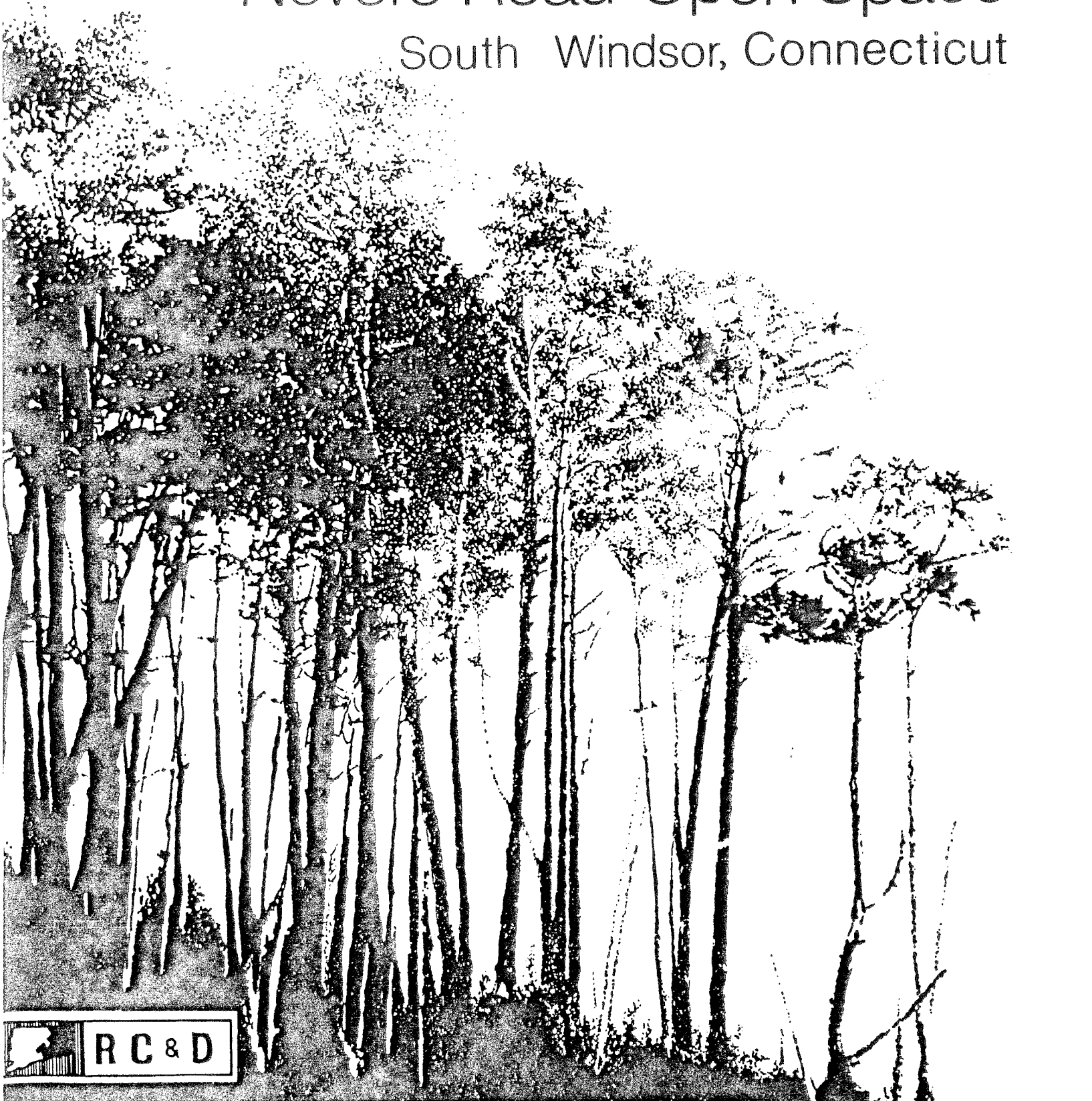


Environmental Review Team Report

# Nevers Road Open Space

South Windsor, Connecticut

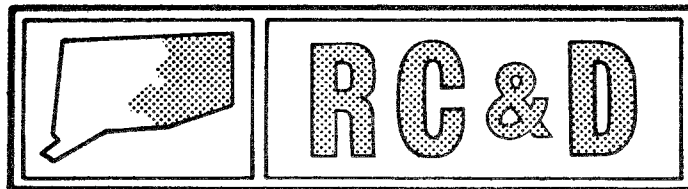


EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.

Environmental Review Team  
Report

Nevers Road Open Space  
South Windsor, Connecticut

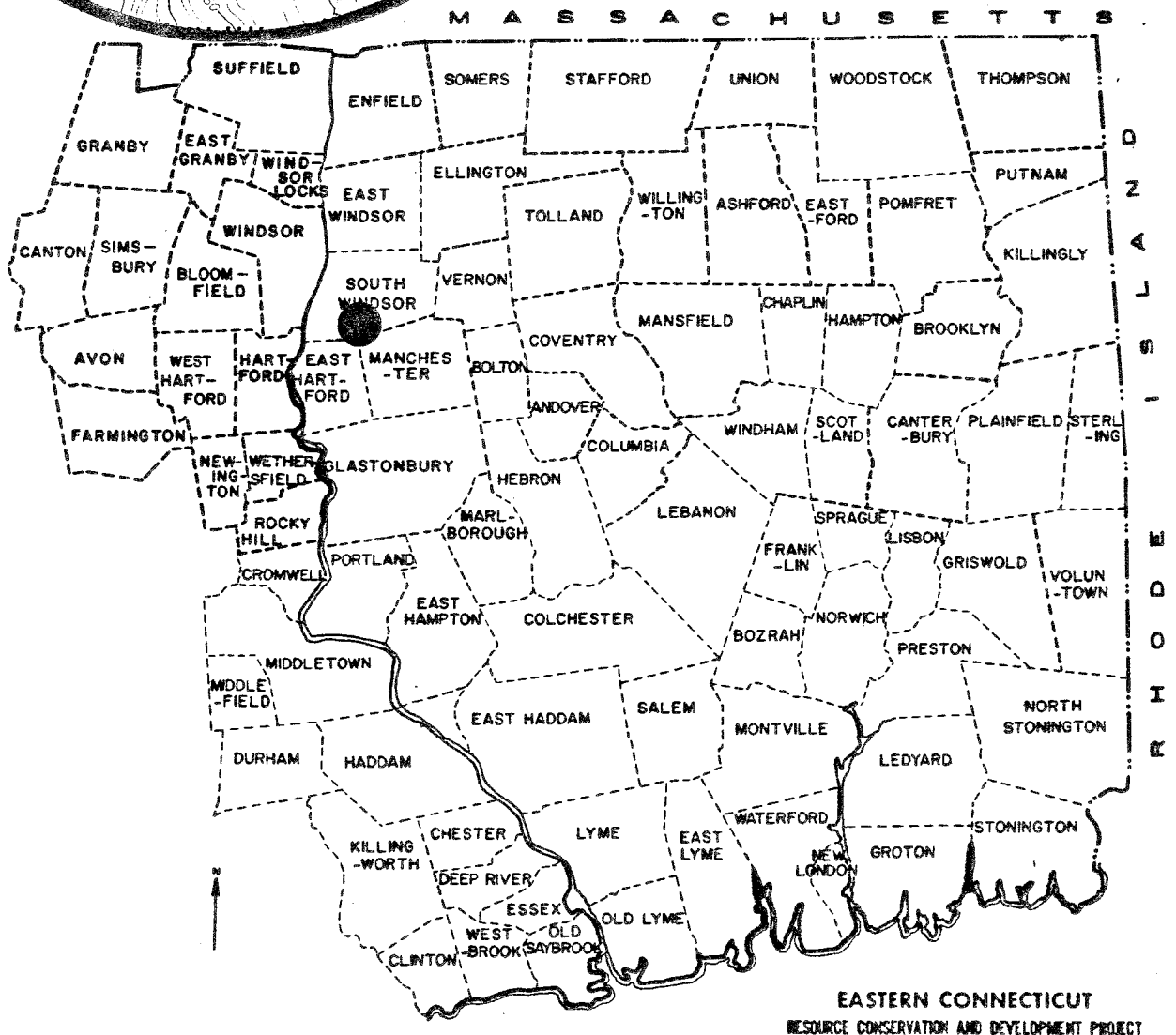
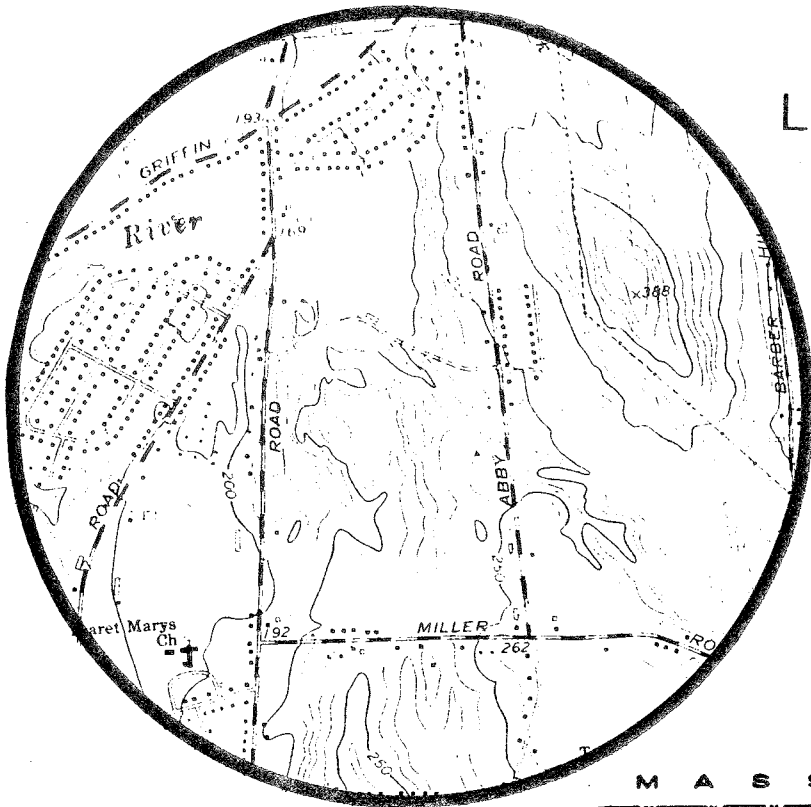
December 1983



