

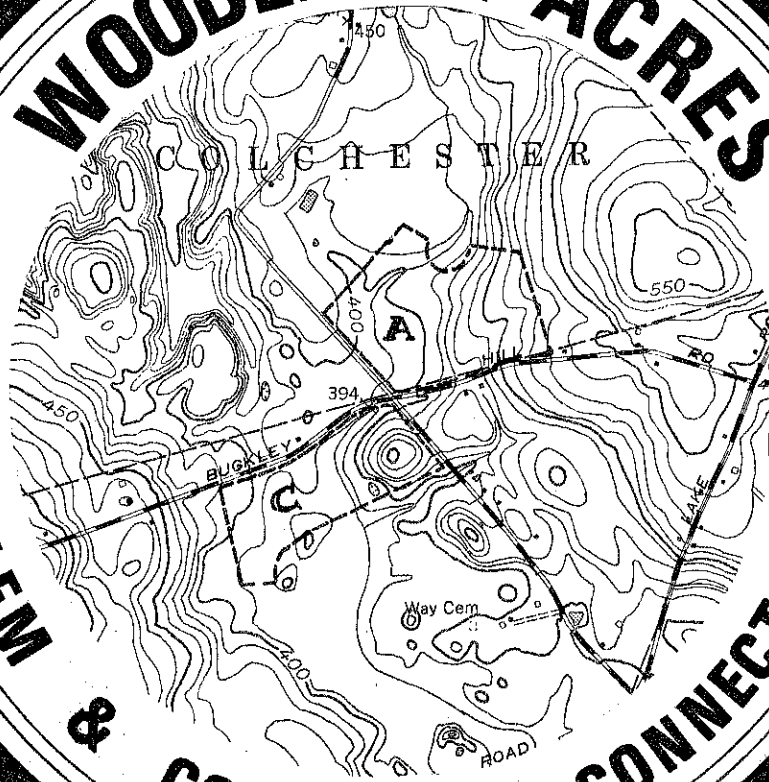
Environmental review team report

WOODLAWN ACRES

SALEM

&

COLCHESTER, CONNECTICUT



**RC & D**

EASTERN CONNECTICUT  
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

ASSISTED BY: U.S. DEPARTMENT OF AGRICULTURE,  
SOIL CONSERVATION SERVICE AND COOPERATING AGENCIES

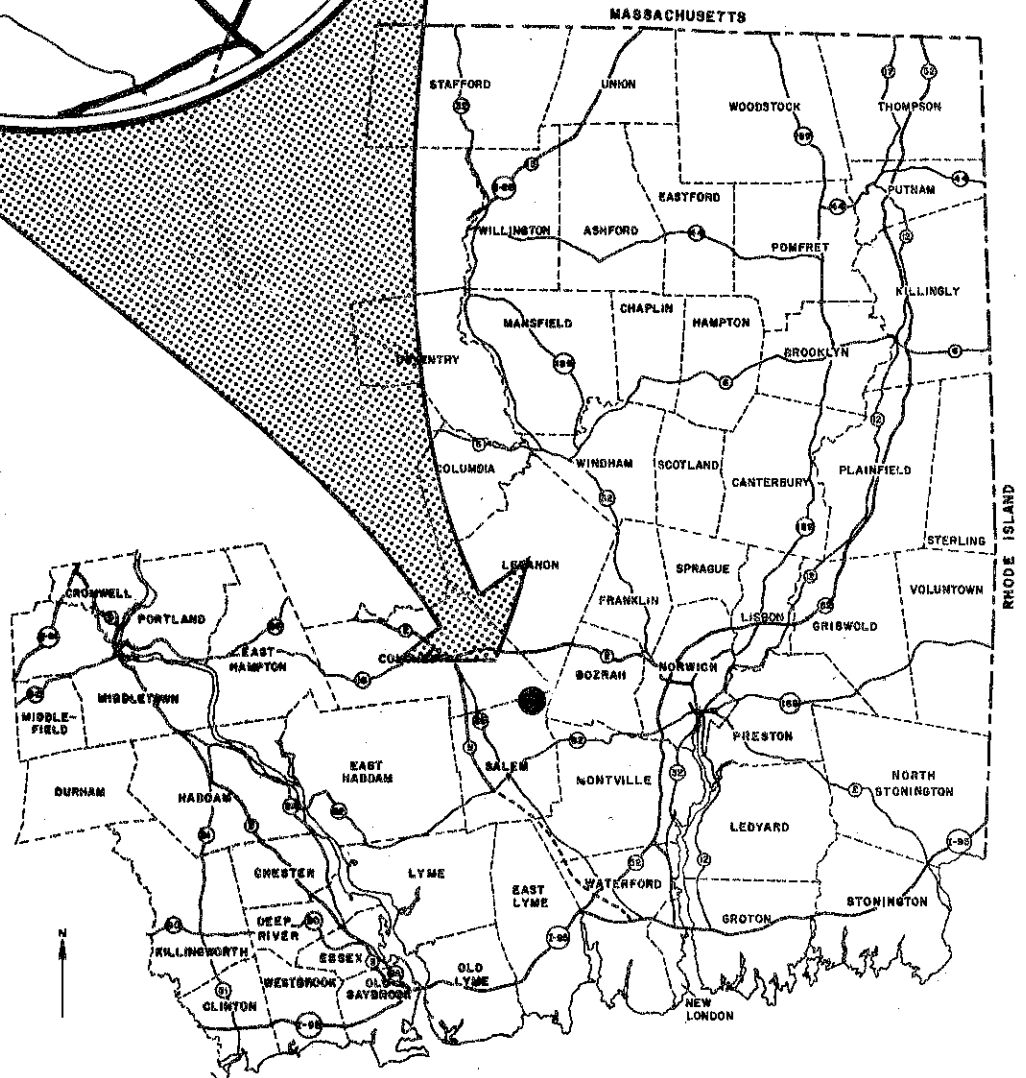
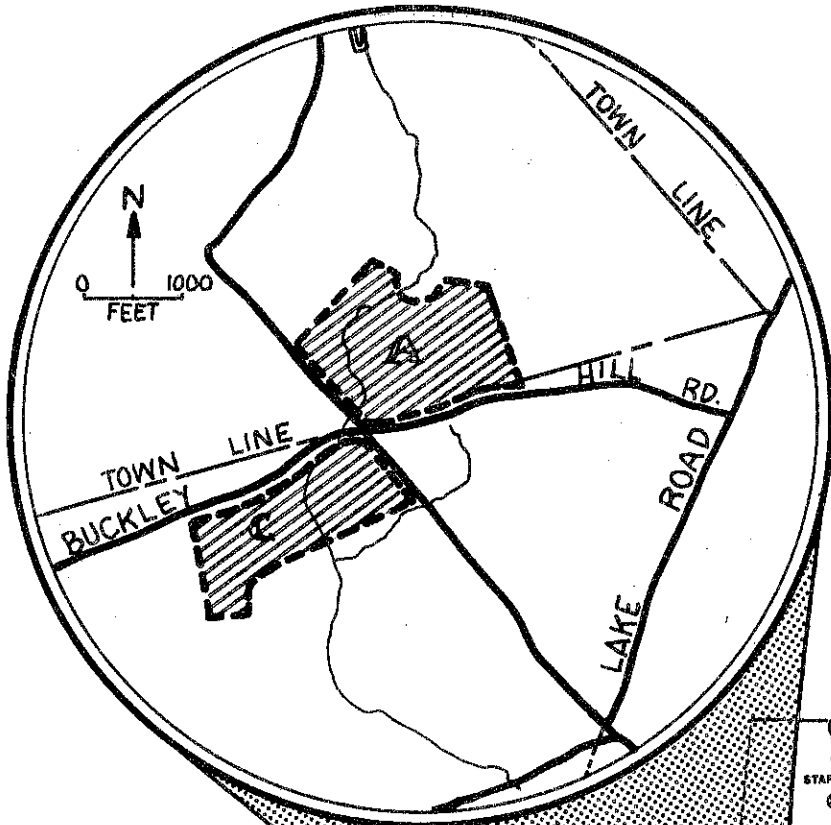
ENVIRONMENTAL REVIEW TEAM REPORT  
ON  
WOODLAWN ESTATES  
COLCHESTER AND SALEM, CONNECTICUT  
DECEMBER, 1976

