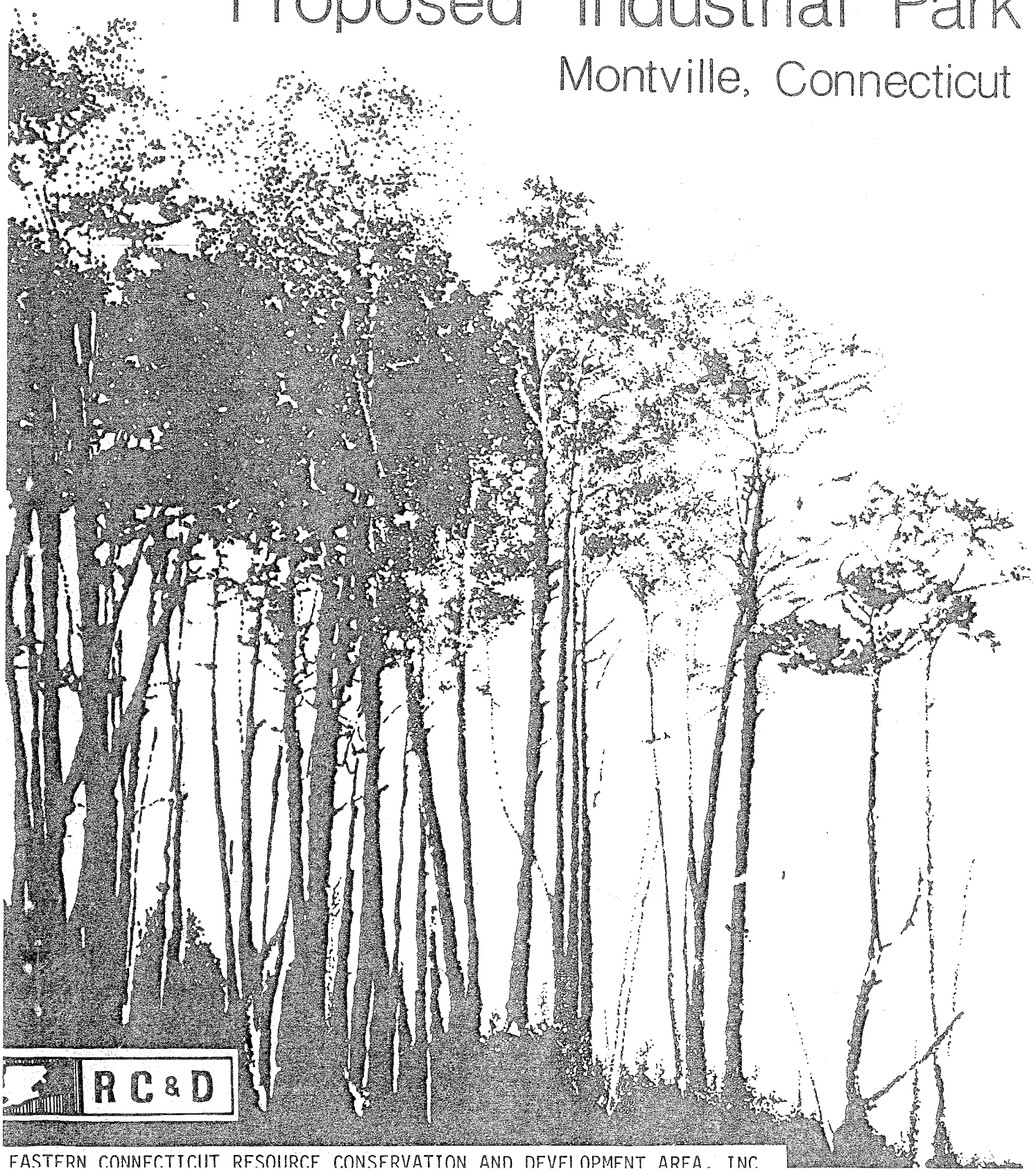
Environmental Review Team Report

Proposed Industrial Park

Montville, Connecticut



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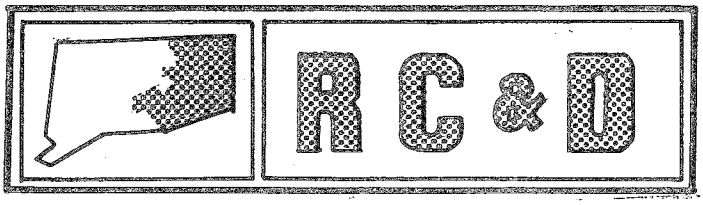
EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.