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

# Location of Study Site

NEVERS ROAD OPEN SPACE  
SOUTH WINDSOR, CONNECTICUT



ENVIRONMENTAL REVIEW TEAM REPORT  
ON  
NEVERS ROAD OPEN SPACE  
SOUTH WINDSOR, CONNECTICUT

This report is an outgrowth of a request from the South Windsor Planning and Zoning Commission, to the Hartford 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: Bill Warzecha, Geologist, State Department of Environmental Protection (DEP); Jim Parda, Forester, DEP; Vern Anderson, District Conservationist, SCS; Wil Maxwell, Land Use Planner, Capitol Region Council of Governments; and Jeanne Shelburn, ERT Coordinator, Eastern Connecticut RC&D Area.

The Team met and field-checked the site on Thursday, August 25, 1983. Reports from each Team member were sent to the ERT Coordinator for review and summarization for the final report.

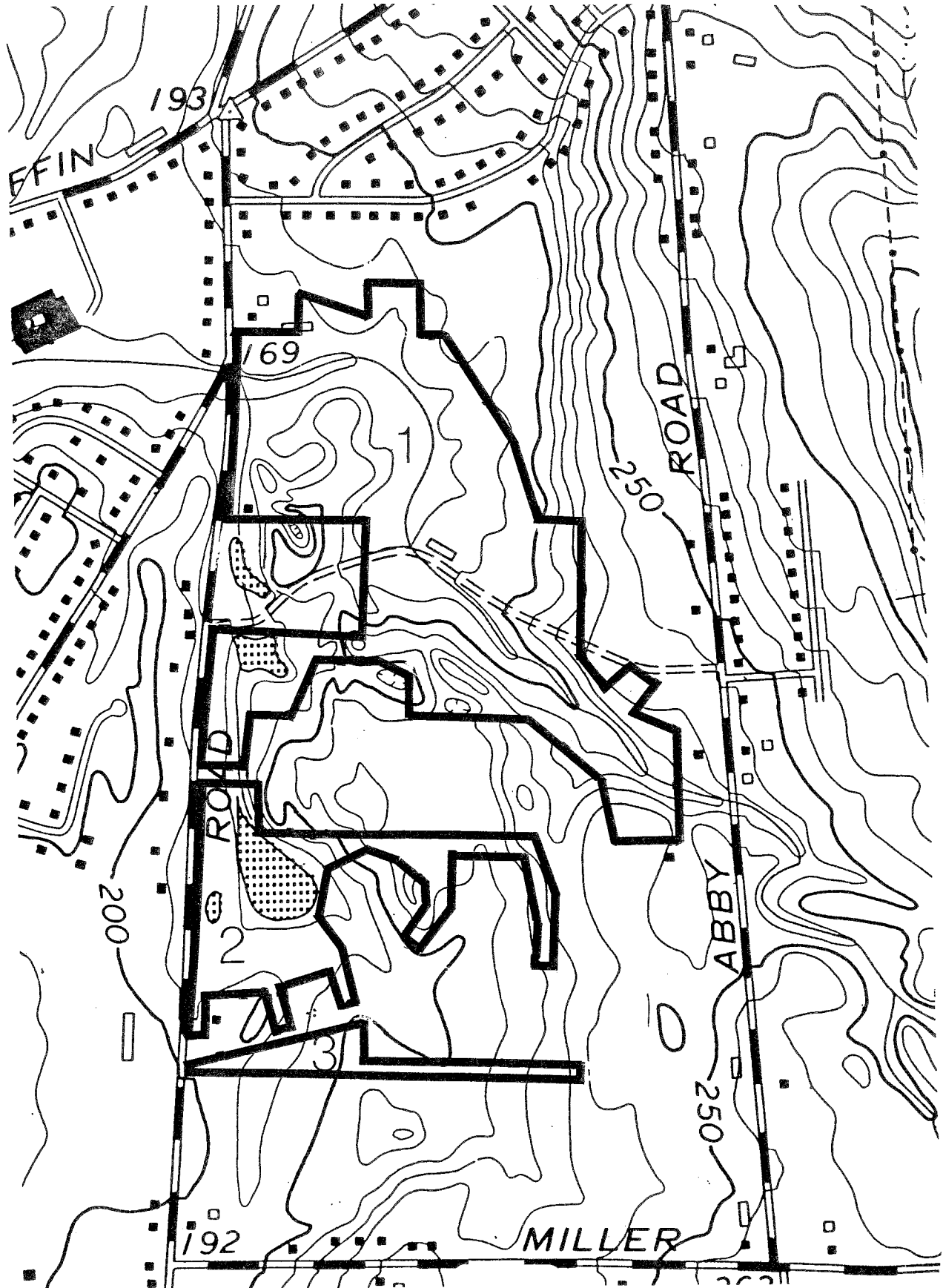
The report is not meant to compete with private consultants by supplying site designs or detailed solutions to development problems. This report identifies the existing resource base and evaluates its significance to the proposed development and also suggests considerations that should be of concern to the developer and the Town of South Windsor. 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 the particular site.

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

Topography

— Site Boundary



## INTRODUCTION

The Eastern Connecticut Environmental Review Team was asked to prepare a natural resource inventory for a 60 acre town-owned open space area. The parcels are located between Nevers Road and Abby Road in the town of South Windsor. Although irregularly shaped, they form a contiguous open space area between the South Ridge Estates, Wood Ponds Estates and Savin Woods subdivisions. For ease of identification in this report, the parcels have been given numerical designations. Parcel 1 is the northernmost section, Parcel 2 is the middle section, and Parcel 3 is the southernmost site.

The Team has provided detailed natural resource base information in the following sections of this report. Although the town originally was concerned with maintaining these parcels in their natural state for passive recreation, the Team has recommended a number of alternatives. These sites could accommodate a viable mix of active and passive recreation activities. For example, the northwestern section of Parcel 1 would be a suitable area for a town-wide active recreation facility, incorporating ball fields, a soccer field and parking area. Direct access from Nevers Road would not pose a major traffic problem to area residents. Areas 2 and 3 should be considered for "neighborhood only" use and left in their natural state, enhanced for wildlife management or developed minimally with nature trails. In all cases, access to Parcels 2 and 3 should be limited to one or two sites and should be well defined. Use of the finger-like accessways between lots should be avoided. The town may wish to consider deeding these narrow pieces back to adjacent land-owners.

## ENVIRONMENTAL ASSESSMENT

### TOPOGRAPHY

All three parcels of land are irregularly shaped and have a combined acreage of approximately 60 acres. They are all located in the northwest part of town between Nevers Road and Abby Road.

