Environmental Review Team Report

Green Hollow Subdivision

Plainfield, Connecticut

R C & D

EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.

Environmental Review Team Report

Green Hollow Subdivision

Plainfield, Connecticut

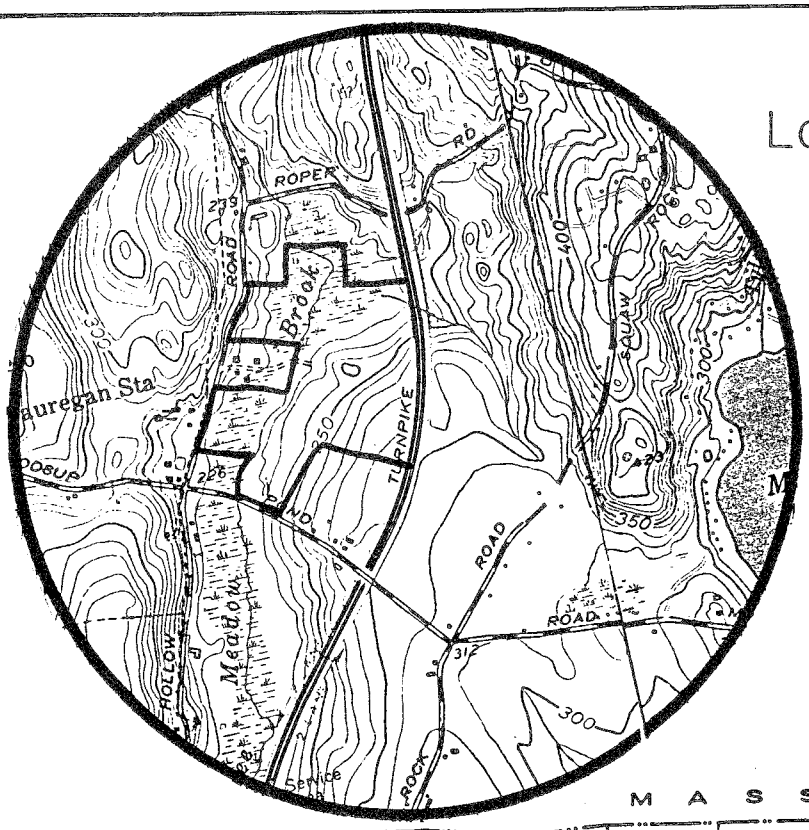
June 1983

Eastern Connecticut Resource Conservation & Development Area

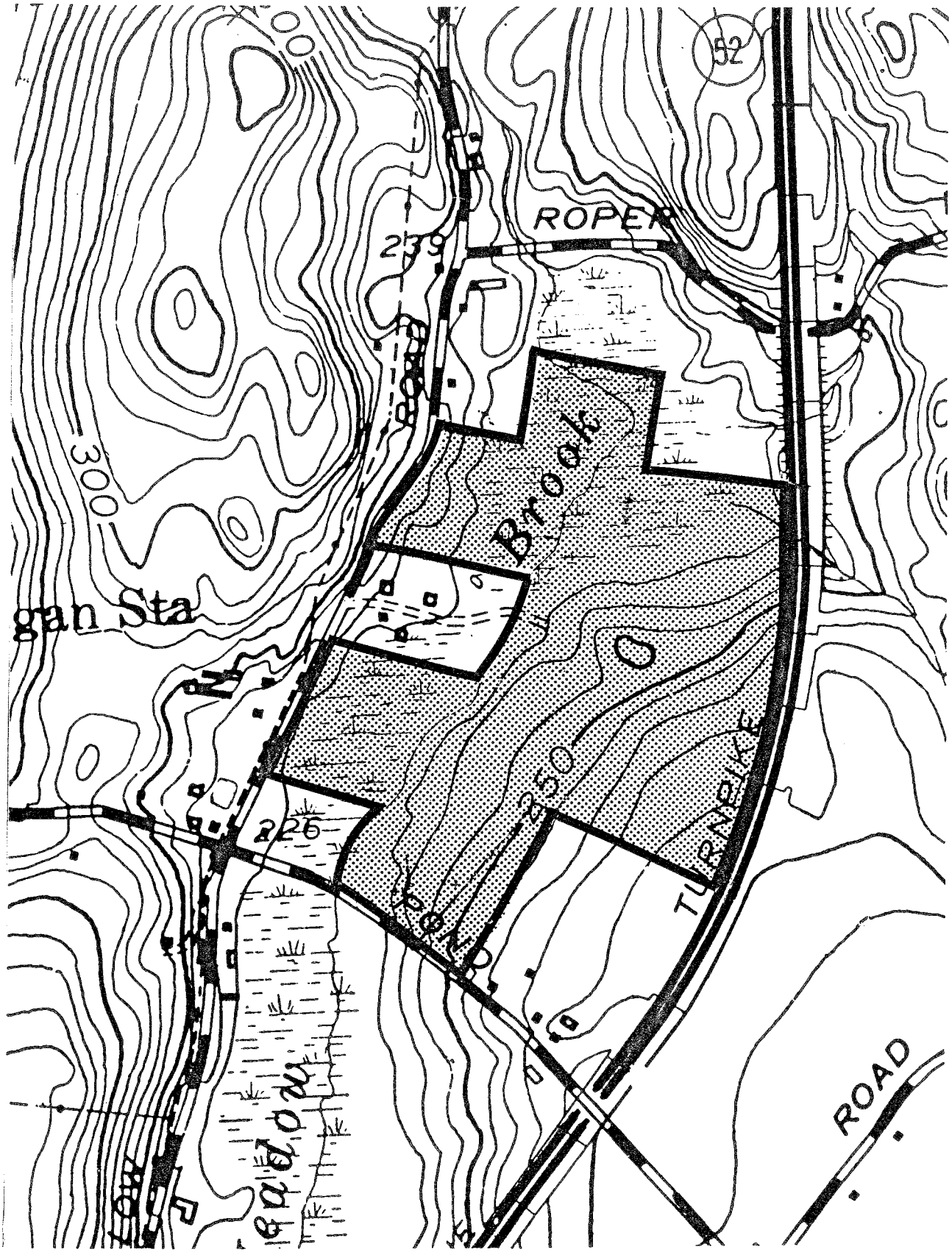
Environmental Review Team
PO Box 198
Brooklyn, Connecticut 06234

