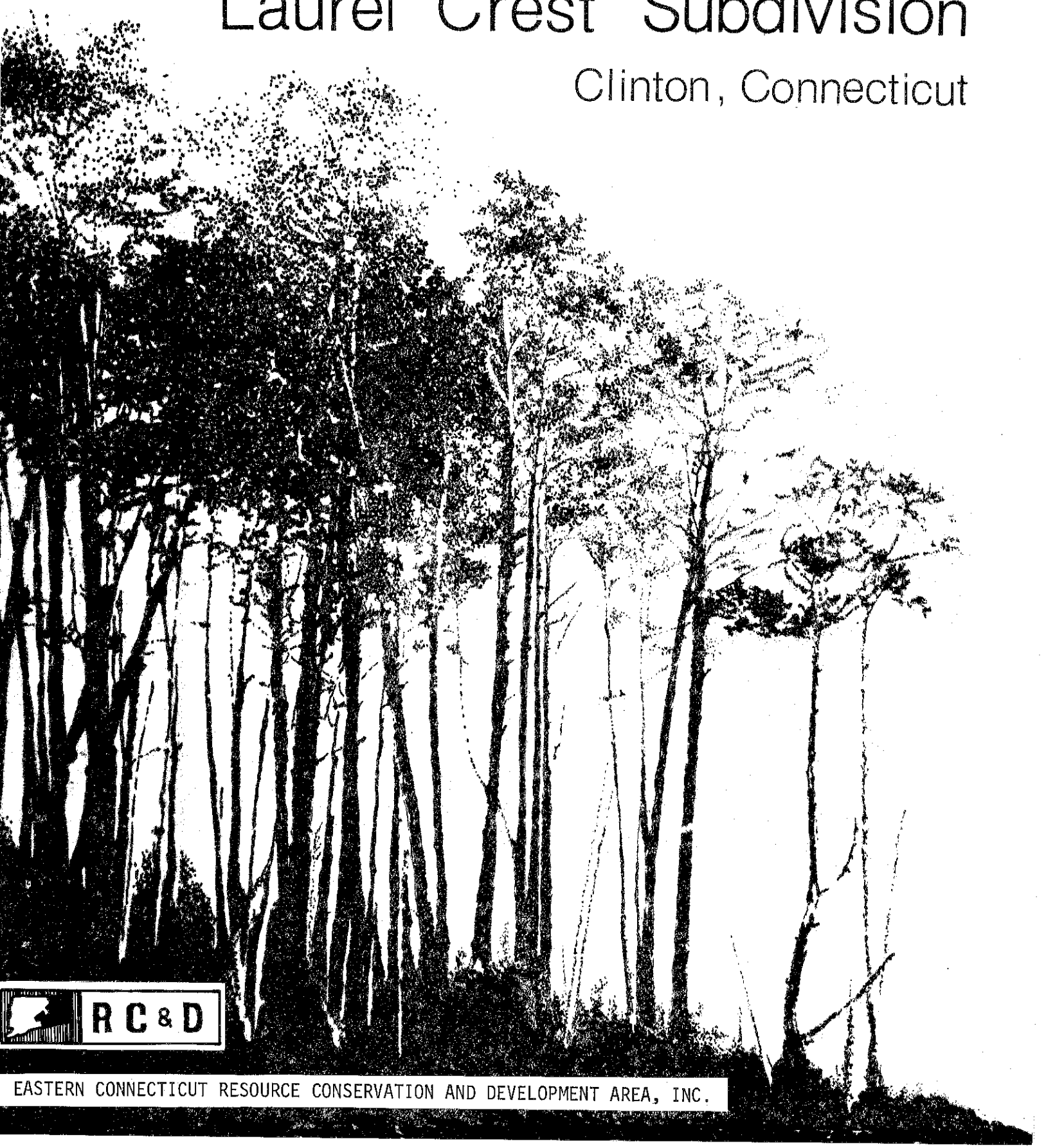
Environmental Review Team Report

Laurel Crest Subdivision

Clinton, Connecticut



R C & D

EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.

