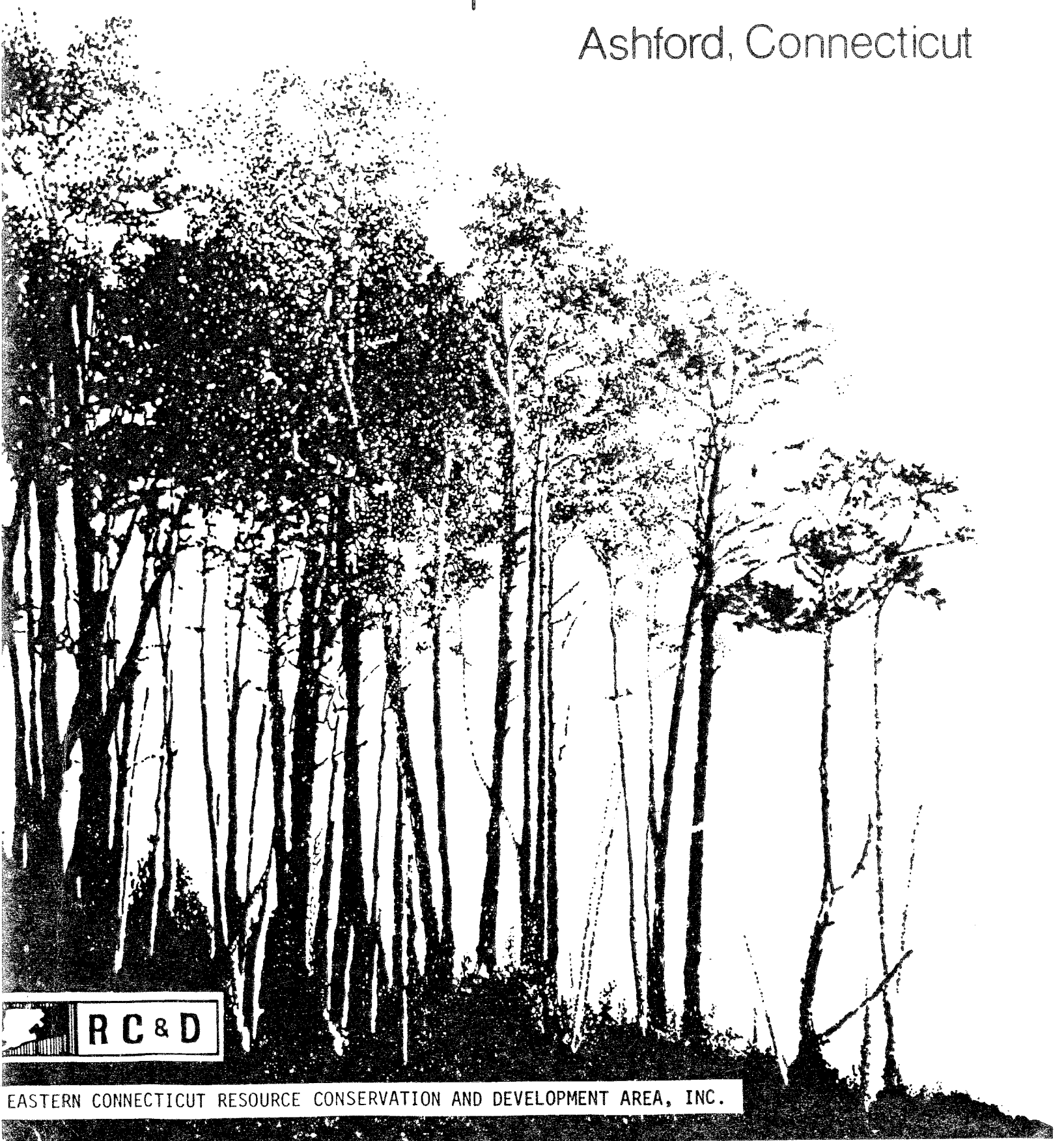


Environmental Review Team Report

Municipal Facilities Site

Ashford, Connecticut

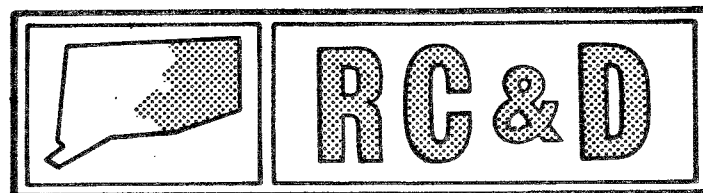


EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.

Environmental Review Team
Report

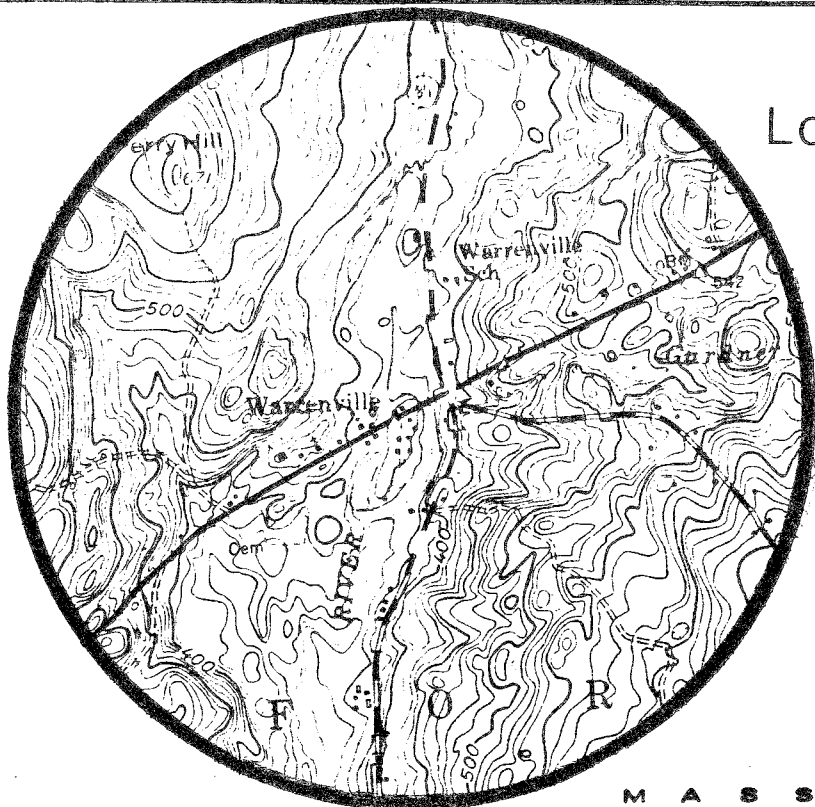
Municipal Facilities Site
Ashford, Connecticut

January 1985



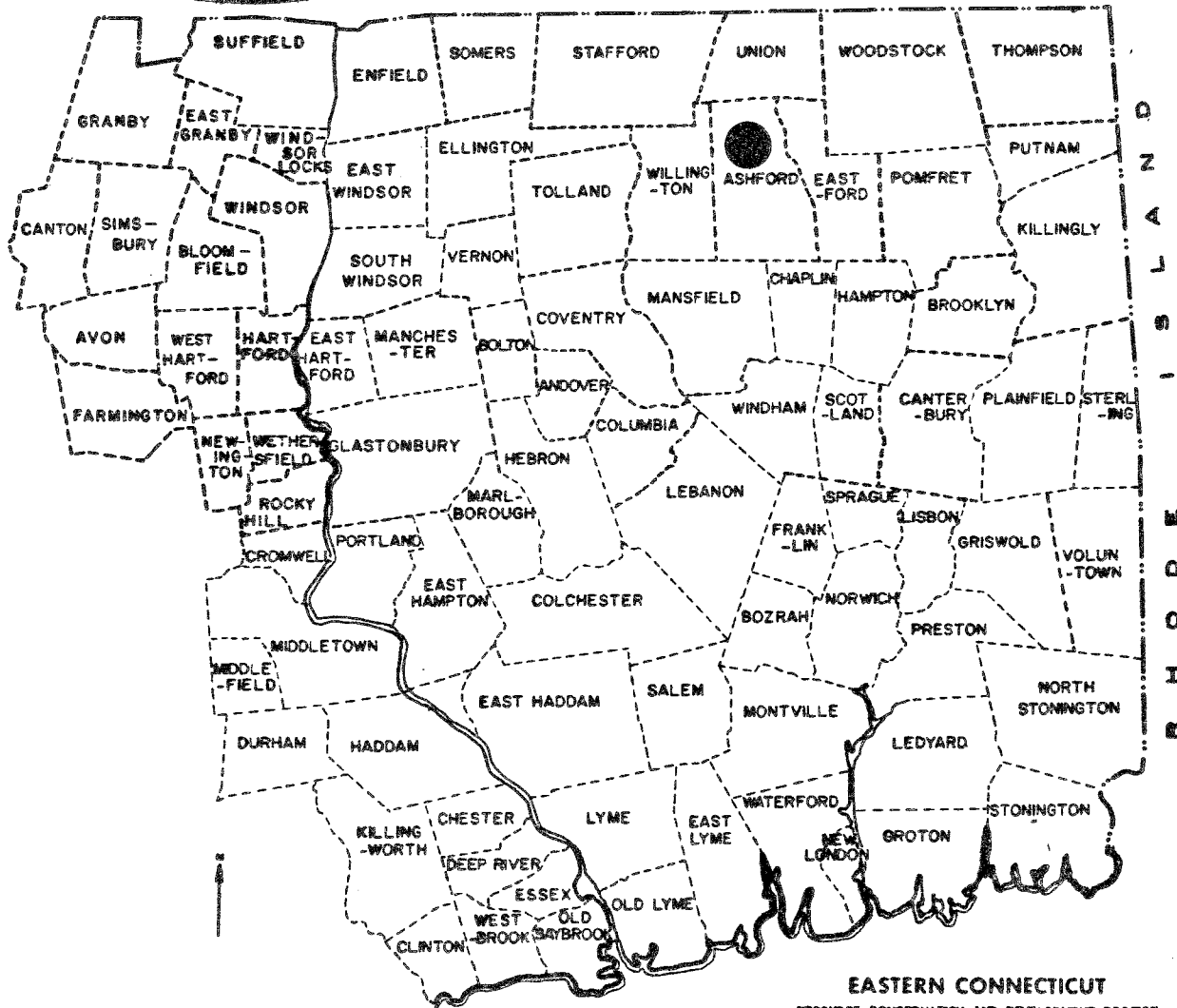
Eastern Connecticut Resource Conservation & Development Area
Environmental Review Team
PO Box 198
Brooklyn, Connecticut 06234

