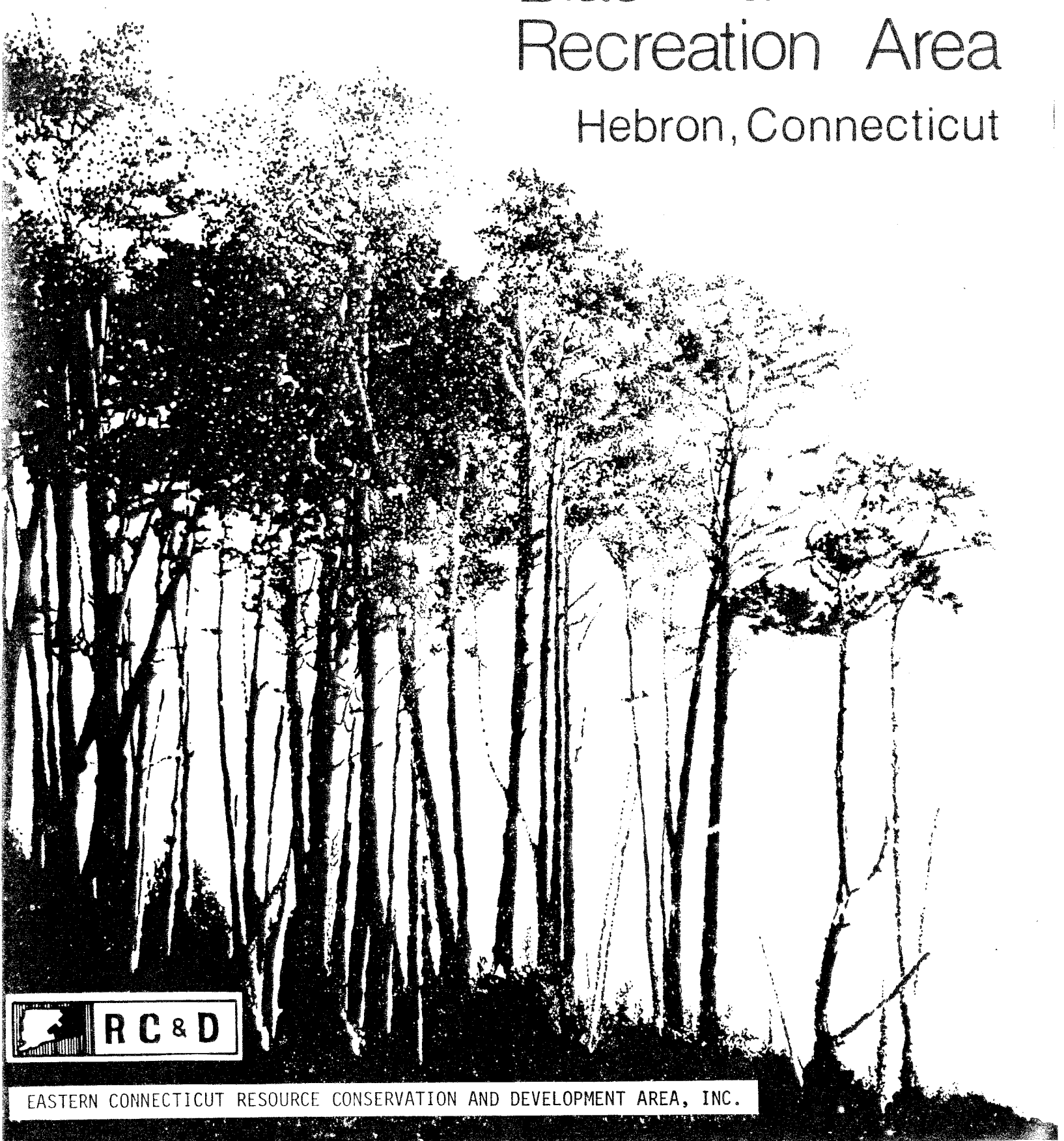


Environmental Review Team Report

# Blackman Road Recreation Area

Hebron, Connecticut

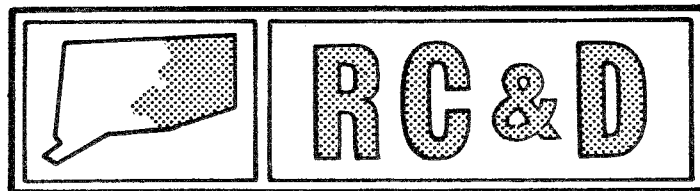


EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.