Environmental Review Team Report on

Proposed Industrial Park

Montville Connecticut

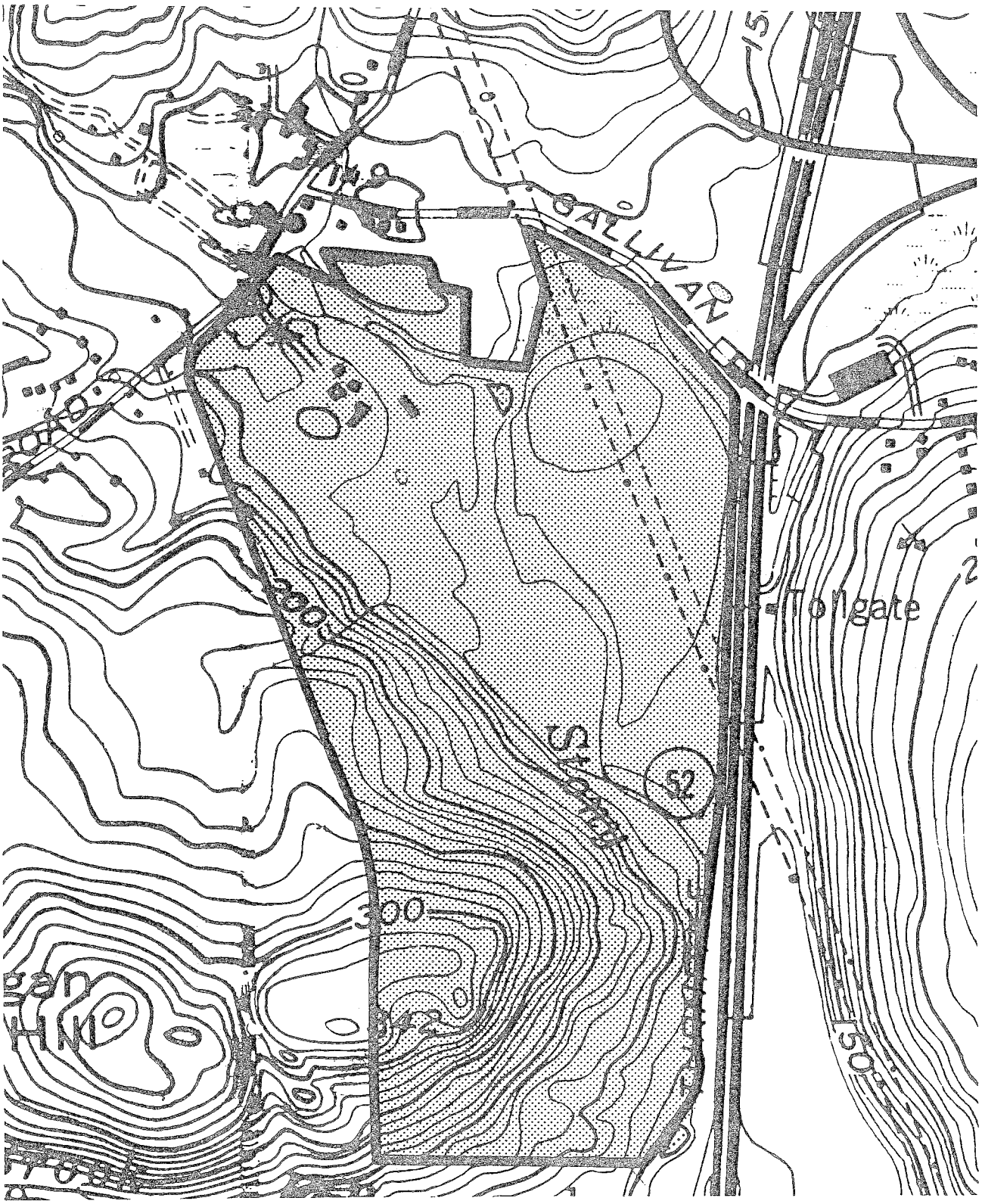
March 1982



eastern connecticut resource conservation & development area

environmental review team
139 boswell avenue
norwich, connecticut 06360

Topography	Site Boundary	0 660' scale	N



INTRODUCTION

The Eastern Connecticut Environmental Review Team was asked to prepare an environmental assessment for potential industrial park development in the town of Montville. The proposed site for this development is the Leo Wrobel Farm, located west of the Connecticut Turnpike (Route 52), south of Gallivan Lane and east of Fitch Hill Road. The site is approximately 150 acres in size.

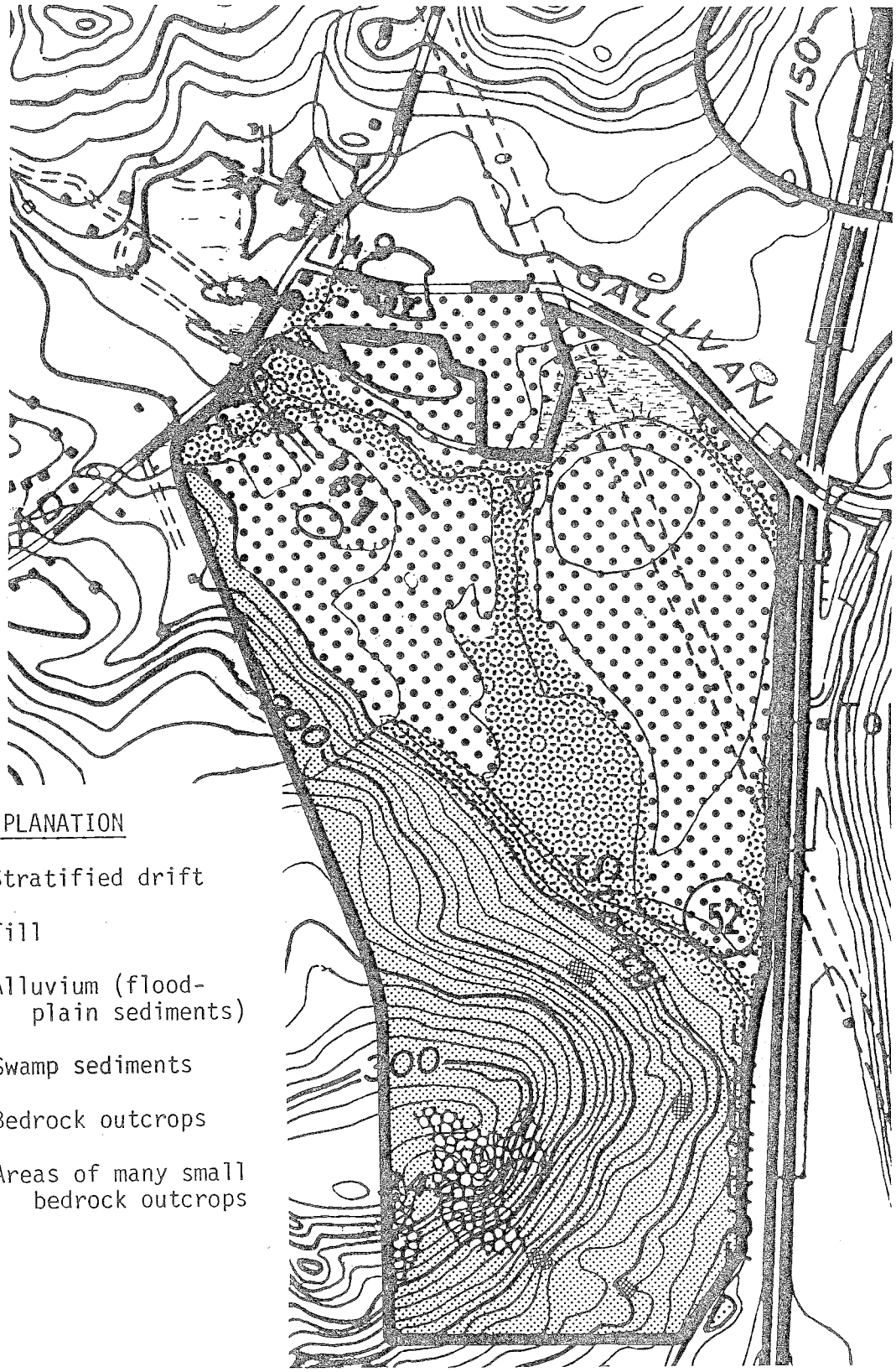
The property is presently being used for agricultural purposes, both grazing and row crop cultivation. Most of the property is in open fields, but a mixed hardwood forest exists on the western border of the site. Stoney Brook and its associated floodplain areas pass through the central section of the property. A Connecticut Light and Power Right-of Way (R.O.W.) crosses the property from southeast to northwest.

Preliminary plans have not been prepared at this time. Discussion with the First Selectman indicated that light industrial uses would be desirable for this site. The parcel is zoned as "manufacturing district" which includes a number of types of industrial uses. The site is not presently served by public water or sewerage, so unless these facilities become available to the area in the future, on-site septic systems and on-site wells will be necessary for this project.