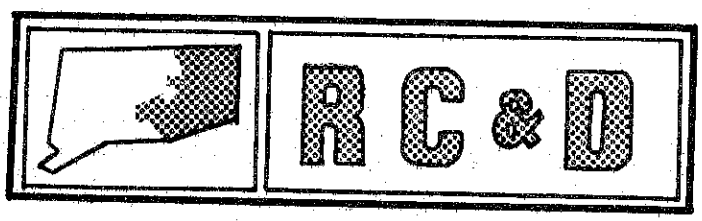
Environmental Review Team Report

on

Laurel Crest Subdivision

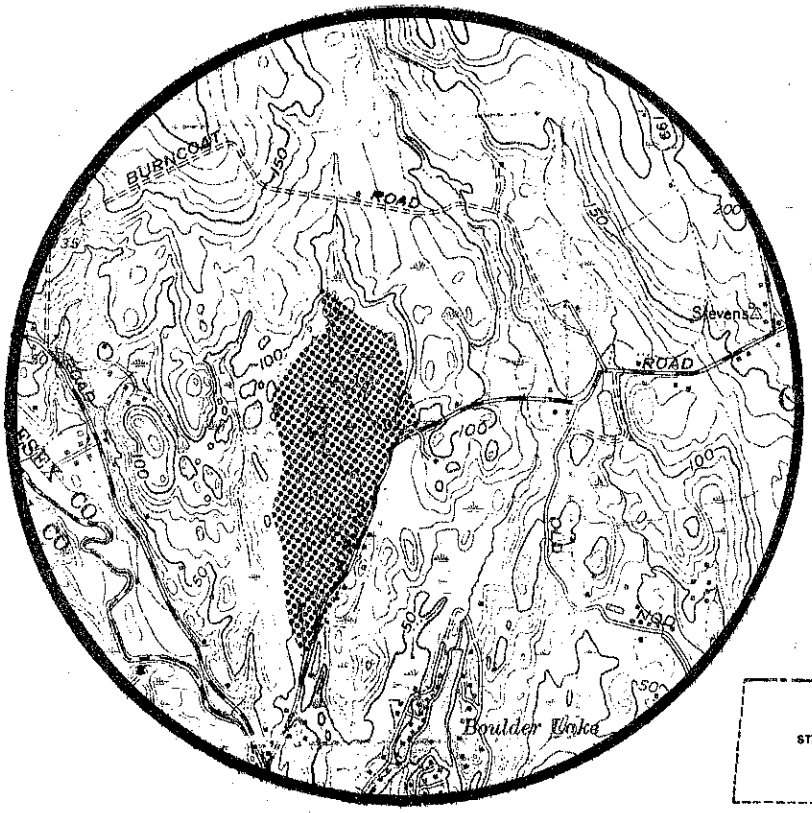
Clinton, Connecticut

September 1978



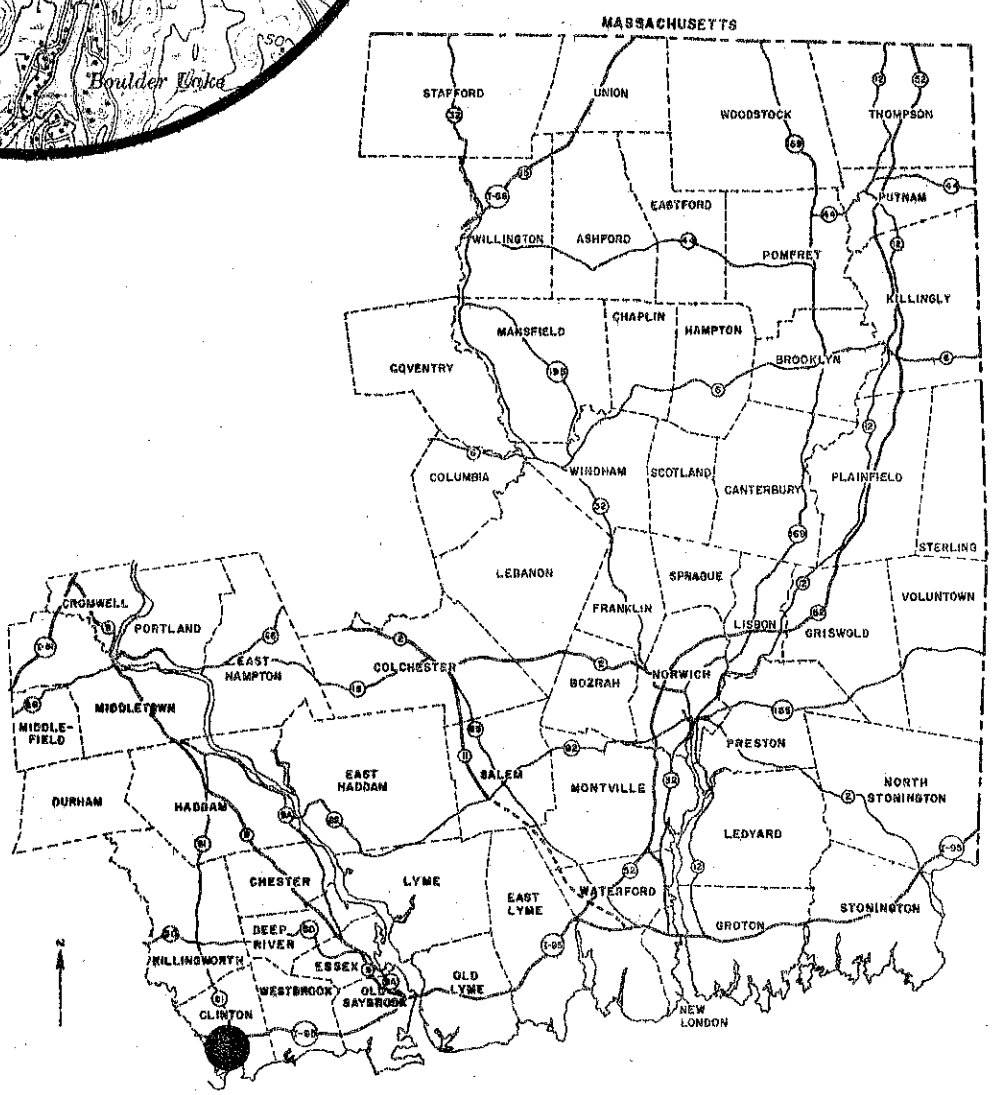
eastern connecticut resource conservation & development area

environmental review team
139 boswell avenue
norwich, connecticut 06360



Location of Study Site

LAUREL CREST SUBDIVISION
CLINTON, CONNECTICUT



EASTERN CONNECTICUT
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

ENVIRONMENTAL REVIEW TEAM REPORT
ON
LAUREL CREST SUBDIVISION
CLINTON, CONNECTICUT

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

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

The ERT that field-checked the site consisted of the following personnel: Barry Cavanna, District Conservationist, Soil Conservation Service (SCS); Joe Neafsey, Soil Conservationist (SCS); Mike Zizka, Geologist, Connecticut Department of Environmental Protection (DEP); Tim Hawley, Forester, DEP; Steve Holmes, Regional Planner, Midstate Regional Planning Agency; Don Capellaro, Sanitarian, State Department of Health; and Jeanne Shelburn, ERT Coordinator, Eastern Connecticut RC&D Area.

The Team met and field checked the site on Thursday, August 3, 1978. Reports from each contributing Team member were sent to the ERT Coordinator for review and summarization for the final report.

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

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

If you require any additional information, please contact: Ms. Jeanne Shelburn, Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, 139 Boswell Avenue, Norwich, Connecticut 06360, 889-2324.

LOCATION PLAN & DEVELOPMENT KEY
SCALE: 1" = 400' ±
LOTS 1-21R LAUREL CREST I
AIRLINE
ROAD
LAUREL CREST
SECTION II
KENILWORTH SECTION II
KENILWORTH TWO
KENILWORTH SECTION ONE
KENILWORTH DR
GRANT
ROAD
R-80
R-80
ZONE
ZONE
TENTATIVE OPEN SPACE
Wetlands
PROPOSED
TENTATIVE OPEN SPACE
Wetlands
N/F
SLYE
Wetlands
NOTE: TENTATIVE OPEN SPACE AREA = 15± AC = 17%± OF LAND
(TOTAL OPEN SPACE AREAS TO BE GRANTED TO THE TOWN OF CLINTON UNDER SECTION II WITH APPROVAL OF P/Z COMM.

INTRODUCTION

The Eastern Connecticut Environmental Review Team was requested to review a 90± acre proposed subdivision, known as Laurel Crest, located on Airline Road in Clinton. The site is presently in the private ownership of William and Charles Honek of Milford and under option to develop by F & K Construction Company. Preliminary subdivision plans have been prepared by Arthur Barden, a registered land surveyor.

The site is noted for its varied topography, rock outcrops and wetland areas. Preliminary plans show 42 lots in two sections. Twenty-one lots fronting on Airline Road are included in Laurel Crest Section I. Laurel Crest II includes an additional 21 lots with access provided from a single cul-de-sac road. All lots are to be serviced by on-site septic systems and on-site wells. Approximately 15 acres of the total subdivision will be designated as open space.