Location of Study Site



MUNICIPAL FACILITIES SITE
ASHFORD, CONNECTICUT

M A S S A C H U S E T T S



EASTERN CONNECTICUT
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

ENVIRONMENTAL REVIEW TEAM REPORT
ON
TOWN RECREATION AREA
ASHFORD, CONNECTICUT

This report is an outgrowth of a request from the First Selectman of Ashford to the Windham 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 as a project measure. The request was approved and the measure reviewed by the Eastern Connecticut Environmental Review Team (ERT).

The soils of the site were mapped by a soil scientist of the United States Department of Agriculture (USDA), Soil Conservation Service (SCS). Reproductions of the soil survey map as well as a topographic map of the site were distributed to all ERT participants prior to their field review of the site.

The ERT that field checked the site consisted of the following personnel: Howard Denslow, District Conservationist, SCS; Bill Warzecha, Geologist, Department of Environmental Protection (DEP); Dick Raymond, Forester, DEP; Al Buzzetti, Sanitarian, State Department of Health; Meg Reich, Regional Planner, Windham Regional Planning Agency (WRPA); Bob Dlugolenski, Recreation Specialist, DEP; and Jeanne Shelburn, ERT Coordinator, Eastern Connecticut RC&D Area.

The Team met and field-checked the site on Thursday, July 24, 1984. Reports from each Team member were sent to the ERT Coordinator for review and summarization for the final report.

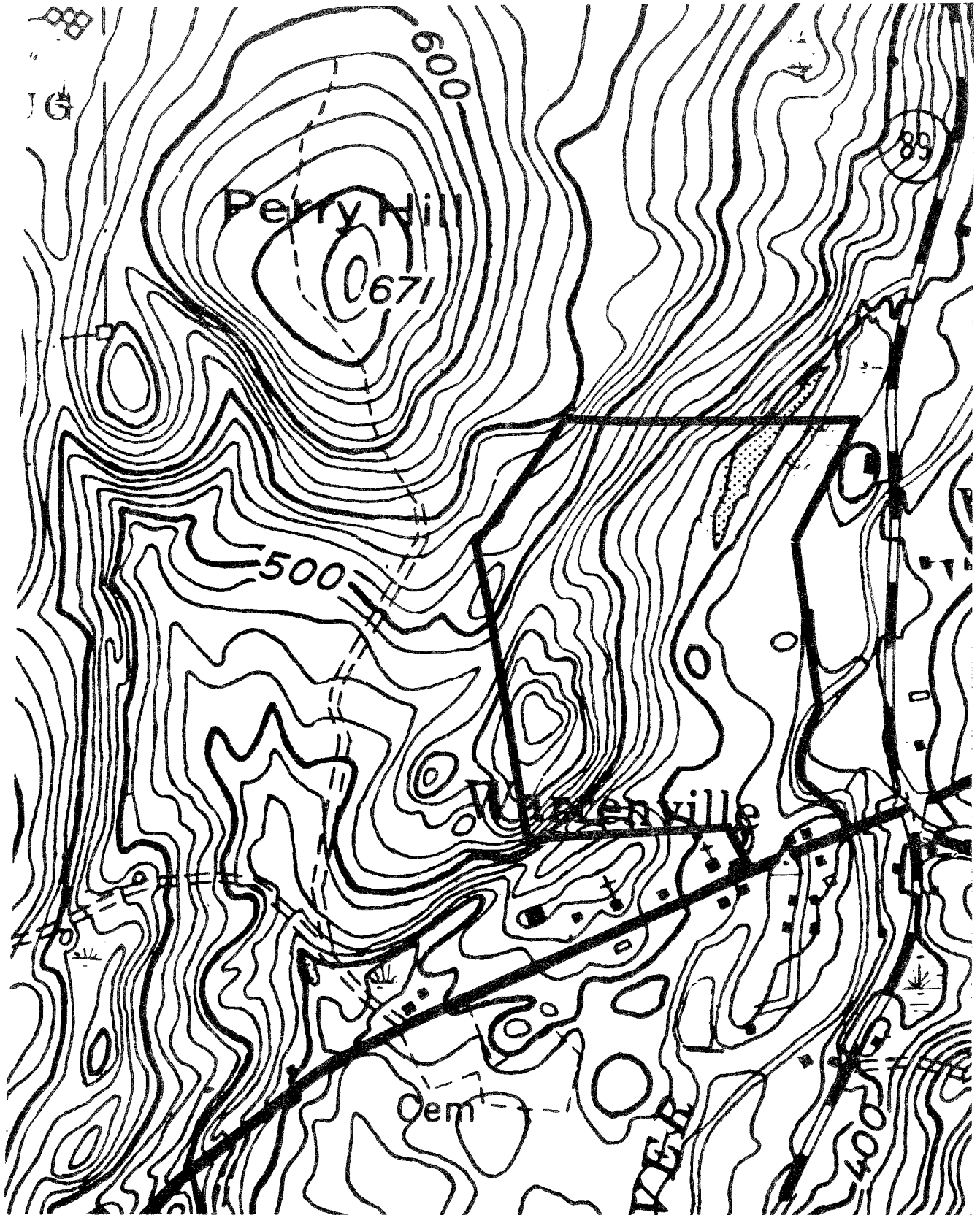
This report is not meant to compete with private consultants by supplying site designs or detailed solutions to development problems. This report identifies the existing resource base and evaluates its significance to the proposed development and also suggests considerations that should be of concern to the developer and the Town of Ashford. 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 Project Committee hopes you will find this report of value and assistance in making your decisions on this particular site.

