Environmental Review Team Report

Tramontozzi Zone Change

Montville, Connecticut

R C & D

EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.

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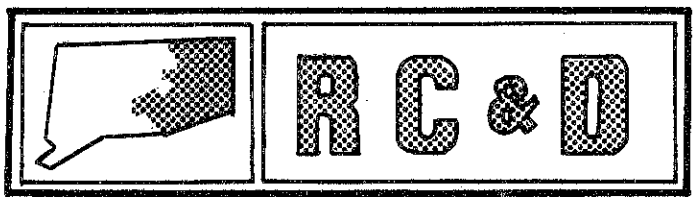
on
Tramontozzi Zone Change
Montville, Connecticut

September 1980

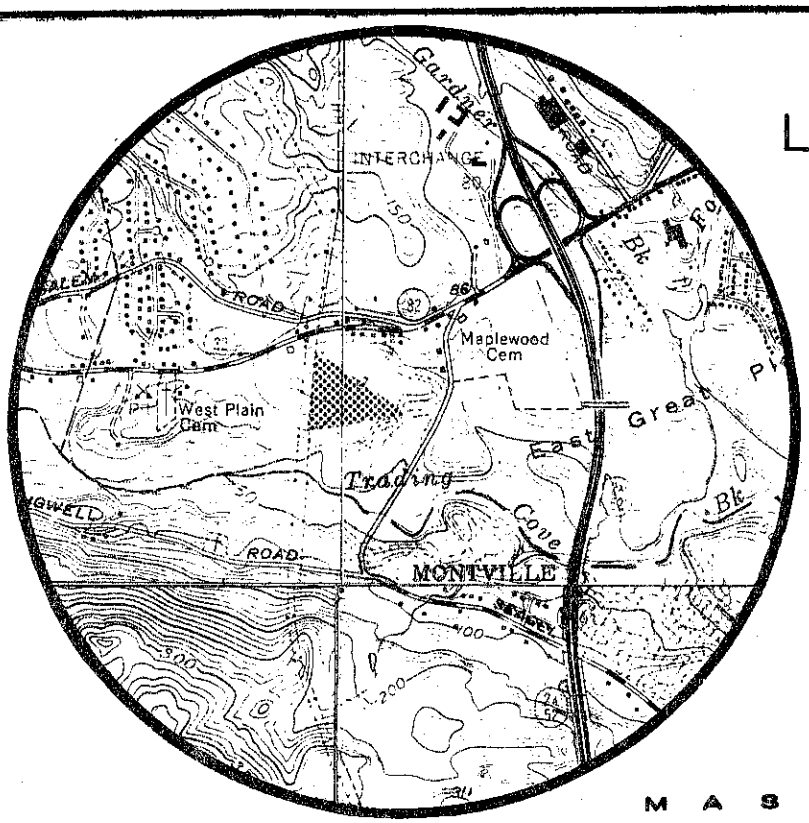


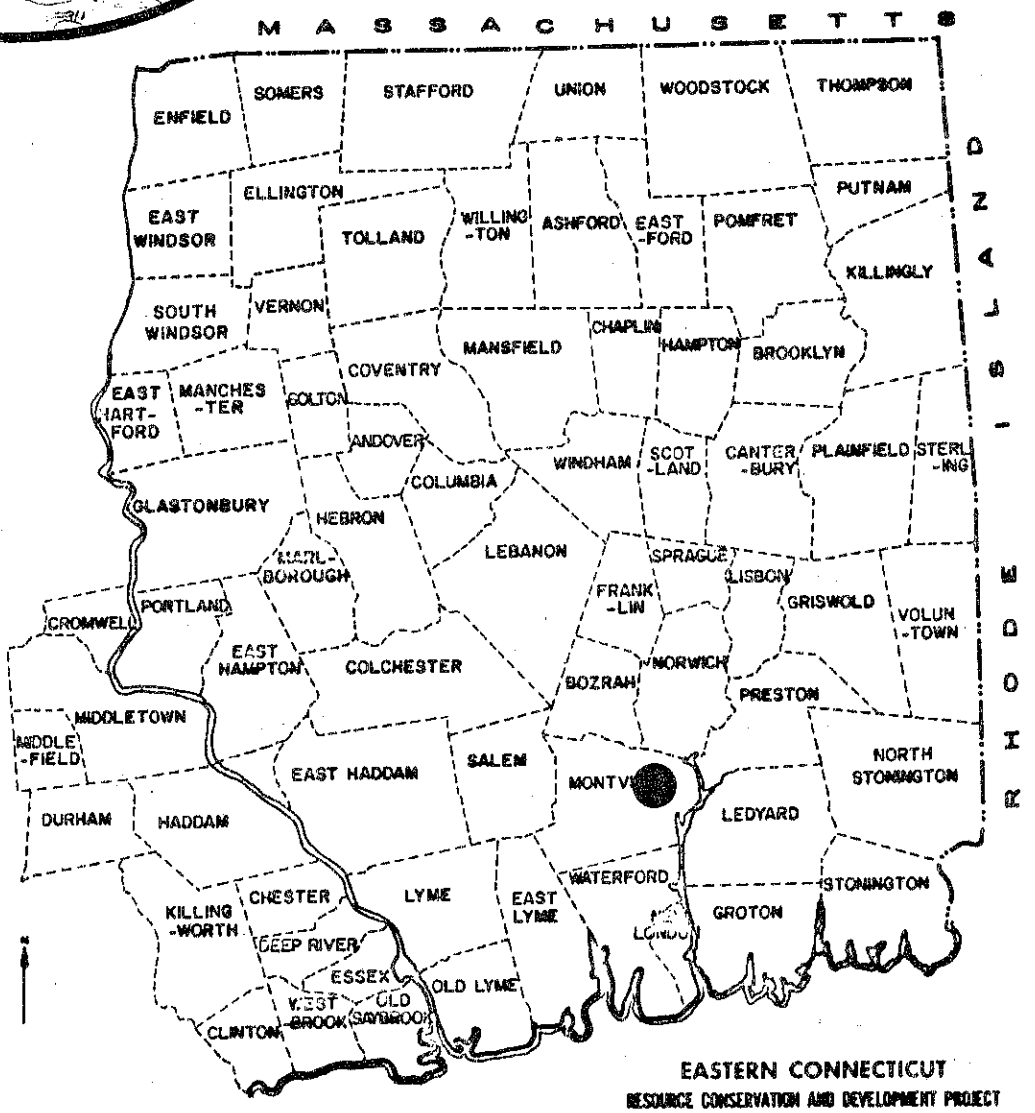
eastern connecticut resource conservation & development area