The Team is concerned about the effect of this proposal on the natural resource base of this site. Although many severe limitations to development can be overcome with proper engineering techniques, these measures can become costly, making a project financially unfeasible for a developer. Natural restrictions to development of this site are caused primarily by Stoney Brook and its associated floodplain area. If construction does take place on this site, a sediment and erosion control plan should be prepared and implemented to protect these fragile areas. Most areas of the site are underlain by stratified drift deposits which are deep, flat, well drained areas, ideal for industrial development. However, stratified drift deposits are generally poor filters of septic effluent or discharged waste waters, so there is concern for potential ground water contamination in these sections of the site. Other major limitations to development are primarily planning concerns. These include the restrictions imposed on the site by the existance of the 250 foot wide Connecticut Light and Power Right-of-Way and the poor site accessibility from Gallivan Lane.

The Team feels that it is important to note that the site is presently a working farm. Many of the soils found on the site are designated as "prime farmland" soils, as defined by the USDA Soil Conservation Service. Given the dwindling "prime farmland" acreage in Connecticut, serious consideration should be given to preserving this site for farming purposes.

Surficial Geology



ENVIRONMENTAL ASSESSMENT

GEOLOGY

The Wrobel property is located mostly within the Uncasville topographic quadrangle and partly within the Montville topographic quadrangle. Bedrock and surficial geologic maps of both quadrangles were prepared by Richard Goldsmith and published by the U.S. Geological Survey. Geologic maps of the Wrobel property, based on the U.S.G.S. publications, are included with this report.

No outcrops of bedrock were seen in the flat, northern area of the property, but several small outcrops may be found in the southern area. Three major rock types are believed to underlie the parcel. The first is an indistinctly layered, fine-grained gneiss composed of plagioclase, quartz, biotite, and hornblende, with up to 20 percent microline. This unit is identified as Monson Gneiss. The second rock type on the site is a group of quartzites and schists. The schists may contain garnet, sillimanite, biotite, diopside, tremolite, and quartz. The second rock unit is identified as Plainfield Formation. The third major rock type is a gneissic granite composed of about equal amounts of quartz, microcline, and albite to sodic oligoclase, and about 1 percent magnetite or as much as 2 percent magnetite and biotite. This rock type is identified as Alaskite gneiss.

Stratified drift overlies bedrock on the flat, northern area of the site. Stratified drift consists of materials that were transported and deposited by meltwaters flowing from wasting masses of glacier ice. These sediments were built up layer by layer to form the relatively flat-topped, terrace-like topography now present on the site. One excavated area in the north-central part of the property showed a concentration of cobble-sized gravel, but test holes dug by the Connecticut Highway Department (now called Department of Transportation) indicate that sand is the predominant constituent of the stratified drift.

Streams have carved through the stratified drift, transporting and redepositing material along its floodplain. The lowest elevations on the property are floodplain areas, along which a thin "cap" of alluvial sand and silt, mixed with some gravel and organic materials, overlies sandy stratified drift. In places where surface water is sluggish or stagnant, the proportion of organic material to mineral material is much higher. Sediments in these places are classified as swamp deposits.

The southern, upland area of the property is composed of till. Till is a glacial sediment that was deposited directly from the ice sheet, without substantial reworking by meltwater. Till contains particles ranging in size from clay to large boulders. These materials are generally neither sorted nor layered. An excavation was made in the till along the south-central boundary of the site. A sandy, bouldery material was present near the surface, but siltier, compact-textured till may be present at greater depths. The average thickness of the till probably is less than 10 feet, but deeper pockets may occur.

The stratified drift areas of the site, as identified in the accompanying surficial geologic map, are almost ideal for industrial development. They are flat, deep, and well-drained. The major problem in these areas would be the

potential for groundwater contamination from septic systems or other wastewater discharges. Stratified drift is a relatively poor filter for wastewater.

The alluvial areas of the property should be avoided, as these areas are wet and prone to periodic flooding. The till areas are affected by steep slopes and shallow-to-bedrock conditions, but portions of these areas may be suitable for limited development.

HYDROLOGY

All drainage from the Wrobel site flows into Stony Brook, which passes through the flat northern section of the site and then flows south along the eastern boundary of the hilly southern section. Stony Book empties into Horton Cove along Thames River in Uncasville. A wide area along the brook in the northern section of the property is floodprone. If this property is developed for industrial or other purposes, serious efforts should be made to avoid filling or building in the floodplain. The floodplain may, on the other hand, prove to be a suitable location for a gravel-based well or wells. The Water Supply section of this report discusses this aspect more thoroughly.

At the point where it leaves the property, Stony Brook has a drainage area of approximately 5.5 square miles. Statistical data in Connecticut Water Resources Bulletin No. 15 allows one to estimate flow durations at that point. Under natural conditions, the estimated flow exceeded 50 percent of the time would be about 3,575,000 gallons per day, and the estimated flow exceeded 90 percent of the time would be about 330,000 gallons per day. However, Stony Brook Reservoir, which is located about 1.5 miles upstream from the site, is a potential source of water for the Norwich public water-supply system. At present, the reservoir is used only for back-up purposes; water has not been withdrawn from it for several years. Nevertheless, during drought conditions, it is possible that flows in Stony Brook through the Wrobel site could be reduced by withdrawals from the reservoir. Even assuming such reductions, the flows should be high enough to allow substantial dilution of any wastewater discharges from the site.

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 probable 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.

Upland Glacial Till Soils

The gently sloping well drained uplands are occupied by Canton and Charlton very stony fine sandy loams. This soil is designated by soil mapping unit symbol 11XB. The letter "X" denotes a very stony surface condition. The letter "B" denotes slopes as 3 to 8 percent. Canton soils formed in a fine sandy loam mantle underlain by friable gravelly sandy glacial till. Canton soils have moderately rapid or rapid permeability. Surface runoff is medium. Charlton soils formed in friable glacial till. Charlton soils have moderate to moderately rapid permeability. Surface runoff is medium to rapid.

The moderately steep to steep well drained uplands are occupied by Canton and Charlton extremely stony fine sandy loams. This soil is designated by soil mapping unit symbol 11MD. The letter "M" denotes an extremely stony surface condition. The letter "D" denotes slopes as 15 to 35 percent. Canton soils formed in a fine sandy loam mantle underlain by friable gravelly sandy glacial till. Canton soils have moderately rapid or rapid permeability. Surface runoff is medium to rapid.

Outwash Soils

The nearly level and gently sloping moderately well drained areas on stream terraces and outwash plains are occupied by Tisbury silt loam. Tisbury silt loam is designated by soil mapping unit symbol 45A. The letter "A" denotes slopes as being 0 to 5 percent. Tisbury soils formed in silt mantled glacial outwash. Permeability is moderate in the surface layer and subsoil and rapid or very rapid in the substratum. A seasonal high water table exists at 18 to 24 inches. Surface runoff is slow to medium. Tisbury silt loam, 0-5% slopes qualifies as Prime Farmland in the State of Connecticut. The soil symbol 890A also denotes Tisbury silt loam, 0-5% slopes.