*The preparation of this report was assisted  
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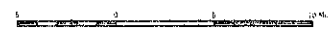
EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT PROJECT  
Environmental Review Team  
139 Boswell Avenue  
Norwich, Connecticut 06360

# LOCATION OF STUDY SITE

WOODLAWN ACRES  
SALEM & COLCHESTER, CONNECTICUT



EASTERN CONNECTICUT  
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT



ENVIRONMENTAL REVIEW TEAM REPORT  
ON  
WOODLAWN ESTATES  
COLCHESTER AND SALEM, CONNECTICUT

This report is an outgrowth of a request from the Colchester Planning and Zoning Commission and the Salem Planning and Zoning Commission, with permission of the landowner, to the New London 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: Sherman Chase, District Conservationist, SCS; Steve Elmer, Soil Scientist, SCS; Tim Dodge, Wildlife Biologist, SCS; Robert Miller, Geologist, Connecticut Department of Environmental Protection (DEP); Huber Hurlock, Forester, DEP; Donald Capellaro, Sanitarian, Connecticut Department of Health; Thomas Seidel, Regional Planner, Southeastern Connecticut Regional Planning Agency (SCRPA); and Linda Simkanin, ERT Coordinator, Eastern Connecticut RC&D Area.

The Team met and field-checked the site on Thursday, October 21, 1976. 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 Towns of Colchester and Salem. The results of this Team actions are oriented toward the development of a better environmental quality and the long-term economics of the land use.

The Eastern Connecticut RC&D Area Committee hopes 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: Miss Linda M. Simkanin, Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, 139 Boswell Avenue, Norwich, Connecticut 06360, 889-2324.

## INTRODUCTION

The Eastern Connecticut Environmental Review Team was asked to review approximately 127 acres of land proposed for a single-family home subdivision. Approximately 51 acres are in Colchester, and are shown as Section A on all maps in this report; approximately 76 acres are in Salem and are shown as Section C on all maps in this report. A review of two smaller parcels included in the total development plan as Sections B and D in the Towns of Salem and Colchester respectively, was not requested by the landowner.

At the time of the review, house construction was underway in Sections B and D. Sections A and C which the Team did review, however, are presently undeveloped and in a forested condition. The preliminary site plan for Section A in Colchester indicated 14 lots - 6 with frontage on Scott Hill Road, and 8 with frontage on Buckley Hill Road. While the bulk of the 8 lots are within Colchester, the portions fronting on Buckley Hill Road (including the road) are in Salem. The preliminary site plan for Section C in Salem indicated 12 lots for the eastern portion of that site, with frontage on Way Road. A thirteenth lot was shown for the western end of the site fronting on Buckley Hill Road. Water retrieval and sewage disposal would have to be developed on-site.

The report will describe the natural characteristics of the site including topography, geology, soils, and forest cover. Consideration will be given to the compatibility and suitability of the proposals relative to the natural resource base. Comments or recommendations made within the report are presented for consideration by the developer and the town in the preparation and review of the development plans, and should not be construed as mandatory or regulatory in nature.

## TOPOGRAPHY AND GEOLOGY

The topography of the sites varies from a relatively gentle, undulating landscape found in the western half of both Sections A and C which also feature considerable wet soil areas, to steeper sloping areas which characterize the middle portion of Section A, and the eastern portion of Section C.