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

Topography

— Site Boundary

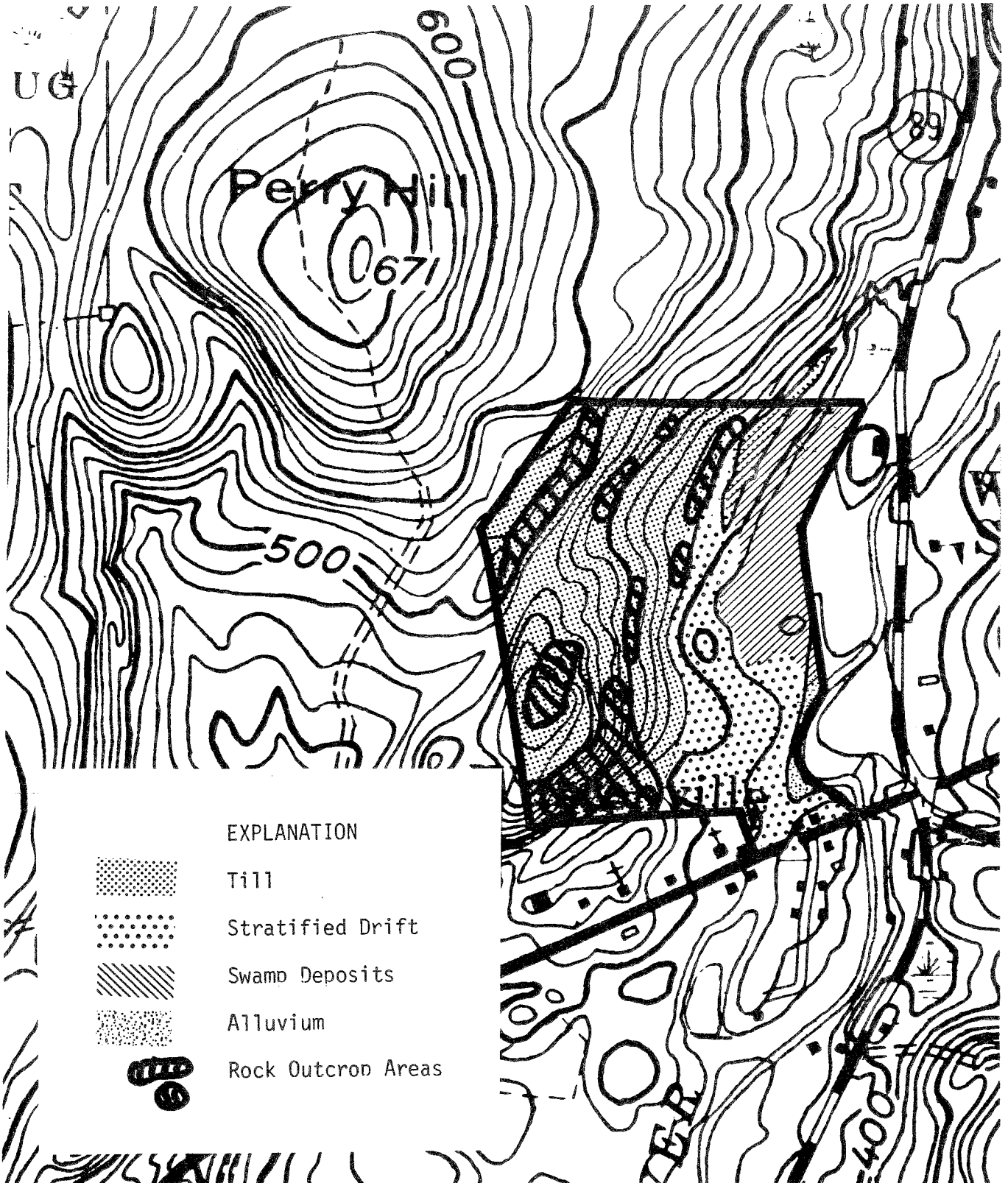
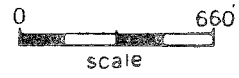


INTRODUCTION

The Eastern Connecticut Environmental Review Team was asked to prepare an environmental assessment for a potential Town land acquisition in the Town of Ashford. The Town would like to use the property for recreational development and municipal facilities such as elderly housing, a firehouse, and a library. The site is located directly across (north) of Route 44 from the Ashford Town Hall and is approximately 60 acres in size. A sketch plan prepared by the Town for recreational facility location was distributed to the Team prior to the field review.

The Board of Selectman have compiled a list of recreational facilities that they feel would be beneficial to the Town. These include: 1) ball fields-- soccer, baseball and softball; 2) skating pond; 3) swimming; 4) picnic areas; 5) tennis courts; 6) volleyball courts; 7) badminton courts; 8) fishing areas, and 9) hiking trails. The Team is concerned with the effect of the proposed uses on the natural resource base of the site. Although many severe limitations can be overcome with proper engineering techniques, these measures can become costly making a project financially unfeasible. A number of development limitations were identified on this parcel, notably the 100 year flood zone in the eastern part of the property, inland wetland areas to the east and north, and areas of shallow soil depth to bedrock. These limitations should be taken into account when planning facility location on this site. These concerns are discussed in detail in the following sections of this report.

Surficial Geology



EXPLANATION



Till



Stratified Drift



Swamp Deposits



Alluvium



Rock Outcrop Areas

ENVIRONMENTAL ASSESSMENT

TOPOGRAPHY

The ±60 acre parcel presently being considered for acquisition by the Town is located on the north side of Route 44 in the Warrentville section of Town. It is located directly across from the Ashford Town Hall. If the Town acquires the parcel, potential use of the site includes recreational facilities as well as the possibility of center and/or senior housing, a fire house and library.

Mount Hope River flows along the eastern boundary of the parcel in the southern half of the site. The terrain rises westward from the Mount Hope River to the western boundary. Slopes are generally flat to gentle in the eastern half of the site but become more moderate throughout the west half. The western portion of the property contains numerous rock outcrops.

Maximum and minimum elevations on the site are ±500 feet and 380 feet above mean sea level.

GEOLOGY

The site is located within the Spring Hill topographic quadrangle. The surficial geology of the Spring Hill quadrangle, mapped by Perry H. Rahn, is published in quadrangle Report No. 26 of the Connecticut Geological and Natural History Survey. The bedrock geology of the quadrangle has not been completed to date. Therefore, the Team's geologist referred to John Rodger's "Preliminary Bedrock Geologic Map of Connecticut" for the purpose of this report.

Bedrock underlying or cropping out on the site has been classified as the Southbridge Formation by Rodgers. The rock consists of a dark-to-light gray, locally rusty, fine-to-medium grained, interlayered schist and granofels. It is composed primarily of the minerals quartz, plagioclase, and biotite. In addition, it may contain the mineral muscovite in the schist layers as well as amphibolite, calc-silicate minerals or potassium feldspar in other layers. The term 'schist' refers to a well-foliated (the textural or structural alignment of the platy or flaky minerals) metamorphic rock (altered by great temperatures and pressures) in which the component platy and flaky minerals, i.e., biotite and muscovite are clearly visible. A "granofels" is the field name given by geologists to a medium-to-coarse-grained metamorphic rock which has little or no foliation. Numerous outcroppings of these rocks occur in the hillier sections of the property. Depth to bedrock ranges from zero to probably not more than 10 feet at points in between outcrops.

According to QR-26, most of the unconsolidated materials overlying bedrock on the parcel are of glacial origin. Till, which thinly covers the bedrock on the hillier, western portion of the site, consists of rock particles and fragments of various shapes and sizes. These particles are plucked, chipped or abraded from pre-existing bedrock outcrops or soils, and were later redeposited directly by the glacier ice without subsequent working by glacial meltwater streams. Sand and gravel deposits, also known as stratified drift, which were laid down by meltwater streams underlie the flat, central and eastern sections of the site. The deposits are mostly gravels of mixed sizes. Based on visual inspection of the property, these sediments have been mined at various locations throughout the area they cover, probably for fill material. A string of open pits are visible in the southcentral parts of the site.

The sand and gravel is covered by partly decomposed organic matter which is intermixed with silt and sand, mainly in the northeast corner of the site. These types of surficial deposits are referred to as "swamp deposits." They are delineated as Ce (Carlisle muck) on the accompanying soils map. "Swamp deposits" probably have formed at the bottom of several excavation pits also. This probably occurred as a result of intercepting the water table during the sand and gravel mining operation. A small wetland area also covers till deposits in the western section of the parcel.

The final type of surficial deposit found is alluvium. "Alluvium" consists of silt, sand, and gravel which was deposited on the floodplain of the Mount Hope River. It is found along the river's bank in the southeast corner of the property. These deposits which are delineated by the symbol Ru (Rippowam soils) on the accompanying soils map are underlain by the stratified drift deposits.

Development Concerns

From a recreational development standpoint, the parcel would have potential for both passive and active recreational uses. Active recreational uses such as ballfields, tennis courts, and badminton courts, would be feasible in the flatter upland areas in the southcentral portions of the site. The old sand and gravel pit areas would also have potential use for active recreation once they're filled in the area graded. The shallow surface water body in the central parts of the parcel, which is north of the old sand and gravel pits, may have potential as a skating pond.

The Mount Hope River, which forms the eastern boundary in the southern part, is a very attractive feature of the parcel. In terms of passive recreation, perhaps narrow hiking paths could be established along the river, provided they are properly arranged and constructed. They should be constructed in a way without creating a significant risk of erosion. A hiking trail system throughout the hillier sections of the site to the west could connect with the trails along the river. Cleared areas bordering the river would also afford hikers and users of a potential recreation facility with a captivating area for picnicking.

In addition to active and passive recreation development, the Town is also considering the site for a senior center and/or elderly housing, a fire house and a library. According to the preliminary site plan distributed to team members, these buildings, which would be served by on-site septic system(s) and water supply wells, would be located in the western sections of the property. From a geological perspective, it appears the following conditions will limit and possibly preclude the types of development being considered for this area. The limiting factors include: (1) areas where bedrock is at or near ground surface; (2) moderate slopes, and (3) the presence of till-based soils which commonly have slow percolation rates and which are commonly associated with elevated ground water tables. These geologic conditions will weigh heaviest on the ability to provide adequate subsurface sewage disposal systems. There is a chance properly engineered septic systems may be able to surmount some of these limitations. However, in order to determine if a particular area can support an on-site septic system(s), it will be necessary to conduct detailed soil testing, which includes deep test pits and percolation tests. Development in any wetland areas should be discouraged.