environmental review team
139 boswell avenue
norwich, connecticut 06360

Location of Study Site

TRAMONTOZZI ZONE CHANGE
MONTVILLE, CONNECTICUT





ENVIRONMENTAL REVIEW TEAM REPORT
ON
TRAMONTOZZI ZONE CHANGE
MONTVILLE, CONNECTICUT

This report is an outgrowth of a request from the Montville Zoning and Planning Commission 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: Gary Domian, District Conservationist, Soil Conservation Service (SCS); Mike Zizka, Geologist, Department of Environmental Protection (DEP); Rob Rocks, Forester, DEP; Don Capellaro, Sanitarian, State Department of Health; Tom Seidel, Regional Planner, Southeastern Connecticut Regional Planning Agency; and Jeanne Shelburn, ERT Coordinator, Eastern Connecticut RC&D Area.

The Team met and field checked the site on Thursday, June 26, 1979. Reports from each Team member were sent to the ERT Coordinator for review and summarization for the final report.

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

The Eastern Connecticut RC&D Project Committee hopes you will find this report of value and assistance in making your decisions on this particular site.

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

Topography
Site Boundary
0
660'
scale
N
West
Cem
MONTVILLE
ROAD
HILL
FITCH
50
100
250
350

INTRODUCTION

The Eastern Connecticut Environmental Review Team was asked to prepare an environmental assessment of a proposed zone change in the Town of Montville. The 54 acre site is located near Fitch Hill and Leffingwell Roads and Route 52. Access to the parcel is via Fitch Hill Road and Chris Drive. The property is currently in the private ownership of Dr. Anthony Tramontozzi. Dr. Tramontozzi is applying for a zone change from RA-120 (3 acre lots) to RA-40 (1 acre lots).

Although no plans have been proposed for the property, a new subdivision abuts the site and it can be assumed that Dr. Tramontozzi's parcel will be subdivided and developed for residences at some time in the future. No public water or sewerage is presently available to this site.

The site is characterized by bedrock outcrops, a gravel borrow area, steep slopes, seasonally wet areas, intermittent watercourses and high voltage power lines along the western boundary. The property is currently vegetated with mixed hardwood tree species in most areas, old field species dominate a two acre section of the site.