### Surficial Geology

The surficial geology of both sites visited is characterized by four major types. Till covers approximately 90% of Site A and 20% of Site C. Till is a non-sorted, non-stratified mixture of rock fragments deposited directly by glacier ice and ranges in size from clay-size particles to boulders that exceed six feet in diameter. The till in this area is characterized by being compact and exhibits a large percentage of clay-size particles. (See Surficial Geology Map on the following page.)

Ice-contact deposits are mainly found in Site C, covering approximately 60% of the site. These deposits are sorted gravels, sands, and silts which were deposited by melt water streams from glacier ice. The streams were located against, on, or in close proximity to glacier ice.

Alluvial deposits cover the remaining area on Site C. These deposits are similar to ice-contact deposits except they are deposited by modern streams, those since glaciation, and usually are not as well sorted. Both deposits are characterized by pebbly sand.

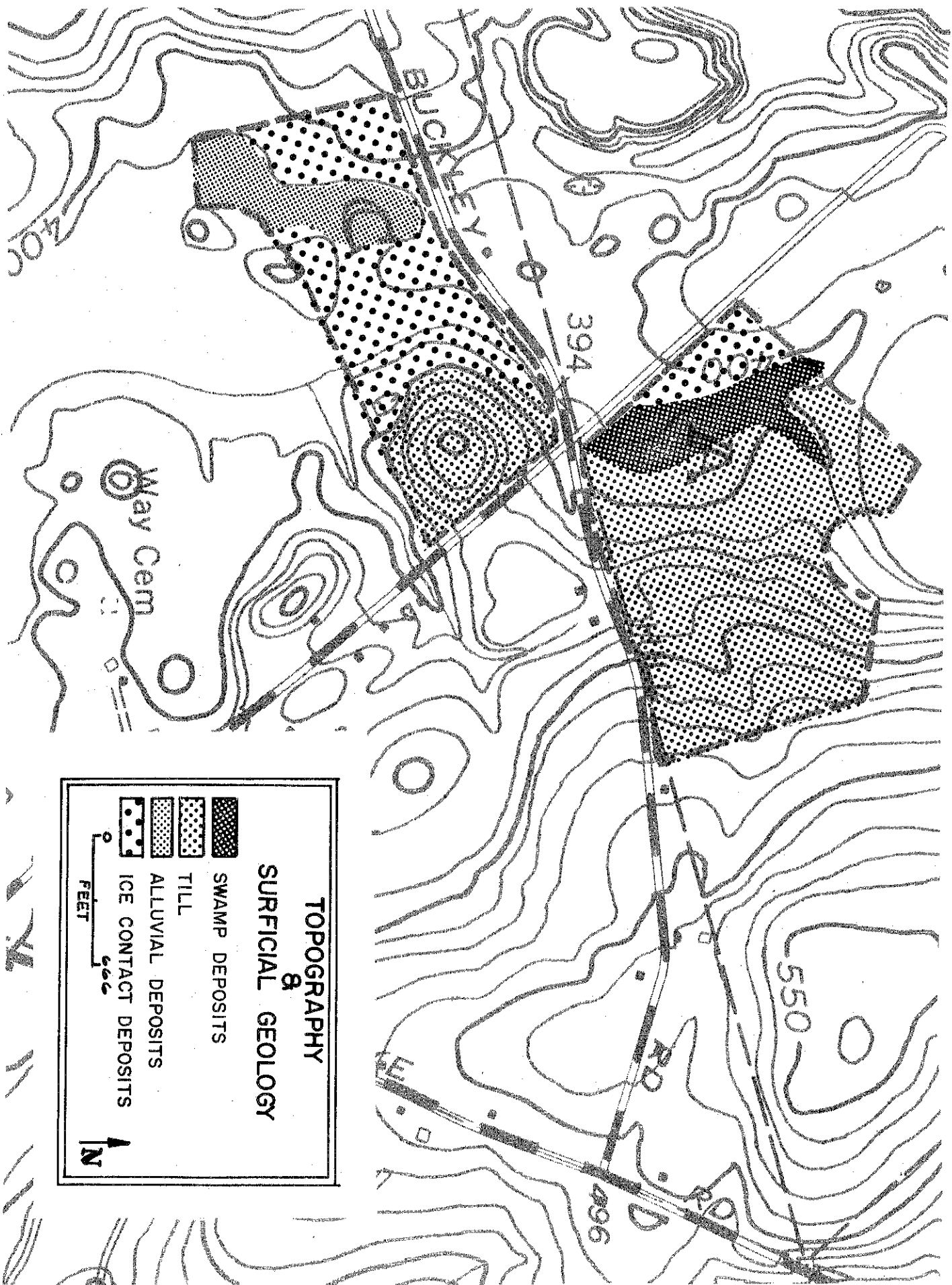
The fourth major surficial type, swamp deposits, covers the remaining area on Site A. Swamp deposits of glacial origin are characterized by grain sizes of sand, silt, and clay. These are generally mixed with organic matter and create poorly drained areas.

For sub-surface drainage purposes, Site C exhibits better conditions as the permeability of the ice-contact and alluvial deposits are far larger than till and swamp deposits.

### Bedrock Geology

The surficial deposits on both sites are entirely underlain by one bedrock type known as the Hebron Formation. The Hebron Formation includes a variety of granular and micaceous schists and gneisses that represent metamorphosed calcic sedimentary rocks or sedimentary rocks that have been changed to metamorphic rocks through extended periods of heat and pressure.

Calcic rocks of the Hebron Formation are characterized by occurring in three separate layers, each layer being composed of different quantities of minerals. Layer 1 is a fine-grained greenish-gray calc-silicate rock composed of quartz, andesine labrodorite, hornblende, and lesser amounts of biotite, diopside, aluminous epidote, potassium feldspar, tremolite, and sphene. Layer 2 is a purplish-brown, easily weathered schist composed of quartz, andesine labrodorites, biotite and calcite. Layer 3 is a brown schist composed of quartz, oligoclase-andesine, biotite, potassium feldspar, and sphene. All three layers contain a



**TOPOGRAPHY**  
**8**  
**SURFICIAL GEOLOGY**

|  |                      |
|--|----------------------|
|  | SWAMP DEPOSITS       |
|  | TILL                 |
|  | ALLUVIAL DEPOSITS    |
|  | ICE CONTACT DEPOSITS |

0 500  
 FEET

**N**

peculiar purplish-brown biotite and are high in quartz and plagioclase. The different layers are mixed in repeated layers from one-fourth inch to several tens of feet thick.