Location of Study Site

GREEN HOLLOW SUBDIVISION
PLAINFIELD, CONNECTICUT



Topography	Site Boundary	0 660' scale	N



INTRODUCTION

The Eastern Connecticut Environmental Review Team was asked to prepare an environmental assessment for a proposed subdivision in the town of Plainfield. The study parcel is located northeast of the intersection of Green Hollow Road and Moosup Pond Road. Although the property is approximately 81 acres in size, only 30± acres are included in the proposed subdivision. There are no plans for the remaining 50 acres at this time. The property is presently in the private owership of Charles Corson, a local builder. Preliminary plans for the proposal have been prepared by Russ Fransen Associates.

Preliminary plans show 11 lots of 1.3 to 5.9 acres in size. On-site septic systems and on-site wells will serve these proposed lots. Three lots will front on Moosup Pond Road, all other lots will front on Green Hollow Road. Each lot will have its own driveway access directly on to these roads. A large wetland and its associated watercourse, Apple Tree Meadow Brook, parallel Green Hollow Road.

The Team is concerned with the effect of this proposed subdivision on the resource base of this property. The wetland area found here, represents a significant limitation to development of this site. Although severe limitations to development can be overcome with proper engineering techniques, these measures can become costly, making a project financially unfeasible for a developer.

The eleven lots vary greatly in terms of relative elevations, slopes and soils present. Apple Tree Meadow Brook flows south through the total property. It bounds the rear of lots 1-8. Its associated wetlands covers a major portion of the rear of each of these lots. Lots 9, 10, and 11 are affected by the wetlands due to the excavation here during construction of Route 52. The extent of possible flooding from a 100 year storm (1% chance in any year) is shown on the Flood Hazard Boundary Maps prepared for Plainfield by the Federal Insurance Administration, dated February 1977. The rear of all lots, except possibly #11, would be affected by such a flood and also by floods of lesser severity. Lots 7 and 8 would be almost totally flooded during the 100 year storm event. Below the Brook and associated wetlands lies an aquifer of coarse-grained stratified drift material (sands and gravel). These areas are capable of yielding large volumes of ground water, potentially as high as 2,000 gallons per minute. In addition to the wetland soils, are soils with shallow depth to bedrock at the front of lots 1 and 2.

Since all lots slope to the brook and wetland, failure of any septic system has the potential to harm the wetlands. It is imperative that future home owners pump their septic systems every 3 to 4 years. They should also be aware that a substantial portion of their lot is subject to flooding. Additional concerns of the Team are expressed in detail in the following sections of this report.

ENVIRONMENTAL ASSESSMENT

TOPOGRAPHY

For the purpose of this report, the Team Geologist has divided the site reviewed into three zones. (1) Zone A, comprising the land which includes Lot 1-4 (2) Zone B, comprising the land which includes Lots 5-8 and (3) Zone C,

Surficial Geology

comprising the land which included Lots 9-11.