The moderately steep to steep terraces of outwash plains are occupied by Hinckley gravelly sandy loam. The soil mapping symbol is 60D. The letter "D" denotes a slope range of 15 to 35 percent. Hinckley soils formed in water sorted outwash. The soils are excessively drained and have rapid permeability in the surface layer and subsoil and very rapid permeability in the substratum. Runoff is slow.

The nearly level stream terraces and outwash plains are occupied by Haven silt loam. The soils are designated by soil mapping unit symbol 63A. The symbol "A" denotes 0-3 percent slopes. Haven soils formed in water sorted loamy material over stratified outwash. The soils are well drained and have moderate permeability in the surface layer and subsoil and very rapid permeability in the substratum. Surface runoff is medium. This soil qualifies as a Prime Farmland soil in Connecticut. The soil symbols 163A and 65A also denote Haven silt loam, 0-3% slopes.

The gently sloping stream terraces and outwash plains are occuped by Haven silt loam. The soils are designated by soil mapping unit symbol 63B. The symbol "B" denotes a 3-8 percent slopes. Haven soils formed in water sorted loamy material over stratified outwash. The soils are well drained and have moderate permeability in the surface layer and subsoil, and very rapid permeability in the substratum. Surface runoff is medium. This soil qualifies as a Prime Farmland soil in Connecticut. The soil symbol 65B also denotes Haven silt loam, 3-8% slopes.

Wetland Soils

The nearly level, very poorly drained areas on stream terraces and outwash plains are occupied by Scarboro mucky loamy sand. Scarboro soils are designated by soil mapping unit symbol 75. They formed in thick sandy outwash and usually have from 3 to 16 inches of black organic matter on the surface. Scarboro soils have rapid or very rapid permeability and a high water table at or near the surface 9 to 10 months of the year. Surface runoff is slow. Scarboro mucky loamy sand is designated as a regulated wetland soil according to P.A. 155.

The nearly level, very poorly drained depressional areas within outwash plains, lake plains, till plains, and moraines are occupied by Adrian and Palms mucks. This soil is designated by the soil mapping unit symbol 91. Adrian soils formed in mucky organic deposits, 16 to 51 inches thick, over sandy mineral deposits. The soils have rapid permeability and a high water table at or near the surface 9 to 10 months of the year. Surface runoff is very slow to ponded. Palms soils formed in mucky organic deposits, 16 to 51 inches thick over loamy minerals deposits. The soils have moderately slow permeability and a high water table at or near the surface 9 to 10 months of the year. Surface runoff is very slow. This soil is designated as a regulated wetland under Public Act 155.

The nearly level poorly drained stream terraces and outwash plains are occupied by Raypol silt loam. Raypol silt loam is designated by soil mapping unit symbol 464. They formed in silty deposits, less than 40 inches thick over sand and gravel. Raypol soils have moderate permeability in the surface layer and subsoil, rapid or very rapid permeability in the substratum, and a high water table at or near the surface 7 to 9 months of the year. Surface runoff is slow. Raypol is designated as a regulated wetland soil according to P.A. 155.

The concave, nearly level areas along flood plains are occupied by Rippowam fine sandy loam. The soil mapping unit symbol is 855. (Rippowam fine sandy loam was formerly mapped as Rumney fine sandy loam with the same mapping unit symbol.) Rippowam soils formed in recent alluvium sediments. The soils are poorly drained. Permeability is moderate to moderately rapid in the surface layer and subsoil, and rapid to very rapid in the substratum. The high water table is at or near the surface 7 to 9 months of the year. Surface runoff is slow. This soil is designated as a wetland soil and is regulated under Public Act 155.

Areas that have been disturbed to an extent that the natural layers are no longer distinguishable as occupied by Udorthents, smoothed. Udorthents, smoothed are designated by the soil mapping ML2. Udorthents occur when soil material has been removed, or filling has occured and the soil profile is buried and no longer is a major factor in interpreting an area for land use.

Soils mapped as 163A, 65A, 65B, and 63B, Haven silt loams occupy 22% of the property or approximately 32 acres, and are considered as Prime Farmland in Connecticut. Haven soil has severe limitations for septic tank absorption fields because it is a poor filter. However, this limitation can be overcome by using public sanitary sewers.

Haven soils have only slignt limitations for buildings with or without basements. Limitations are moderate for local roads and streets due to potential frost action. This may be overcome by removing loamy material above the gravelly soil material and then preparing a gravel road base.

The moderately well drained Tisbury silt loams occupy approximately 14% of the property or 20 acres and are considered Prime Farmland in Connecticut. Tisbury soils are rated as severe for septic tank absorption fields due to wetness and poor filtering material. These limitations can be overcome by regional drainage and sewage collection, respectively. Again, if sewers were available the limitations would be overcome.

Tisbury soils present severe limitations to buildings with basements due to wetness and a high water table. Severe limitations exist for local roads and streets due to frost action.

Wetland soils, 75, 91, 464, 855, occupy approximately 18% of the property on approximately 26 acres. The wetlands occupy stream terraces and outwash plains adjacent to watercourses, flood plains and depressional areas within outwash plains. The wetland soils should be left in their natural state to allow unrestricted flow of water and to provide natural storm water storage.

Glacial till soils occupy approximately 39% of the property or approximately 56 acres. Soils mapped as Charlton-Hollis (17LD) and Narragansett-Hollis (200C) have moderate to severe limitations for building site development due to steepness of slope and shallowness to bedrock. Limitations for septic tank absorption fields are severe due to slope, shallowness to bedrock and seepage.

The Canton and Charlton soils (11XB, 11MC, 11MD) have moderate to severe limitations for building site development due to slope and surface stoniness. Severe limitations for septic tank absorption fields are due to slope and large stones. These limitations may be overcome by land reshaping and stone removal.

Stony Brook and small tributaries are located within the Wrobel property. When planning for the industrial development, sediment and erosion control measures should be incorporated in the design and installed prior to construction commencement. This will reduce the possibility of sediment entering the watercourses from the construction site.