Environmental Review Team  
Report

Blackman Road  
Recreation Area  
Hebron, Connecticut

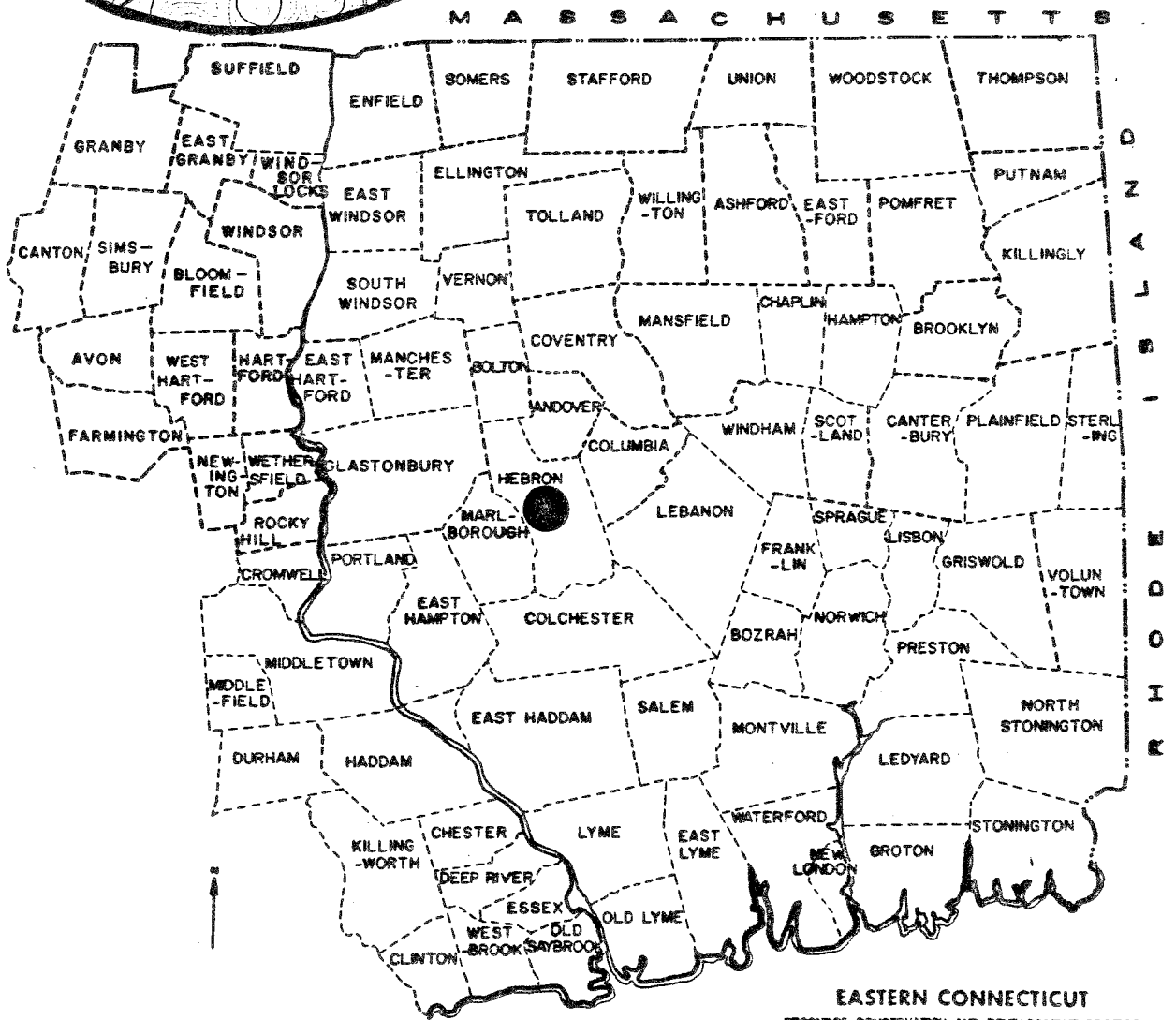
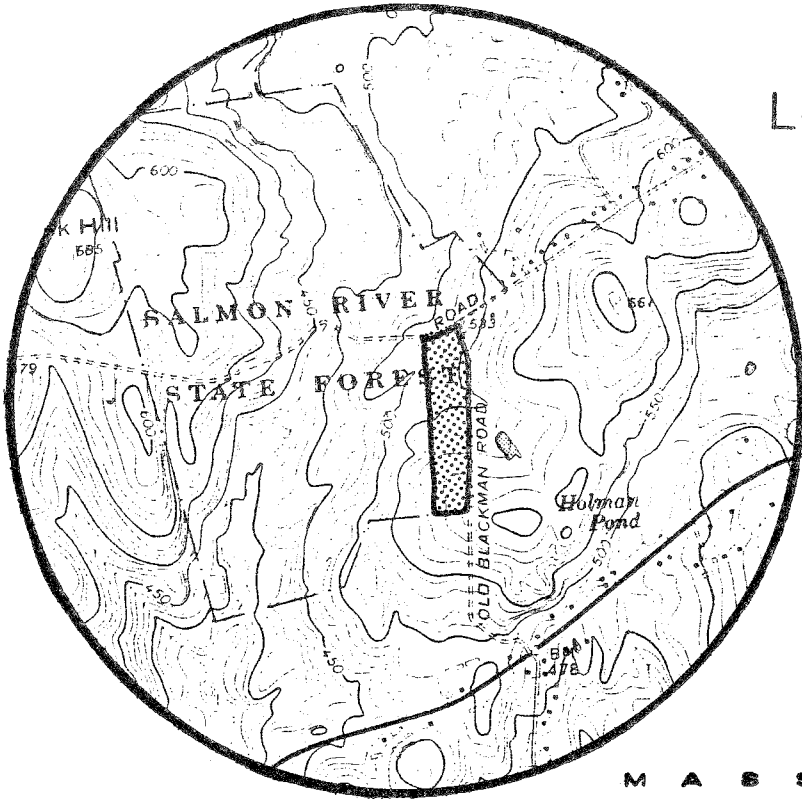
April 1985