The proposed subdivision site is located northeast of the intersection of Green Hollow Road and Moosup Pond Road in the northern section of Plainfield. Although the entire parcel is approximately 81 acres in size, the Team directed their attention primarily to the proposed 11 building lots identified in the subdivision plan proposed for the site. Land throughout Zone A and B slopes gently eastward to a wetland area, situated in the central portion of the parcel. Land throughout Zone C, in the southeast section of the site is relatively flat with the exception of Lot 11 which slopes moderately to the west towards Apple Tree Meadow Brook. Apple Tree Meadow Brook flows in a northeast to southeast direction dividing the parcel nearly in half. Land elevations throughout Zones A and B ranges between a high of ± 242 feet above mean sea level (along Green Hollow Road) to a low of ±200 feet above mean sea level (along the wetland area). Land elevations throughout Zone C ranges between a high of ±250 feet above mean sea level to a low of ±220 feet above mean sea level. Elevations were taken from the Plainfield topographic quadrangle map, published by the United States Geological Survey (USGS).

SURFICIAL GEOLOGY

A geologic map of the Plainfield topographic quadrangle, U.S. Geological Survey Map GQ 481, by H. Roberta Dixon shows the general geologic setting of the proposed subdivision area. The bedrock geology of the site, as adapted from GQ-481, is shown in an accompanying illustration. The bedrock indicates that gneiss (Lower member of the Quinebaug Formation) predominates on the site. Gneisses are rocks in which thin bands of platy, flaky or elongate minerals alternate with layers of more granular minerals. They formed as a result of intensive pressure and heat to which the rocks were subjected when they were formed deep within the earth crust. The major mineral components of the gneisses on the property are epidote, quartz, andesine, hornblende, biotite and microcline. Accessory minerals include garnet, allanite, sphene, zircon, apatite and opaque. Although they are not identified on the geologic map, the Team Geologist observed scattered outcrops on Lot 1 and a part of Lot 2. The outcrops were observed in the front, western portion of the lots. Therefore, due to the presence of bedrock in this area, it is recommended that extreme care be taken in the installation of septic systems on these lots in order to prevent contamination of wells by effluent. Other than this, bedrock will probably have little influence except in terms of the on-site water supply and water quality, which will be discussed in more detail in the Water Supply section of this report.

The principal surficial material (material which overlies solid bedrock) on the site is a pebble-cobble gravel and sand which was deposited by glacial meltwater streams. These deposits range in thickness from nothing where outcrops occur in the northwest section of the parcel, to 40 feet beneath the wetland in the middle section of the site. Based on visual inspection of Lots 9-11 and information supplied to the Team, it was observed that sand and gravel deposits had been extracted from various portions of these lots. As a result of the extraction operation, only ± 18" of soil was left between ground surface and the ground water table, which has created an area of special concern with respect to on-site sewage disposal. Since the Public Health Code requires a minimum separating distance of 18 inches between the bottom of leaching areas and maximum ground water elevations, sewage disposal systems on these lots will no doubt require engineering. Once plans are designed, they would be reviewed for possible approval by both the local and state Health Departments. Another type of glacial