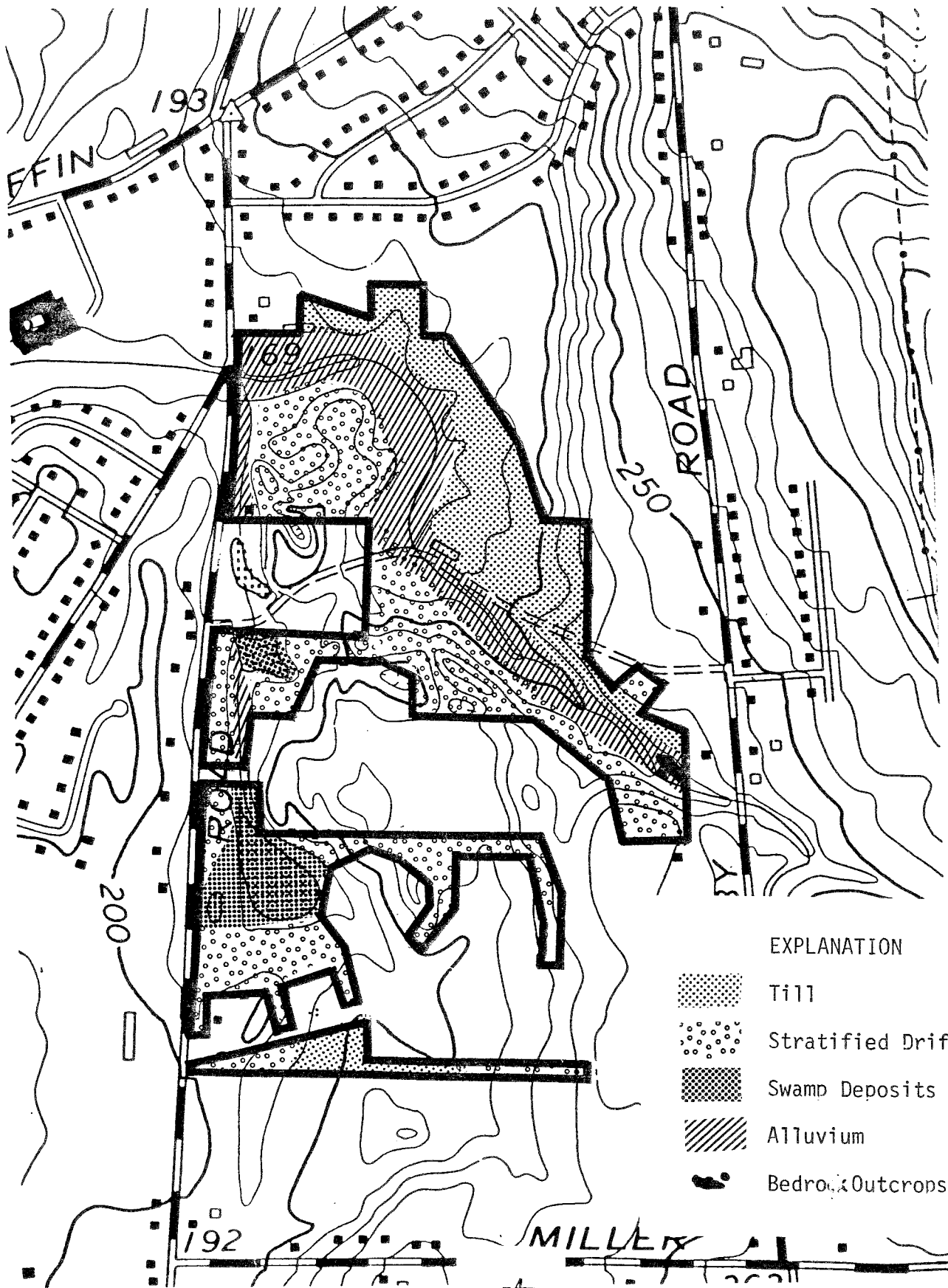
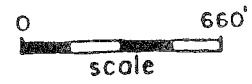
The topography of Parcel 1 consists of a relatively flat to gently rolling terrain. Slopes in the easternmost portion of the parcel are moderate. The Podunk River flows in a southeast to northwest course through the parcel. Sand and gravel had been extracted from various points on the parcel in the past, however, it is not presently being mined.

Parcel 2 has a terrain which is relatively flat to gently rolling. A wetland area, which collects stormwater runoff from an adjoining subdivision, occupies the western portion of the parcel.






Parcel 3 is linear-shaped and relatively narrow. Its topography is generally flat throughout.

Elevations on all three parcels range from a low of approximately 190 feet above mean sea level along Nevers Road to approximately 240 feet above mean sea level throughout the western limits of the sites.

# Surficial Geology



## EXPLANATION

-  Till
-  Stratified Drift
-  Swamp Deposits
-  Alluvium
-  Bedrock Outcrops

## GEOLOGY

The bedrock that underlies or crops out on all three parcels is mapped and described in the Geologic Map of the Manchester Quadrangle (GQ-433) by Roger B. Colton (1965). This map is available at the Department of Environmental Protection's Natural Resources Center in Hartford. Only one rock unit, Portland Arkose, underlies or crops out on the site. This unit consists of a reddish brown and gray arkosic (rich in feldspar) siltstone, sandstone and conglomerate. The rock unit outcrops in the southeast section of Parcel 1 along the streambed of the Podunk River. Depth to bedrock in the eastern portions of Parcel 1 is generally less than 10 feet below ground surface. However, depth to bedrock on the remainder of Parcel 1 as well as Parcel 2 and 3 ranges between 10 and 50 feet below ground surface.

Surficial geologic materials, or those deposits which overlie solid bedrock have also been mapped and described in the Geologic Map of the Manchester Quadrangle. The distribution of deposits on each parcel, as adapted from Colton's map, is shown in an accompanying illustration. Essentially four types of deposits are shown: till, stratified drift, alluvium and swamp deposits.

Till, which was deposited directly by glacier ice, covers the solid bedrock primarily in the more elevated areas, east of the Podunk River on Parcel 1, along the eastern and southern fringe of Parcel 2, and throughout the central portions of Parcel 3. It contains an assortment of particles removed from bedrock outcrops and pre-existing surficial deposits by the moving ice. These particles range in size from clay to boulders and in shapes from round to angular to flat. As a result, till varies in texture from sandy and loose to hard, silty and compact.

Another type of overburden deposited from glacier ice is stratified drift. It covers bedrock primarily west of the Podunk River on Parcel 1 with minor amounts along the eastern border, most of Parcel 2, and the extreme eastern and western limits of Parcel 3. It consists of rock particles that were washed out of the wasting glacier by meltwater streams and redeposited in a generally sorted and layered sequence. Sand and gravel are the major components of the stratified drift found on the parcels. Its color ranges from a pale, yellowish brown to a grayish red to reddish brown. Thickness of the stratified drift on all parcels ranges between 10 and 50 feet below land surface.

"Alluvium" is a surficial deposit found along the banks of the Podunk River on Parcel 1 as well as along the unnamed stream emanating from wetlands in the western portion of Parcel 2. It consists of recent stream deposits of laminated gray silt and sand. Thickness of alluvial deposits along the Podunk River are generally 20 feet and probably much less along the unnamed stream.

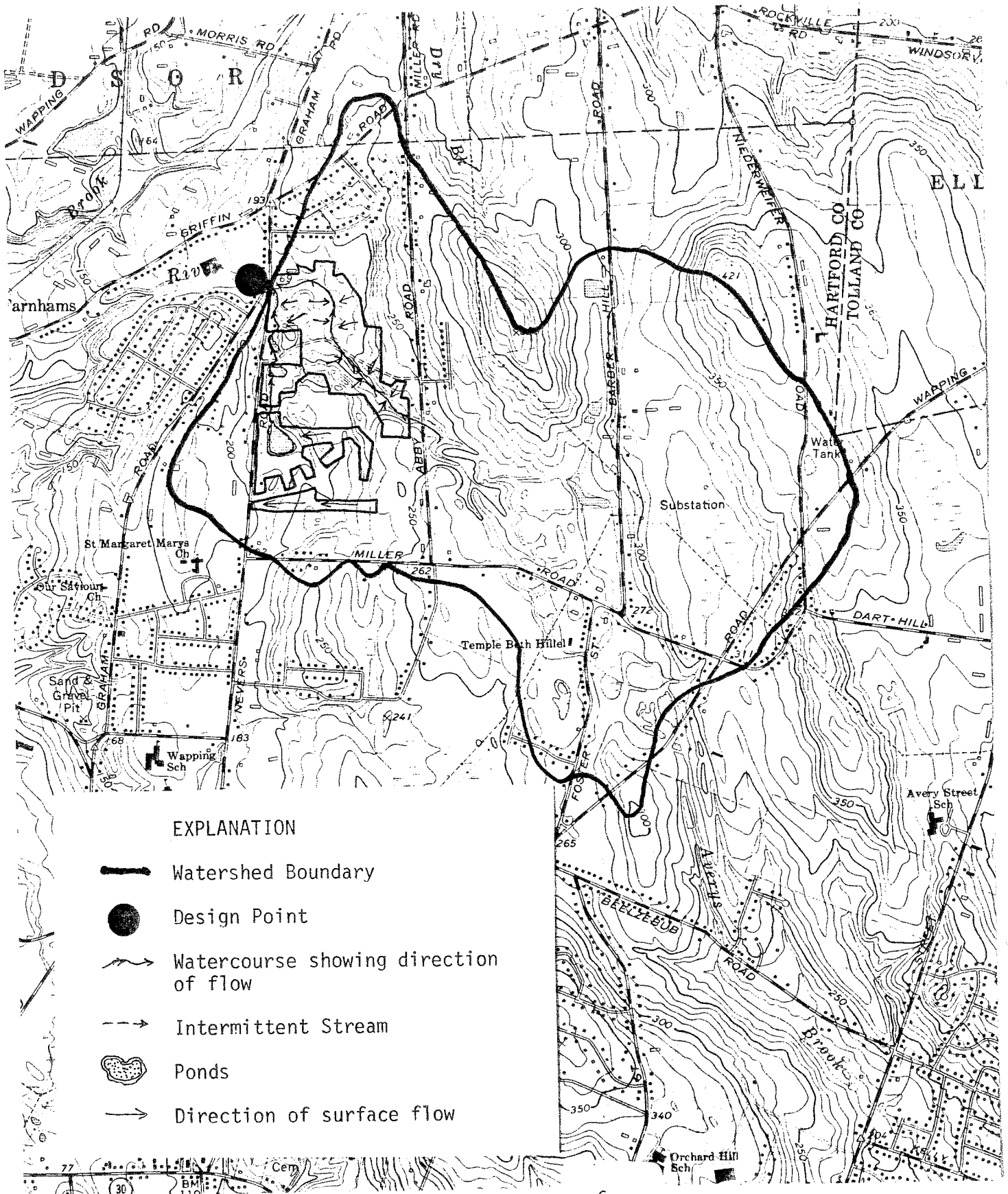
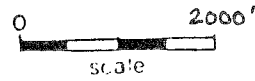
Swamp deposits which consist of a mixture of grayish, sharp brown peat, muck, silt, sand and clay overlie stratified drift in the western portions of Parcels 1 and 2. Both swamp sediments and alluvium are post-glacial deposits.