### Groundwater

The ground water available from both sites comes from possible sources of sand and gravel, till or bedrock. Of these, the sands and gravels are by far the highest yielding aquifers, or groundwater sources. Within the Connecticut Water Resources Bulletin No. 15 entitled: Water Resources Inventory of Connecticut, Part 3, Lower Thames and Southeastern Coastal River Basins (1968), favorable groundwater areas for the region are shown. Most of Section C was mapped as being a favorable groundwater area with a saturated thickness value of between 10 to 40 feet of potential water-yielding, stratified layers of sand and gravel. Wells drilled in this area have a potential of yielding up to 100 gallons per minute.

Till wells are the lowest potential yielding wells on the site investigated. The low permeability of till is indicative of its poor water yielding capacity; it rarely yields more than a few hundred gallons of water per day, even to wells of large diameter.

Because of the low water-yielding capacity of till, most drilled wells today go through the till materials into the underlying bedrock and use the water in the bedrock for supply. An average value of 14 gallons per minute has been reported for this area according to Water Resources Bulletin No. 15 mentioned above.

The chemical quality of the ground water under natural conditions for this area is generally good for most uses. The crystalline bedrock underlying the report area and the glacial deposits derived from it are composed largely of minerals which are only slightly soluble in water. Iron and manganese are the chief offenders known to exist naturally in this area.

Generally calcium, magnesium, and sodium are present in all ground waters and present in the form of bicarbonates and sulfates. These will, in various proportions, determine the chemical and physical characteristics of the water. The natural ground water within the study area is of the calcium-bicarbonate type; is not excessively hard, has a low hardness, and is not corrosive.

### Drainage

The bulk of land surrounding Sections A and C drains eventually into Gardner Lake rather than the Deep River Reservoir. The extensive areas of wetlands have a defined watercourse which is a tributary to Gardner Lake; a limited portion of the property of Section C towards the western end of Buckley Hill is in the watershed of the Deep River public water supply reservoir.

### SOILS

A detailed soils map of the properties as well as a chart indicating the general soil limitations for various land uses is given in the Appendix to this report. As the map is an enlargement from the original 1320'/inch scale to 660'/



inch, the soil boundary lines shown should not be viewed as absolute boundaries, but rather as guidelines to the distribution of soil types on the property. The soils map, along with the Special Soils Report, Southeastern Connecticut Region (USDA, SCS, 1969), can serve as an educational tool regarding the identification and interpretation of soils. The natural soil group is also given for each soil. The Natural Soil Group Report published by SCS and the New London County Cooperative Extension Service provides a clear explanation of the natural soil groups.

### Section A - Colchester

As the soil map and limitations chart show, all acreage but the approximate two acres of Agawam soil fronting on Scott Hill Road have severe limitations for on-site sewage disposal. This is due to either a seasonally high water or a fragipan (a semi-impervious layer restricting internal drainage). There are some poorly to very poorly drained inland wetland soils involved; these regulated soil types are indicated on the chart.

Although the 14 lots designated for Section A cover about five different soil types, they are all characterized by a high water table. If these lots are developed, it is suggested that the following be done:

- 1) Determine highest water table by observing test pits in the early spring, normally time of the highest water table.
- 2) When the water table has been observed, design adequate remedial measures such as drainage, fill, or a combination of drainage and fill where needed.
- 3) Work closely with appropriate health official, or officials, in designing the sewage system systems. The systems should be so located and designed that they pollute neither the wells nor the wetlands. It is likely a 100% reserve area will also be required for the systems.

### Section C - Salem

Approximately 1/2 of the acreage of Section C is mapped and classified as inland wetland soil types. (Refer to soil map and chart in the Appendix.) House lots within this acreage were not designated on the preliminary site plan viewed by the Team. A permit would be required from the town's Inland Wetlands Commission if these soil areas are proposed for development.

The hill proposed for development along Way Road appears best suited for development on this site. The major soil here is Narragansett (6B and 6C), which is fairly well-suited to on-site sewage disposal systems. The basic caution here is to engineer and locate the systems so that they will not pollute the adjacent inland wetlands. As the property slopes in all directions, it is not felt that control of surface water or erosion and sedimentation will cause serious problems.

The best development site from a soils standpoint is the hill in the Salem part of the property. Long term driveway maintenance and erosion problems can be alleviated by arranging driveways and access on the contours. This could probably best be done by designing an interior road which follows a contour as much as possible. In this way a potentially serious safety problem might be avoided. (If

all lots had separate driveways onto Way Road, they would be relatively blind to traffic moving north). An illustration of this Team suggestion appears on the following page. There are potentially three outlets onto Way Road, two for the subdivision road, and only the center lot having a driveway outlet onto Way Road, and this should be at the crest of the hill in order to afford maximum visibility.

## FOREST COVER

The cover on both Sections A and C can be regarded as two types of stands. Crowded red maple dominates the wet soil areas of both sites. The trees are pole size and will probably never have commercial value. Changes in water levels during building could cause dieback to brush swamp species.

The second stand on both sites is old field primarily of pole size and nearly fully stocked with trees. There is a wide variety of noncommercial or marginally commercial species that are 80% stocked. Most tree and shrub species observed are firm against the wind and can be healthy as individual ornamental trees or shrubs within the proposed subdivision. Variety should be preserved. With any clearing done for house sites, cord wood should be cut and stacked for use by homeowners. Trees in this stand should not have blowdown or mortality around openings for driveways, houses, etc., as long as major cuts and fills are not made around tree roots.