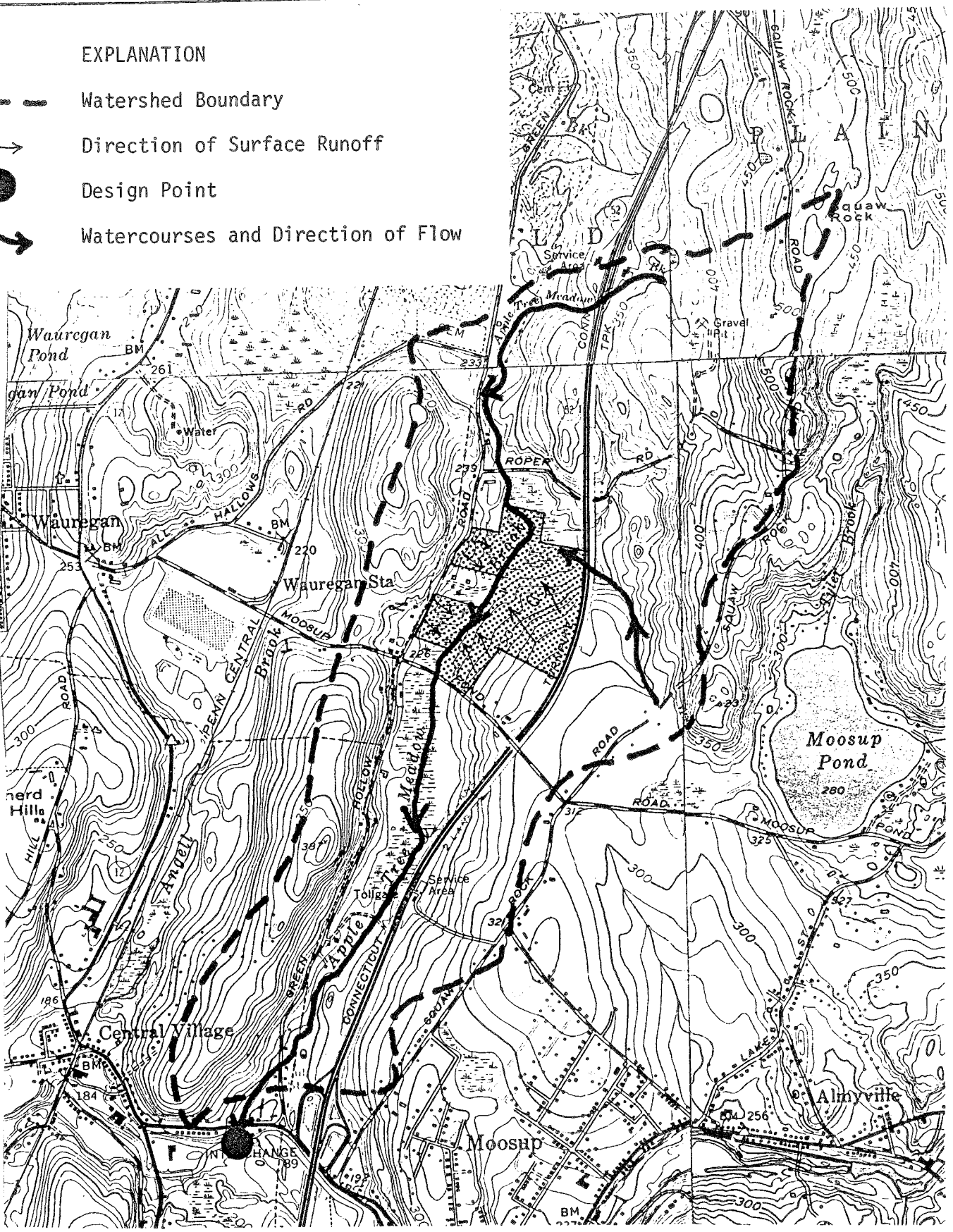
Drainage Areas

0 660'
scale

N

EXPLANATION

- Watershed Boundary
- Direction of Surface Runoff
- Design Point
- Watercourses and Direction of Flow



deposit, found throughout the eastern section of the site, is till. This sediment consists of rock particles and fragments that were accumulated by moving glacier ice and later redeposited directly from the ice. Because the ice collected rock particles of all sizes and since these particles were not sorted by meltwater, till contains everything from clay to boulders. The texture of till deposits in this area are estimated at 40 feet or more in thickness. Based on a test hole boring along Route 52, which is east of the property, till was encountered to a depth of 78 feet below ground level. (Source: Connecticut Water Resource Bulletin No. 8.). Swamp deposits are the only other significant deposit on the site. These sediments, which are confined to the middle section of the site consists of sand, silt, clay and a high percentage of organic material (decayed plant matter). Swamp deposites are generally 5-8 feet thick and probably underlain by sand and gravel.

HYDROLOGY

The entire site lies within the watershed of Apple Tree Meadow Brook. Apple Tree Meadow Brook, which ultimately discharges into the Moosup River, flows through the middle section of the site. The drainage area of the watershed is ± 1350 acres. (2.11 square miles).

Development of the site to the extent presently planned would generate additional runoff for a given rainfall. Factors affecting the actual increase of runoff would include: (1) the construction of impervious surfaces, i.e., paved roads and roof tops. (2) removal of vegetation and compaction of soils during the construction phase (3) waste water discharges particularly from septic systems. Based on visual inspection of the site, it appears that runoff, as well as a potential erosion and sedimentation problems would be of more concern with respect to Lots 7-11. The reason for this is these areas were observed to have a high ground water condition. Therefore, it is recommended that the developer direct his attention to these areas by preparing and implementing a careful sediment and erosion control plan. The plan should include measures that will prevent potential problems to the wetland and Apple Tree Meadow Brook. Based on deep test hole information and soil maps, the sandy/gravelly soil found throughout Lots 1-6 are well drained and would probably have low surface runoff potential.