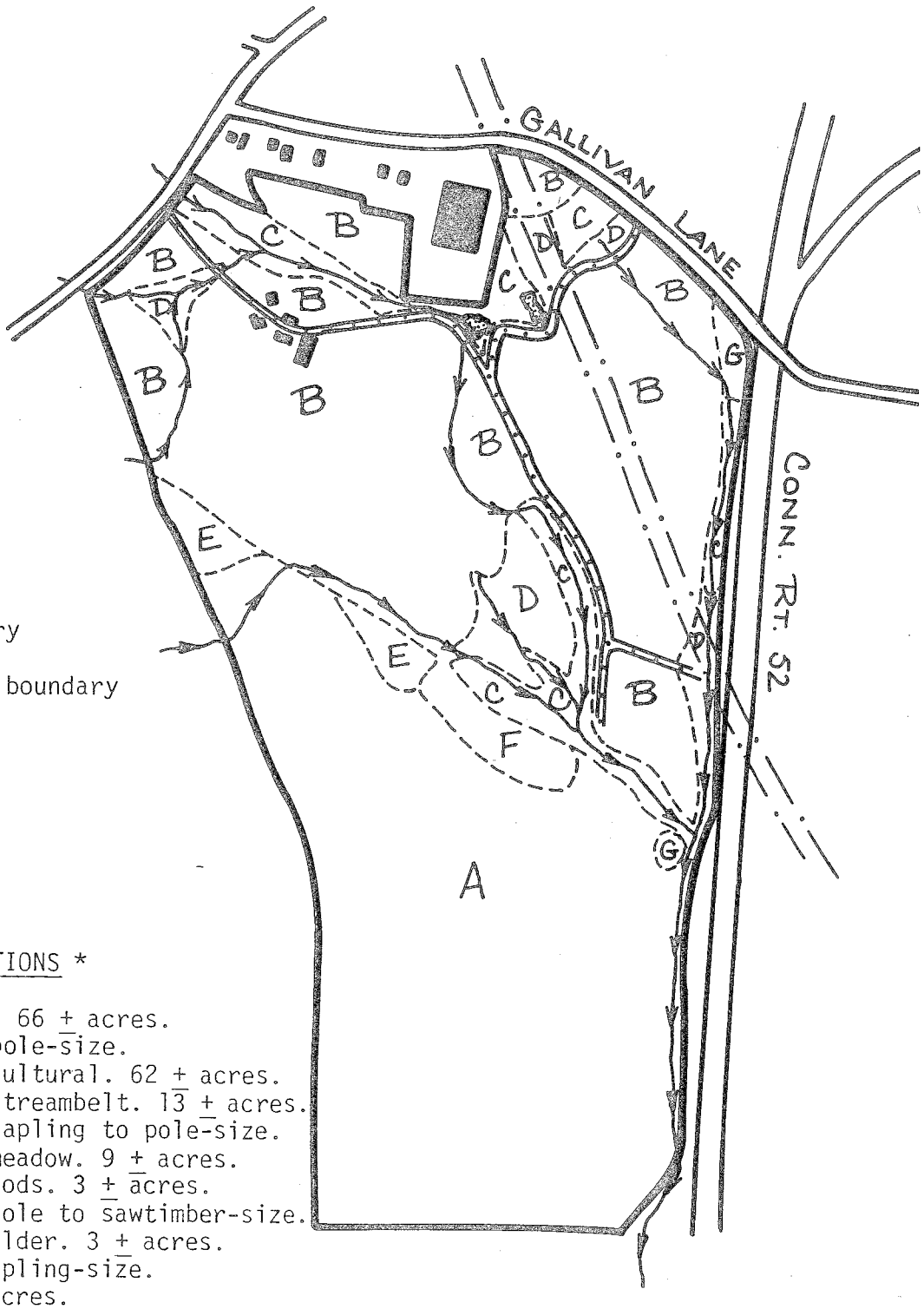
VEGETATION

The "Wrobel Property" which was proposed for industrial development may be divided into five vegetation types. These include mixed hardwoods which total 66± acres; open field/agricultural land 62± acres; hardwood swamp/streambelt areas which total 16± acres; open swamps/wet meadows which total 9± acres; softwood/hardwood 3± acres and old field areas, 1± acre. For a description and location of these vegetation types please see the vegetation type description and vegetation type map, which follows.

Vegetation Type Descriptions:

Type A. (Mixed Hardwoods) This 66± acre fully-stocked stand is dominated by pole-size black oak, white oak, red oak, black birch, shagbark hickory, pignut hickory and red maple with American beech, yellow birch, sugar maple and white ash widely scattered throughout. The trees in this stand are beginning to decline in health and vigor. A thinning following the "crop tree selection method" would be beneficial in this stand, should industrial development of this area not occur. Under the "crop tree selection method" of thinning, 100 of the highest quality trees in each

Vegetation



LEGEND

- Roads, paved
- Roads, gravel
- Property boundary
- Vegetation type boundary
- Stream
- Buildings
- Pond

VEGETATION TYPE DESCRIPTIONS *

TYPE A. Mixed hardwoods. 66 ± acres.
Fully-stocked, pole-size.
TYPE B. Open field/agricultural. 62 ± acres.
TYPE C. Hardwood swamp/streambelt. 13 ± acres.
Fully-stocked, sapling to pole-size.
TYPE D. Open swamp/wet meadow. 9 ± acres.
TYPE E. Softwoods/hardwoods. 3 ± acres.
Fully-stocked, pole to sawtimber-size.
TYPE F. Hardwood swamp/alder. 3 ± acres.
Over-stocked, sapling-size.
TYPE G. Old field. 1 ± acres.
Under-stocked, sapling-size.

* Seedling-size = trees less than 1 inch in diameter at 4.5 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.

acre should be identified (trees spaced about 20' x 20' will equal 100 trees per acre), and one, two, or three trees that are in direct competition with each of those identified should be removed. The 100 trees per acre that are selected as crop trees should be healthy, large crowned, and show little or no signs of damage. Trees which are not competing with the 100 selected trees should not be removed, unless they are severely damaged. This thinning, if implemented, will provide between 4 and 5 cords of fuelwood per acre. It will also reduce competition between residual trees for space, sunlight, water and nutrients, improving the general health, vigor and stability of residual trees over time.

The understory in this area is made up of hardwood tree seedlings, maple leaved viburnum, blue beech, scattered mountain laurel and occasional white pine seedlings. Ground cover consists of club moss, Pennsylvania sedge, striped pipsissewa, rattlesnake plantain, bracken fern, Christmas fern, evergreen wood fern and hayscented fern.

TYPE B. (Open Field/Agricultural) Approximately 62 acres of this tract is open field that is at present being grazed or utilized for the cultivation of row crops. Some of the fence rows which pass through these fields are vegetated with barberry, Canada thistle, multiflora rose and milkweed.

TYPE C. (Hardwood Swamp/Streambelt) Poor to medium quality sapling to pole-size red maple dominate these fully-stocked hardwood swamp and streambelt areas which total approximately 13 acres. Areas near the streams which are somewhat better drained support higher quality trees which include white ash, yellow birch, sycamore, black cherry, sugar maple and red oak. In some sections a dense understory of sweet pepperbush, spice bush, winterberry, elderberry, speckled alder, swamp rose, swamp alder, greenbrier and highbush/blueberry exists. Ground cover consists of cinnamon fern, sensitive fern, swamp dewberry, skunk cabbage, false hellebore and scattered poison ivy.

TYPE D. (Open Swamp/Wet Meadow) Approximately 9 acres of this tract is either dominated by shrub species which include speckled alder, arrowwood, swamp dogwood, pussy willow, winter berry, high bush blueberry and red maple seedlings or herbaceous species such as tussock sedge skunk cabbage, spirea, common cattail and sphagnum moss. The establishment of tree species such as red maple is being controlled in the areas under the utility lines. The open areas which are dominated by sedges are periodically grazed.