There may be some areas in the southern parts of the site which would be more conducive for the type of development mentioned above.

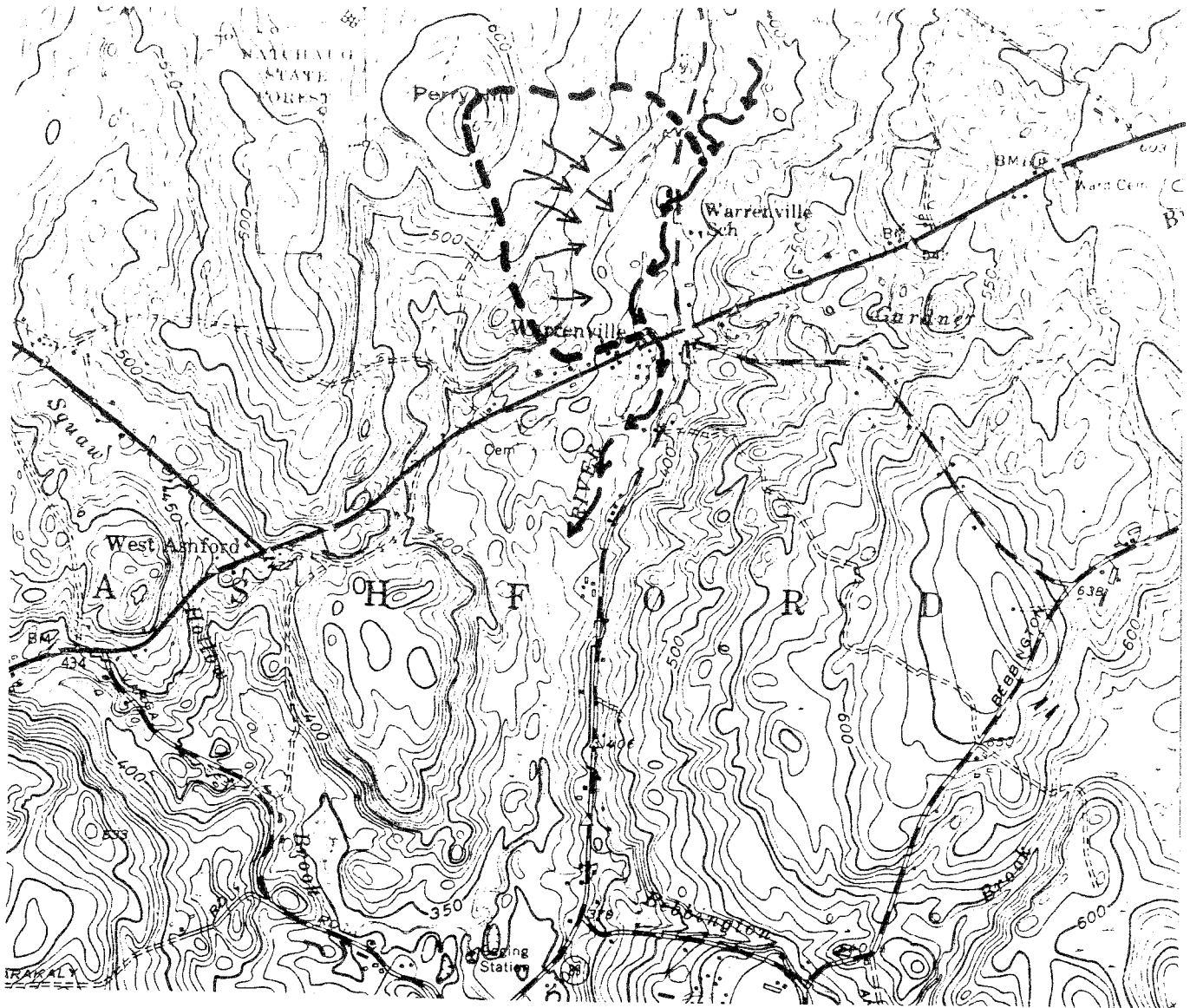
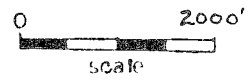
HYDROLOGY

The site lies entirely within the watershed of the Mount Hope River. Mount Hope River ultimately discharges into Mansfield Hollow Lake to the south. A watershed may be defined as all the land areas from which surface water runoff drains to a stream or other surface body water. The watershed, which includes the entire site, is shown on the accompanying Drainage Area Map. It covers an area of .216 square miles or 138 acres. Surface runoff on the site flows eastward towards Mount Hope River.




The development (recreational use and town facilities) presently being considered for the parcel would increase the amount of runoff during periods of rainfall. These increases would result from soil compaction, removal of vegetation, and placement of impervious surfaces such as roof tops, paved parking areas, roads, driveways, and tennis courts. If development does occur on the site, a storm water management plan, which includes sediment and erosion control measures should be carefully formulated and followed through with implementation of the project. It may be possible to utilize the pond and/or the existing gravel pits in the central portions of the property for on-site detention of storm water.

A Flood Boundary and Floodway Map, which was prepared by the Federal Emergency Management Agency/Federal Insurance Administration has been published for the Town of Ashford. This study includes maps which identify areas throughout the Town that are subject to flooding during the 100 and 500 year storms. A "100" year flood is a flood with one chance in 100 or 1% chance that it will happen in any year. A "500" year flood would have a one chance in 500 or .2% chance of occurring in any given year. It should be pointed out this does

Drainage Areas



EXPLANATION

-  Watershed boundary which encompasses the study area.
-  Direction of surface flow
-  Watercourse showing direction of flow

NATIONAL FLOOD INSURANCE PROGRAM

**FIRM
FLOOD INSURANCE RATE MAP**

**TOWN OF
ASHFORD,
CONNECTICUT
WINDHAM COUNTY**

PANEL 21 OF 25
(SEE MAP INDEX FOR PANELS NOT PRINTED)

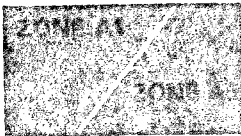
**COMMUNITY-PANEL NUMBER
090165 0021 C**

**EFFECTIVE DATE:
DECEMBER 1, 1981**



**federal emergency management agency
federal insurance administration**

KEY TO MAP

500-Year Flood Boundary	-----	ZONE B
100-Year Flood Boundary	-----	ZONE A
Zone Designations*		
100-Year Flood Boundary	-----	ZONE B
500-Year Flood Boundary	-----	ZONE B
Base Flood Elevation Line With Elevation In Feet**	~~~~~	513