In general, Section A is dominately woodland with approximately 30% of the acreage inland wetlands. The wetland is mostly wooded to red maple and shrubs including rod-osier dogwood, black alder (winterberry) and spicebush. Section A also contains remnants of old fields characterized by red cedar, poplar, northern arrowwood, blueberry, wild cherry, little bluestem, sheep laurel and perennial weeds including meadowsweet.

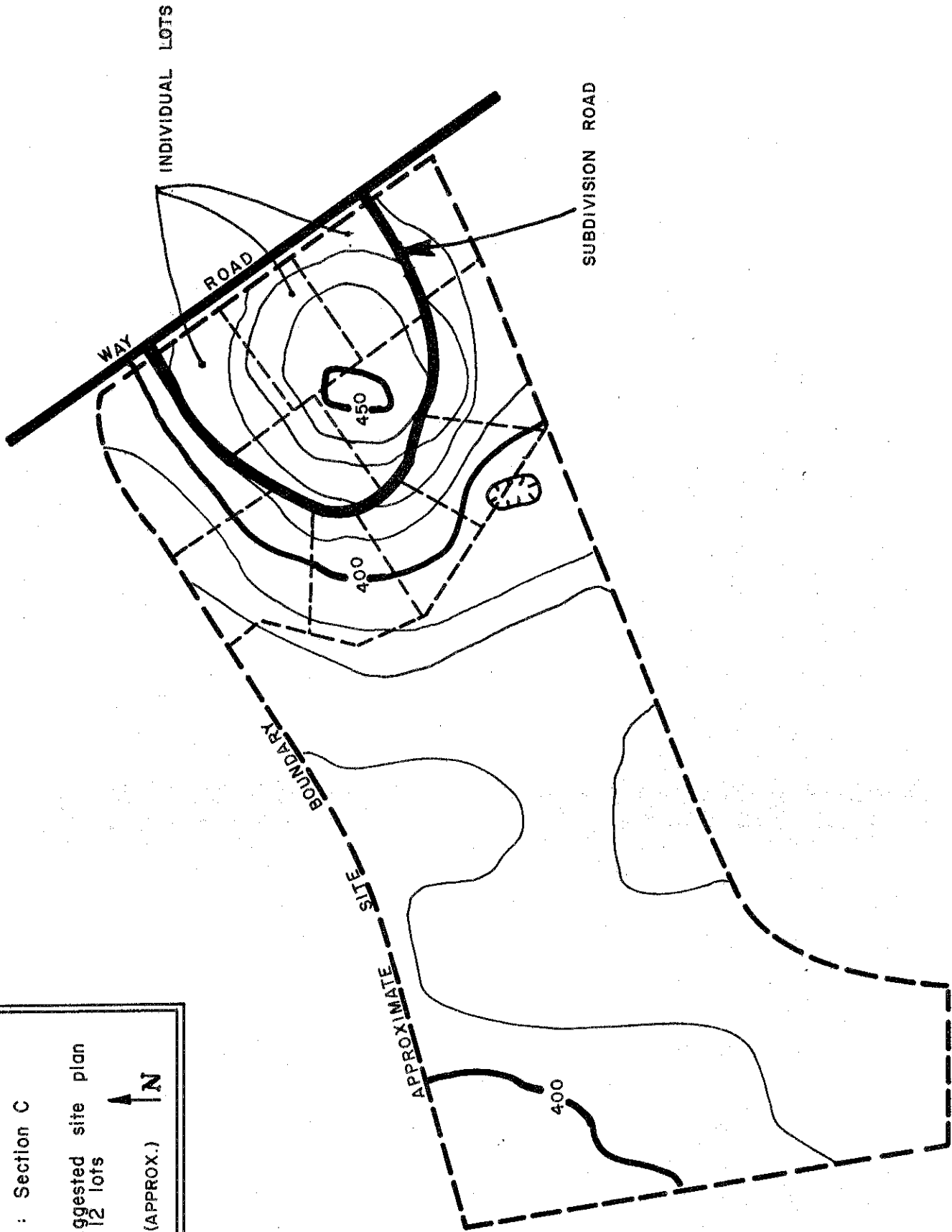
Section C is also dominately wooded with mixed hardwoods, and also contains extensive wetland areas. Approximately 29% of the acreage is classified as wetlands and vegetated with red maple and shrubs similar to Section A. That portion bordering Way Road includes numerous old stonewalls and overgrown old fields. In addition to the above vegetation, numerous white oak are present including a number of old "wolf" trees.

## WILDLIFE HABITAT

Wildlife habitat provided by both sites is primarily of a woodland nature. The overall quality of the habitat is fair to good. Although collectively the habitat quality is fair, the old field areas, especially Section C provides good quality habitat to cottontail rabbit, ruffed grouse, songbirds, and other game and nongame wildlife. Woodcock probably use the small openings in the old fields, wetlands and wetland borders. The woodland areas are dominated by post and pole size red maple which are closely spaced, creating a dense canopy limiting sunlight penetration needed for shrub layer development. Without treatment, habitat in the woodland areas will remain only fair.

Habitat in the old fields is trending toward all hardwoods and the quality will decrease as the diversity of vegetation decreases. The surrounding land uses

SALEM : Section C  
ERT Suggested site plan  
showing 12 lots  
1" = 300' (APPROX.)



are compatible to wildlife. Development of Areas A and C to housing will increase disturbance to wildlife and probably increase the number of free roaming cats and dogs in the area.

### Stream and Water Quality

A small perennial upland stream originates about 2,500 feet north of the sites, drains through both sites and enters Gardner Lake some 3,500 feet below Area C. The water contains natural organic stains which give it a dark color, but otherwise, the water appears to be of high quality. The stream probably contains a limited fish population including native 4-6 inch brook trout.