TYPE E. (Softwoods/Hardwoods) Healthy pole to small sawtimber-size eastern white pine, white oak, shagbark hickory and black birch dominate this fully-stocked stand which totals $3\pm$ acres. The understory in this stand is made up of witch-hazel, maple-leaved viburnum and blue beech. The ground cover vegetation which is present includes Pennsylvania sedge, Canada mayflower, Christmas fern, partridge-berry and striped pipsissewa.

TYPE F. (Hardwood Swamp/Alder) Several years ago the gravel was excavated from this $3\pm$ acre area. Since then a swale of speckled alder has become established. This alder swale is so dense that no other species except for scattered tussock sedge have been able to become established.

TYPE G. (Old Field) Three old field areas which total only one acre are present within this tract. They are under-stocked with sapling-size eastern red cedar, hawthorn and quaking aspen. The shrub and vine species which are present include multiflora rose, arrowwood, graystemmed dogwood, staghorn sumac, smooth sumac, raspberry, highbush blueberry, poison ivy and fox grape. Ground cover includes grasses, goldenrod, Queen Ann's lace and milkweed.

Industrial development of the portions of this property which are forested will obviously neccessitate the wide spread clearings of vegetation. Complete clearing of vegetation has the potential to accelerate erosion and cause increased sedimentation and siltation of local water courses. To reduce the potential for erosion problems, should this area be developed, a sediment and erosion control plan should be prepared and implemented.

If complete clearing should occur in vegetation type A (mixed hardwoods), approximately 18 to 21 cords of fuelwood will be produced per acre.

Buffer plantings of conifer trees such as eastern hemlock and eastern white pine could be planted along property boundaries. These plantings will eventually produce a barrier that will help to shield the industrial development from residential and open space areas. These trees should be planted in several staggered rows approximately 8 to 10 feet apart along boundaries or at the edge of developed areas.

Should industrial development of this property not occur, a public service forester or private forester should be contacted to help with the implementation of the proposed thinnings in vegetation type A.

WATER SUPPLY

The town of Montville does not have a municipal water system although the New London and Norwich systems supply a limited area at the southern and northern ends of Route 32. Therefore, at the present time residential, commercial, industrial areas for the most part are served by private on-site wells or central (public) well water systems. A number of the latter type systems predominately serve residential developments throughout the town.

The availability of public utilities (water and sewer) is usually a basic consideration for an industrial project and can have a substantial effect on land development and overall density. Therefore, one of the first steps should be in terms of obtaining a suitable water supply which could serve the future needs of a park. One possible consideration would be an extension from the Norwich public system as the property is located relatively close to that community. Another possibility would be the establishment of on-site wells. The stratified drift deposits on the Wrobel site have the potential to supply moderate to large groundwater yields (50 to 500 gallons per minute) to individual wells. Large yields can be provided by thick, gravelly stratified drift deposits. The texture of the stratified drift on the Wrobel site is inferred to be only medium to fine-grained at depths below 10 to 20 feet, but deep testing would be required to confirm this. If, however, the sediments do prove to be relatively fine-grained below the water table, the yields from a well based in that material would tend to be closer to the low end of the anticipated range of yields (i.e. about 50 gpm).

The best area to check for potential industrial wells may be the floodplain near Stony Brook. Water withdrawn from wells placed in stratified drift near streams often is derived in part from the stream itself. The streamflow may actually bolster the well supply. If the stream quality is poor, on the other hand, it would be desirable to place the well much further from the stream.

If a stratified-drift-based well or wells is developed on the site, the well(s) should bekept as far as possible from any wastewater discharges, whether they are surface or subsurface discharges. In particular, if the wells are developed on the floodplain, runoff from parking lots, buildings, etc., should be directed to a point on Stony Brook that is as far downstream from the wells as possible.

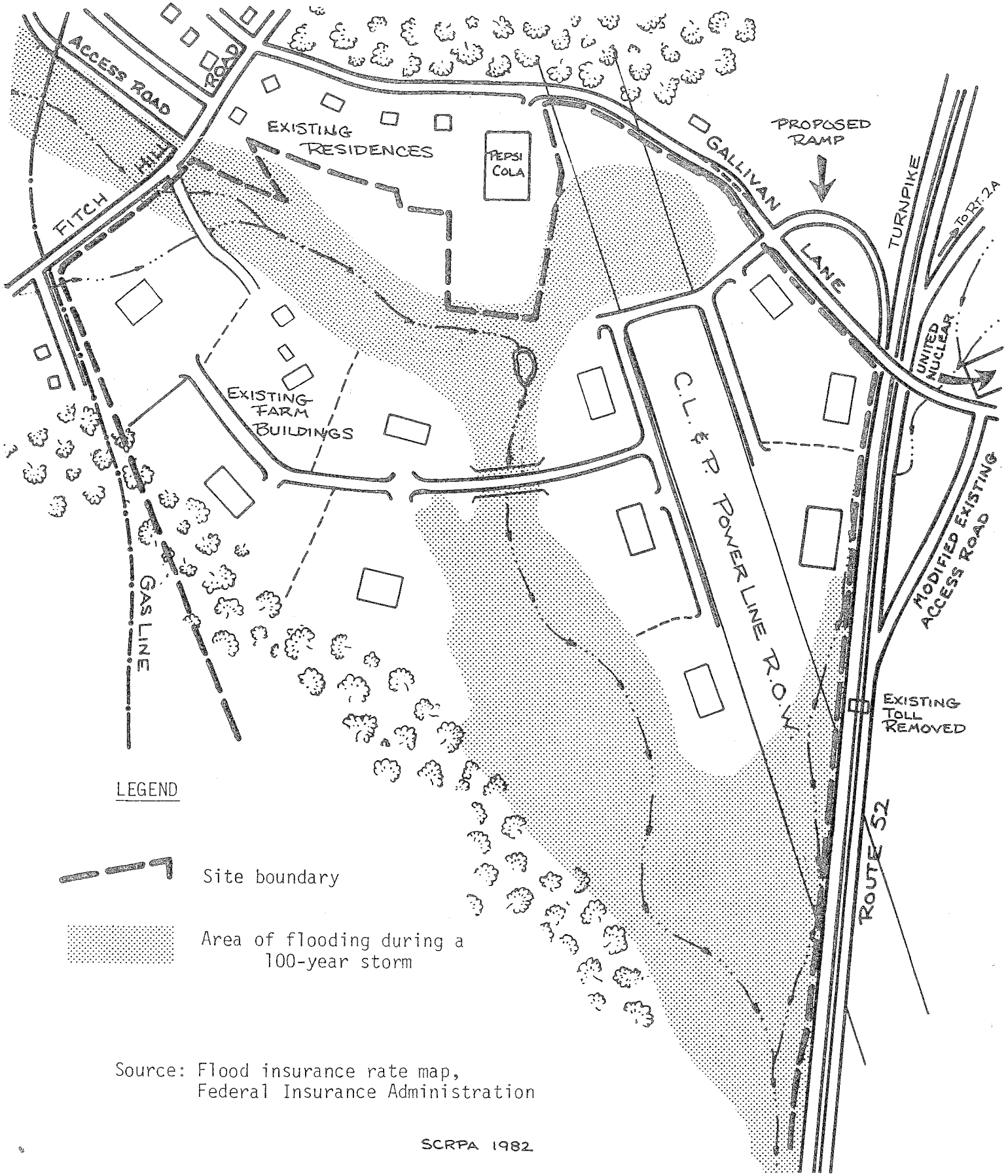
Bedrock is an alternate water-supply source. It is the only practical source in the hilly southern section of the parcel. Bedrock is normally capable of supplying only small, albeit reliable, yields. Yields of 10 gpm or less are most common; a yield of 50 gpm or more is rare. Nevertheless, some types of industry may not require high water yields, or may require such yields only for a short time each day. In the latter event, a small-yielding bedrock well with a suitably sized water-storage tank may adequately provide for the industry's needs.