Base Flood Elevation in Feet (EL 987)
Where Uniform Within Zone**

Elevation Reference Mark **RM7x**

River Mile **•M1.5**

**Referenced to the National Geodetic Vertical Datum of 1929

***EXPLANATION OF ZONE DESIGNATIONS**

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

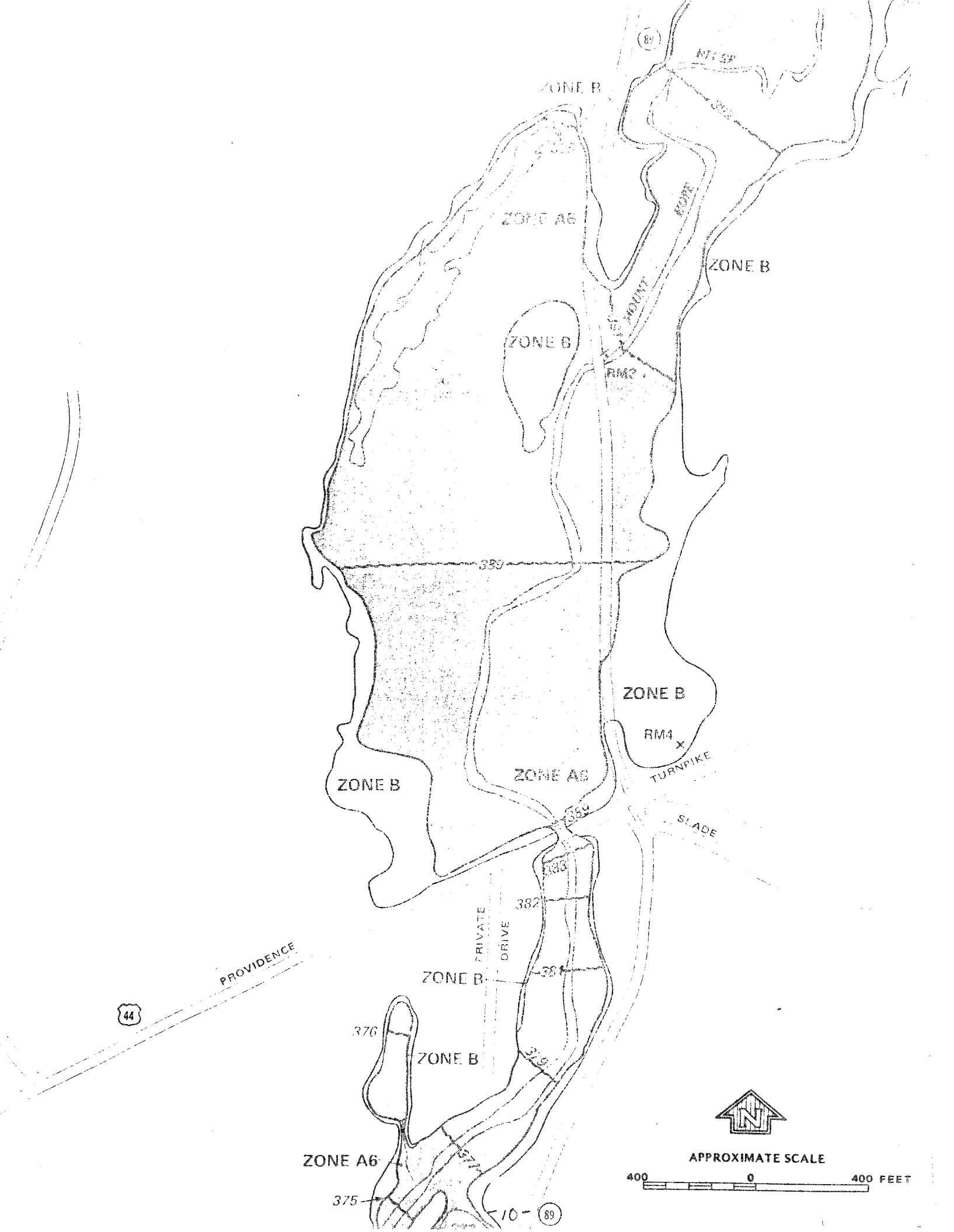
INITIAL IDENTIFICATION:

NOVEMBER 8, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS:

NOVEMBER 19, 1976

MAY 30, 1978



not mean a flood of the magnitude mentioned above will occur only once in a 100 or 500 year period. The probability of occurrences remain the same each year regardless of what happened the year before. This map also delineates the floodway boundary for Mount Hope River (see attached Flood Boundary and Floodway Map).

According to the map, the "100" year flood boundary zone covers most of the eastern half of the parcel. The "500" year flood boundary zone lies just to the east of "100" year flood boundary. There may be swampy or topographically low-lying areas within the site that may be subject to wetness and perhaps flooding during periods of particularly heavy rains.

The construction of buildings in the "100" year and/or "500" year flood will require strict compliance with the Town's floodplain management regulations. In addition, any development must be in compliance with federal floodplain management standards if federal funds are used. It should be noted that no development can occur in the floodway of the Mount Hope River.

Bedrock appears to be the only practical source of water for the site. Bedrock is commonly capable of providing a small but reliable yield of groundwater to individual wells. A survey of 134 bedrock wells in the Shetucket River Basin (see Connecticut Water Resource Bulletin No. 11) indicates that 90 percent of those wells yielded at least 3 gallons per minute. A yield of 3 gpm is equivalent to 4,320 gallons per day. If a particular development requires a substantial amount of water, it would probably necessitate the drilling of more than one well. Short-term daily needs for high flow rates might be met by a low yielding well in conjunction with a water storage tank.

The natural quality of groundwater would be expected to be satisfactory on the sites. According to Connecticut Water Resources Bulletin #11, the bedrock underlying the site may contain excess concentrations of iron and/or manganese. As a result, it may be necessary to treat the water with filter equipment.

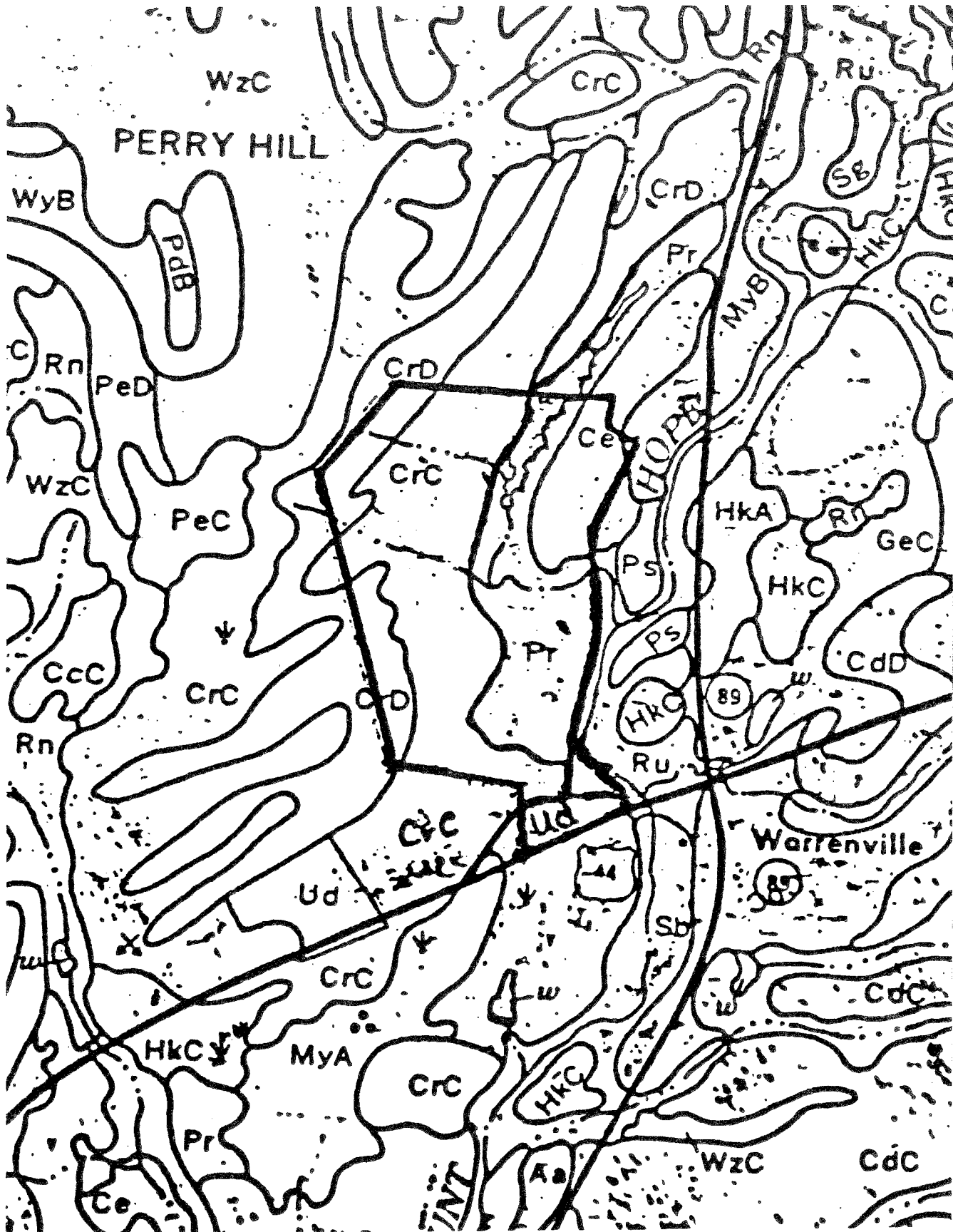
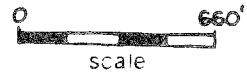
SOILS

The soils over the parcel are mostly of glacial till origin. The Mount Hope River flows along the eastern boundary with associated floodplain and outwash terrace soils adjacent to the stream channel.

Canton, Charlton and Hollis are the loamy till soils on this landscape. Canton and Charlton are deep well drained loamy soils with a water table greater than 60 inches deep. Permeability is moderate in the surface and subsoil and moderate to rapid in the substratum.

Hollis soils are shallow somewhat excessively drained and loamy with bedrock commonly between 10 and 20 inches of the surface. The terrain is usually undulating with steep slopes and high ridge tops. These soils are a significant part of the areas identified on the soil map with the symbols "CrC" and "CrD." Their slopes range from 3 to 35 percent with bedrock outcrops in the steeper

Soils



PLOURDE PROPERTY
ASHFORD, CT.