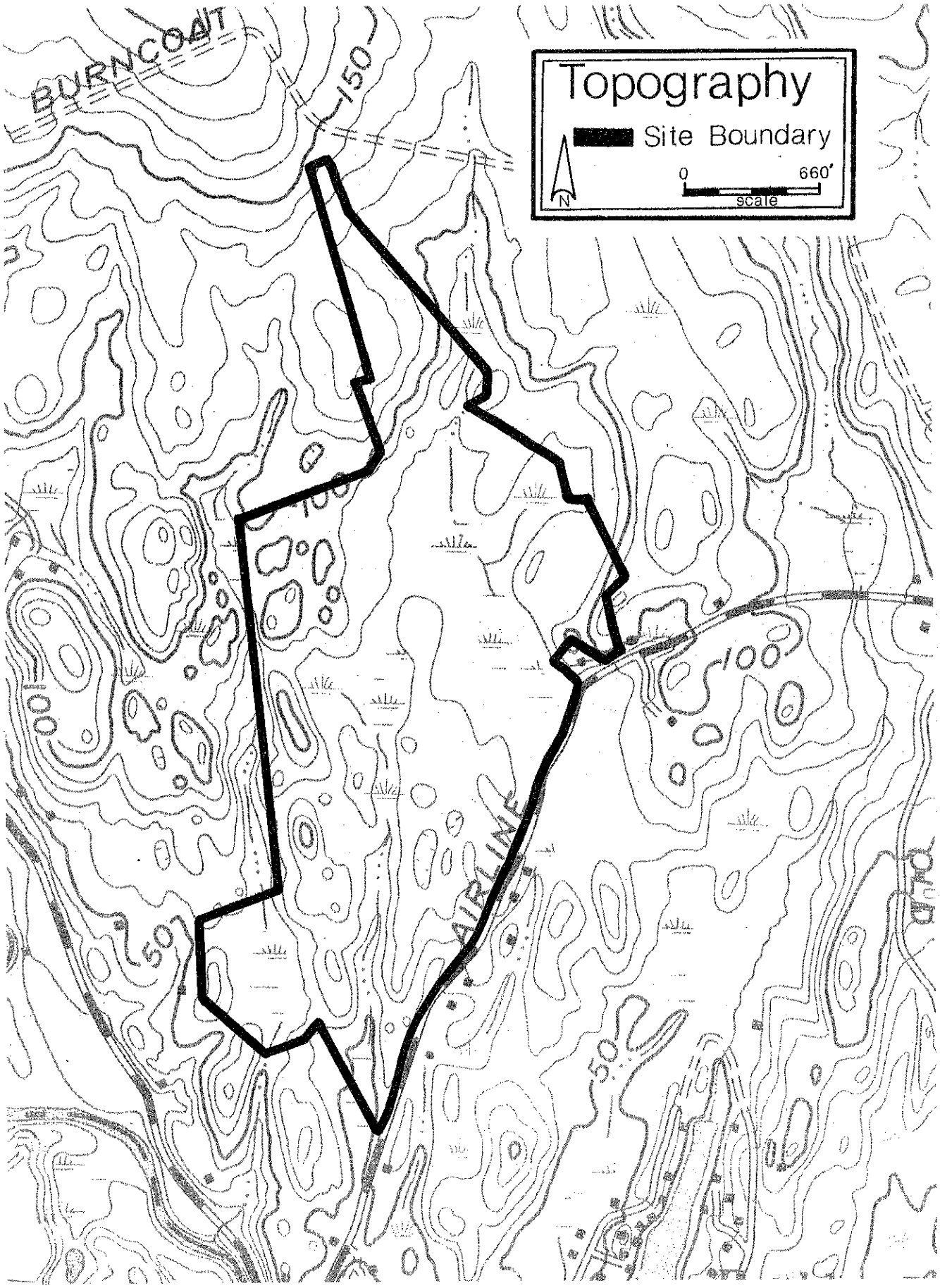
The Team is concerned with the natural features of this site which would severely limit development. Soils which have a shallow depth to bedrock, the highly irregular topography, steep slopes, and wetlands prevalent on the property indicate potential problems with proper functioning of on-site septic systems. Flooding of tile lines and outcropping of effluent may occur frequently if systems are not properly engineered. The potential of well contamination from these systems also exists, should septic effluent, poorly renovated in shallow to bedrock soils, be introduced into the bedrock fracture system from which these wells will draw. Large amount of cuts and fills will be needed to construct the cul-de-sac road as proposed on the subdivision plan. Blasting will be required in many cases which may affect the surface and subsurface flow patterns of water on this site. The Team planner has found that the road itself is in violation of the Clinton Subdivision Regulations, both in length of pavement and number of lots to be served. Clustering of development on this site would be a viable alternative for consideration by the Planning and Zoning Commission. In this way, development could be concentrated on the most suitable portions of the site, while difficult to develop and fragile areas could be preserved as open space.

Because of the very difficult geologic and hydrologic situations that must be overcome to make development of this land feasible, the Team recommends that any final subdivision plans clearly show the following:

(1) all topographic modifications that will be required
(2) the layout of the storm drainage network, including any and all culverts.

The developer should also provide the town with a complete runoff analysis that does the following:

(1) estimates peak flow increases at all present culverts
(2) discusses the capability of the current storm drainage system, or of any proposed future system, to handle such increases.


Topography
Site Boundary
0
660'
scale
N
BURNCOAT
150
100
50
AIRLINE

ENVIRONMENTAL ASSESSMENT

GEOLOGY

The bedrock underlying and cropping out on the Laurel Crest property is mapped and described in The Bedrock Geology of the Clinton Quadrangle.* All bedrock on the property is mapped as Monson Gneiss, a unit that consists of a variety of gray quartz-plagioclase rocks that are mostly but not entirely gneissic. The sub-unit that is most characteristic of the property is a generally non-foliated and non-layered rock that contains, in addition to quartz and plagioclase, hornblende and inclusions of amphibolite and calc-silicate.

A thin, discontinuous blanket of unconsolidated glacial debris covers bedrock on the property. The debris consists primarily of a non-sorted collection of rock particles of various shapes and sizes. Most of the particles, which were deposited directly by glacier ice, had been removed from local bedrock. Because of the particular mineralogic composition of this bedrock, the particles are mostly sandsized; hence, the till is commonly rather friable. A more detailed description of till is contained in The Surficial Geology of the Guilford and Clinton Quadrangles.**

The depth of the till on the property is shallow. The accompanying illustration shows the general thickness of the till on the site, as well as areas of bedrock outcrop.

TOPOGRAPHY

The Laurel Crest property lies within an area of highly irregular relief that is caused by the proximity of bedrock to the land surface. The bedrock is relatively massive, but it is also strongly jointed. This jointing (a type of fracturing) has led to a series of low, north-northwest trending ridges, which have been dissected by glacial and recent weathering processes into knobs, short ridges, and basins. The basins may temporarily retain water, forming shallow pools or swamps.

HYDROLOGY

Parts of three small watersheds that drain southeastward through culverts along Airline Road are included in the Laurel Crest property. Part of a fourth watershed, which drains southwestward through a culvert under River Road, is also included in the property. All four drainage areas are shown in the accompanying illustration. Watershed 1 contains approximately 79 acres; watershed 2, approximately 46 acres; watershed 3, approximately 143 acres; and watershed 4, approximately 6 acres. In all four watersheds, surface drainage is only poorly channelized, with short reaches of intermittent streams connecting swampy topographic depressions. The general direction of flow is to the south. Groundwater flow, both through till and through fractures in the underlying bedrock, probably parallels the surface flow to a great extent.