Eastern Connecticut Resource Conservation & Development Area  
Environmental Review Team  
PO Box 198  
Brooklyn, Connecticut 06234

# Location of Study Site

BLACKMAN ROAD RECREATION AREA  
HEBRON, CONNECTICUT



EASTERN CONNECTICUT  
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

ENVIRONMENTAL REVIEW TEAM REPORT  
ON  
BLACKMAN ROAD RECREATION AREA  
HEBRON, CONNECTICUT

This report is an outgrowth of a request from the Hebron Planning and Zoning Commission to the Tolland County Soil and Water Conservation District (S&WCD). The S&WCD referred this request to the Eastern Connecticut Resource Conservation and Development (RC&D) Area Executive Committee for their consideration and approval. The request was approved and the measure was reviewed by the Eastern Connecticut Environmental Review Team (ERT).

The soils of the site were mapped by a soil scientist from the United States Department of Agriculture, Soil Conservation Service (SCS). Reproductions of the soil survey map, a table of soils limitations for certain land uses, and a topographic map showing property boundaries were distributed to all Team members prior to their review of the site.

The ERT that field checked the site consisted of the following personnel: Joe Neafsey, District Conservationist, Soil Conservation Service (SCS); Bill Warzecha, Geologist, Connecticut Department of Environmental Protection (DEP); Jim Parda, Forester, DEP; Chris Singley, Regional Planner, Capitol Region Council of Governments; Don Capellaro, Sanitarian, State Department of Health; John Rook, Wildlife Biologist, DEP; and Jeanne Shelburn, ERT Coordinator, Eastern Connecticut RC&D Area.

The Team met and field checked the site on Thursday, August 2, 1984. Reports from each contributing Team member were sent to the ERT Coordinator for review and summarization for the final report.

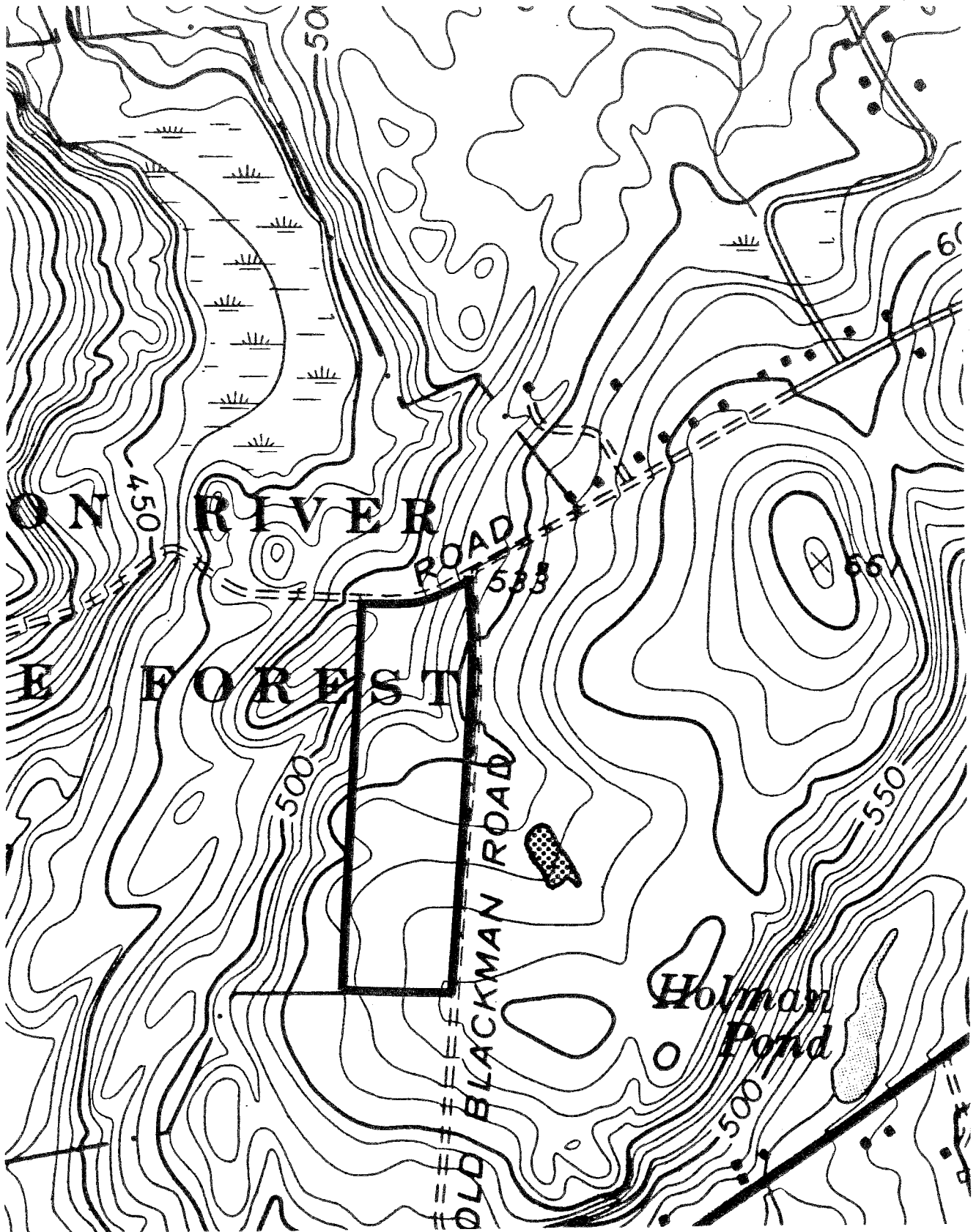
This report is not meant to compete with private consultants by supplying site designs or detailed solutions to development problems. This report identifies the existing resource base and evaluates its significance to the proposed development and also suggests considerations that should be of concern to the developer and the Town of Hebron. The results of this Team action are oriented toward the development of a better environmental quality and the long-term economics of the land use.