Principal Limitations and Ratings of Soils for: Recreational Development

SOIL MAP SYMBOL AND SOIL NAME	EXCAVATED PONDS AQUIFER FED	PICNIC AREAS	PLAYGROUNDS	PATHS AND TRAILS
*Ce - Carlisle Muck	Severe-slow refill	Severe-ponding, excess humus	Severe-excess humus, ponding	Severe-ponding, excess humus
CrC Charlton	Severe-no water	Moderate-slope, large stones	Severe-large stones, slope	Slight
Hollis	Severe-no water	Severe-depth to rock	Severe-large stones, slope, depth to rock	Slight
CrD Charlton	Severe-no water	Severe-slope, large stones	Severe-large stones, slope	Severe-slope
Hollis	Severe-no water	Severe-slope, depth to rock	Severe-large stones, slope, depth to rock	Moderate-slope
HkC - Hinckley	Severe-no water	Moderate-slope	Severe-slope	Slight
#Sg - Sudbury	Severe-cutbanks cave	Moderate-wet- ness	Moderate-wetness, small stones	Slight

*Designated wetland soil by Public Act 155

#Prime farmland soil

Pr - Pits, gravel

PLOURDE PROPERTY
ASHFORD, CT.

Principal Limitations and Ratings of Soils for: Town Facilities

SOIL MAP SYMBOL AND SOIL NAME	SEPTIC TANK ABSORPTION FIELDS	DWELLINGS WITH BASEMENTS	SMALL COMMERCIAL BUILDINGS	LOCAL ROADS AND STREETS	GRAVEL SOURCES
*Ce - Carlisle Muck	Severe-ponding, percs slowly	Severe-ponding, low strength	Severe-ponding, low strength	Severe-ponding, frost action	Improbable- excess fines
CrC	Moderate-slope	Moderate-slope	Severe-slope	Moderate-slope	Improbable- excess fomes
Hollis	Severe-depth to rock	Severe-depth to rock	Severe-slope, depth to rock	Severe-depth to rock	Improbable- excess fines, thin layer
CrD	Severe-slope	Severe-slope	Severe-slope	Severe-slope	Improbable- excess fines
Hollis	Severe-depth to rock, slope	Severe-depth to rock, slope	Severe-slope, depth to rock	Severe-depth to rock,slope	Improbable- excess fines, thin layer
HkC - Hinckley	Severe-poor filter	Moderate-slope	Severe-slope	Moderate-slope	Probable
#Sg - Sudbury	Severe-wetness, poor filter	Severe-wetness	Moderate-wetness	Moderate-wetness, frost action	Probable

*Designated wetland soil by Public Act 155
#Prime farmland soil

Pr - Pits, gravel

areas. Use of these soils will be restricted to areas where the slope is less than 15 percent.

Soils with the symbol "Ce" are Carlisle mucks. These are very poorly drained soils with herbaceous organic deposits deeper than 51 inches. The organic materials in these soils are well decomposed and can be as deep as 10 feet or more. These areas have a permanent water table at or near the surface for most of the year.

The soil area with the symbol "Pr" represents a series of small "pits" excavated in this area several years ago in search of gravel for road construction. Some areas in this delineation are undisturbed. The area would not be a difficult area to reclaim because the pits are fairly shallow. A ridge of undisturbed soils separates this area from the Mount Hope River. Water which settles in the pits is from overland flow and not from a permanent water table. Water in the pit area in the northern end of the parcel does not inlet into the excavated areas in the southern part of the parcel. This water flows into the river via a small waterway south of the Carlisle muck soils.

Other soils on the property are the Rippowam (Ru) soils in the southeast corner near the river and the Udorthents, smoothed (Ud) area designated in the area near Route 44 and the Post Office. Rippowam soils are floodplain soils that are regulated by Public Act 155 (Inland Wetlands). Udorthents, smoothed are excessively drained to moderately well drained areas that have been altered by excavating or filling. This particular area was filled and buildings were constructed there. One building was torn down and only the foundation remains in the area adjacent to the road and near the existing Post Office building.

Soils are rated in their "natural state," that is, no unusual modification of the soil site or material is made other than that which is considered normal practice for the rated use. Only the most restrictive features are listed. There may be other features that need to be treated to overcome soil limitations for a specific purpose. Therefore, a soil rated severe gives those soil features that cause the soil to be rated severe. Because a soil is rated severe does not mean it cannot be used. This rating only means major reclamation or special design is required. The definitions of the ratings are as follows:

Slight - the degree of limitation is minor and can be overcome easily

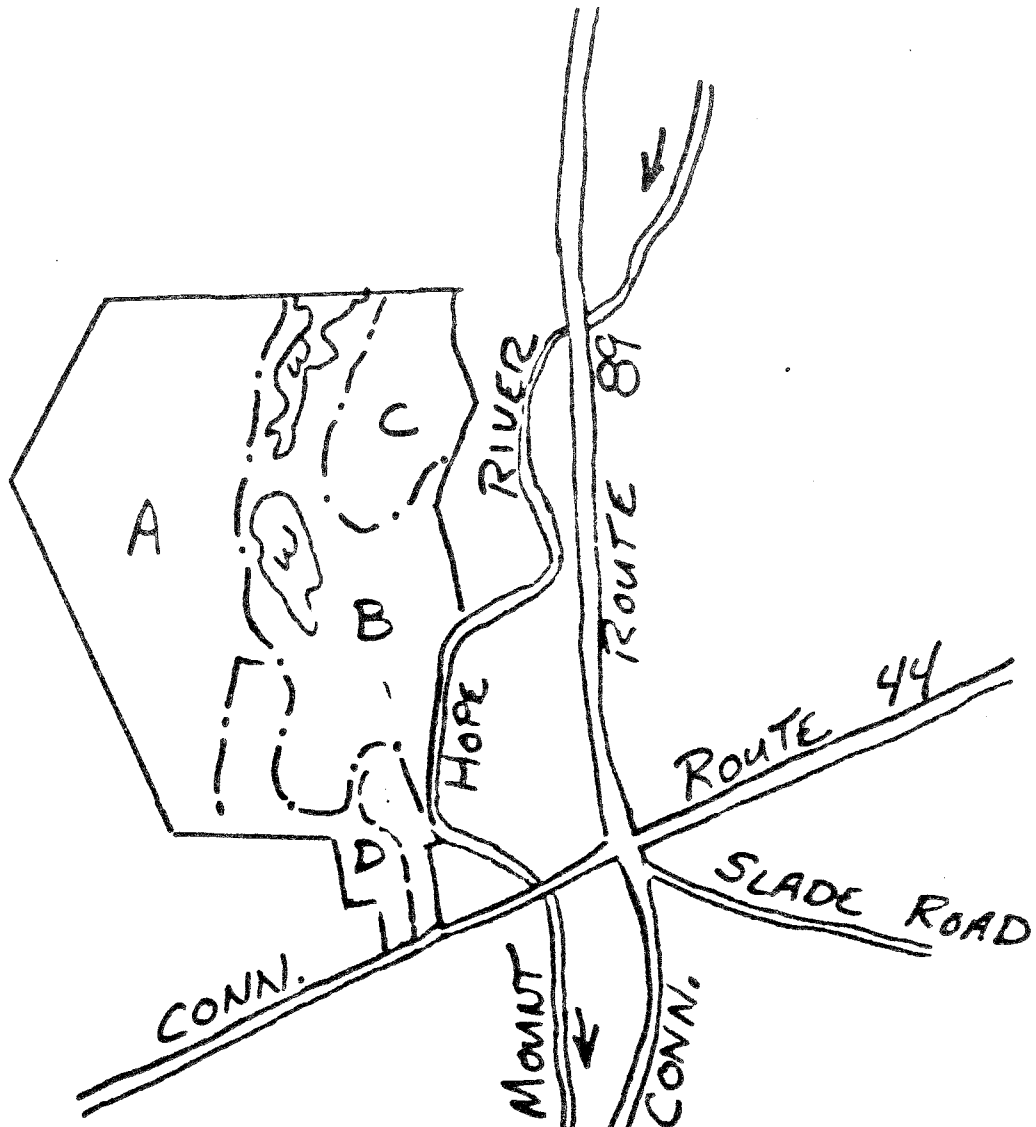
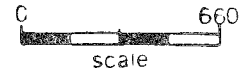
Moderate - this degree of limitation can be overcome or modified by special planning, design, or maintenance

Severe - this degree of limitation generally requires major soil reclamation, special design, or intensive maintenance.

VEGETATION

This parcel may be divided into four vegetation types. These include a mixed hardwood of 24± acres, old fields of 16± acres, a hardwood swamp of 8± acres, and open fields of 9± acres. An additional 3± acres is open water.

Vegetation



VEGETATION TYPE DESCRIPTIONS*

Type A: Mixed Hardwoods, fully stocked, sawtimber size (24 acres).

Type B: Old field, variably stocked, sapling size (16 acres).

Type C: Hardwood swamp, variably stocked, sapling size (8 acres).

Type D: Open field, (9 acres).

*

Seedling Size = Trees less than 1 inch in diameter at 4½ feet above the ground (DBH).

Sapling Size = Trees 1 to 5 inches in DBH.