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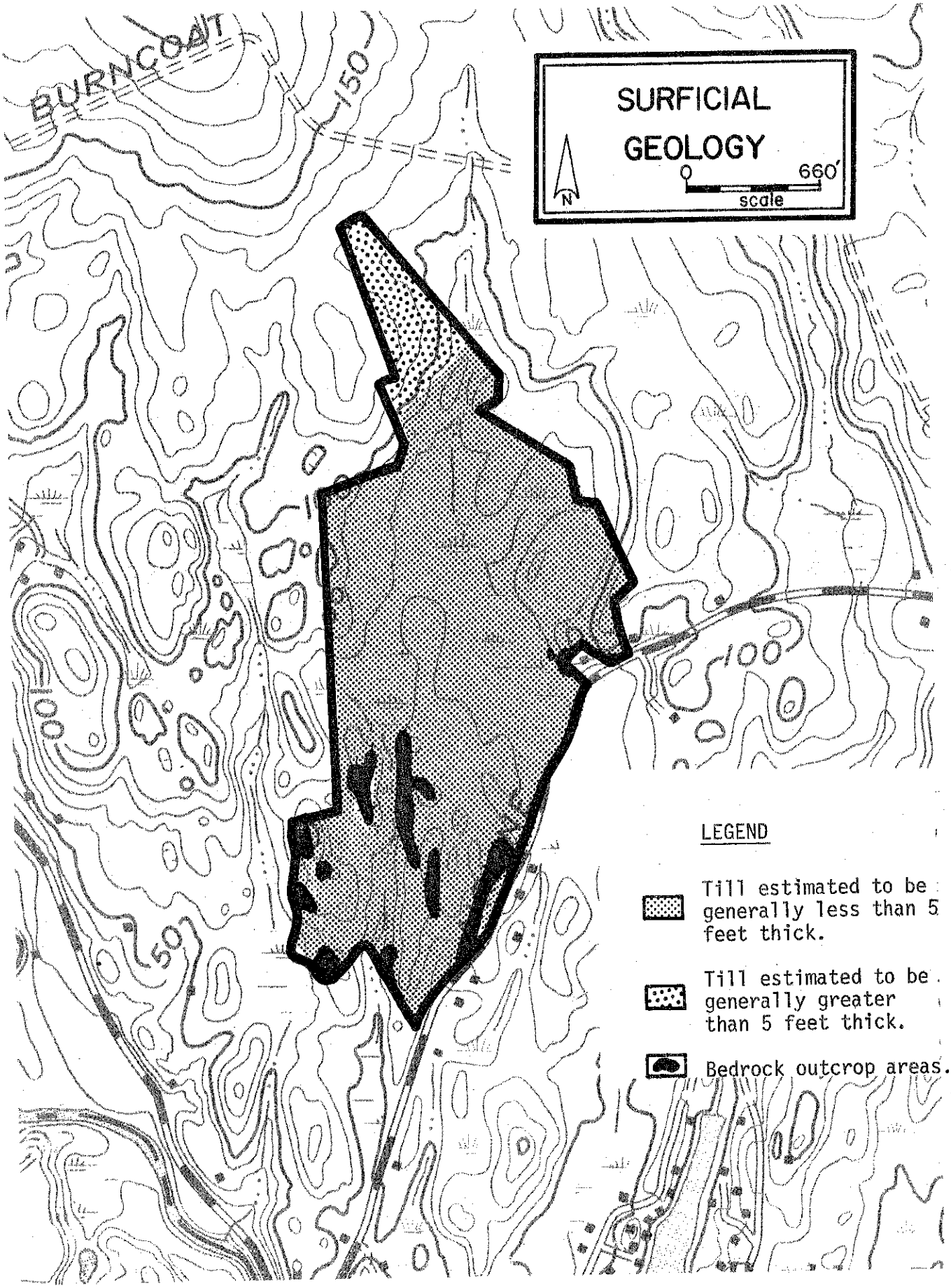
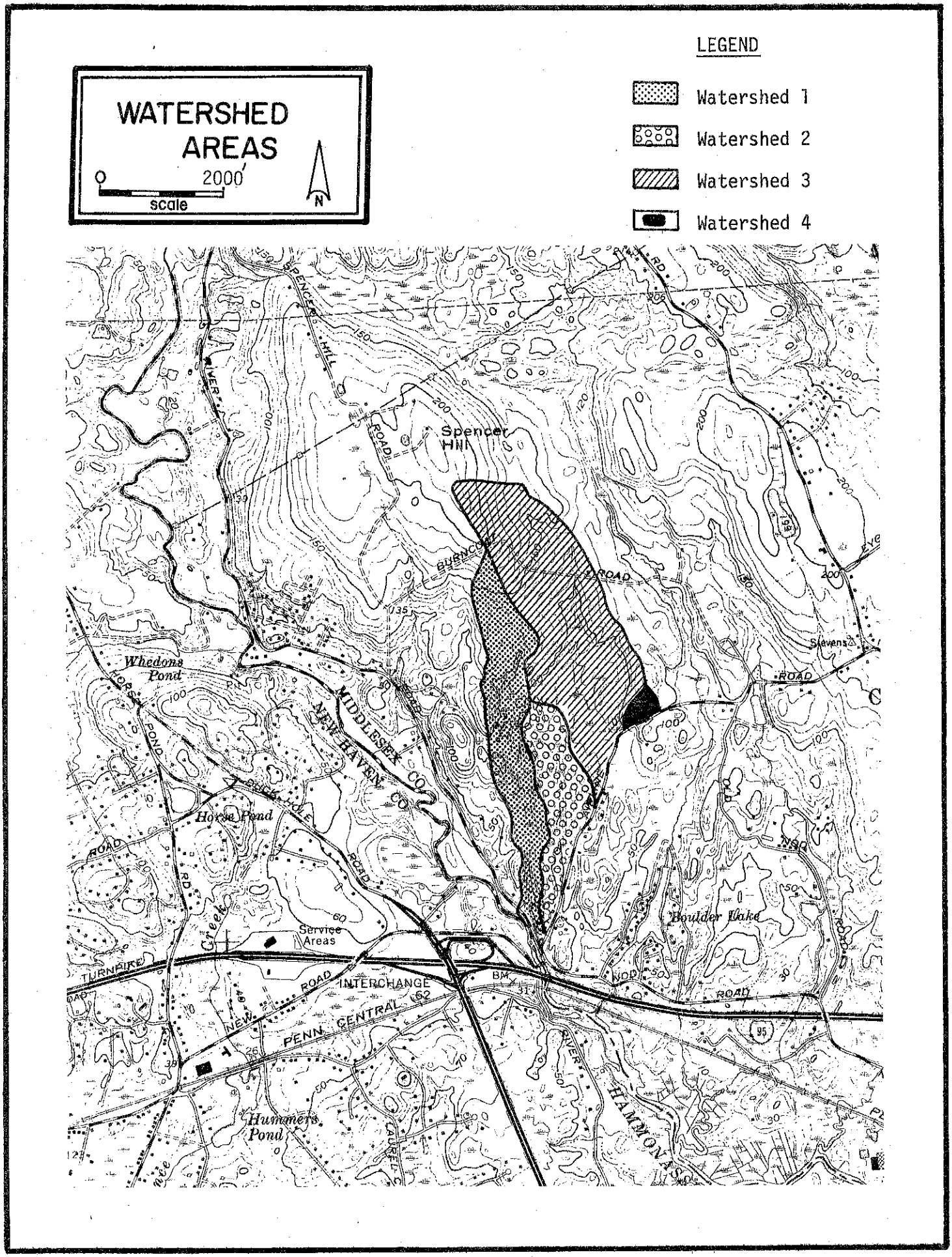
* Connecticut Geological and Natural History Survey Quadrangle Report No. 29.
** Connecticut Geological and Natural History Survey Quadrangle Report No. 28.