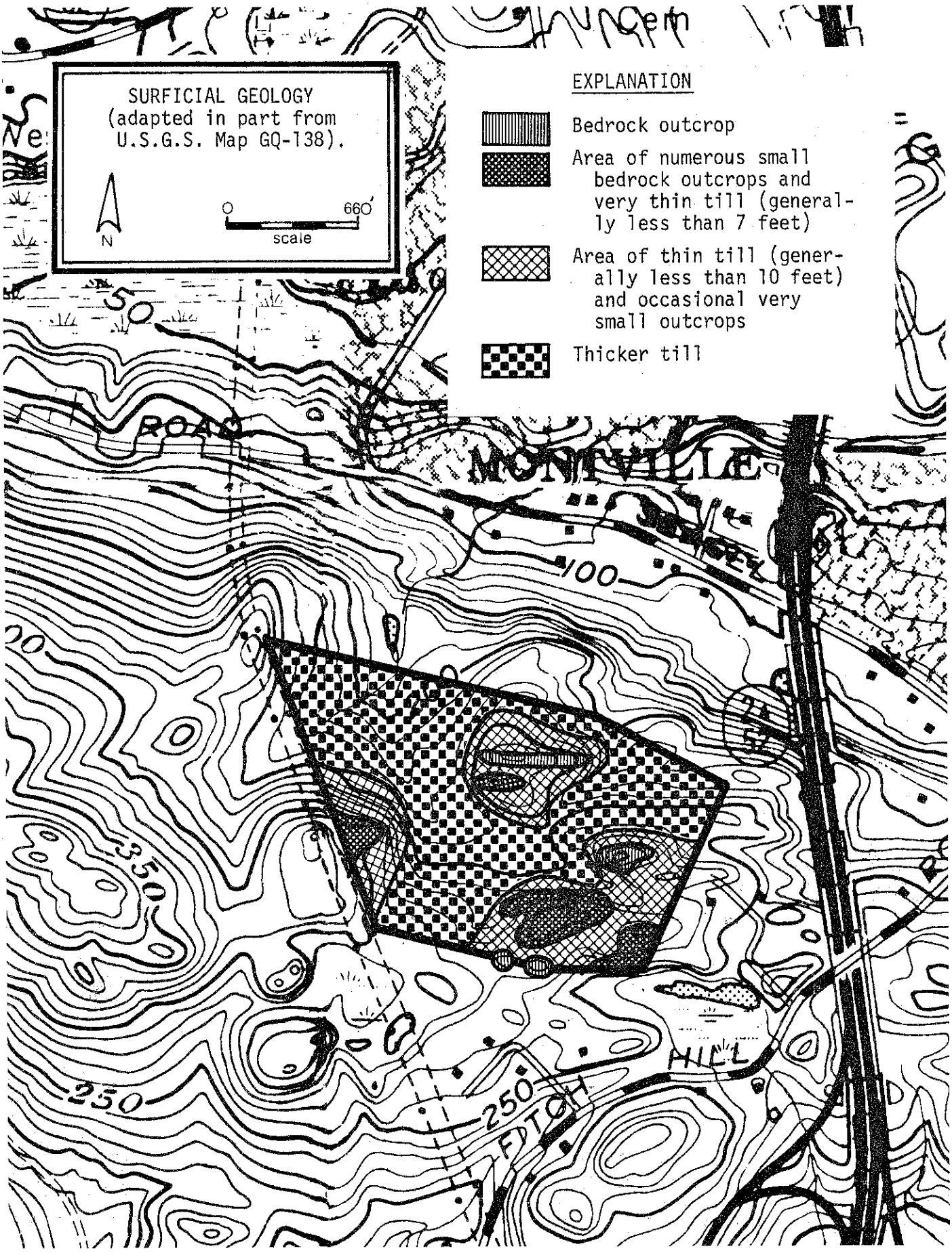
The Team is concerned with the effect of the proposed development on the natural resource base of the site. Although severe site limitations can be overcome with proper engineering techniques, these measures can become costly, making a project financially unfeasible for a developer. Major site limitations are caused by shallow depth of soil to bedrock, steep slopes and seasonal high water table.

Development of this parcel will cause an increase in storm water runoff by creating additional areas of impervious surfaces (i.e. roofs, driveways, etc.). Given the existing site conditions, consideration should be given to the potential erosion and flooding problems which an increase in runoff could cause. A sediment and erosion control plan should be prepared for any development proposed for the site. This plan should be implemented prior to construction on the site and measures should be maintained during construction. Soil Conservation Service personnel can help the Town and developer in preparing such a plan.

Water supply and waste disposal for any development will be provided on-site. During the field review, the property owner proposed that water could be supplied from a high yielding dug well already established on the site. The Team recommends that, prior to development, this well should be pumped continuously during the traditionally dry months of July and August to determine its actual yield. Continuous availability of water from this well is questionable. A three acre zone would allow for more flexibility in locating individual bedrock based wells.

Due to existing soil conditions on site, the property is not generally favorable for establishment of on-site septic systems. On-site testing would be necessary for a more accurate determination of site suitability and future system locations, but again a three acre zone allows for greater flexibility in system location.

Another consideration for the Town is the possibility of using the Trading Cove Brook aquifer as a potential water supply. One way of insuring water quality


SURFICIAL GEOLOGY
(adapted in part from
U.S.G.S. Map GQ-138).
N
0
660'
scale
EXPLANATION
Bedrock outcrop
Area of numerous small bedrock outcrops and very thin till (generally less than 7 feet)
Area of thin till (generally less than 10 feet) and occasional very small outcrops
Thicker till
ROAD
MONTVILLE
100
350
250
250
HILL

in an aquifer is to limit development in its watershed. (See Hydrology section of this report for more detailed discussion.)

In the Team opinion, zoning in this area should remain as currently designated (R-120). Site limitations would make location of home sites, wells and septic systems on a one-acre lot subdivision extremely difficult or costly (additional engineering measures would be needed in most cases). An alternative would be establishment of a "cluster" zone which would allow a higher density development on better sections of the parcel, reserving difficult-to-develop lands as open space.

ENVIRONMENTAL ASSESSMENT

GEOLOGY

The Tramontozzi property is located within the Uncasville and Montville topographic quadrangles. Bedrock geologic maps (Map GQ-576 and Map GQ-609, respectively) and surficial geologic maps (Map GQ-138 and Map GQ-148, respectively) of those quadrangles have been prepared by Richard Goldsmith and published by the U.S. Geological Survey.

Bedrock underlying and cropping out on the site is generally a fine- to medium-grained, equigranular alaskite gneiss. The term "alaskite" indicates that the rock contains only a very small percentage of dark-colored minerals. Quartz, microcline, oligoclase, and albite, all relatively light-colored minerals, make up the bulk of the rock. Magnetite, biotite, and hornblende, all dark-colored minerals, collectively represent only a few percent of the total rock mass. The term "gneiss" identifies the rock as a lineated unit; that is, the minerals have been compressed through time to form a more or less distinct linear banding. Bedrock outcrops are fairly numerous on the site. Those outcrops observed by both the Team and Goldsmith are shown on an accompanying map.