## HYDROLOGY







All three parcels lie within the watershed of the Podunk River. Runoff from Parcel 3 flows towards the western limit of the site into a natural swale. This



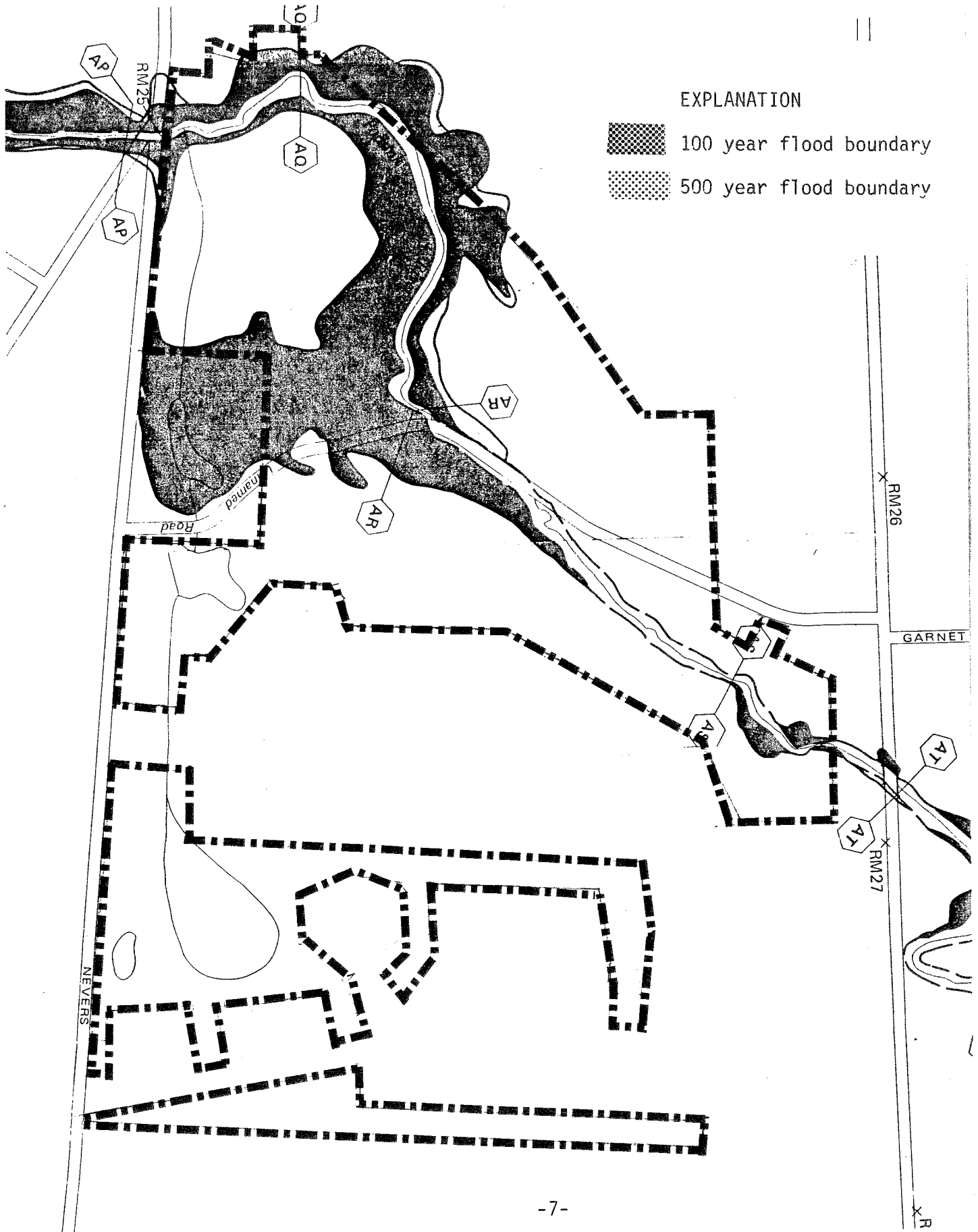
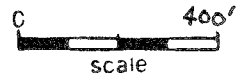
# Drainage Areas



## EXPLANATION

-  Watershed Boundary
-  Design Point
-  Watercourse showing direction of flow
-  Intermittent Stream
-  Ponds
-  Direction of surface flow

# Floodprone Areas



## EXPLANATION

- 100 year flood boundary
- 500 year flood boundary

swale directs surface water northward into the wetland area in the western portion of Parcel 2. Runoff from Parcel 1 flows either into the unnamed stream to the west or the Podunk River. The drainage area that supplies the Podunk River up to the point where it leaves the northern portion of Parcel 1 is shown in the accompanying illustration. Approximately 1.93 square miles or 1,273 acres are contained within this area.

#### FLOOD PRONE AREAS

The flood prone areas bordering the Podunk River, as well as low lying areas, have been identified in a map prepared by the Federal Emergency Management Agency. A reproduction of part of that map, which identifies the approximate boundaries for a 100 and 500 year flood is included in the accompanying illustration. A "100" year flood is a flood with a 1% chance of occurring in any given year whereas the "500" year flood has a one chance in 500 (.2%) of occurring in any given year. It should be noted that this does not mean a flood of 100 or 500 year magnitude would occur only once in 100 or 500 years, respectively. The chance of occurrence remains the same each year, regardless of what happens the year before.

Although the map does not indicate flood prone areas in Parcels 2 and 3, low lying areas within the western limits may be prone to flooding during wet times of the year or during periods of heavy precipitation.

#### SOILS

The soils on this parcel, as mapped in The Hartford County Soil Survey, are:

Excessively drained soils - those soils which have a depth to the water table of over 6 feet and rapid to very rapid permeability throughout the soil profile.

MgC - Manchester gravelly sandy loam, 3 to 15 percent slopes

Well drained soils - those soils which have a depth to the water table over 6 feet.

EsA - Enfield silt loam, 0 to 3 percent slopes

EsB - Enfield silt loam, 3 to 8 percent slopes

EsA2 - Enfield silt loam, 0 to 3 percent slopes eroded

EsB2 - Enfield silt loam, 3 to 8 percent slopes eroded

EsC2 - Enfield silt loam, 8 to 15 percent slopes eroded

NgB - Narragansett stony silt loam, 3 to 8 percent slopes

NgC - Narragansett stony silt loam, 8 to 15 percent slopes

Moderately well drained soils - those soils which have a depth to the water table between 1.5 and 3.0 feet.

TsA - Tisbury silt loam, 0 to 3 percent slopes

CN-CONS-7  
3-73

SOIL AND NATURAL SOIL GROUPS MAP

Prepared by

(File Code U. S. DEPARTMENT OF AGRICULTURE . SOIL CONSERVATION SERVICE  
CONS-14-5)

Cooperating with  
CONNECTICUT AGRICULTUREAL EXPERIMENT STATION,  
STORRS AGRICULTURAL EXPERIMENT STATION, AND

Hartford County SOIL AND WATER CONSERVATION DISTRICT

COOPERATOR \_\_\_\_\_ DATE \_\_\_\_\_  
COUNTY Hartford STATE Connecticut  
APPROX. SCALE 1:20 000 SOIL MAP NUMBER \_\_\_\_\_

SYMBOLS

324-B-1 or CaB = DETAILED SOIL SURVEY  
A-1a, B-2a, etc. = NATURAL SOIL GROUP

Soil Map Symbol	SOIL NAME	N. S. Group	Sheet No.

Very poorly drained soils

SbA - Saco silt loam, 0 to 3 percent slopes

SeA - Scarborough loam, 0 to 3 percent slopes

The Enfield soils, except those on 8 to 15 percent slopes, and Tisbury soils are designated prime farmland soils. Prime farmland has the soil quality, a growing season and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management according to acceptable farming methods. However, on this site much of the acreage of these soils has been disturbed and therefore, affected the quality of the soil. A detailed on-site soils investigation would be needed to identify the undisturbed soils from these disturbed soils. The remaining soils--Scarboro and Saco--are designated as inland wetland soils. A permit from the Town inland wetlands agency would be needed if any development were to occur on these soils.