The Eastern Connecticut RC&D Area Committee hopes that this report will be of value and assistance in making any decisions regarding this particular site.

If you require any additional information, please contact: Ms. Jeanne Shelburn, Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, Route 205, Box 198, Brooklyn, Connecticut 06234, 774-1253.

# Topography

— Site Boundary



## INTRODUCTION

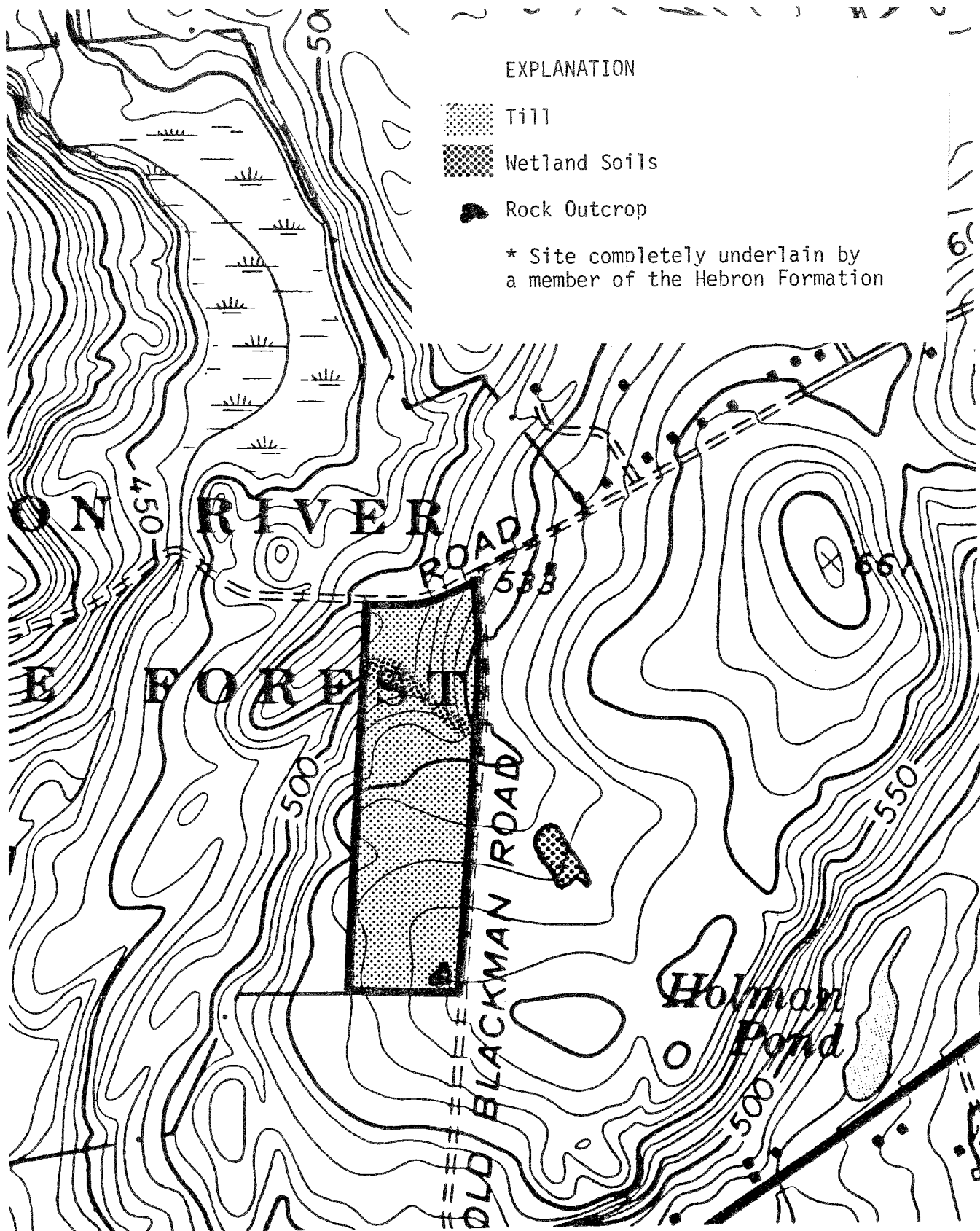
The Eastern Connecticut Environmental Review Team was asked to prepare an environmental assessment for a proposed recreation development in the Town of Hebron. The site is located on Blackman Road, within the Salmon River State Forest. The State is considering a land lease arrangement with the Town which would allow for recreational development of a ±22 acre section of the forest.