In most places, bedrock on the site is covered by a glacial sediment known as till. The till consists of rock fragments and particles that were accumulated by an ice sheet as it moved southward through New England, scraping and gouging the preglacial surface. The rock debris was later redeposited directly from the ice, leaving the particles largely unsorted by grain sizes. Till consequently is variable in texture, containing differing proportions of clay, silt, sand, gravel, and boulders. On the Tramontozzi property, sand appears to be the predominant constituent, at least in the upper few feet of till. Silty, more compact till may be present at greater depths. In general, the till appears to be less than 10 feet thick. Deeper pockets may exist in some areas, particularly the northwestern and central sections of the site.

HYDROLOGY

Most of the site drains northward to Trading Cove Brook, a tributary of Thames River. Two seasonal streams originate in the northwestern section of the site, merging just north of the boundary near the inlet to a small pond. The pond has two outlet streams, which again merge to the north and continue on to Trading Cove

Brook. Only a small portion of the property (approximately three acres) in the southeastern corner drains west-southwestward into the headwater streams of Stony Brook. Stony Brook is another tributary of Thames River; the brook enters the river at Horton Cove, approximately four miles downstream from Trading Cove.

The valley of Trading Cove Brook contains substantial stratified drift deposits, which Connecticut Water Resources Bulletin No. 15 has identified as a potential source of high-yielding groundwater wells. Stratified drift deposits also exist in Stony Brook valley, but they are not as thick as the Trading Cove Brook deposits and are not as promising for high-yield wells. The apparent attractiveness of the Trading Cove Brook stratified drift aquifer for groundwater development is one factor the town should consider in evaluating the proposed zone change. Minimizing watershed development is one way in which the quality of a groundwater source can be protected.

Development of property generally leads to increases in surface runoff from given amounts of precipitation, and to increases in the peak flows of streams fed by that runoff. The proposed zone change would allow a development of the site that is approximately three times as dense as the current zone would allow. This, in turn, would cause increases in runoff (not total runoff) to be about three times as large as they would be under the existing zone. The two major concerns arising from such increases are potential erosion and sedimentation problems and the danger of increased flood flows in local streams.

Since the site has many difficult sections, with steepness of slopes and shallowness to bedrock being the most prevalent limitations, clustering houses and laying out roads in the better areas would minimize the dangers of septic system and drainage problems. In addition, such a layout would reduce the probability that major cutting (possibly by blasting) and filling operations would be needed to prepare the site for housing development. Operations of this type obviously involve major disturbances of soil and can lead to serious erosion problems. The present zone clearly allows more flexibility in placing homes on the better soils: the more homes that are allowed on the site, the greater the likelihood that a marginal soil will be utilized for building.

In terms of peak flow changes, the major concern would be the effect of development on the streams in the northwestern section of the property. The pond just north of the site has an inflow watershed of approximately 81 acres, of which about 38 acres lie within the property. Hence, the site contributes almost half of the runoff to the pond. Although actual changes in runoff and peak flows would depend upon the final subdivision design, an estimate may be made of the percentage increases in the peak inflows to the pond under both zones with full development. For a 50-year frequency, 24-hour duration storm, it is estimated that peak inflows to the pond would increase approximately 5 percent under the existing zone and 22 percent under the proposed zone. These potential increases should be weighed in terms of the possible effects on the pond itself (filling with sediment, etc.) and on the downstream area near Seagel Road (increased flood hazards). Of course, it should also be remembered that engineering measures are available to mitigate peak flow increases.

SOILS

A detailed soils map of this site and detailed soils descriptions are 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 probably limitations of each of the soils for on-site sewage disposal, buildings with 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, New London County Interim Soil Survey Report, 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.

The parcel of land is occupied by upland glacial till soils. The highest points in the landscape are occupied by soils that are shallow to bedrock. The slope of these soils are moderately sloping to steep. Lower in the landscape, deep glacial till soils are found. These soils have very stony to extremly stony surface conditions. The slopes of these soils range from sloping to steep. These soils and the shallow soils over bedrock are well drained. The drainage ways and shallow depressions are occupied by extremely stony soils that are moderately well drained. These soils have a seasonal high water table and are nearly level to gently sloping. Soils typical of this site include the Canton-Charlton series, the Charlton-Hollis series, the Narragansett-Hollis series, the Hollis rock outcrop series and the Sutton series.

The Canton series consists of gently sloping, sloping, moderately steep and steep, well drained soils on uplands. They formed in a fine sandy loam mantle underlain by friable gravelly sand glacial till. Canton soils have moderately rapid or rapid permeability. Major limitations are related to slope and stoniness.

The Charlton series consists of gently sloping, sloping, moderately steep, and steep, well drained soils on uplands. They formed in friable glacial till. Charlton soils have moderate to moderately rapid permeability. Major limitations are related to slope and stoniness.

The Hollis series consists of gently sloping, sloping, moderately steep and steep, shallow, well drained soils on uplands where relief is influenced by the underlying bedrock. They formed in glacial till less than 20 inches deep, over granite, gneiss and schist bedrock. Hollis soils have moderate permeability. Major limitations are related to depth to bedrock, rockiness, and slope.

The Narragansett series consists of gently sloping, sloping and moderately steep, well drained soils on uplands. They formed in silt mantled friable glacial till. Narragansett soils have moderate permeability in the surface layer and subsoil, and moderately rapid or rapid permeability in the substratum. Major limitations are related to stoniness.