WASTE DISPOSAL

While the town does have public sewerage facilities,the property in question is presently a considerable distance from the area sewered. The area would be included in Phase II of the municipal sewer program thus projecting the possible availability of public sewers at some future date. However, due to present federal and state fiscal restraints relative to reimbursement costs to local communities for sewer projects, it appears this site would not be served in the near future. Therefore, it would be most likely that at least initial park development would utilize and rely on on-site subsurface sewage disposal systems. Based on visual observations and soil mapping data, a number of acres of the property contain well drained soils which should be suitable for on site systems. No actual on-site testing, however, has been done for the purpose of sewage disposal. Because of the porous nature of some of the soils (sand and gravel), however, there is concern it may not provide a high degree of filtration and renovation of sewage effluent before it reaches the ground water table. Large wetland area and stream cross the central section of the site. The ground water levels as well as the actual defined streams are also of concern. The Public Health Code requires the bottom area of any type of leaching system to be at least a minimum of 18 inches above maximum ground water. In addition, it would be important to protect a leaching area from possible flooding, and serious erosion problems. Adequate horizontal separating distance from any of the watercourses would be needed. Detailed site testing, evaluation and preparation of engineered plans should be a part of the review for each parcel in the park.

In order to more fully evaluate the site for the intended use, it would be desirable to know whether or not space for both water wells and on-site sewage disposal systems would be necessary on the same lots within the park; if one or possibly both public water and sewers would be made available; or if an alternative community water system might be developed and provided. In this latter case, prior determination of the location for one or several wells and information

Site Development Concept



Source: Flood insurance rate map,
Federal Insurance Administration

SCRPA 1982

on formations from which they would be yielding water, would be important in evaluating possible impact from on-site waste disposal systems on the water source of such supplies. Also having knowledge of the type of industrial development (warehouses, research, light, heavy, chemicals, etc.) which could occur, could reduce potential hazards or pollution would be useful.

PLANNING CONCERNS

The proposed industrial park would occupy land presently used as a dairy farm, located between the Connecticut Turnpike and Fitch Hill Road, south of Gallivan Lane. Although the property itself is somewhat larger, the part actually utilized for farming represents about 65 acres. Surrounding the farm are scattered residences, undeveloped woodland, and the Connecticut Turnpike. In addition, a Pepsi Cola distribution warehouse is located to the north of the farm, fronting on Gallivan Lane.

The farm is traversed from northwest to southeast by Stony Brook. The stream has a 100-year storm floodway ranging from about 200 feet to more than 600 feet in width through the property.* Any structures permitted to be placed in this area would have to be elevated above the level of the 100-year storm. Stony Brook is a major drainage feature in this part of the town, and its flood-carrying capacity should not be diminished by any proposed buildings or uses.

Stony Brook effectively divides the farm into two general sections. The western section includes the farm buildings and nearby fields and has a usable area outside the flood plain of about 21 acres. It also has frontage on Fitch Hill Road. The eastern section is comprised of a field of about 27 acres outside of the flood plain. It is used primarily for growing corn. The other open fields on the farm, including those located within the flood plain, are used for pasture.

In evaluating the property for use as an industrial park, several distinct assets should be noted. First, most of the land presently used for pasture or crops could be easily built upon. Soil conditions are good, particularly in the eastern section of the property, the land is almost level, and it has been cleared. Second, utilities may be provided more conveniently here than in other parts of Montville. A natural gas transmission line passes through the western edge of the farm and one of the main transmission lines of the Connecticut Light and Power Company from the Montville Generating Station crosses the eastern section of the farm. Virtually the entire farm is underlain by stratified deposits of sand and gravel for a depth of ten or more feet.** Such deposits usually contain usable amounts of groundwater, although it is uncertain whether quantities would be sufficient in this location to support heavy use for industrial processes. Sewage disposal would have to be accommodated on the premises by subsurface systems; however, the town's proposed second-phase sewer program anticipates extending service along Gallivan Lane as far as the Turnpike. It may be possible at some point in the future to extend this service across the Turnpike to serve the proposed industrial park. Finally, the farm abuts the Connecticut Turnpike and with the

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* See Flood Insurance Rate Map for Montville, prepared by the Federal Insurance Administration.

** "Water Resources Inventory of Connecticut, Part 3, Lower Thames and Southeastern Coastal River Basins", U.S. Geological Survey, 1968.

thinning or removal of trees and brush along the common border some of the firms locating on the property would be highly visible to the traffic on the Turnpike. Many firms prefer plant sites with exposure to high volumes of traffic.

While the farm has some assets for industrial park development, it also has some notable liabilities to overcome. First, the power line right-of-way of the Connecticut Light and Power Company will strongly influence the development of the site.* The right-of-way is 250 feet wide and passes through the best building land on the farm. It is presently used for growing crops, but little other use of the land is allowed. It cannot be used for structures, storage, or vehicle parking. New streets or driveways must cross the ROW as close as possible to a right angle. Relocating the several power lines that are in the ROW would be strongly discouraged by the power company and would be prohibitively expensive. The restrictive aspects of the ROW may, however, be used to some advantage in any industrial park design. It would add considerably to the park-like character of the proposed use. A conceptual design, relating the ROW and flood plain to possible building sites, is shown in the accompanying illustration.

The most serious deficiency of this location for industrial park use is its accessibility. The only existing access is by way of Gallivan Lane, a road incapable of handling large amounts of traffic, particularly truck traffic which an industrial park might generate. The road serves as the only route of access for more than 150 residences. The roadway is substandard, narrowing to less than twenty feet in width in some places, and sight distances are less than desirable at several intersecting streets and driveways. An added hazard is posed by the location of a recreation facility near the east end of the road, an already dangerous area when the ball fields are in use.