Pole Size = Trees 5 to 11 inches in DBH.

Sawtimber Size = Trees 11 inches in DBH and greater.

Type A. (Mixed hardwoods) This 24± acre fully stocked stand consists of poor quality pole and sawtimber-size red oak, white oak, hickory, white ash, black birch, yellow birch and red maple. White pine occurs in scattered clumps. Dogwood, blue beech, black birch and hickory occur in the understory. Ground cover consists of ferns, grasses, blueberry and hardwood tree seedlings.

Type B. (Old field) Covering 16± acres, this stand is an area where gravel was mined. It is now reverting to forest. The overstory is variably stocked with sapling to small pole red cedar, white ash, grey birch, black cherry, choke cherry, aspen and red maple. The understory is composed of ground juniper, bayberry, barberry, sumac, serviceberry, sweet fern, raspberry, silky dogwood and hardwood tree seedlings. Ground cover is formed by goldenrod, grasses and mosses.

Type C. (Hardwood swamp) This 8± acre stand is variably stocked with poor quality sapling size red maple, grey birch and willow. Spirea and viburnum form the understory. The ground cover contains sedges, grasses and ferns. Evidence of recent beaver activity was noted.

Type D. (Open field) Occupying 9± acres, this stand consists of fields that are mowed on a regular basis.

The proposed utilization of this property for recreational development together with expansion of Town facilities will impact the vegetation cover negatively, dependent upon the extent of clearing.

The extent of vegetative losses due to clearing will depend upon the magnitude of the development. Removal of all woody vegetation from the access road, ballfields, playing courts, building sites, and pond sites will be necessary. Removal of some vegetation to open up picnic areas and trails to increase sunlight and airflow must be considered. Clearing operations should remove only the lowest quality trees and those which are a direct hazard to area users. The healthier, more vigorous trees should be retained where possible for their high shade and aesthetic value.

Later, some loss of vegetation may occur due to soil compaction, mechanical root injury, direct trampling and vandalism along trails and in picnic areas. Such vegetation losses will reduce the aesthetic quality of the area and potentially cause accelerated erosion of some areas. These disturbances will also accelerate mortality of low vigor unhealthy trees. Dead and dying trees in areas of use are hazardous and should be removed to reduce the risk of injury.

Mitigating Measures/Management Practices

The trees which are removed during the clearing operations for development of the proposed trails, picnic, recreational and building sites should be utilized for sawtimber, fuelwood and woodchips. Trees that are to be removed should be marked to lessen the likelihood of removing desirable trees.

Dead and dying trees, which have the potential to become hazardous to users of the facilities, should also be removed and, where possible, utilized for the highest value use.

The trails and picnic areas should be well defined and clearly marked. This should limit extensive soil compaction, mechanical root injury and trampling of herbaceous vegetation outside these areas. Detrimental soil compaction may be reduced by spreading woodchips, crushed stone or cinders over the trails and picnic areas.

Eventual loss of some trees caused by soil compaction, even with the addition of woodchips, crushed stone or cinders, is unavoidable. As these trees die, they should be removed to prevent a possible hazard.

Vegetation Type A should be thinned to improve the vigor of the residual trees. Removing the culls and the most undesirably formed trees would reduce competition for sunlight, moisture and nutrients. A healthier stand will result.

Vegetation Type B will become fully stocked in five to ten years and may require a thinning in 15 to 20 years. Depending upon the beaver activity, Vegetation Type C may become a fully-stocked hardwood swamp or open water.

A public service forester or private consultant forester should select the trees to be removed in the thinning. Revenue from the thinning will cover consultant costs.

WILDLIFE

Present habitats are well interspersed and provide good wildlife areas. The open fields, both mowed and unmowed, are bounded by shrub species offering good food and cover. Open areas bordered by tangled growth and easily accessible to water offer opportunities for small mammals, e.g., raccoon, cottontail rabbits, red fox and birds as does the proximity of the woodland. These areas characterize the southern half of the property. Development for ballfields, buildings and parking lots would most likely be concentrated in these areas. Careful landscaping with clumps and islands of evergreens and fruit bearing shrubs could minimize disturbance to wildlife. Evergreens (a feature currently absent) would provide winter cover and enhance the wildlife value of the property. A token area of 1/2 acre of unmowed field or early successional stages along the river on the southeastern side would preserve the wildflower community and be useful for passive recreation, such as walking trails and photography. Bird houses for species likely to use such an area (wren, bluebird, tree swallows) could be set up in open grassy areas. The woodland is in a healthy productive stage. Patch cuts with irregular borders would improve feeding areas for deer and grouse. Openings running from upland woods to and through wetland areas would be beneficial.

Recreational Possibilities

Hiking trails could be incorporated throughout the parcel. They should be informative as well as enjoyable. Interpretive markers should be positioned along the trail pointing out such things as: tree and shrub species, bird and mammal nesting spots, and different types of wildlife habitats (woodlands,

fields, wetlands, etc.) and the animals that use them. Wildlife habitat could be improved in the review area through integrated forestry and wildlife management work. Hiking trails could extend into the wetlands area by constructing a boardwalk. High spots could be used for lookout points and/or towers could be erected for this same purpose.

The Town may decide to improve the wildlife habitat through active manipulation (forest cuttings and clearings, vegetative plantings, erecting nesting structures, etc.). If so, technical assistance is available from wildlife and forestry professionals at the Department of Environmental Protection Eastern District Headquarters in Marlborough.

PLANNING CONCERNS

Surrounding Land Use and Compatibility

This site is surrounded by a number of varying uses. The site's frontage is on Route 44 in Warrentville directly across from the Town Hall and a variety store. The Ashford post office and a house is adjacent to the site. The Warrentville Baptist Church and St. Phillip's Catholic Church Center lie east of the site on Route 44. The Mount Hope River forms part of the western boundary of the parcel, with Route 89 west of the river.

Undeveloped woodland lies to the north and east of the site. Perry Hill lies northwesterly of the site with parts of the Natchaug State Forest to the east of Perry Hill.

The frontage of the site is zoned commercial from the Mount Hope River along Route 44 to the Tremko/Palmer property for a depth of 300 feet. The remaining land is zoned for Residential/Agricultural use. The nearby Natchaug Forest land is zoned for Recreation.

The Mount Hope River flows southward into Mansfield Hollow Lake (Naubesatuck Lake), which then flows into the Willimantic Reservoir--the public drinking water supply for the Willimantic area.

Areas along the river are in a flood hazard area and are included in Ashford's Flood Plain Zone which permits only agriculture, recreation and similar non-structural uses.

Park facilities would be compatible with surrounding land uses. Additional municipal facilities such as library and fire house facility could be properly designed to be compatible with surrounding uses. Such uses would further establish Warrentville as the Town center.

Senior housing and a senior center could also be designed to be compatible with surrounding land uses, however, the density of development would need to be rather low in order to adequately accommodate on-site waste disposal without jeopardizing water quality in the Mount Hope River or in wetlands on the site.

Non-structural recreation uses could be sited in the floodplain zone along the river, while other facilities such as the library, fire house or senior housing would need to be sited in the more upland areas.

Relationship to Plans

State Plan of Conservation & Development

The state plan's Locational Guide Map recommends the area at the junction of Routes 44 and 89 for rural community center uses, Preservation Areas along the Mount Hope, and Conservation areas on the upland portions of the site. The state's policy plan is utilized when state funding is proposed for use in developing an area. In such a case, park or open space uses in the areas along the river and upland areas designated for conservation and preservation uses could be in compliance with the state's plan. Library, fire house, and senior housing uses could be appropriate in the limited area designated for a rural center. Funding requests from the state would be reviewed for compliance with this policy plan. The Connecticut Office of Policy and Management determines compliance.

Regional Growth and Preservation Guide Plan

The region's land use plan recommends this site for historic preservation use around the village center, along the Route 44 frontage, river corridor preservation uses along the Mount Hope and low density rural development in the upland areas. Historically and environmentally sensitive development in the commercially zoned part of the site could be appropriate. The plan recommends low density development with compatible architectural design in village centers like Warrentonville. Open space, park and recreation uses along the river would be compatible with the area along the Mount Hope.

Floodplain and wetland regulations are recommended to protect life and property. State and local entities are encouraged to acquire rights to land within river corridors and provide public access. Development along rivers should be designed and sighted to minimize visual impact and protect water quality.

Ashford Plan of Development

The Ashford's plan of development makes recommendations for recreation space. While noting that 20% of the land in Ashford is in public open space use (State Forests, Yale Forest, Boy Scout Reservation), there is limited land available for active recreation use such as playfield, walking trails, or picnic areas.