The Sutton series consists of nearly level and gently sloping, moderately well

drained soils on uplands. They formed in friable glacial till. Sutton soils have moderate or moderately rapid permeability, and a seasonal high water table at 18 to 24 inches. Major limitations are related to stoniness and wetness.

Major limitations to using this site for residential development are shallow to bedrock conditions and sloping (8-15%) to steep (25-35%) slopes. Seasonal high water tables in the low depressional areas are a major limitation to using these soils for most residential land uses. Severe limitations do not exclude a particular piece of land from use, but limitation ratings do point out problems that will have to be overcome when using the land.

VEGETATION

The 54± acre Tramontozzi property, which was proposed for a zone change, may be divided into five vegetation types. These include two mixed hardwood stands, totaling 47 acres; an oak ridge area, 4-acres, an old field area, 2-acres, and an acre hemlock stand (see vegetation type map and vegetation type description). Retention of the larger healthy trees and flowering shrubs for their aesthetic and shade value would be desirable. Moisture deficiencies in the oak ridge areas limit tree growth potentials. Windthrow is a potential hazard in all shallow to bedrock areas. Fuelwood thinnings to reduce crowding, in both mixed hardwood stands, will result in higher quality, more stable trees in the future.

Vegetation Type Descriptions

Vegetation type boundaries and acreages are only approximate. This is due to the wide transition zones where one mixed hardwood stand gradually blends into another.

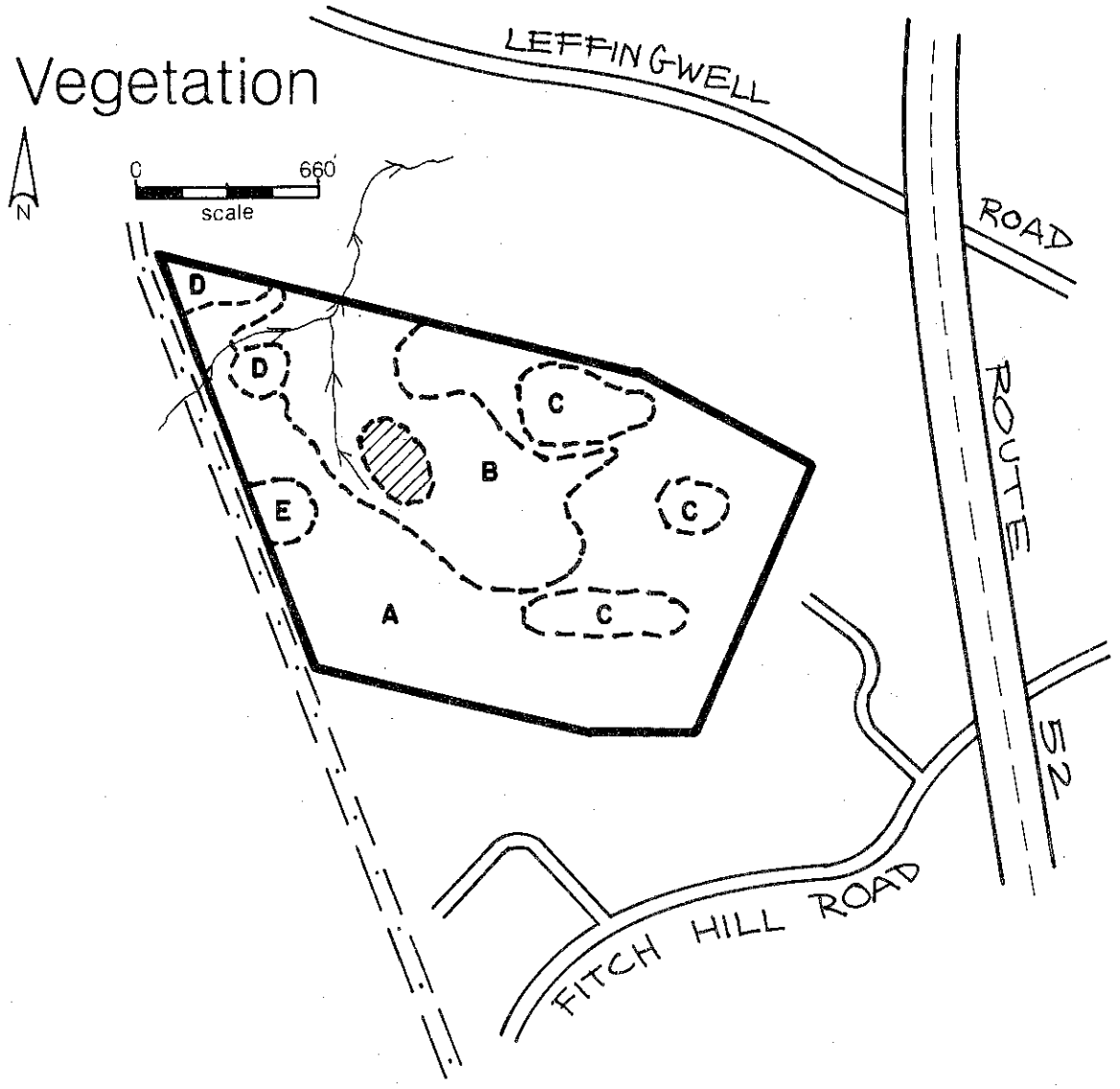
Type A. (Mixed Hardwoods.) This 34-acre fully-stocked stand is made up of medium quality pole-size black oak, scarlet oak, white oak, shagbark hickory and occasional American beech. The understory is dominated by blue beech, flowering dogwood, maple-leaved viburnum and chestnut sprouts. Grasses, huckleberry, low bush blueberry, Canada mayflower, club moss, cow wheat, bracken fern and Christmas fern, form the ground cover in this stand.