No engineering plans have been prepared at this time; however, the Town Recreation Commission is considering the placement of two ballfields, a picnic area and sanitary facilities on the site. Parking will also need to be accommodated.




The site is fairly flat to moderately sloping. It is located near a relatively new low density residential area. It is presently entirely forested, understory cover is sparse. Soils typical of the site include the Canton and Charlton series, the Gloucester series and the Ridgebury, Leicester and Whitman series. These soils range from excessively drained to poorly drained.

The Team is concerned with the effect of this proposed development on the natural resource base of this site. Limitations to development can often be corrected by appropriate engineering techniques; however, these methods often become costly, making a project financially unfeasible. Limitations to development found on this site include wetland soil areas, areas of shallow soil depth to bedrock, slope and stoniness. These concerns are discussed in detail in the following sections of this report.

# Surficial Geology



## EXPLANATION

-  Till
-  Wetland Soils
-  Rock Outcrop

\* Site completely underlain by a member of the Hebron Formation

## ENVIRONMENTAL ASSESSMENT

### TOPOGRAPHY

The ±22 acre site is located astride the west side of Old Blackman Road within the Salmon River State Forest. Land surface in the southern and central parts of the site is characterized by flat to gentle slopes. The northern portions of the site are moderately sloping. An unnamed tributary to Fawn Brook traverses the northern part of the site. According to the soil survey for Tolland County, wetland soils parallel this small stream.

### GEOLOGY

The site lies entirely within the Marlborough topographic quadrangle. Bedrock and surficial geologic maps of the quadrangle have been published by the United States Geological Survey (respectively, map GQ-791 by George L. Snyder and GQ-1504 by Dennis W. O'Leary).

Map GQ-791 classifies the bedrock underlying or cropping out on the site as a member of the Hebron Formation. This rock consists of an interlayered gray, medium- to coarse-grained schist composed of the minerals andesine, quartz, biotite, and potassium feldspar and a greenish-gray, fine to medium-grained calcsilicate rock composed of the minerals labradorite, quartz, biotite, actinolite, hornblende, diopside, and scapolite. The term "schist" relates to the textural and structural aspects of rocks in which flaky and elongate minerals become aligned into thin sheets. As a result of this alignment, the rock is commonly slabby in appearance and parts relatively easily along surfaces of mineral alignment. "Schists" are crystalline, metamorphic rocks: that is, rocks changed by great heat and pressure within the earth's crust.

According to the published bedrock geologic map and surficial geologic map, bedrock is not exposed on the site. However, based on visual inspection of the property, there appears to be a very small exposure of bedrock in the south-east corner of the site. It should be noted that both the surficial and bedrock geologic maps for the quadrangle indicate bedrock outcrops extensively and/or is close to ground surface approximately 400-500 east of this bedrock exposure.

Depth to bedrock probably ranges from zero where bedrock is exposed in the south-east corner of the property, to not much more than 10 feet throughout the remainder of the site. In order to determine the actual depth to bedrock, it will be necessary to excavate test pits in the areas where this information will be needed, i.e., playing fields, subsurface sewage disposal areas, etc. This could probably be accomplished easily with a backhoe.



As shown by the accompanying surficial geologic map, which is adapted from GQ-1504, a relatively thin blanket of glacial till covers the site. Till consists of rock particles and fragments derived from local bedrock, i.e., schists and gneisses, and pre-existing soils that were accumulated by a moving sheet of glacial ice and later re-deposited directly from the ice without subsequent re-working by glacial meltwater streams. Due to its mode of deposition, till contains everything from clay-sized particles to boulders. It is generally sandy, stony, and fairly loose in the upper few feet but becomes siltier and more compact at depth.

Overlying till in the northern parts are swamp sediments. These sediments, which parallel the small stream in the northern parts consists of non-sorted mixtures of sand, silt, clay, and decayed or semi-decomposed vegetable matter. These areas are probably only seasonally wet.

From a geological perspective, it appears the southern half of the site would be most favorable for construction of the two ballfields presently being considered by the Town. The presence of bedrock at or near ground surface in the southeast corner may require some blasting in order to create a suitable grade for playing fields. Also, the presence of till-based soils may impede the downward movement of groundwater resulting in a seasonal high water table throughout the site. As a result, it may require the installation of subsurface drains in order to control the potential for high-water table problems on the fields during the wet times of the year. As indicated, these geologic limitations may be overcome, but only at added expense.