SURFICIAL
GEOLOGY
0
660'
scale
N
BURNCOAT
150
100
100
50
LEGEND
Till estimated to be generally less than 5 feet thick.
Till estimated to be generally greater than 5 feet thick.
Bedrock outcrop areas.


WATERSHED AREAS
2000'
scale
N
LEGEND
Watershed 1
Watershed 2
Watershed 3
Watershed 4
Spencer Hill
Whedons Pond
Horse Pond
Hummers Pond
Boulder Lake
Service Areas
INTERCHANGE
NEW HAVEN CO.
PENN CENTRAL
TURNPIKE
ROAD
Stevens

Development of the property is likely to have a profound effect upon drainage patterns. Because no definite plans are available for the interior part of the property, it is difficult to assess the probable extent of this effect. Of the three largest watersheds, it seems likely that watershed 2 will experience the most significant changes, as the percentage of land to be developed in that area (including those lots with direct frontage on Airline Road) is higher than in the others. The change would be in the form of increased runoff. Most of the increase would be expected to result from the building of roofs, driveways, roads, and other impervious surfaces over otherwise permeable land. Artificial storm water channelization would also have an effect upon peak runoff flows. However, in this proposed subdivision, it is likely that some of the most significant hydrologic changes would result from the tremendous amount of land reshaping that will be necessary for development. Because of the prominence of bedrock, blasting, as well as normal cutting and filling, probably will be needed in at least some interior sections to provide sufficient grading for the proposed new road and for house foundations. Topographic modification on such a scale can easily affect surface flow patterns, and blasting can affect subsurface flow paths.

VEGETATION/WILDLIFE RESOURCES

Vegetation on the site consists of a mixed hardwood stand with a mature brushy understory. Where the canopy is well developed, no understory exists. Hardwood species include red oaks, white oaks, red maple, Norway maple, dogwood, gray birch, and beech. Some small - less than 3" diameter - chestnut sprouts were sighted. Understory species included witch hazel, maple leaf viburnum, wild azalea, sweet pepper bush, laurel, and others. Ground cover included ferns, blueberry species, and seedlings of trees and brush.

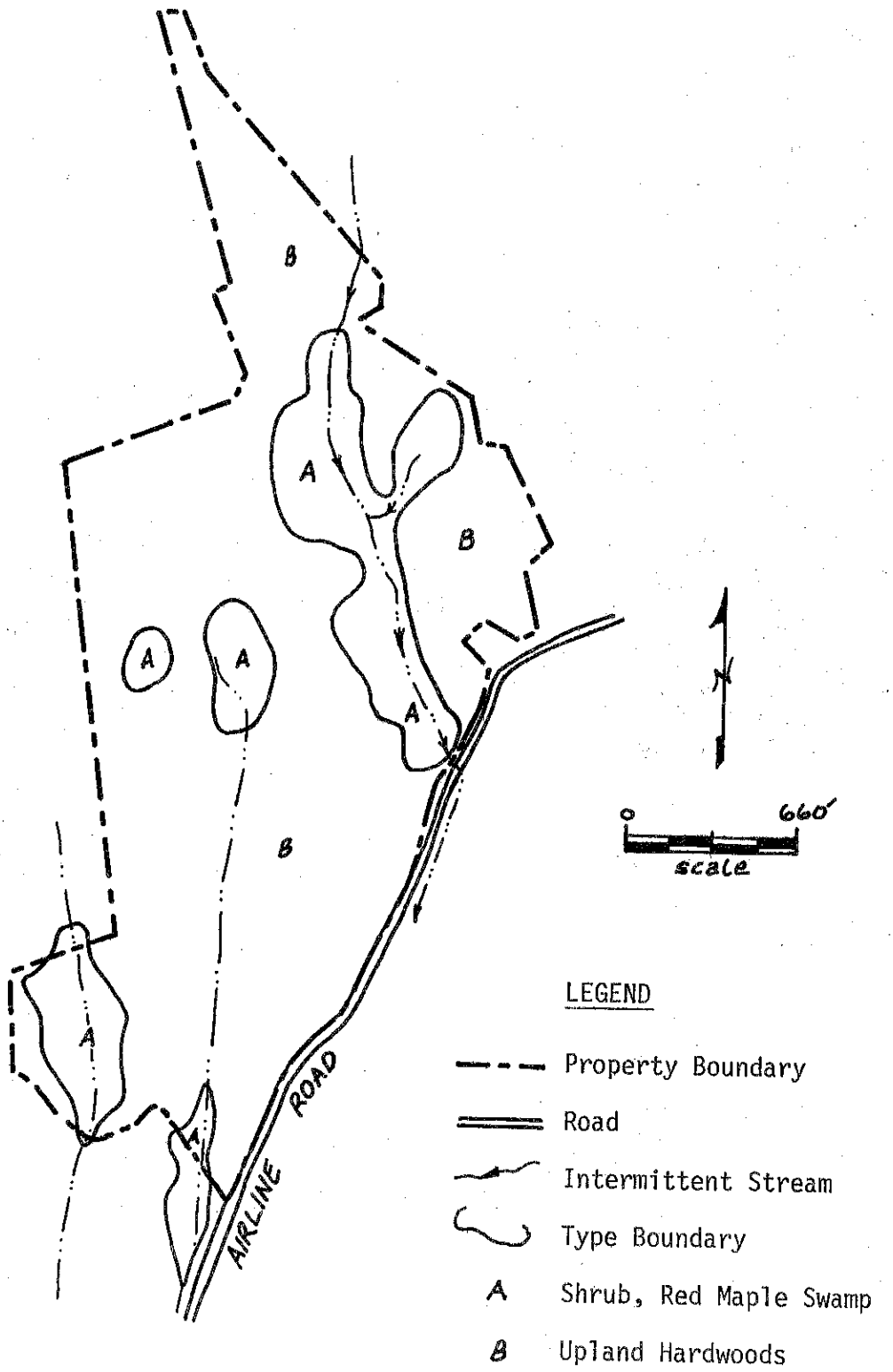
Plant species required for woodland mammals and birds are present. However, the advanced maturity of the vegetation and the lack of large open areas within or adjacent to the site presently limits the habitat value of the area for species such as deer, rabbits, and songbirds. Some evidence of deer was sighted, but the area is not heavily utilized for food; it may be a source of water and cover for local populations. Some songbirds as well as four woodcock were sighted during the review also.