The stream and wetland area will be encroached upon by the development as shown by lot lines on the proposed plan. Of particular concern are the present lots 3, 14 and 15 in Area C and lots 5, 6 and 7 in Area A where the stream falls within lot boundaries. Due to the proximity of the stream to these lots, extra caution should be taken to prevent any sediment from construction activities from entering the stream. Also of concern are limitations for septic systems for both areas as outlined in the soil chart. Septic system failures could result in effluent entering the stream, and contaminating Gardner Lake waters. The potential for failure is greatest during the winter and spring months.

### CLIMATOLOGY

There are no severe climatic limitations to development of the site for residential housing. The area is on the edge of the Connecticut coastal region and its climatic characteristics are a mixture of the coastal marine climate and the northwestern uplands. Therefore the climate is basically mild and humid in all seasons. When low pressure weather systems bring southerly air flow (from the south) the area experiences humid maritime conditions especially in the winter and spring seasons. When high pressure systems prevail the area experiences relatively cool dry weather which are the prevailing summer and fall season conditions.

The following data was taken from the CLIMATE OF CONNECTICUT, Bulletin of the Connecticut Geological and Natural History Survey.

|  |           |
|--|-----------|
| Annual Mean Temperatures   | 50°F      |
| Probability of Winter temperatures getting below 0°F                 | 2 in 5    |
| Probability of Summer temperatures getting above 90°F                | 2 in 5    |
| Annual Heating Degree Days   | 5800      |
| Precipitation (mean annual) (relatively evenly distributed by month) | 50 inches |
| Snow Depth (mean annual)   | 35 inches |

The surrounding topography is gentle and therefore does not influence the local climate in any limiting manner. The area is currently below the state limits for various air pollutants, the ambient air quality should not change with regard for the uses planned for this site. Changes in air quality could occur in the summer months when vehicle miles traveled increases.

## HAZARDS

The swampy nature of much of the property will cause some problems with mosquitoes and insects in the summer months. This may in turn cause a demand by residents for a town mosquito control program.

## WATER SUPPLY

Water for the subdivisions is to be supplied by on-site wells. The intent apparently is to provide an individual well for each site rather than develop a central or public water supply which would service the entire development. Although a considerable portion of the property has evidence of high ground water conditions, it would be recommended that individual wells be drilled rather than dug. Such wells generally provide more protection of the water, are more reliable during dry times, and also allow for greater flexibility in placement of a well, although required minimum standards for location are to be met. Based on previous information and experiences, such wells should be capable of supplying an adequate yield for meeting the needs of the average single family home. Water quality particularly from minerals such as iron and manganese, has presented some concern in other parts of Salem and Colchester and treatment may be needed in order to satisfactorily meet the standards for potable water.

The possible development of a public water supply system would be the other way to service the lots. There appears to be ample acreage to locate a possible well site(s) which would meet required standards for protection and control. Adequate yield to meet the needs of the project would be a prime consideration. The overall economics for engineering and constructing such a system may not be warranted by the probable number of developable building sites.

## WASTE DISPOSAL

The proposed development lies beyond any proposed public water and sewerage systems indicated in the Regional Water Supply and Regional Sewerage Plans. This means that the site should present favorable soil conditions for septic systems since public sewer will not be an answer to any future sewerage problems. Since some of the soils on these sites (especially section A) have high water table, fragipan, and poorly drained limitations for on site sewage disposal, provisions should be made in the design and construction of the systems to compensate for the limitations. For instance in areas of high water table it may be necessary to fill so that the bottom of the leaching trench is at least 18 inches above the water table.

Based on visual observations and soil mapping data approximately 114 acres of the two land areas being considered have severe soil limitations for on-site sewage disposal. The principle adverse factors are the extensive wet areas and areas subject to high seasonal ground water.

In Section A (Colchester) the most feasible area appears to be along Scott Hill Road, north of the watercourse which crosses the road. Although the land apparently has high seasonal ground water and the grade slopes to a watercourse, the soil would have good drainage (seepage). Proper house locations along with adequate elevations of the sewage systems would be necessary. The remaining

acreage in this tract, with the possible exception of some of the upper area along Buckley Road is wet and poorly suited for subsurface sewage disposal. In addition to wetness, soil percolation would be restricted by the fragipan which is present. A number of deep test pits which had been previously dug showed water to be close to ground surface. There are also several culverts from the road which discharge into the property.

In Section C (Salem) the higher terrain along Way Road should present no major problems, although slope will have to be taken into consideration if individual on-site wells are utilized for water supply. A large portion of the tract along Buckley Road is wetlands and/or subject to high seasonal ground water. While it may be possible to develop a limited portion of the area having a high ground water condition (opposite existing house) special engineering consideration would need to be given.

In the development of these parcels a major objective should be the protection of the watercourse(s) which is a tributary to nearby Gardner Lake. By having and utilizing better than marginal building sites and areas for sewage disposal systems, there will be greater reduction in the opportunity for degrading or introducing possible pollution into the waterway(s).

#### SERVICES TO SUPPORT DEVELOPMENT

The proposed development is located in a low density residential-undeveloped area of Colchester and Salem at the intersection of Buckley Hill, Way, and Scott Hill Road roads. These are all local town roads. Since the town line cuts some lots in Section A, it would be desirable if the towns could agree initially on taxation of land, buildings and school attendance so no problems arise in the future. School buses and fire trucks from Colchester will have to travel on Salem or Lebanon roads to reach the Colchester portion of the development. The Colchester fire department would be about 6 miles away and the Salem fire department about 2 1/2 miles away.