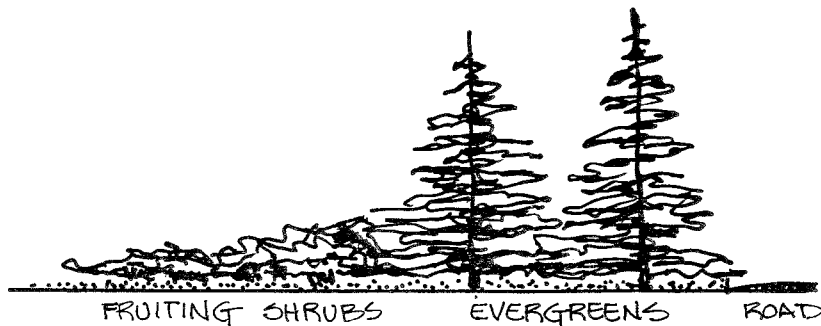
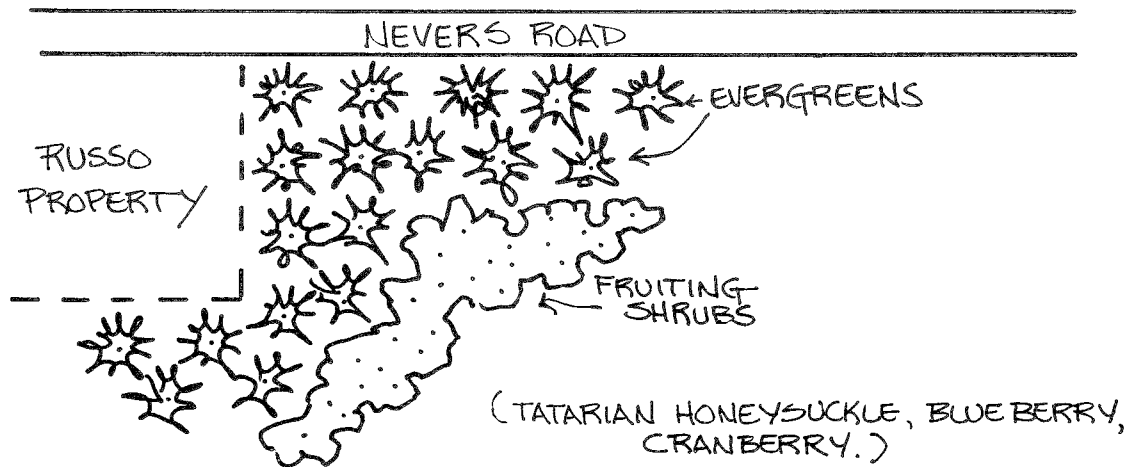
The area located in the northwest corner adjacent to Nevers Road has potential to be developed for recreational uses such as baseball, football, and soccer fields. The soil material there is suitable for these uses. The area is located far enough away from the homes on Old Farms Road to permit this development. This parcel also is located in a favorable position to allow access to much of the remaining land along the Scantic River.

During the pre-review meeting, it was mentioned that dirt bikes have been a problem on some of this open space land. It does not appear to be realistic to expect that these vehicles will disappear, so perhaps identifying a designated area for these vehicles is needed. The area which could be used for the athletic fields may be such an area. A dirt bike course could be planned in conjunction with these other uses. Obviously, there may be undesirable affects such as noise and dust pollution. With proper planning and cooperation among interested parties, perhaps a course could be developed. A noise barrier of conifers and/or wood, enforcement of muffler devices, earth berms, are some possible measures which could be used. The purpose here is simply to provide additional use for this town open space. The Soil Conservation Service is available to assist the town in developing a conservation plan for this area.

A permanent grass mixture of Kentucky 31 Tall Fescue (80%) and Annual Rye Grass (20%) of 50 lbs per acre should be planted in heavy use areas such as woods, roads and trails and a minimum of 150-250 lbs per acre used for athletic fields. Plantings to be in spring (April 15 - June 15) or fall (August 15 - October 1). Lime according to soil test or 2 tons of ground limestone per acre. Fertilize according to soil test or 600 lbs of 10-10-10 fertilizer or equivalent per acre.

Windbreak and screening could be established along the Russo property and along Nevers Road. Plant two rows of evergreens either even or staggered and one row of fruiting shrubs. Suggested planting configurations are shown in the accompanying illustration.

# Suggested Planting Configuration



EVERGREENS SHOULD BE PLANTED 10' ON CENTER FOR SCREENING EFFECT.

A system of walking trails could be developed to connect all the parcels. The trails could be used in conjunction with a conservation outdoor education (COE) area. Types of trails are: a theme or story trail, nature trail, or miscellaneous trail. A small area could be an outdoor classroom. The COE could be used by schools in the Town for field trips as well as residents.

Other alternatives for using the parcel in the northwest corner next to Nevers Road are to develop it as a parcourse exercise course, or even a Frisbee "golf" course. This part of parcel has much potential for active recreation use. The remaining areas behind the homes is probably best suited for passive recreation such as the trails mentioned as well as wildlife habitat.

The gravel excavation should be regraded and reshaped to no steeper than 3 to 1 slope. A permanent grass mixture of Kentucky 31 Tall Fescue (60%) 24 lbs per acre and Crownvetch (40%) 15 lbs per acre should be planted April 1 - June 15. Shrubs such as Bristly Locust or Autumn Olive also to be planted in rows 4 feet apart. If 4 inches of topsoil is added, Orchard Grass or Brome Grass may be used as a ground cover for wildlife uses.

## VEGETATION

The three open space parcels can be divided into eight vegetation areas which includes 31 acres of mixed hardwood forest, 17 acres of open field, 3 acres of gravel pit, 4 acres of old field brush.

### Vegetation Type Descriptions

TYPE 1: Open Field: open soil, sumac, aspen, golden rod, queen anne's lace, blackcherry, grasses, grey birch, dogwood, bayberry, white pine hedgerow, raspberry. (10 acres)

TYPE 2: Mixed Hardwoods: white ash, willow, grape, multi-flora rose, cotton wood, red maple, ironwood, swamp white oak, spicebush. This stand lies along the Podunk River flood plain and is subject to seasonal wetness. Most trees are pole sized. (6 acres)

TYPE 3: Open Field: golden rod, milkweed, fern, silky dogwood, speckled alder, grape, wildflowers. (3 acres)

TYPE 4: Mixed Hardwoods: aspen, white ash, oaks, blackcherry, grey birch, grape, meadowsweet, raspberry, goldenrod, speckled alder. This is a seedling-sapling sized stand. (5 acres)

TYPE 5: Old Field: staghorn sumac, dwarf sumac, dewberry, raspberry, multi-flora rose, aspen, scarlet oak, poison ivy, white ash, red maple. This is an old field in the early stages of succession to hardwood forest. (4 acres)

TYPE 6: Open Field: exposed soil. (4 acres)

TYPE 7: Gravel Pit. (3 acres)

TYPE 8: Mixed Hardwoods: red oak, white ash, black birch, red maple, white oak, beech, fern, spicebush, poison ivy. (25 acres)

### Limiting Conditions and Potential Hazards

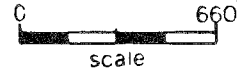
Potential hazards include large dead limbs on several large trees which should be pruned off if they are adjacent to a hiking trail. It should be noted that trails in types 2 and 3, the Podunk River flood plain, if used extensively, could experience soil compaction after several years. Vehicular use should be excluded from these areas.

### Management Considerations

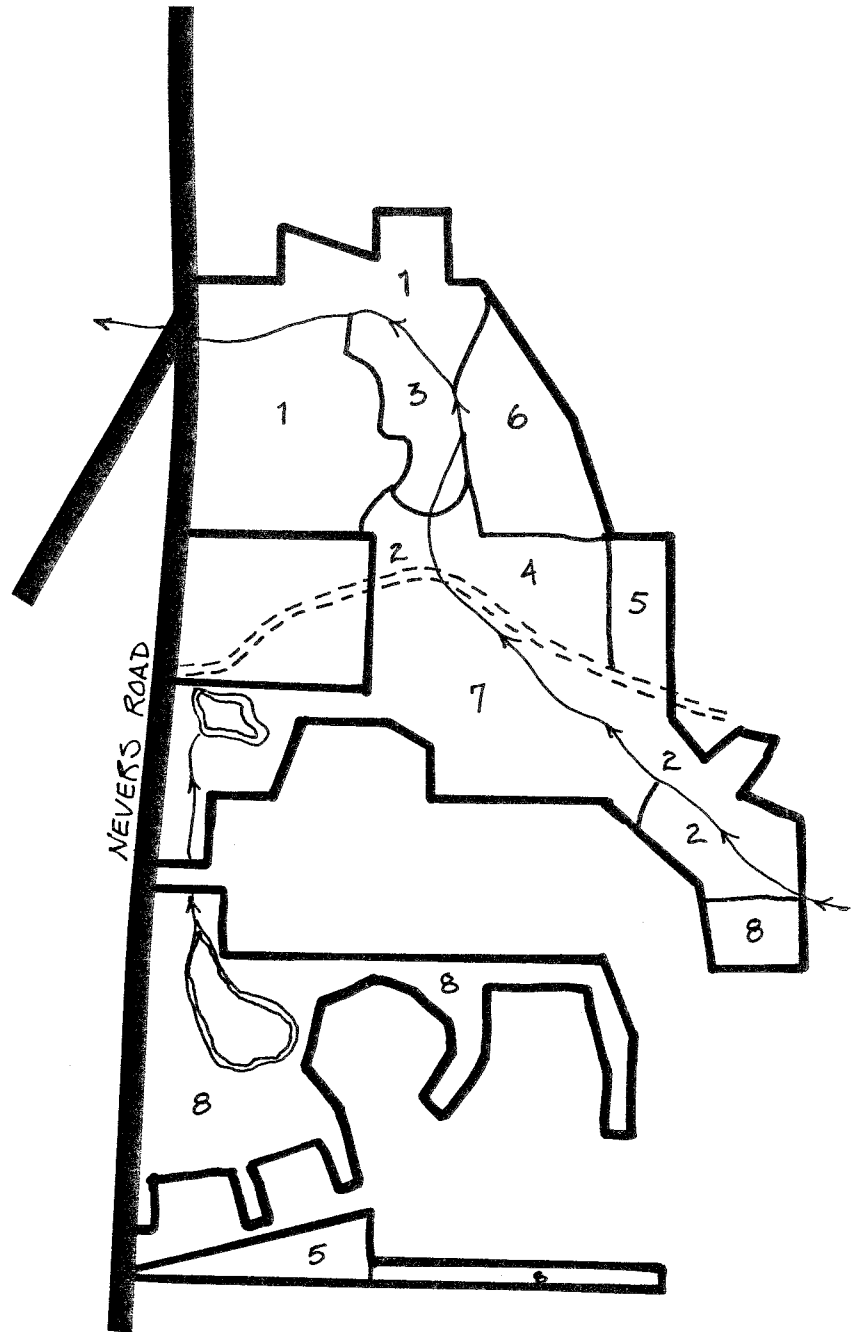
Management is limited on this tract as it is to be used for passive recreation and preservation. White pine and larch can be planted in the gravel pit to prevent erosion and provide aesthetic enhancement.