The southern section of the site would be most suitable for a picnic area. Perhaps picnic areas could be established either along the stream or near the conifer stand. The geology should pose no major problems in terms of passive recreational uses such as hiking or picnicking. If hiking trails are constructed, wet areas should be avoided.

## HYDROLOGY

The site lies within the Fawn Brook watershed. Surface as well as subsurface drainage on the site flows generally downslope until it is intercepted by intermittent drainage channels and streams. Water is then transported by these channels towards Fawn Brook. The unnamed drainage channel in the northern section of the property trends primarily in a northwesterly direction on the property. As it leaves the study site, it turns sharply to the southwest, flowing southwesterly towards Fawn Brook.

Any development of the property that requires the clearing of vegetation or the creation of impermeable surfaces will increase the amount of runoff flowing from the site during periods of precipitation. Clearing, in itself, should not cause serious problems. If impermeable surfaces are created, however, efforts should be made to direct the runoff in a manner that will not cause erosion problems on the moderate slopes within the site.

If a water supply is desired for the potential recreational site, bedrock will be the only suitable aquifer. Bedrock is typically capable of supplying small but reliable yields to wells drilled less than 300 feet. Of the 134 bedrock-based wells surveyed for Connecticut Water Resources Bulletin No. 11 (Shetucket River Basin), 90 percent yielded at least 3 gallons per minute; a few wells yielded more than 50 gallons per minute and only in a few cases did a bedrock-based well yield no water at all. A survey of well completion reports for wells on Old Blackman Road indicated yields which range between 2 gallons per minute to 9 gallons per minute (gpm) at varying depths of 300 to 560 feet. A yield of 3 gpm should be more than adequate for the intended use of the site. In many cases, a low yielding well can be made adequate by storage capacity, provided either in the well shaft or in storage tanks.

Water quality should generally be good. There is a chance that elevated iron and/or manganese concentrations may be found in the water. Several types of filters are available to remove these elements from the water.

## SOILS

Site evaluation was made on State Forest property in the Town of Hebron to determine its suitability for recreational activities including the construction of ballfields. This lot is located in the Connecticut State Forest, 0.5 miles north of U.S. Route 66 and approximately 1.5 miles west of the center of Hebron.

Soils typical of this site are described below:

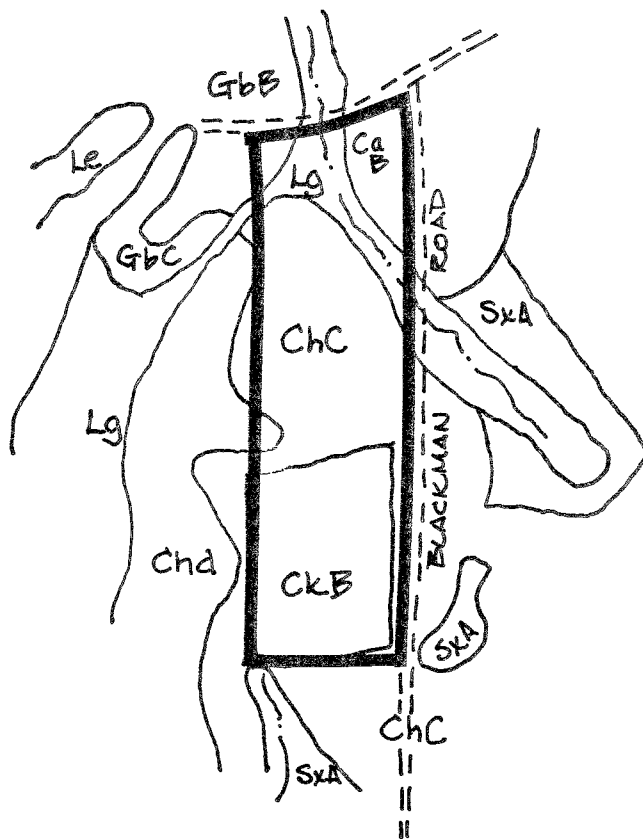
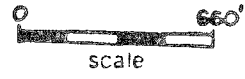
Canton and Charlton are deep well drained loamy soils on hills and ridges of the glacial till uplands. These soils are well suited to recreational development except in areas where the slope exceeds six percent. Grading will be required in these areas for the development of playgrounds and ballfields.

Gloucester soils are deep somewhat excessively drained sandy soils on hills and ridges of the glacial till uplands. These soils are also well suited to recreational development with the same restrictions as the Canton and Charlton soils.

Ridgebury, Leicester and Whitman soils are poorly drained and very poorly drained soils along narrow drainageway in glacial till uplands. The high water table and slow to very slow permeability are major limitations in using these soils. These soils are regulated wetland soils under PA 155.