The 1970 plan recommends the Town consider land acquisition along or near Route 89 both above and below Route 44, nearer the geographic and population centers of Town for playfields, facilities for active sports, and parkland for walking, picnicking, and natural study. Twenty-five acres is recommended in each of two sites, and if both can be located near a water source for swimming and winter skating, a close to ideal situation would exist. Brook and stream

protection is also recommended in the plan in part through recreational use. Need for sites for future fire stations and library relocation are also noted in the plan.

Planning Considerations

Gravel

The site has little to no potential for sand and gravel extraction according to maps prepared by the Connecticut Department of Transportation shown in the Construction Aggregate Availability Study Summary Report: Highway District II.

Flood Hazard

Parts of the parcel are within the 100 and 500 year flood zones of the Mount Hope River. Recreational uses such as hiking trails, picnic areas, playfield and ballfields would be appropriate in these low lying areas. Ashford's zoning regulations allow only agricultural, recreational, and other similar non-structural uses in the Flood Plain Zone. Structural uses proposed such as a library, firehouse or senior housing would need to be located in the more upland areas of the site.

Site Potential

The 60 acre site is unique in its location in the Town's center with direct access off of Route 44. The area along the river would be well suited to passive recreational uses such as fishing, picnicking, and hiking trails. Due to the flood potential along the river, structural development should be minimal. Ball and playfields and court (tennis, badminton, volleyball) facilities would be well suited to the lowland areas where limited gravel extraction has occurred. Again these areas are subject to flooding and so limited structural development should take place.

The existing pond areas would be suitable for skating and nature study. Since they appear to be rather shallow, however, with minimal flow and seem to be gravel extraction pits where ponding has occurred, they have limited value for swimming unless they are deepened and a source of water could be used to keep the water flowing to ensure a constant flow of water through the pond to keep water quality high.

Hiking trails which could also be used for fitness, nature study, and cross country ski trails could be developed throughout the site. If easements could be obtained across adjacent property to the north and west, a trail system could connect with part of the Natchaug State Forest to the west of Perry Hill.

The upland area to the west of the site, above the flood plain areas could be suitable for limited structural development. A library adjacent to a park often combines compatible uses. The passive types of recreation which cause little noise and disruption, however, should be situated nearest the library, with active recreation uses like ballfields placed at a distance to the library to minimize the noise of cheering crowds interfering with the need for quiet in a library.

A firehouse facility could be sited to be compatible with recreation and library uses. Care should be taken, however, to insure that people and vehicles using the library and recreation facilities are separated from people and vehicles which need access to the firehouse in emergency situations. The closer the firehouse is situated to Route 44, the more these uses, their users, and associated vehicles will be separated, and thus safety assured.

Limited amounts of senior housing could be accommodated on this site. On-site wetland septic systems will limit the number which can be accommodated. Care would need to be taken in siting the housing in an appropriate location. Such housing would be compatible with and located near a library, but should be separated from a firehouse.

Picnic areas, hiking trails and other passive recreation would be compatible with housing, but active recreation spaces such as ball fields should be kept at a distance to minimize noise and traffic disturbances to residents of the housing.

The site divides itself into two major sections--the lowland flood plain areas along the eastern half of the site and upland areas along the western half of the site. Recreational uses should be sited in the lowland areas. Developed uses would be best suited in the western upland areas. The northwest corner of the site, however, is rather steep with soils not particularly suited to development. This area should be left undeveloped or developed in passive recreational uses such as hiking and cross country skiing trails. Developed uses such as a library, firehouse or senior housing should be limited to the southwestern portion of the property which is not so steep and is above the flood plain.

The tract has much to offer the Town not only in natural beauty and the potential to protect a portion of the Mount Hope River, but also to provide opportunities for active recreation uses in a geographically central location. The site can also support some limited development in the upland areas which could be suitable for municipal facilities like a library and a firehouse.

It would appear to be an appropriate property to acquire to meet not only the Town's recreational needs but also need for a library site and possibly sites for firehouse and senior housing needs.

Alternative Uses

No specific alternative uses have been identified for the site although preservation of the Mount Hope streambelt is a long time goal of local and regional planning.

Current commercial zoning along the front of the parcel make it possible to be developed in more intensive uses, but Flood Plain zoning on some of the area may preclude structural development along part of the parcel.

The flood plain area should be used only for agriculture or recreation uses compatible with flood plain and streambelt protection. The upland areas

in the southwest portion of the parcel could be suited for limited residential development.

RECREATION POTENTIAL

The acquisition of the ±60 acre Plourde property is being considered by the Town of Ashford as a potential site to develop Town recreation facilities, and also as a possible location to expand Town services.

Recreational facilities which the Board of Selectmen feel would be beneficial to the Town include: 1) athletic fields: soccer, baseball and softball; 2) an ice skating pond; 3) a swimming area; 4) picnic facilities; 5) tennis courts; 6) volleyball courts; 7) badminton courts; 8) a fishing area; and 9) hiking trails.

Facilities which are being considered in the expansion of Town services include the development of a senior center and/or senior housing; a firehouse; and a library.

The topography of the property varies from flat to gentle slopes in the eastern half of the property to moderate slopes on the western half. Both passive and active recreational uses could be made of this parcel taking into consideration the topography. Ballfields, tennis courts, volleyball courts, badminton courts and swimming pools must be considered in terms of cost of development of the more level pieces of the property and the sand/gravel pits and in terms of compatibility amongst those facilities and the proposed Town facilities of a senior center/housing, fire house, and library. Support facilities such as parking, rest rooms, and storage/concession buildings must be considered with the proposed recreational facilities.

Mixture of active recreation users with senior housing tenants, library users, and firefighters responding to an alarm makes a very delicate planning challenge. Ballfields and tennis courts, if lighted for night play, would conflict with both the library use and the senior housing use unless care were taken to visually block sound and light. Volleyball and badminton courts would cause little disruption since basically a flat piece of ground and two standards are all that are required. Use of volleyball and badminton would be restricted to daylight hours.

Perhaps the initial proposal for placing the firehouse on the western interior of the property behind the library should be reviewed. The fire house by nature of the facility must have direct access to the main highway. Creating a drive past a recreational park and library would create unnecessary danger to users of both facilities.

The location of senior citizen housing and/or center to the north of the property would cause security problems due to isolation. Tenants would be fearful of using hiking trails to reach the library. Care should be taken to locate the Senior facilities in an accessible, secure, well-lit and quiet area of the property.

Development of on-site surface water for swimming facilities does not appear feasible from a public health standpoint. It is necessary that surface water supplies have sufficient flow through of a satisfactory quality water to be considered for development as a surface water bathing area. Use of water resources from the Mount Hope River in development of a public bathing area would appear to be counterproductive and extremely costly in order to provide a suitable bathing area of any reasonable size. Therefore, if swimming is to be considered, it is recommended that the development of a public swimming pool on the site be the facility of choice. It is required that public swimming pools be designed by a professional engineer or architect licensed in the State of Connecticut and that such design be based upon design criteria established by the State Department of Health Services. Plans must be submitted to the State Department of Health Services for review and approval prior to any construction.

Outdoor swimming pools built for a 10-week season are not terribly cost effective in New England. If the Town determines that a pool is a priority, careful consideration should be given to a year-round facility. If a pool is not the intent, the pond sites and the Mount Hope River could cause unnecessary liabilities for the Town in terms of water quality, hidden hazards, lifeguards, and maintenance. Use of the pond areas and river for fishing, picnicking, and hiking trails would be sufficient. The ice skating potential of the pond could add a winter dimension to use of the park. Care should be taken to direct traffic to the skating pond away from the river so that no confusion could occur for skaters as to the proper and safe place to skate.

Any development of recreational facilities on the site will necessitate the development of associated toilet facilities. Toilet building facilities should include adequate flush toilet fixtures for both sexes and adequate hand-washing facilities including warm water. If a swimming pool is developed on the site, warm water shower facilities would have to be included in the design. Additionally, an appropriate number of drinking water fountains should be located convenient to the recreational facilities.

Hiking trails are desirable if access to the trails is restricted to hikers or cross country skiers. Motorcycle and snowmobile use of hiking trails has rendered many trails in the State dangerous to hikers and difficult for police to patrol. Picnicking, hiking, and cross country skiing in the western region and along the river will provide scenic opportunities to the user if the property is maintained for those activities. Such maintenance must be considered prior to development of these areas. Fitness trails, nature trails and interpretive trails are all variations of hiking trails which require different degrees of maintenance but should be weighed before final plans for the property are made.

Additional facilities which should be considered are soccer fields, bocce courts, shuffleboard courts, horseshoe pits and playgrounds with play structures as well as traditional playground equipment. Soccer fields in Connecticut are by far the facilities most in demand and should be considered. Outdoor basketball courts draw considerable activity, especially the teen population. Playgrounds for toddlers as well as older children would provide activity during use of larger facilities by older siblings.

The size and topography of this property, whether developed or kept for future development by the Town, indicate that acquisition is highly desirable for the recreational and park future of the Town.

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.