#### SURROUNDING LAND USES AND ALTERNATIVES

The adopted Salem Town Plan recommends this area of Salem for low intensity uses such as scattered single-family residences, agriculture, and commercial recreation uses. The tributary streams flowing into Gardner's Lake are depicted as streambelts which should be preserved as open space natural resource management areas. The adopted Colchester Town Plan recommends this area of Colchester for rural residential uses such as scattered homes, with no provisions for public sewerage and water. The State Plan of Conservation and Development also depicts the area as suited for limited development. This means that the area is planned to remain open or developed at low densities with all uses served by on-site disposal systems. The USDA SCS streambelt report for Salem also depicts the two tributary streams to Gardner Lake as streambelts and recommends that conservation management of land along these brooks is important for preservation of water quality and pollution abatement. Thus it is important to maintain the quality of water flowing into Gardner's Lake and this could be attained in part by an erosion and sedimentation control plan for the project.

On a land use basis low density residential uses will be compatible with surrounding uses, but when all four sections are completed traffic on the town

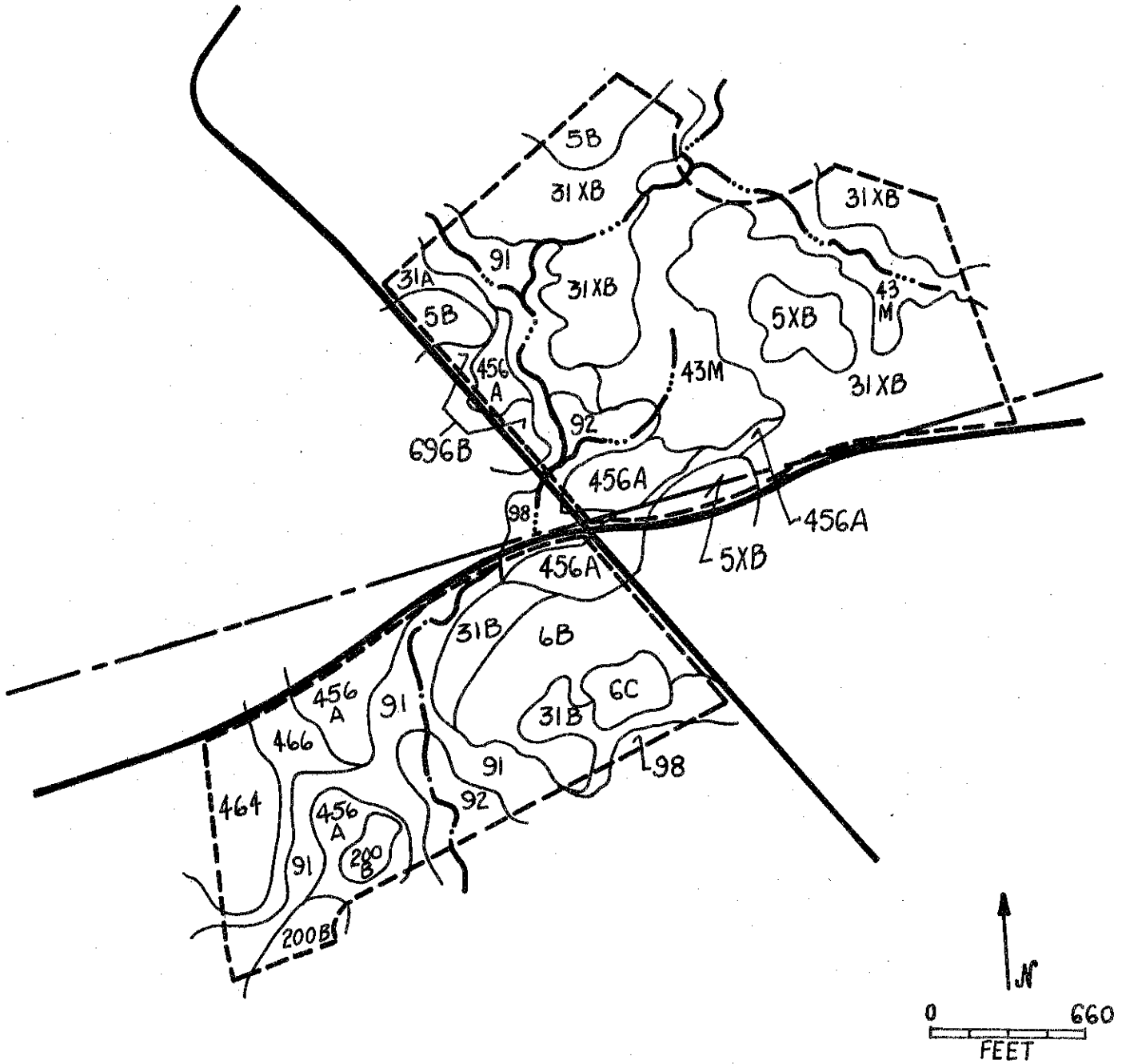
roads will increase and the cumulative effect will be a suburban development. One potential way to reduce driveways entering onto Way Road in Salem would be to construct an access road following the contours of the hill as indicated earlier in the section on SOILS. About the same number of lots could be accommodated, and any future problems concerning driveway maintenance and improvement (especially if any driveways were planned to be shared) could be avoided.

The only alternative uses that appear feasible would be undeveloped, forestry, or agricultural fields if some clearing took place. The area is too removed from facilities and major access roads to be used for commercial or industrial uses. Low density residential uses will be compatible with the area provided that septic systems can be accommodated by the existing soils without harming stream or ground-water quality.

APPENDIX



SOIL MAP  
WOODLAWN ACRES  
SALEM AND COLCHESTER, CONNECTICUT



The map is an enlargement from the original 1320'/inch scale to 660'/inch.

Prepared by: UNITED STATES DEPARTMENT OF AGRICULTURE, Soil Conservation Service.

ADVANCE COPY, SUBJECT TO CHANGE.