All of the traffic using Gallivan Lane, including whatever is generated by the proposed industrial park, would also contribute to the heavy volumes and congestion on Route 32, a highway already operating well beyond capacity. At a minimum, the intersection of Gallivan Lane and Route 32 would require improvement. It is presently poorly defined and complicated by the numerous driveways of adjacent gas stations and other businesses.

The western end of Gallivan Lane and Fitch Hill Road should also be kept free of industrial traffic. The design of the proposed industrial park should indicate the access as close to the Turnpike as possible on Gallivan Lane, thus avoiding the growing residential area to the west and north of the property.

Using the farm as an industrial park without providing an access alternative to Gallivan Lane would cause problems that could be very costly or impossible to overcome. On the other hand, the proposal would be greatly enhanced if direct access to the Connecticut Turnpike were achieved. A 1970 study by the Connecticut Department of Transportation recommended against such access,** so achieving it would be difficult. However, should efforts to remove the Montville Toll ever be successful, at least partial access (to and from the south) may be feasible. Space would then be available for a southbound accelleration lane, and the existing access road from Gallivan Lane to the toll house might be modified for use as a northbound off-ramp.

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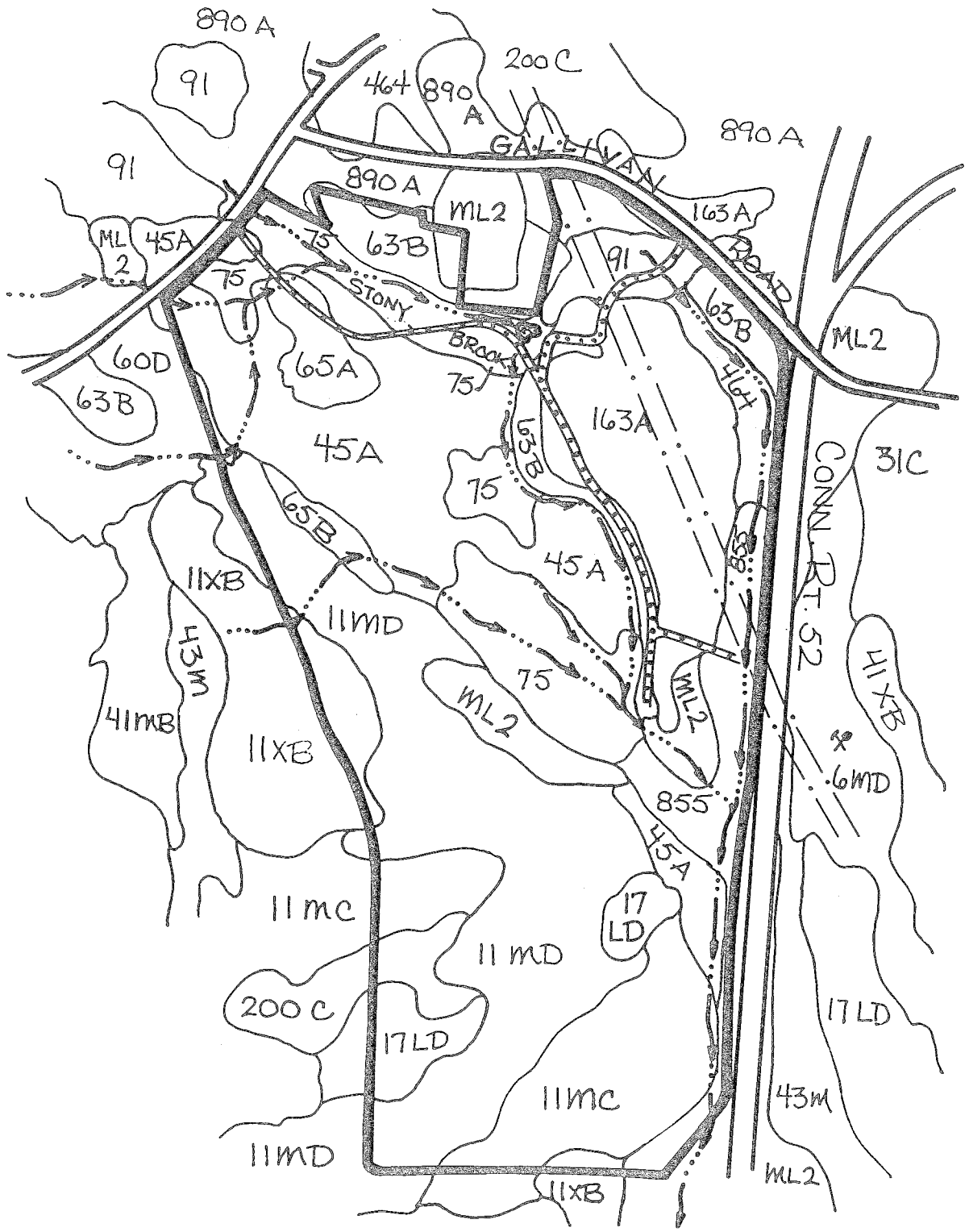
* Comments concerning the power line ROW based on 5 January 1982 conversation with Herbert Slicer, Real Estate Division, Northeast Utilities.

** "Planning Study, The Desirability and Feasibility of Providing Access Between the Connecticut Turnpike in the Vicinity of the Montville Toll Station and the Montville Industrial Area", CONNDOT, 1970.

In summary, the proposed industrial park could be accommodated on this property, provided individual plant sites were carefully planned. However, an alternative to using Gallivan Lane as the sole route of access should be achieved before such use is made of the property.

Appendix

Soils	Site Boundary	0 660' scale	N



WROBEL FARM
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
Adrian-Palms	91	4	2%	Wetness	3	3	3	3
Haven	163A	18	10%	Frost,action	1	1	3	1
Canton-Charlton	11XB	3	2%	Large,stones	2	2	2	2
Canton-Charlton	11MC	16	9%	Slope,large stones	3	3	3	3
Canton-Charlton	11MD	36	21%	Slope,large stones	3	3	3	3
Charlton-Hollis	17LD	5	3%	Slope,depth to rock	3	3	3	3
Haven	65B	3	2%	Frost action	1	1	2	1
Haven	63B	11	6%	Slope,frost action	1	1	2	1
Narragansett-Hollis	200C	3	2%	Slope,depth to rock	2	2	2	2
Raypol	464	3	2%	Wetness	3	3	3	3
Rippowam	855	9	5%	Floods,wetness	3	3	3	3
Scarboro	75	23	13%	Wetness	3	3	3	3
Tisbury	890A	2	1%	Frost action, wetness	3	3	3	1
Tisbury	45A	30	17%	Frost action, wetness	3	3	3	1
Udorthents	ML2	9	5%					
		175	100%					

Limitations Determined on-site

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.