The soils at this site of oaks, spruce and cedars are of glacial till origin. The till is friable and loose with stones and boulders scattered over the surface. The landscape is mostly undulating with a few smooth slopes. The area of smooth slopes are near the center and southeast corner of the parcel. Slopes average about 6 percent over this area. The western edge of the parcel has the steeper slopes with a westerly aspect towards an intermittent drainageway which flows to the southwest. The slopes over this area average about 25 percent.

# Soils



INTERPRETATIONS FOR RECREATIONAL DEVELOPMENT

HEBRON, CONNECTICUT

SOIL MAP SYMBOL AND SOIL NAME	SEPTIC TANK ABSORPTION FIELDS	DWELLINGS WITH/ WITHOUT BASEMENTS	PICNIC AREAS	PATHS AND TRAILS	PLAYGROUNDS
#CaB - 3 to 8% Canton	Severe-poor filter	Slight	Slight	Slight	2-6%: Moderate-slope 6+ %: Severe-slope, small stones
Charlton	Slight	Slight	Slight	Slight	2-6%: Moderate-slope 6+ %: Severe-slope, small stones
ChB - 3 to 8%, stony Canton	Severe-poor filter	Slight	Moderate-large stones	Slight	0-6%: Severe-large stones 6+ %: Severe-slope, large stones
Charlton	Slight	Slight	Moderate-large stones	Slight	0-6%: Severe-large stones 6+ %: Severe-slope, large stones
CrC, ChC - 3 to 15%, stony Canton	Severe-poor filter	Moderate-slope	Moderate-slope, large stones	Slight	0-6%: Severe-large stones 6+ %: Severe-slope, large stones
Charlton	Moderate-slope	Moderate-slope	Moderate-slope, large stones	Slight	0-6%: Severe-large stones 6+ %: Severe-slope, large stones

INTERPRETATIONS FOR RECREATIONAL DEVELOPMENT

HEBRON, CONNECTICUT

SOIL MAP SYMBOL AND SOIL NAME	SEPTIC TANK ABSORPTION FIELDS	DWELLINGS WITH/WITHOUT BASEMENTS	PICNIC AREAS	PATHS AND TRAILS	PLAYGROUNDS
ChD - 15 to 35%, stony					
Canton	Severe-slope, large stones	Severe-slope	Severe-slope, large stones	Severe-slope	0-6%: Severe-large stones 6+ %: Severe-slope, large stones
Charlton	Severe-slope	Severe-slope	Severe-slope, large stones	Severe-slope	0-6%: Severe-large stones 6+ %: Severe-slope, large stones
<hr/>					
CbB - 3 to 8%, stony					
Gloucester	Severe-poor filter	Moderate-large stones	Moderate-large stones, slope	Slight	0-6%: Severe-large stones, small stones 6+ %: Severe-slope, large stones, small stones
<hr/>					
CbC - 8 to 15%, stony					
Gloucester	Severe-poor filter	Moderate-large stones	Moderate-slope, large stones	Slight	0-6%: Severe-large stones, small stones 6+ %: Severe-slope, large stones, small stones

INTERPRETATIONS FOR RECREATIONAL DEVELOPMENT

HEBRON, CONNECTICUT

SOIL MAP SYMBOL AND SOIL NAME	SEPTIC TANK ABSORPTION FIELDS	DWELLINGS WITH/ WITHOUT BASEMENTS	PICNIC AREAS	PATHS AND TRAILS	PLAYGROUNDS
*Lg - 0 to 5%, stony Ridgebury	Severe-wetness, percs slowly	Severe-wetness	Severe-wetness, large stones, percs slowly	Severe-wetness	0-6%: Severe-wetness, large stones, small stones 6+ %: Severe-slope, large stones, wetness
Leicester	Severe-wetness	Severe-wetness	Severe-wetness, large stones	Severe-wetness	0-6%: Severe-wetness, large stones 6+ %: Severe-large stones, wetness, slope
Whitman	Severe-ponding, percs slowly	Severe-ponding	Severe-ponding, large stones	Severe-ponding	0-6%: Severe-ponding, large stones 6+ %: Severe-slope, large stones, ponding

\* Designated inland wetland soil by Public Act 155

# Prime farmland soil

Soils along the drainageway located across the northeast portion of the parcel are mineral soils and are interpreted as Ridgebury, Leicester and Whitman soils. Other soils over the parcel are interpreted for the Canton and Gloucester series on appropriate slopes. The substratum of these soils are more permeable than that of the typical Paxton series and, therefore, are interpreted as such.

Slope and stoniness are the main concerns in constructing ballfields. For good trafficability, the surface of ballfields should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. Soil properties that influence trafficability are texture of the surface layer, wetness, permeability, and large stones.

#### WILDLIFE CONCERNS

The majority of this parcel is mixed hardwood forest. Large conifer stands dominate the northern half of the parcel. Conifers are found scattered throughout the rest of the area, mostly in the southern section. A small brook runs through the northwest section.