Management of open spaces for wildlife can be most easily accomplished by creating clearings and stacking brush piles. Planting wildlife shrubs and grasses such as switch grass, highbush blueberry, and Autumn olive on residential areas will also improve the area for songbirds.

Water quality of the intermittent streams appeared good. If the area is developed into residential land the integrity of the wetland and water courses should be maintained by use of streambelt zones. Road crossings should be minimized and all storm drainage should be desilted before entering streams or wetlands. Because of the predominance of shallow to bedrock soils on the site, the area may lend itself to cluster or larger estate-type development, utilizing suitable areas, if any, for residences and retaining unbuildable areas (wetlands and areas of steep slopes or shallow to bedrock soils) as open space.

VEGETATION MAP

LAUREL CREST SUBDIVISION
CLINTON, CONNECTICUT



In summary, although the value of the site for wildlife is limited, the predominance of wetlands, steep slopes, and pockets of shallow to bedrock soils suggests that alternatives to development of a standard residential subdivision on this site be sought. Alternatives to consider are estates with large lots, clustered single family homes if feasible, or open space.

FOREST RESOURCES

Upland hardwoods cover approximately 75 acres of the site. Species and individual tree size vary with soil depth, which ranges from zero to greater than four feet. Small sawlog size red oak, white oak and beech are dense on the deepest soil. Pole-size black oak and white oak dominate the thinner soils. An understory of oak, hickory, chestnut, sassafras and dogwood occurs throughout the upland. Bracken fern and huckleberry are common on the thin soil.

Red maple dominates a wetland of approximately 15 acres. The understory here contains a variety of shrubs, including sweet pepperbush, arrow-wood, deciduous holley and azalea. A change in the water level of the wetlands may cause decline and death of the trees and shrubs growing here. The water level could be altered by a change in the rate of in-flow or in the rate of out-flow. In-flow should not be significantly increased by the low density of homes proposed. Outflow will be restricted by several driveways which will cross the wetland, unless culverts are placed so that water movement and level will remain unchanged.

The danger of blowdown on the upland sites would be reduced by a thinning in which the largest trees are retained. A private forester should be consulted to identify trees which should be cut and to supervise their removal. The thinning should be scheduled two years prior to development and conducted in such a way that wind corridors are not created. This will give residual trees time to extend their root systems and strengthen their trunks at stress points before clearing for roads and house lots begins. Trees do not often survive changes in soil depth although symptoms may take up to two years to develop. In order to meet local requirements for minimum area of acceptable slope, construct driveways, and install foundations and septic systems, it is anticipated that cuts and fills will be necessary on many of the sites. Unless most of the ground directly beneath the crown of a tree can be left unaltered, the tree should be removed.

SOILS

A detailed soils map of this site is included in the Appendix to this report, accompanied by a chart which indicates soil limitations for various urban uses. As the soil map is an enlargement from the original 1,320'/inch scale to 660'/inch, the soil boundary lines should not be viewed as absolute boundaries, but as guidelines to the distribution of soil types on the site. The soil limitation chart indicates the probable limitations for each of the soils for on-site sewerage, buildings with basements, buildings without basements, streets and parking, and landscaping. However, limitations, even though severe, do not preclude the use of the land for development. If economics permit large expenditures for land development and the intended objective is consistent with the objectives of local

and regional development, many soils and sites with difficult problems can be used. The soils map, with the publication Special Soils Report, Connecticut River Estuary Planning Region, can aid in the identification and interpretation of soils and their uses on this site. Know Your Land: Natural Soil Groups for Connecticut can also give insight to the development potentials of the soils and their relationship to the surficial geology of the site.

Soils typical of the Laurel Crest Subdivision site include the Woodbridge series, the Adrian-Palms series, the Charlton-Hollis series, the Paxton and Montauk series, and the Leicester-Ridgebury-Whitman series. These soils limit development due to slow percolation rates, shallow to bedrock areas and highly erosive qualities.

The Woodbridge series is a deep moderately well-drained fine sandy loam. A gravelly fine sandy loam fragipan is found at 26 to 42 inches, causing a perched water table from November through March. Limitations are severe for septic tank absorption fields. The soil percs slowly, and wetness and frost action are problems. The subsoil is highly erosive. Much care must be taken in excavating.

The Adrian-Palms series is a deep, very poorly drained organic soil. Wetness, frost action and very slow percolation rates are common development problems. It is not suitable for building sites.

The Charlton-Hollis series is a deep, well drained soil. The water table, from January to April, is three to six feet below the surface. Depth to bedrock is from 10 to 60 inches. Charlton pockets on these soils are good for septic tank absorption fields. Care must be taken in development on sloping areas. The topsoil resists erosion, but the subsoil is highly erosive.

The Hollis-Charlton series is similar to the description for Charlton-Hollis soils, but the soil is shallow to bedrock and not suitable for septic tank absorption fields.

The Paxton and Montauk series is a deep, well drained sandy loam underlain by a firm and brittle sandy loam fragipan from 27 to 60 inches. There is a perched water table from November to March at a depth of two feet. Depth to bedrock is generally greater than six feet. These soils perc slowly and therefore have severe limitations for septic tank absorption fields. Shallow excavations show little problem on slight slopes; erosion takes place on slopes greater than 8 percent. There is moderate frost action in these soils.

The Leicester-Ridgebury-Whitman soils are deep, poorly and somewhat poorly drained sandy loams that are usually found in depressions and drainageways. A fragipan is found from 10 to 30 inches. These soils perc slowly, and wetness and frost action cause severe limitations. There is a perched water table from 0 to 1.5 feet below the surface from November to May.

Many of the proposed sites are rocky, with ledge either showing or very close to the surface. Installation of septic systems will be a problem. Pockets of Charlton can be found that will show good perc test results, but the location of the septic system in relation to the desired building site may be a problem for the buyer.

Some driveways off Airline Road will have to be blasted and/or culverts installed to cross the existing swale. Many driveways off the proposed road will also require blasting. The installation of the proposed road itself will require much blasting.

The average slope of the area is 3 to 5 percent. Runoff is presently slight. Paving and removal of vegetation will increase runoff in the direction of Airline Road. Suitable drainage systems should be installed. Sediment and erosion control practices and storm water storage systems are not shown on the plans and should be included before the plan is accepted. Connecticut's Erosion and Sediment Control Handbook published by the Soil Conservation Service will aid both the developer and the Town in preparing and approving an adequate erosion and sediment control plan. Standards and specifications for both mechanical and vegetative practices listed within the Handbook are available at the Middlesex County Soil Conservation Service office, Haddam, Connecticut.