Type B. (Mixed Hardwoods.) Pole-size red oak, red maple, sugar maple, white ash, yellow birch and black birch are becoming crowded in this fully-stocked stand. Sugar maple seedlings, flowering dogwood, witch-hazel and maple-leaved viburnum are present in the understory. Ground cover is dominated by Virginia creeper, poison ivy, Solomon's seal, false Solomon's seal, wild geranium and skunk cabbage near the small stream which passes through this stand.

Type C. (Oak Ridge.) Slow-growing, somewhat malformed pole to sawtimber-size chestnut oak, scarlet oak, white oak, red maple and black birch are present in this 4-acre, understocked stand. The understory is made up of chestnut sprouts, witch-hazel, high bush blueberry and black birch seedlings. Christmas fern, grasses and club moss form the ground cover in this area.

Type D. (Old Field.) Approximately two-acres of old field is present on this tract. It is densely vegetated with grasses, goldenrod, milkweed, poison ivy,

Vegetation



LEGEND

- Road
- Utility Line
- Property Boundary
- Vegetation Type Boundary
- Stream
- Gravel Excavation Area (1 acre)

VEGETATION TYPE DESCRIPTIONS*

TYPE A. Mixed Hardwoods, 33 ± acres, Fully stocked, pole-size.

TYPE B. Mixed Hardwoods, 13 ± acres, Upper end of fully-stocked, pole-size.

TYPE C. Oak Ridge, 4 ± acres, Understocked, pole to sawtimber.

TYPE D. Old field, 2 ± acres.

TYPE E. Hemlock, 1 ± acres, Fully stocked, sapling to pole-size.

* Seedling size = trees less than 1 inch in diameter at 4 1/2 feet above the ground (d.b.h.)
Sapling size = trees 1 to 5 inches in d.b.h.
Pole size = trees 5 to 11 inches in d.b.h.
Sawtimber size = trees 11 inches and greater in d.b.h.

multiflora rose, bayberry, raspberry, graystemmed dogwood, staghorn sumac, fox grape, Japanese honeysuckle, eastern red cedar seedlings and black cherry seedlings.

Type E. (Hemlock.) Sapling to pole-size eastern hemlock with scattered eastern white pine, chestnut oak and black birch are present in this fully-stocked one acre stand. Hardwood tree seedlings and witch-hazel form the understory in this area. Ground cover vegetation includes hay-scented fern, huckleberry and pink lady slipper.

As this area is subdivided, retention of the large healthy trees and flowering shrubs, for aesthetics and shade purposes would be desirable. Care should be taken during the construction period, not to disturb the trees that are to be retained or the soil within the entire area under their crowns.

Disturbances which alter the balance between soil moisture levels, soil aeration and soil composition near trees that are to be retained may cause a decline in tree health and vigor, potentially resulting in tree mortality within three to five years. Mechanical injury to trees may cause the same results. Trees that are to be retained near construction areas should be temporarily marked so they may be avoided.

The soils in vegetation type C (oak ridge) are extremely rocky and shallow to bedrock. These conditions cause a severe moisture deficiency, during the spring rapid growth period, which limits tree growth potentials. As a result the trees present are malformed and stunted.

Windthrow is a potential hazard in the parts of vegetation type A where soils are shallow to bedrock and all of vegetation type C (oak ridge). Tree root systems are shallow and unable to become securely anchored in these areas. This problem is lessened where the underlying bedrock is highly fractured. In these areas, tree roots can penetrate deeper causing trees to be more stable.

Openings which allow wind to pass through rather than over these areas may increase the chances of windthrow.

Management Practices

The trees in vegetation types A and B (mixed hardwoods) are beginning to decline in health and vigor, and would benefit by receiving a fuelwood thinning. A thinning is more critical in vegetation type B, because the trees in this stand are more crowded, and the site has higher production potentials. Thinnings which remove one-third of the total volume would significantly reduce the competition between residual trees for space, sunlight, water and nutrients, resulting in healthier and more stable trees over time. These thinnings should remove the poor quality, unhealthy and damaged trees leaving the highest quality trees in the residual stand. An average of six cords of fuelwood will be produced per acre. A publicly employed service forester or consultant forester should be contacted to help mark the trees to be removed if this thinning is desirable to the landowner. As an alternative, future owners could implement fuelwood thinnings which would improve the health of the area on an individual lot basis.

Trees which are removed for construction of roadways, buildings and septic systems should be utilized for fuelwood.