#### Considerations/Recommendations

If development does occur, then wildlife habitat will be lost in this area. Wildlife and wildlife habitat found in the adjoining forestland may also be disrupted due to the increased human activity. Hunting occurs in this parcel and the adjoining state forest land. Therefore, this recreational activity must also be considered, along with safety factors, depending on the time of year the recreational side would be used. Road improvement and traffic problems must be addressed due to the expected increase in traffic.

If development does occur, landscaping (planting trees and shrubs beneficial to wildlife) can be undertaken. Establishing hiking and/or cross country skiing trails on any forested areas of the parcel would be a low disturbance activity.

#### PLANNING CONCERNS

A need for additional recreational areas, especially ballfields, has been identified and will undoubtedly increase as Hebron continues to grow at a rapid rate. The Town has an obligation to provide for ample open space and recreation areas for both current and future residents.

Poorly drained soil, prevalent throughout Hebron, has caused problems at the Town's existing ballfields. Relatively large, flat, well-drained areas such as the parcel in question, will become increasingly scarce as development pressures increase.

Properly designed parking facilities and vegetative buffering can minimize impact on the several residences nearby. Sanitary facilities for users of the

ballfields should be provided on the site. Many consider proximity to a recreation area an advantage rather than a disadvantage.

The northern quarter of the parcel has slopes on the order of 12% to 14%, representing the only real physical limitations for the development of ballfields. However, approximately 440,000 square feet of relatively flat, well drained land in the southern part of the site provides ample space for at least two ballfields and parking, plus additional open space. This space estimate includes allowances for 50 feet wide buffer strips along the southern and western sides of the property.

Usually softball fields should be at least 280 feet deep, measured from home plate to the perimeter of the outfield. If two fields facing each other without outfield fences are envisioned, more space would be allotted to prevent outfielders in different fields from colliding with each other. Two fields 320 feet deep require approximately 100,000 square feet of land each. Actually, the area of such a field is closer to 80,000 square feet, however, additional land must be allotted for space wasted in the layout of fields. "Little Leagues" could also use such a field.

Parking for at least 25 cars per field per game should be provided. If, for instance, a second game is scheduled to begin immediately after a first game, at least 50 parking spaces per field should be provided because of the overlap period in parking for both games. Approximately 250\* square feet per car, which includes lanes and maneuvering areas, is required. Therefore, at least 12,500 square feet of parking area per field is required to accommodate consecutively scheduled games. Back-to-back games are not typical for evening softball leagues, however, they could very well occur on weekends, in which case ample parking must be available. If other activities such as fairs and bazaars are to occasionally take place on the site, the Town might wish to provide for even more parking. Adequate parking facilities are critical for minimizing adverse impacts on the surrounding neighborhood. An additional safeguard would be to either locate parking lots towards the rear of the parcel so that spillover parking occurs along an access drive rather than neighborhood streets, or post signs directing spillover parking on to appropriate areas.

Using the benchmarks discussed above, the following estimates of total space requirements can be made:

1 ballfield	=	100,000 sq. ft. x 2 = 200,000 sq. ft.
Parking for 1 ballfield with back-to-back games	=	12,500 sq. ft.*x 2 = <u>25,000 sq. ft.</u>
TOTAL	=	225,000 sq. ft.

In addition, although the northern portion of the property is not ideal for ballfield development, this area could be utilized as a picnic area.

\*Based on 250 square feet per car for a striped parking lot. An unpaved lot will require at least 300 square feet per car.





# About the Team

The Eastern Connecticut Environmental Review Team (ERT) is a group of professionals in environmental fields drawn together from a variety of federal, state, and regional agencies. Specialists on the Team include geologists, biologists, foresters, climatologists, soil scientists, landscape architects, archeologists, recreation specialists, engineers and planners. The ERT operates with state funding under the supervision of the Eastern Connecticut Resource Conservation and Development (RC&D) Area.

The Team is available as a public service at no cost to Connecticut towns.

## PURPOSE OF THE TEAM

The Environmental Review Team is available to help towns and developers in the review of sites proposed for major land use activities. To date, the ERT has been involved in reviewing a wide range of projects including subdivisions, sanitary landfills, commercial and industrial developments, sand and gravel operations, elderly housing, recreation/open space projects, watershed studies and resource inventories.

Reviews are conducted in the interest of providing information and analysis that will assist towns and developers in environmentally sound decision-making. This is done through identifying the natural resource base of the project site and highlighting opportunities and limitations for the proposed land use.

## REQUESTING A REVIEW

Environmental reviews may be requested by the chief elected officials of a municipality or the chairman of town commissions such as planning and zoning, conservation, inland wetlands, parks and recreation or economic development. Requests should be directed to the Chairman of your local Soil and Water Conservation District. This request letter should include a summary of the proposed project, a location map of the project site, written permission from the landowner allowing the Team to enter the property for purposes of review, and a statement identifying the specific areas of concern the Team should address. When this request is approved by the local Soil and Water Conservation District and the Eastern Connecticut RC&D Executive Council, the Team will undertake the review on a priority basis.

For additional information regarding the Environmental Review Team, please contact Jeanne Shelburn (774-1253), Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, P.O. Box 198, Brooklyn, Connecticut 06234.