The Podunk River should have a "buffer strip" up to 100 feet wide where possible to protect the water from direct sun and rising water temperatures which kill fishlife.

# Vegetation



- EXPLANATION
- == Dirt Road (sewer easement)
  - █** Paved Town Road
  - Property Boundary
  - Vegetation Type Boundary
  - Stream



## VEGETATION TYPE DESCRIPTIONS

- TYPE 1 : Open Field (10 acres)
- TYPE 2 : Mixed Hardwood, polesized, fully stocked (6 acres)
- TYPE 3 : Open Field (3 acres)
- TYPE 4 : Mixed Hardwood, seedling-sapling, fully stocked (5 acres)
- TYPE 5 : Old field, brush, understocked (4 acres)
- TYPE 6 : Old Field, open soil (4 acres)
- TYPE 7 : Gravel Pit (3 acres)
- TYPE 8 : Mixed Hardwood, sawtimber sized, fully stocked (25 acres)



The nature walk, or hiking trails, should be located as much as possible on existing roads or to pass near sites with interest. The trails would have to be mowed twice per summer. Trails also should be well marked.

As the Town wishes to leave this area for passive recreation over most of the area management will do little to effect the aesthetics of the area. Type 7 can be planted to white pine and larch and a hedgerow planting of white pine could be done in type 1 to separate type 1 and 3. Large trees should be retained along trails as points of interest for hikers. Type 3 produces many late summer wildflowers and should be left as it is, if possible.

#### WATER SUPPLY

Water for any purpose could probably be drawn either from areas of thick stratified drift deposits within the parcels or by tapping the underlying sedimentary bedrock.

Based on information supplied by Availability of Ground Water, Manchester Quadrangle (R. B. Ryder, 1958), individual wells tapping the thicker stratified drift deposits overlying bedrock within the parcels can be expected to yield less than 25 gallons per minute (gpm). Another source of water within each parcel is the underlying bedrock, which, based on Ryder's map, can be expected to yield moderately high yields ranging from less than 10 gallons per minute to as much as 60 gallons per minute. A study of well data for a well north of the parcels, which taps the same bedrock unit reported a yield of 50 gallons per minute at depth of 104 feet. Therefore, it seems likely that if the town wished to utilize an on-site well within any of the parcels, it could probably do so by tapping the underlying bedrock or areas of thick stratified drift deposits. The natural quality of the groundwater on all sites should probably be moderate to good.

#### PLANNING CONCERNS

The existing gravel pit area should be carefully restored. Section 9 of the South Windsor Zoning Regulations covers sand and gravel operations and provides procedures for the restoration of such operations. Hopefully the operation was initially approved under these regulations. In any event, the Commission may certainly require that certain conditions be met as part of the subdivision approval.

The occasional narrow and sliver-like access points to open space areas should be avoided, if possible. Experience has shown that such access points, if not clearly defined, tend to disappear and become part of abutting lots. Regardless of the width, 20 feet, 40 feet, or more, when they are required between lots it would be appropriate to define them with some physical feature such as monuments, piers, fences, walls, or paved walkway.

On the Town's tour of the open space parcels, we came across a piece of property defined as open space east of Nevers Road and one lot distance south of Old Farm Road. It appears that this parcel could be used for several types of active recreation pursuits for residents of this expanding neighborhood, or perhaps even the

entire community. The area is sufficiently large to accommodate ball fields, soccer fields, tennis and handball courts, etc. Also, the land is of sufficient size to accommodate off-street parking for those users of the facilities. The Podunk River meanders through this area but should not deter the future installation of these facilities if carefully designed.

# Appendix

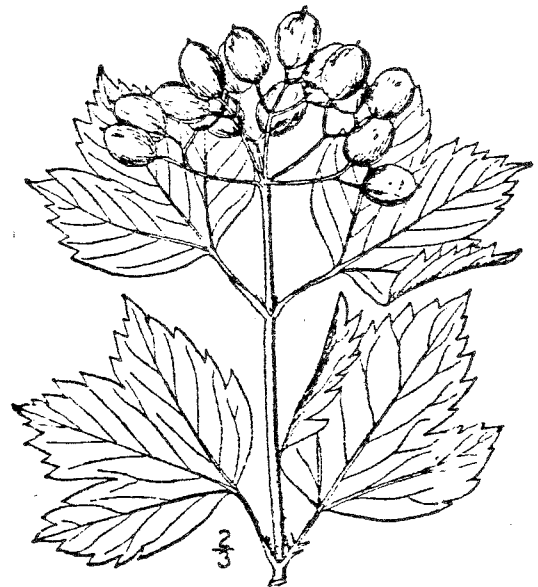
PLANTS FOR CONSERVATION IN THE NORTHEAST

USDA - SOIL CONSERVATION SERVICE

CONSERVATION PLANT SHEET-40

Highbush Cranberry  
(*Viburnum trilobum* Marsh.)

Uses: Highbush cranberry is a good wild-life food and cover plant for small mammals and birds. Twigs are eaten by deer, moose and beaver. Fruits are a staple winter food for ruffed grouse and are eaten sparingly by pheasants and at least five species of songbirds. Humans find the fruit tart but edible and excellent as a preserve or sauce. The shrub is useful as a medium-tall hedge or border for screening or a windbreak. It is an attractive flowering landscape plant for use in odd areas or in group plantings around homes and farm ponds. The fruit is a bright red which increases its ornamental value. Combined, its characteristics make it useful as a dual purpose food plant and ornamental.



Description: An erect native shrub, averaging in height from 6 to 10 feet, occasionally taller on good sites. The plants are multi-stemmed but do not form thickets by spreading. Close branching makes for dense shrub. The leaves are opposite, 3-lobed like maple leaves and from 2 to 5 inches long. In the fall the leaves become scarlet. The creamy-white flowers, which appear in late May and early June, measure 3 to 4 inches across. Each bloom is composed of an outer ring of large sterile flowers and an inner ring of tiny fertile ones. The fruit, which ripens in September and October, resembles the true cranberry in size and color but is more translucent when ripe. Fruit hangs on the branches all winter.

Varieties: There are no varieties of highbush cranberry.

Adaptation: Highbush cranberry is adapted throughout the Northeast, although distribution is widely scattered throughout much of its range.

It is found growing in well-drained, imperfectly drained, and poorly drained, but not droughty soils. Soil pH is not critical, but for best results soil should be reasonably fertile.

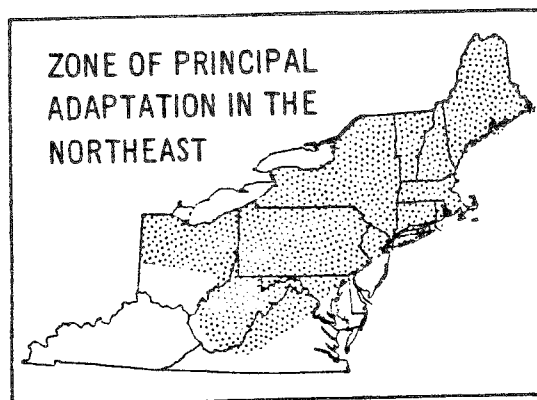
Establishment: Establish hedges or block plantings by using bare root or container grown stock. Plant 2 year old nursery seedlings. If planting your own seed, it takes 2 years for them to germinate.

When establishing a planting, prepare a good bed by plowing a few furrows, or by removing at least four square feet of sod for each plant. Apply 2 tablespoons of 5-10-5 or any complete fertilizer around the plant after establishment. For the first 2 years, either cultivate, weed, or mulch with straw, hay, or sawdust to control competition. During the early years of establishment remove all competing vegetation.

As a wildlife border along the edge of woods, plant the highbush cranberry one or two rows between the open fields and the trees. Space each plant 5 or 6 feet apart. As a hedge where a medium-tall screen is desired, plant 2 rows 2 feet apart with staggered spacing or one row with one foot spacing. In an odd area or group planting around a pond, plant in the center or behind low-growing shrubs. Full growth of the shrub requires 5-10 years.

References:

Edminster, Frank C., and May, Richard M. 1951. Shrub Plantings for Soil Conservation and Wildlife Cover in the Northeast. USDA Circular No. 887. Washington, D.C. pp. 46-48.