WATER SUPPLY

Water is proposed to be supplied to the subdivision by individual on-site wells. Bedrock is the only suitable aquifer for this purpose on the property. According to The Bedrock Geology of the Clinton Quadrangle*, fracturing of the bedrock is prominent in the vicinity of the proposed subdivision. Because such fractures are the source of the groundwater supply from bedrock, it is likely that yields from most wells in the subdivision will be adequate for most domestic purposes. The yield of any specific well, however, depends upon the number and size of fractures that are encountered by that well.

When locating individual well sites, consideration must be given to possible sources of pollution such as: subsurface sewage disposal systems; buried fuel oil tanks; road salt or salt from household home water softening units; fertilizers. Protection from the wastes of subsurface sewage disposal systems would be a major concern. All ground water withdrawal points should be located a "safe" distance from conditions which might adversely affect water quality. The Public Health Code requires a well to be located at a relatively high point on the premises, be protected against surface drainage, and should be in a direction away from ground water flow from any probable source of pollution. A minimum separating distance of 75 feet is to be maintained from any sewage disposal system or other source of pollution (Section 19-13-B20). The State Department of Health has recommended that where favorable site conditions exists, a lot should be a minimum size of one acre where both individual wells and subsurface sewage disposal systems are to be installed. In situations where conditions are far from ideal, due to the terrain, underlying shallow bedrock, expanses of wetlands, larger lots of two or three acres should be utilized. The lots fronting on Airline Road would have less than an acre of land.

Drilled wells are generally preferred over dug wells, as they tend to be more reliable, permit more flexibility in placement and are less likely to become polluted. In this subdivision, drilled wells would be recommended. Minerals, such as iron and manganese, may impair water quality sufficiently for normal domestic purposes. In order to provide satisfactory water, the installation of suitable water treatment equipment may be needed.

* Connecticut Geological and Natural History Survey Quadrangle Report No. 29.

The quality of the groundwater is likely to be good, at least initially. Some potential for contamination by septic system effluent exists, as bedrock is near the surface throughout most of the property. Seemingly, the greatest potential for contamination exists along Airline Road, where the density of lots is greatest.

As the Town of Clinton does not have a municipal sewage system, it is imperative that waste disposal be provided by means of individual on-site systems. Test pits and percolation tests have been made on the first 21 lots, (Section I). These lots have been approved by the Town Sanitarians (acting in behalf of the Director of Health) with the understanding that each lot will require the approval of a pre-engineered sewage disposal system before individual building permits would be considered.

Based on visual observations and soil mapping information, it is apparent that a considerable portion of the property has severe limitations for subsurface sewage disposal. Some 20 acres are wetlands with other adverse factors being steep slope and large boulders and/or shallowness to bedrock. Of special concern is the bedrock. In accordance with provisions of the Public Health Code (Section 19-13-B20), there is to be a minimum of 4 feet of soil between the bottom of the sewage leaching system and underlying ledge rock. This is considered the minimum amount needed in order not to interfere with the proper operation of the sewage system and at the same time, provide treatment of the effluent.

The proximity of bedrock to the surface throughout most of the property is likely to induce problems with septic systems. Potential hazards include backups, "outcropping" of effluent, and groundwater contamination.

The presence of numerous wet areas on the site suggests that subsurface drainage is impeded by the bedrock surface. Hence, groundwater probably rises to within a few feet of the surface throughout the site. If a septic system were placed in such an environment, the system could be affected in several ways:

(1) flooding of the tile lines would cause backups
(2) frequent saturation of the leaching fields could plug the tiles and channels with fine sediment, causing failure
(3) effluent released into soils in which the water table is high may "outcrop"; that is, the effluent may appear at the surface of the land
(4) the amount of purification of the effluent that soil organisms could provide would be reduced by the absence of air in the soil pores.

The last consideration probably is the most important: poorly renovated effluent could enter the bedrock fracture network and contaminate the groundwater supply of local wells. This hazard is further enhanced by the general thinness of the till.

The terrain, rock, type of soil, building line requirements, and location of wells will very definitely limit house locations and possible areas that may be utilized for sewage disposal purposes. It would seem appropriate that more definitive engineering should be taken to locate and test for actual sites which could possibly accommodate required sewage disposal systems before approving lots in the subdivision. It is often simple enough to find an area (although it may be very limited in size) which will give a satisfactory percolation rate and deep test hole information which really does not relate to a usable sewage

disposal site for the lot(s) in question. Where conditions are very questionable, a detailed engineering design for site preparation, surface and subsurface drainage and the sewage disposal system should be prepared. The plan should show two foot contour intervals, including a cross section of the sewage disposal system. Reserve areas should also be shown and tested with any appropriate notes included.

SITE PLANNING CONSIDERATIONS

Laurel Crest, Section I, includes 21 proposed lots. Lots 1 through 15 average approximately 3/4 of an acre in size and are located on soils which have severe limitations for on-site septic systems. These lots are indicated on the site plan as requiring an engineered subsurface sewerage design. Although the subdivision plan has been approved by the Director of Health and the Town Engineer, the Planning and Zoning Commission has no guarantee that the systems will function properly after they are built. The State of Connecticut Department of Public Health recommends a minimum of one acre for on-site septic systems on soils which are considered favorable for on-site subsurface sewage disposal.

Many towns now prefer that engineered subsurface sewage disposal systems be in place on the lots and tested by the Director of Health before final approval for the proposed lots is given. With so many marginal lots, the Planning and Zoning Commission is taking a considerable risk in approving each lot without this stipulation. In this case, it would seem reasonable to require the systems to be tested after the engineered design is in place. Conditional approval could be granted at the present time and, if the Commission is so inclined, the map need not be signed until the required work on engineered systems is completed. If the developer is anxious to proceed with the lots on which engineered subsurface sewerage disposal design is not necessary, a revised map could be submitted to the Commission on which the lots requiring engineering are labeled "Not approved building lots". When the lots have been tested after the systems are in place, then these designations could be removed from the final subdivision map. Another option which might be explored by the Commission is to require the developer to combine lots which may have difficulty including both on-site septic systems and wells.

The proposed road for Laurel Crest Section II (lots 21-42) is approximately 2,900 feet long and is indicated as a cul-de-sac road. Section 4.4.6 of the Clinton Subdivision Regulations require that a cul-de-sac road shall not exceed a length of 1,000 feet and shall provide sole access to no more than 20 lots. The road is currently shown as serving 22 lots.

This proposed road will end approximately 500 feet from Kenilworth Road in the neighboring Kenilworth subdivision. Overall traffic circulation and public safety considerations warrant the Commission's insistence on requiring the developer to connect, if at all possible, this proposed road with Kenilworth Road.