WATER SUPPLY

The major aquifer on the Tramontozzi property is bedrock. It may be possible to establish wells in the unconsolidated material (till) overlying the rock, but it is likely that such wells would dry up periodically and would not be reliable enough to serve the homes within the site. A dug well with a very high yield (more than 20 gallons per minute) reportedly was developed in the till on the site. The developer has recommended servicing all or most of the lots by this well. The Team believes that the prospects of maintaining such a high yield throughout the year are slim. The well should be pumped continuously for a period of several weeks during July or August in order to ascertain the true sustainable yield. The following calculations support the Team's conclusions. The well on the site has a contributing drainage area of, at most, 15 acres (the actual contributing area is probably much less). The average annual recharge to groundwater in till-covered areas is approximately 7 inches; allowing for the apparent coarseness of the till near the well, the Team assumes a 10-inch recharge. Total annual recharge to the drainage area would therefore be approximately 544,500 cubic feet, or 4,083,750 gallons. Assuming each home would require 350 gallons per day, the recharge would be enough for 32 homes, which is less than the maximum number that could be attained under a one-acre zone. Therefore, the well would have to draw virtually every drop of water recharged through precipitation in order to service the subdivision!

Bedrock wells, because they penetrate deep into the ground, have a potential for withdrawing water from an area larger than the surface watershed. These wells rely on intersecting water-bearing fractures to produce an adequate yield. Although approximately 90% of the bedrock wells in southeastern Connecticut can yield 3 gallons per minute or more, an amount that generally is suitable for household needs, some bedrock wells may produce little or no water. The amount of fracturing in bedrock tends to decrease with depth, and it is usually fruitless to continue drilling beyond 200 feet into the rock if no water has yet been obtained. Still, individual bedrock wells can usually adequately service the needs of a subdivision, whether it be in a three-acre zone or a one-acre zone. The three-acre zone provides more flexibility for separating neighboring wells to prevent mutual interference with yields, but no serious problems are encountered from such interference on most one-acre subdivisions.

WASTE DISPOSAL

While the Town of Montville has a municipal sewerage system which services a part of the town, the property in question is outside the area where public sewers are expected sometime in the foreseeable future. It would seem reasonable for the town to zone remote areas into large lots which could better allow for long term on-site sewage disposal along with greater protection of wells and water quality in general.

Based on visual observations, consideration of soil mapping data and some previous experience in the general area, the major portion of the parcel is not particularly favorable for subsurface sewage disposal. Adverse and/or limiting

factors of steep slope, exposed or shallow underlying bedrock, seasonal wet terrain and streams or intermittent drainage courses are all present to varying degrees. Indications are the lower portion of the property, with Canton-Charlton type soils, would be more suitable for sewage disposal. However, approximately 5 acres of this soil type near the northwest corner has several watercourses flowing through the area.

In order to locate and define areas which could be utilized for sewage disposal, it would be necessary to conduct extensive on-site testing. Areas having bedrock less than 4-5 feet below ground surface, very steep slopes, maximum ground water level near ground surface or impervious soil at or within several feet of existing ground surface should be avoided. Marginal or areas of special concern require a more in depth investigation along with detailed design plans for possible sewage disposal systems.

At the present time, without sufficient supporting soil test data and ground water study for a public water supply, the State Department of Health has reservations about the proposed zone change to one acre lots. It would appear more feasible to have a mixture of lot sizes (one-two and three acres) depending upon where favorable or unfavorable conditions exist.

ROADS/TRAFFIC

Chris Drive off of Fitch Hill Road will provide the only access to the proposed development. When the development expands beyond the phase reviewed in this report the road could be extended through to Leffingwell Road. However, the slope is steep in this area and the subdivision regulations permit a maximum grade of 8%, so any through road will have to be carefully designed. No improvements are scheduled in the Regional Transportation Plan for Fitch Hill Road.

No local transit service exists on Fitch Hill Road. 90-minute interval corridor service between New London and Norwich is available along Route 32 about 1-1 1/2 miles east of the proposed development.

SURROUNDING LAND USE

Surrounding land uses are low-density residential and undeveloped. Multi-family uses are located north of the proposed development along Leffingwell Road. The Regional Development Plan recommends low-density residential uses for this area. The Montville Town Plan recommends this area for conservation and low-density residential uses.

SERVICES TO SUPPORT DEVELOPMENT

Educational and governmental facilities are located on Mohegan Hill about 3 miles south of the proposed development and in Uncasville about 5 miles south of the proposed development.