Viburnum trilobum

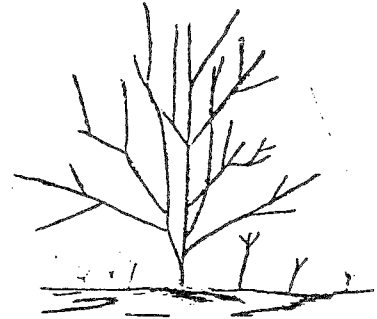
PLANTS FOR CONSERVATION IN THE NORTHEAST  
USDA - SOIL CONSERVATION SERVICE  
TSC - UPPER DARBY, PA

CONSERVATION PLANT SHEET

No. 25

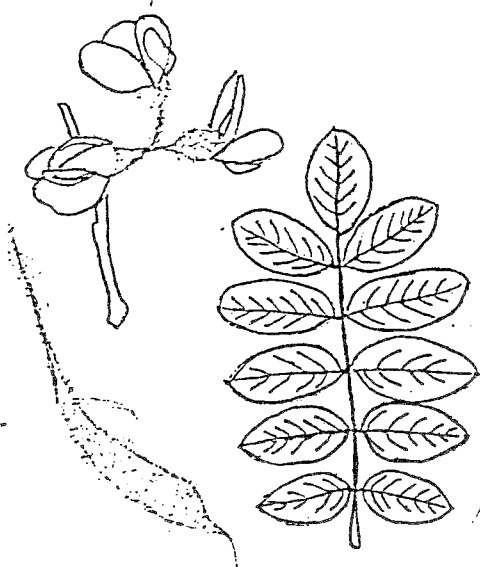
BRISTLY LOCUST  
(Robinia Fertilis Ashe)

Uses: Provides quick, woody, vegetative cover on the more adverse critical areas needing stabilizing cover. Useful for vegetating acid soils with a pH of 3.5 to 4.0, as well as alkaline soils of a pH 8.0. Especially adapted to stabilizing soils with active rill and gully erosion. Bristly locust is primarily used for surface mine spoil reclamation, industrial waste piles, roadbanks, cuts and fills, etc. Value for wildlife food, is minimal, but is a very attractive shrub when in bloom.



Description: It is an open branched, straggly, woody legume of vigorous growth. Attains a height of 8 to 10 feet in a few years, but normally when planted on critical sites will grow no taller than 6 to 7 feet. It spreads rapidly on some sites by root suckers, particularly those soils light in texture. Where herbaceous plants are dense, spreading is severely restricted. Spreading by seed would be similar to that of black locust.

Numerous small leaflets comprise the compound leaf that occurs alternately on the bristled covered branches. The sweet pea-like rose colored flowers bloom in May and June. Flowering usually begins the second year. Seed is produced in bristle covered pods, 2 to 5 inches in length. Seed is about 3/16th inch in size, dark brown and very hard.



Root suckers may appear the first year, and the thicket forming growth habit will be started by the second year. Leaf litter accumulates early, and is held in place by the many small stems that develop from the roots.

Adaptation: It will grow throughout the Northeast with the exception of some areas in northern Maine and New Hampshire. Bristly locust grows best on silt loams and loamy soils with good drainage; however, it will tolerate soils moderately well drained.

## BRISTLY LOCUST

It will grow on acid soils as low as pH 3.5 but it thrives best at a pH of 6.0 and 7.0.

Erosion control; Bristly locust is perhaps the best erosion control shrub for steep sloping sites with active erosion. In comparison with most other shrubs it will excel in seedling vigor. Rill erosion that exposes the roots stimulates root suckering thereby creating a denser growth. It has the ability to fix nitrogen in the soil, and with the light shade it makes the invasion of annual and perennial herbs quite rapid. This action provides additional cover that few woody plants can perform.

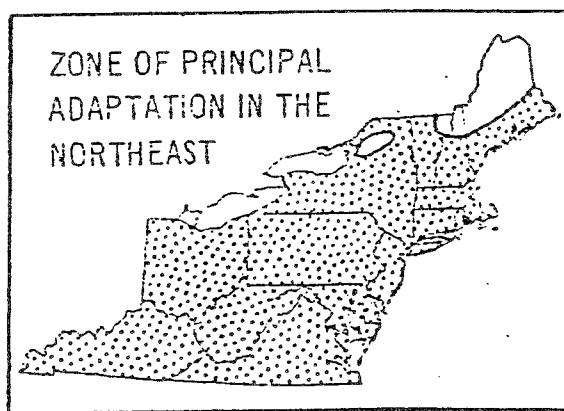
Varieties: 'Arnot' bristly locust was developed by the USDA, Soil Conservation Service at the Big Flats Plant Materials Center, Big Flats, N.Y.

Sources: Available as seedlings from both state and private nurseries. Seed is available from collectors in West Virginia, PA and New York.

Establishment: Follow standard tree planting techniques. Planting stock will be one year old seedlings. Prepare holes large enough to take care of entire root system. Fertilizer is not required. Bristly locust responds to fertilizers high in phosphorous, such as Mag-Amp, particularly on acid sites.

Planting date: Plant in early spring and before seedlings break bud.

Spacing: On steep eroded sites, plant 3 to 4 feet apart in the row, and space rows 4 to 6 feet apart. A 6 by 6 foot spacing is satisfactory where quick cover is not essential.



PLANTS FOR CONSERVATION IN THE NORTHEAST  
USDA - SOIL CONSERVATION SERVICE  
TSC - UPPER DARBY, PA.

CONSERVATION PLANT GUIDE

NO. 23

TATARIAN HONEYSUCKLE  
(Lonicera tatarica L.)

AMUR HONEYSUCKLE  
(Lonicera maackii Maxim.)

Uses: Both Tatarian and Amur honeysuckle are ornamental shrubs introduced into the U.S. from Russia and Manchurea. They are useful as specimen plants and for borders, hedges, and screens. The fruit is utilized by at least 17 species of songbirds. It is not readily browsed by livestock, deer or rabbits. Aesthetically it is a very attractive shrub, especially when in flower and when fruiting. Its overall form is rather graceful, and adapts well for landscaping purposes.



Plant Growth Form

Description: These are hardwood, deciduous shrubs, of medium height from 8 to 15 feet tall. They are erect plants, multi-stemmed, with slightly drooping branches. Foliage and branching are dense. The growth rate is about one foot per year, and normally they do not bear fruit until the 4th or 5th year. Leaves are simple, smooth, oval shaped with pointed tips. Amur Honeysuckle has distinctly longer tips. The flowers of Tatarian are white to pink, whereas Amur has white flowers that change to yellow. The fruit of both species is a bright shiny red berry, with very short stems and arranged in pairs. They are about the size of a pea. Fruit of Tatarian matures in mid-summer, but Amur honeysuckle does not mature until late fall. The red fruit of Amur will be retained into the winter months in a raisin-like condition.



Leaves, Flower, and Fruit  
Tatarian honeysuckle

Adaptation: The honeysuckles prefer rich, well drained soils, but will grow on slightly doughy soils to somewhat poorly drained soils. Both will tolerate moderate shade, and therefore may spread into old fields, fence rows and open woodland. See zone map for northern limitation of Amur honeysuckle. Tatarian is adapted throughout the Northeast.

Varieties: There are many named varieties of Tatarian honeysuckle providing red, white or pink flowers. There is only one named variety of Amur honeysuckle, 'Rem-red'. It is a heavy fruiting variety that retains fruit well into the winter. 'Rem-red' was developed for the Northeast by the Soil Conservation Service at the Cape May Plant Materials Center in New Jersey.

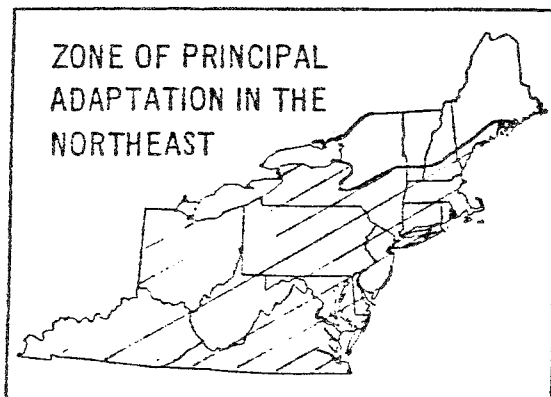


Establishment: As seedlings for borders, hedges, etc., use 2-0 stock with a stem caliper of about 3/8th inch. Remove and control all plant competition from the immediate planting site. Plant in holes or a furrow deep enough not to restrict roots of seedlings. Apply fertilizer, if recommended and mix well in the soil. Firm soil well around the roots of plants set no deeper than the root collar. Apply water if rainfall is not normal.

"Container" or "balled and burlaped" stock used for specimen plants, or contract jobs, should be inspected prior to delivery for an adequate root system, liveable condition of stock, age and size.\* Proper planting and care applied the first year will greatly affect survival and rate of growth.

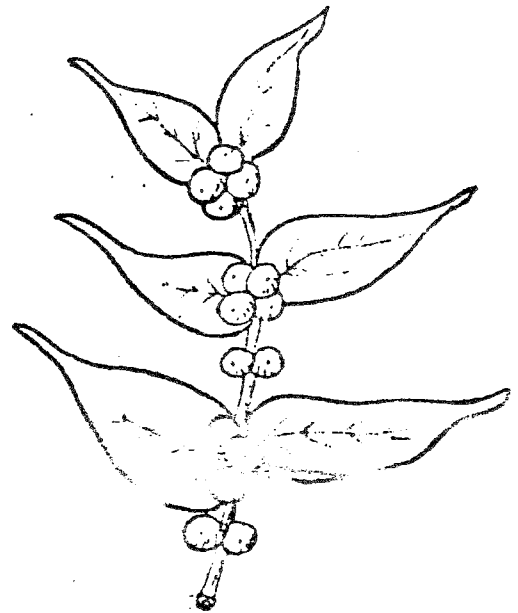
Spacing: Plant 3 to 5 feet apart in the row for screens, hedges, wildlife borders, etc. Use a double staggered row for a barrier effect from wind, snow, and human traffic. Specimen plants should have a minimum space of twenty feet in diameter for full development.

Management: Cultivate and or mulch to control weeds until plants reach a height of three to four feet. Replace all dead plants. Mortality will usually occur during the first growing season and the following winter.