TOWN ROAD NETWORK

Airline Road now serves a collector road function although it is only 20 feet wide in some parts. As this subdivision and other adjacent subdivisions are con-

structed, increasing traffic demands will necessitate upgrading and widening of this road.

Although extra taxes will be received from these new residences, most of these funds will go toward the provision of education and other public services. Very seldom are the taxes that are brought in by new residences sufficient to cover adequately the costs of upgrading town roads. One of the primary issues that the Planning and Zoning Commission should investigate prior to final approval of this subdivision is the question of responsibility for upgrading Airline Road. More and more towns in Connecticut are taking the approach of requiring developers to pay the cost of road improvement along their frontage when large subdivisions such as this are approved. As part of the approval of this subdivision, it would seem reasonable to require the developer to contribute to the upgrading of Airline Road to a level which is deemed suitable to meet the potential traffic demands which may be imposed on the Town by this subdivision. An alternative to this approach would be to have the Town proceed with the upgrading of the road and assess abutting property owners under Section 13A-83 of the Connecticut General Statutes, which sets forth methods for ascertaining the extent of benefits to parties when roads are improved.

ALTERNATIVE LAND USES

Cluster development on optimum sites would reduce the costs and environmental impact of the subdivision. This is particularly relevant where exposed rock and wetland comprise a significant part of the area. Development could be concentrated on the sites best suited for home construction, thus reducing development cost and environmental impact. Clustering would also improve wildlife and recreation potential by preserving a more extensive tract for open space.

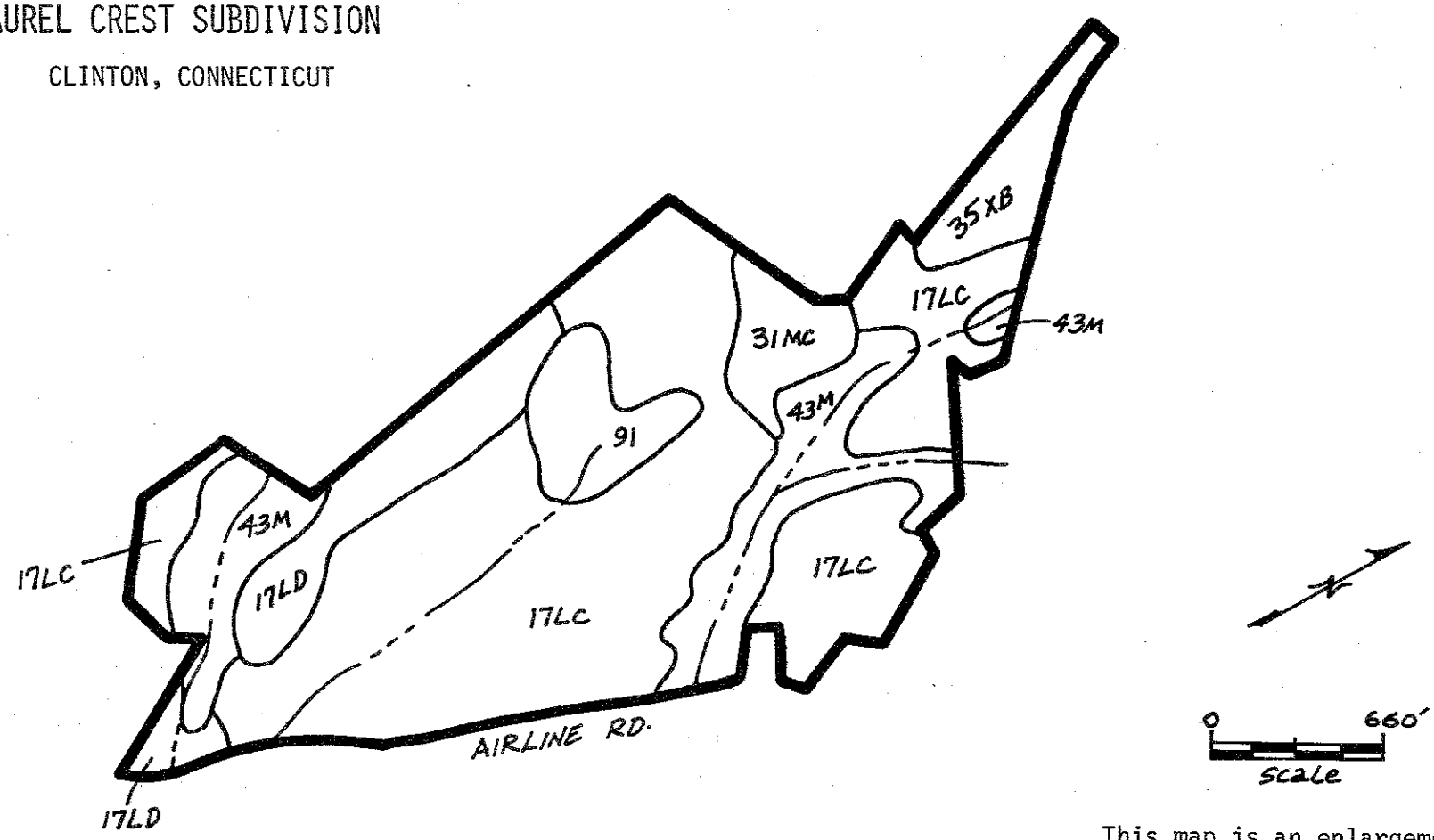
The areas currently proposed for open space are too small to be useful for recreational purposes. Unless a border of upland around the wetland is reserved for a trail, a boardwalk will be needed for access. Because these areas are small, they will provide a very brief outdoor experience, diminished further by the proximity of surrounding homes. Consideration should be given to the development of a long range plan for Town-wide open space protection.

Appendix

SOILS

LAUREL CREST SUBDIVISION

CLINTON, CONNECTICUT



This map is an enlargement from the original 1,320'/inch scale to 660'/inch.

Information taken from: Special Soils Report, Connecticut River Estuary Planning Region, July, 1975; Soil Survey Sheet No. 605; prepared by the United States Department of Agriculture, Soil Conservation Service. Advance copy, subject to change.

LAUREL CREST SUBDIVISION
CLINTON, CONNECTICUT

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
Hollis-Charlton		17LD	2	2	Slope, depth to rock	3	3	3	3
Hollis-Charlton Hollis Part Charlton Part		17LC	50	68	Depth to rock, slope, large stones	3 2	3 2	3 2	3 2
Ridgebury and Whitman		43M	12	15	Wetness, percs slowly	3	3	3	3
Adrian-Palms		91	4	5	Wetness floods	3	3	3	3
Woodbridge		31MC	4	5	Wetness, large stones, percs slowly	3	3	3	3
Paxton		35XB	4	5	Percs slowly, large stones, frost action	3	2	2	2

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

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.

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 (889-2324), Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, 139 Boswell Avenue, Norwich, Connecticut 06360.