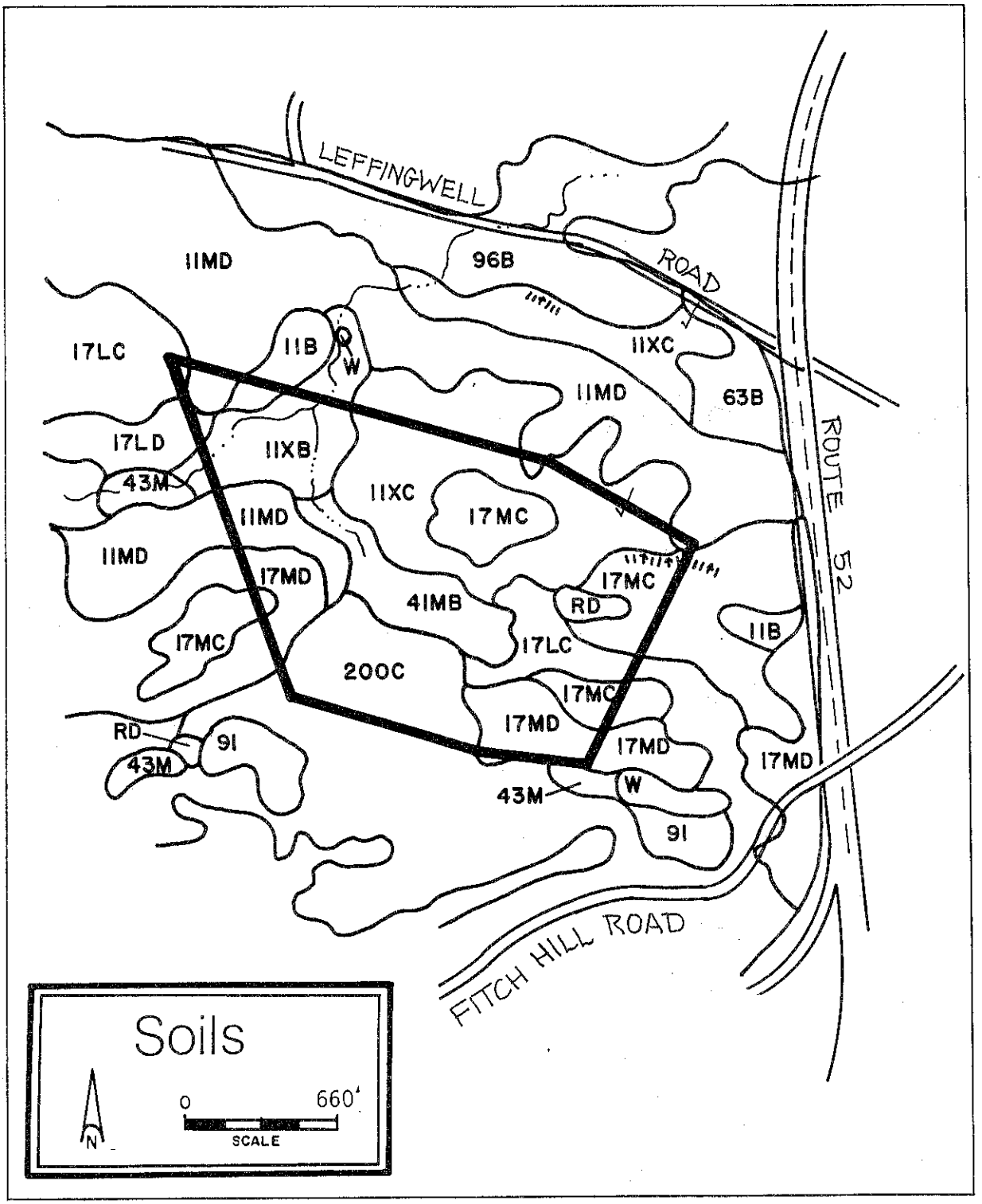
ZONING/DESIGN CONSIDERATIONS

Because of soil conditions such as wetness, steep slope, and shallow depth to bedrock it is best to keep the zoning at 3 acres per unit. These conditions present limitations for sewage disposal, basements, driveways and landscaping.

Sound site design begins by using soil, geology, and slope information to determine those areas that can best support development, especially the location of septic systems. The area scheduled for the community well field and other areas that cannot support development should be eliminated and designated for open space and buffer use. After this road location and finally lot lines should be determined. This approach is not always as easy as dividing a piece of property into the maximum number of lots; however, a little care and forethought in subdivision design usually results in a better, more saleable project while concurrently avoiding future problems and costs.

If it is felt that the 200 foot frontage requirement in the RA-120 zone is too restrictive for profitable development, then the applicant would have the option of seeking a variance, to say 150 feet, while maintaining the 3 acre lot size. Alternatively the cluster provisions of Section 5.5 of the zoning regulation could be used to reduce lot sizes while maintaining the overall 3 acre density. This latter approach would also fit into the design process described above by locating development on those soils best able to support it.

Appendix


LEFFINGWELL ROAD
ROUTE 52
FITCH HILL ROAD
11MD
96B
17LC
11B
W
11XC
63B
17LD
11XB
43M
11XC
17MC
11MD
11MD
17MD
17MC
RD
41MB
11B
17MC
17LC
200C
17MC
17MD
17MD
17MD
RD
91
43M
43M
W
91
Soils
N
0
660'
SCALE

TRAMONTOZZI PROPERTY
MONTVILLE, CONNECTICUT

PROPORTIONAL EXTENT OF SOILS AND THEIR LIMITATIONS FOR CERTAIN LAND USES

Soil Series	Soil Symbol	Approx. Acres	Percent of Acres	Principal Limiting Factor	Urban Use Limitations*			
					On-Site Sewage	Buildings with Basements	Streets & Parking	Land-Scaping
Canton-Charlton	11B	1	2		1	1	1	1
Canton-Charlton	11XB	5	8	Large Stones	2	2	2	2
Canton-Charlton	11XC	12	21	Slope, Large stones	2	2	2	2
Canton-Charlton	11MD	5	8	Slope, Large stones	3	3	3	3
Charlton-Hollis	17LC	3	6	Slope, Depth to rock				
Charlton Part					2	2	2	2
Hollis Part					3	3	3	3
Hollis-Rock Outcrop	17MC	10	18	Depth to rock	3	3	3	3
Hollis-Rock Outcrop	17MD	6	11	Slope, Depth to rock	3	3	3	3
Narragansett-Hollis	200C	7	13	Depth to rock				
Narragansett Part					2	2	2	2
Hollis Part					3	3	3	3
Rock Outcrop	RD	1	2	Slope, Depth to rock	3	3	3	3
Sutton	41MB	6	11	Wetness, Large stones	3	3	2	3
		56	100%					

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.