AMUR HONEYSUCKLE

Amur honeysuckle on the right, illustrating the long pointed tips of the leaves in contrast to the more blunt tip of Tatarian as shown on front page. Note that older branches have hollow stems, whereas the native honeysuckles have a solid stem on all branches.



\*See "American Standard for Nursery Stock" Ass. of American Nurserymen.

## PLANTS FOR CONSERVATION IN THE NORTHEAST

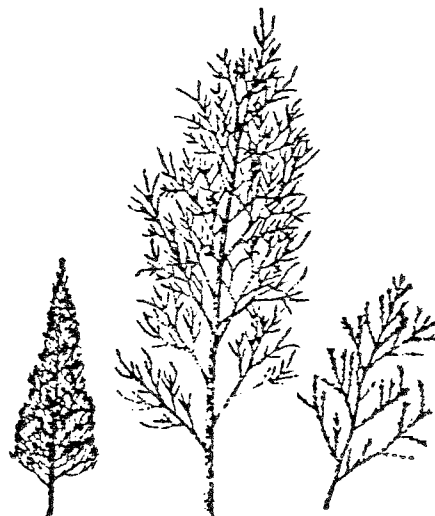
USDA - SOIL CONSERVATION SERVICE

## CONSERVATION PLANT SHEET-33

EASTERN REDCEDAR  
(*Juniperus virginiana* L.)

Uses: Eastern redcedar is much used for fence posts because of its great durability. The odor of the wood repels insects which makes it ideal for cedar chest and closet lining. The tree is used as an ornamental, and for hedges, screens, and windbreaks. The twigs and foliage are sometimes eaten by hoofed browsers, but the chief attraction to wildlife is the bluish-black berry-like fruit. Although not a preferred deer food, redcedar may carry deer populations through periods when more desirable food plants are in short supply. In some localities, redcedar is used as a Christmas tree. Nationally, it is among the top five species for this use.

Description: Eastern redcedar is a small tree, 20 to 40 feet in height, except in the southern part of its range where it may reach 100 feet. The branches are more or less ascending which gives the tree a narrow conical appearance. The evergreen leaves are awl-shaped, about 1/2 inch long on juvenile foliage, and are scale-like on older trees. The leaves are dark green in the summer months becoming reddish-brown during the late winter. The fruit is a berry-like cone, bluish or purplish, about 1/4 inch in diameter and covered with a glaucous bloom. The common juniper, *J. communis*, has no scale-like leaves which distinguishes it from redcedar. The bark is thin, light reddish-brown, often somewhat grooved, peeling off into long, narrow, fibrous strips. The tree is fairly tolerant of shade in its early years, and becomes intolerant as it grows older. A pound of freshly collected berries will yield 7 to 10 thousand seeds.



Left-Habit  
Center-Mature branch  
Right-Juvenile branch

Varieties: Over 30 horticultural or garden forms are recognized. A few of the recognized varieties are: a pendulous form, *J. v. pendula*; a compact globose form, *J. v. globosa*; a low shrub with slender spreading branches,

J. v. horizontalis; a narrow-pyramidal or columnar form, J. v. oreba.

Adaptation:- Redcedar has a wide range of adaptability. It is a pioneer species in abandoned fields and is frequently present in limestone outcroppings. The seed is spread by birds which may account for the tree being frequent along fence lines. The tree grows naturally in soils with a pH ranging from 4.7 to 7.8. It has a wide tolerance to moisture conditions, from drouthy soils to near-swamp situations. Like most trees, redcedar grows best on deep, moist, well-drained alluvial sites, where its height may reach 55 to 60 feet in 50 years of age.

Establishment: Redcedar does not sucker from the roots nor sprout from the stump. It may be propagated by cuttings and by layering. Many of the ornamental forms are propagated by grafting. Nurseries in the Northeast sell redcedar planting stock as 2-0, 2-2, 3-0, and 4-0. Some persons dig "wildlings" for use when a small number of plants are needed.

Competing plants need to be removed by plowing or scalping to insure survival of newly planted trees. Follow accepted planting procedures. The plants should be set in holes deep enough to take the root without bending. Roots and tops may be pruned to about 8 inches in length to facilitate planting.

Considerations in Use: Redcedar is an alternate host of the cedar-apple rust. The disease has minor effect on the cedar, but is very damaging to apple trees. Some states require complete eradication of all cedars and junipers within a mile of an apple orchard. The International Shade Tree Conference rates redcedar as a Quality Class 2 shade tree in the northern part of the Northeast region and a Class 3 tree in Kentucky, Ohio, and West Virginia. Their Class 1 is the best and Class 5 is the poorest.

Chemical Control: Where redcedar occurs as an unwanted species, it may be controlled by drenching the foliage with ammonium sulfamate. The species is resistant to 2,4-D and 2,4,5-T.

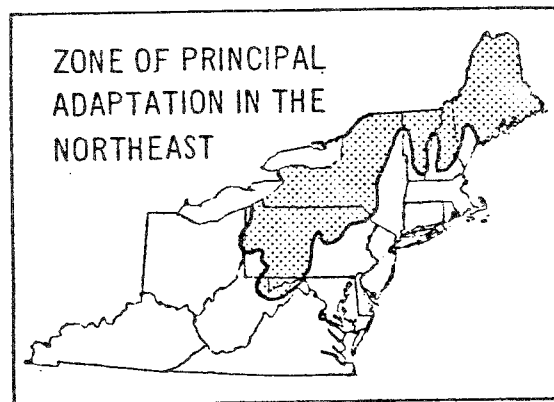
References:

Williamson, M. J. 1965. Eastern Redcedar (Juniperus virginiana L.)  
USDA Forest Service. 1974. Eastern Redcedar--An American Wood. FS-260, 6p

Northeast Technical Service Center  
Broomall, Pennsylvania

September 1975

EASTERN REDCEDAR



□ Natural range  
▨ Adapted if planted

PLANTS FOR CONSERVATION IN THE NORTHEAST  
USDA - SOIL CONSERVATION SERVICE

CONSERVATION PLANT SHEET NE-1

AUTUMN-OLIVE  
(*Elaeagnus umbellata*, Thunb.)

Uses: Autumn - olive produces fruits eaten by 4 species of upland game birds, 2 migratory game birds, 20 non-game birds, and 4 mammals. It is browsed by deer and barked by cottontail rabbits and meadow mice. It is a good nesting and protective cover plant. Autumn-olive is useful in stabilizing stripmine spoil; screening unsightly areas; hedging fields, ponds, and other tracts; bordering woods; and for windbreaks. It is an attractive ornamental, having fragrant bloom, and edible but astringent red fruits.

Description: Autumn-olive is a spreading, upright nitrogen - fixing shrub. It grows to about 15 feet. The brown or yellowish-brown bark is smooth except on very old stems, where it is somewhat scaly. Twigs are spurred. There is a deep tap - root. The smallish, alternate leaves vary in shape from narrow to moderately wide, with wavy edges. Leaf color is pale olive - green with a silvery cast; the latter especially typical of the underside. Flowers are small, trumpet - shaped, pale - yellow; and abundantly scattered in clusters along the twigs. The fruits contain one soft, ridged pit. They vary from dull to bright red, minutely speckled. Annual fruit production starts at about 5 years and ordinarily is very heavy.



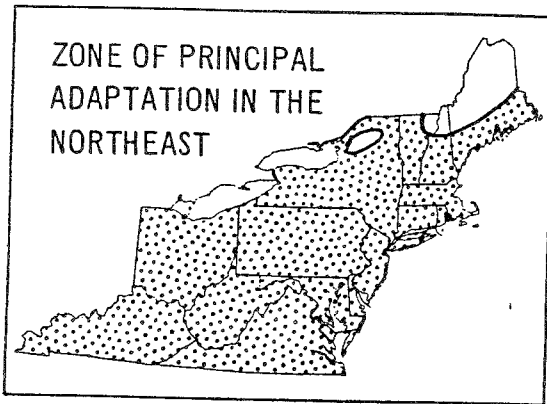
Varieties: Cardinal is the only named variety. Others are being developed.

Adaptation: Autumn-olive is widely adapted to deep, dry to moist soils, ranging from acid to alkaline. It grows well on sands, loams, and clay loams, but not on very dry or shallow sites. It is competitive with grasses and weeds, although somewhat slowed in growth. Autumn-olive is moderately shade tolerant. Winter injury may occur at temperatures of  $-30^{\circ}\text{F.}$ , but recovery usually occurs.

Establishment: Seedlings 1 to 2 years old usually are planted during dormancy in spring or fall. Preparation of planting sites for borders, screens, hedges and other strips by plowing, harrowing and allowing soil to compact pays off in establishment. Scalping or other means of removal of com-

peting plants is advisable for blocks and other plantings. Roots of seedlings should be kept moist until planted. Plants are set in furrows or holes deep enough to take the root to its crown without bending. Long roots and tops can be pruned to 6 inches, respectively. A scant handful of 5-10-5 or 10-10-10 fertilizer per plant, when well-mixed with the soil, helps start growth on infertile sites. Mulch is advisable on dry sites.

Management: For maximum fruit production, plants should be spaced at least 8 feet apart. Closer spacing to 4 feet may be used for screening and similar strips. When multiple rows are used, 15 to 20 feet between rows usually is advisable. When plantations are slow in establishment, weeding, fertilizing, and mulching are recommended remedies. New plantings may need protection from deer and rabbits. Autumn-olive may be pruned to satisfactory form.



Regional Technical Service Center  
Upper Darby, Pennsylvania  
April 1969

# 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.