OCTOBER, 1976

WOODLAWN ACRES

PROPORTIONAL EXTENT OF SOILS AND THEIR LIMITATIONS FOR CERTAIN LAND USES

| Soil Series                 | Natural Soil Group | Soil Symbol | Approx. Acres | Percent of Acres | Principal Limiting Factor           | Urban Use Limitations* |                          |                   |              |
|-----------------------------|--------------------|-------------|---------------|------------------|-------------------------------------|------------------------|--------------------------|-------------------|--------------|
|                             |                    |             |               |                  |                                     | On-Site Sewage         | Buildings with Basements | Streets & Parking | Land-Scaping |
| Colchester: Section A       |                    |             |               |                  |                                     |                        |                          |                   |              |
| Montauk                     | C-1a               | 5B          | 3.0           | 4.0              | Fragipan                            | 3                      | 1                        | 2                 | 2            |
| Montauk                     | C-1a               | 5XB         | 5.2           | 6.9              | Fragipan, slope                     | 3                      | 1                        | 2                 | 2            |
| Woodbridge                  | C-2a               | 31A         | 1.0           | 1.3              | Fragipan, seasonal high water table | 3                      | 3                        | 3                 | 2            |
| Woodbridge                  | C-2a               | 31XB        | 36.8          | 48.5             | Fragipan, seasonal high water table | 3                      | 3                        | 3                 | 2            |
| Leicester/Ridgebury/Whitman | B-3b               | 43M**       | 15.0          | 19.8             | Met                                 | 3                      | 3                        | 3                 | 3            |
| Adrian+Palms Muck           | A-3b               | 91**        | 5.5           | 7.2              | Poorly drained, floods              | 3                      | 3                        | 3                 | 3            |
| Carlisle Muck               | F-1                | 92**        | 2.6           | 3.4              | Poorly drained, floods              | 3                      | 3                        | 3                 | 3            |
| Sudbury                     | A-2                | 456A        | 4.8           | 6.3              | Seasonal high water table           | 3                      | 3                        | 2                 | 1            |
| Agawam                      | A-1d               | 696B        | 2.0           | 2.6              | ---                                 | 1                      | 1                        | 1                 | 1            |
| TOTAL:                      |                    |             | 75.9          | 100%             |                                     |                        |                          |                   |              |

\* Urban Use Limitations: 1=slight; 2=moderate; 3=severe.

\*\* Public Act 155 Inland Wetland Soil.

WOODLAWN ACRES

PROPORTIONAL EXTENT OF SOILS AND THEIR LIMITATIONS FOR CERTAIN LAND USES

| Soil Series             | Natural Soil Group | Soil Symbol | Approx. Acres | Percent of Acres | Principal Limiting Factor  | Urban Use Limitations* |                          |                   |              |
|-------------------------|--------------------|-------------|---------------|------------------|----------------------------|------------------------|--------------------------|-------------------|--------------|
|                         |                    |             |               |                  |                            | On-Site Sewage         | Buildings with Basements | Streets & Parking | Land-Scaping |
| <u>Salem: Section C</u> |                    |             |               |                  |                            |                        |                          |                   |              |
| Narragansett            | B-1a               | 6B          | 8.2           | 16.1             |                            | 1                      | 1                        | 1                 | 1            |
| Narragansett            | B-1b               | 6C          | 2.0           | 3.9              |                            | 2                      | 1                        | 2                 | 2            |
| Woodbridge              | C-2a               | 31B         | 6.4           | 12.6             | Seasonal high water table  | 3                      | 3                        | 3                 | 2            |
| Adrian+Palms Muck       | A-3b               | 91**        | 11.0          | 21.6             | Poorly drained, floods     | 3                      | 3                        | 3                 | 3            |
| Carlisle Muck           | F-1                | 92**        | 2.8           | 5.6              | Poorly drained, floods     | 3                      | 3                        | 3                 | 3            |
| Ridgebury               | C-3a               | 98**        | .8            | 1.6              | Poorly drained, floods     | 3                      | 3                        | 3                 | 3            |
| Narragansett/Ho11is     | D-1                | 200B        | 4.1           | 8.0              | Shallow to bed-rock, slope | 3                      | 3                        | 3                 | 3            |
| Sudbury                 | A-2                | 456A        | 7.6           | 14.9             | Seasonal high water table  | 3                      | 3                        | 2                 | 1            |
| Raynham                 | B-3a               | 464**       | 5.0           | 9.8              | Highwater table            | 3                      | 3                        | 3                 | 3            |
| Walpole                 | A-3a               | 466**       | 3.0           | 5.9              | Highwater table            | 3                      | 3                        | 3                 | 3            |
| TOTAL:                  |                    |             | 50.9          | 100%             |                            |                        |                          |                   |              |

\* Urban Use Limitations: 1-slight; 2-moderate; 3-severe (see next page for a further explanation of soil limitations classifications).  
 \*\* Public Act 155 Inland Wetland Soil.

## SOIL INTERPRETATIONS FOR URBAN USES

The ratings of the soils for elements of community and recreational development uses consist of three degrees of "limitations:" slight or no limitations; moderate limitations; and severe limitations. In the interpretive scheme various physical properties are weighed before judging their relative severity of limitations.

The user is cautioned that the suitability ratings, degree of limitations and other interpretations are based on the typical soil in each mapping unit. At any given point the actual conditions may differ from the information presented here because of the inclusion of other soils which were impractical to map separately at the scale of mapping used. On-site investigations are suggested where the proposed soil use involves heavy loads, deep excavations, or high cost. Limitations, even though severe, do not always preclude the use of land for development. If economics permit greater expenditures for land development and the intended land use is consistent with the objectives of local or regional development, many soils and sites with difficult problems can be used.

### Slight Limitations

Areas rated as slight have relatively few limitations in terms of soil suitability for a particular use. The degree of suitability is such that a minimum of time or cost would be needed to overcome relatively minor soil limitations.

### Moderate Limitations

In areas rated moderate, it is relatively more difficult and more costly to correct the natural limitations of the soil for certain uses than for soils rated as having slight limitations.

### Severe Limitations

Areas designated as having severe limitations would require more extensive and more costly measures than soils rated with moderate limitations in order to overcome natural soil limitations. The soil may have more than one limiting characteristic causing it to be rated severe.