The Town expressed some concern as to whether or not septic systems will effect the ground water quality. If septic systems are not properly designed or installed, these may, of course, adversely effect the water quality. This would be true for any sewage disposal system installation assuming, however, that the systems function properly, there should be little or no deterioration of water quality. Therefore, it seems likely that if installations of systems are carefully supervised by the local health department and consulting engineer, no significant problems should arise. In terms of water quality protection, greatest attention should be directed at the design and installation of septic systems on Lots 9-11 as well as Lot 7 and 8, if they are ever approved for building. Septic effluent will undoubtedly enter the wetland/watercourse as the normal ground water flow is directed to that area. The question is whether the effluent will be adequately purified by the soil before it enters the wetland/watercourse. With proper control and precautions, such purification will occur.

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 1,320feet/inch scale to 660 feet/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 Soil Survey, Windham County, Connecticut, 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 soils in the area proposed for development are primarily on outwash plains and stream terraces. A small area of upland soils are along the western border of this property. The soils on the eastern part of the property, not planned for development at this time, are upland soils of glacial till origin.

The soils are distributed as indicated by the detailed soil map except for the areas along Moosup Pond Road noted as altered on the soil map. These areas consisted of soils of the Hinckley and Sudbury series when mapped, but have since been altered. They were excavated several years ago and stripped for gravel. Excavations in some areas were to the level of the water table. The top soil was replaced, thus making these areas appear undisturbed. However, upon investigation these areas were found to be poorly drained. The boundary of the wet soils were flagged in the field and pointed out to the owner, Mr. Corson, and to John Valenti from the Northeast District Department of Health.

A detailed description of soils on the property follows:

Carlisle soils are nearly level very poorly drained organic soils in low depressions along streams. The water table is at or near the surface during most of the year. The permeability of these organic layers is moderately rapid. The high water table and low strength of the organic material make these soils unsuitable for most uses. The well decomposed organic material is deeper than 50 inches and will not support heavy equipment.

Charlton and Hollis are loamy soils mapped together because they are too complex and difficult to separate on the landscape. They are well to somewhat excessively drained, and does not have a water table within six (6) feet of the surface. The Charlton soils are the deeper soils of the mapping unit. The Hollis soil have bedrock within 20 inches of the surface. Both soils have moderate to moderately rapid permeability and surface runoff is rapid. They are on the higher part of the landscape and on steep side slopes. The available water capacity is moderate in the Charlton soils and low to very low in the Hollis soils.

Hinckley soils are excessively drained sandy and gravelly soils on stream terraces. The water table is commonly below a depth of six(6) feet. Permeability is rapid in the surface layer and subsoil and very rapid in the substratum. The

available water capacity is low and surface runoff is slow. Hinckley soils at this site are undulating with convex slopes.

Paxton soils are loamy well drained soils with dense basal till substratum. The Paxton soils at this site are sloping and on the side slope of a drumlin. Paxton soils have a seasonal high water table perched at a depth of about two feet for several weeks in the spring. Permeability is moderate in the surface layer and subsoil and slow to very slow in the substratum. Paxton soils have moderate available water capacity and surface runoff is rapid.

Ridgebury, Leicester and Whitman soils are loamy poorly drained and very poorly drained soils in depressions and along drainageways. These soils at this site are in a depressed area near the base of a slope. The water table is at or near the surface from fall to spring. Permeability is moderate to moderately rapid in the surface layer and subsoil and slow to very slow in the substratum. These soils have moderate available water capacity and surface runoff is slow.

Sudbury soils are moderately well drained sandy and gravelly soils in slight depressions on stream terraces. These soils have a seasonal high water table at a depth of about 20 inches from fall to spring. Permeability is moderately rapid in the surface layer and subsoil and rapid in the substratum. The available water capacity is moderate and surface runoff is slow. Sudbury soils at this site are nearly level to gently sloping.

Woodbridge soils are loamy moderately well drained soils with a substratum of dense basal till. The Woodbridge soils at this site are nearly level to sloping and are on the side slope of a drumlin. Woodbridge soils have a seasonal high water table at a depth of about 20 inches from fall to spring. Permeability is moderate in the surface layer and subsoil and slow to very slow in the substratum. Woodbridge soils have moderate available water capacity and surface runoff is slow.

Specific concerns about development of each lot relative to the soils present are as follows:

The surface rock outcrops in the front of Lots 1 and 2 may need to be blasted to allow a cellar foundation and driveway. It appears possible to install on-site septic systems into the well-drained Hinckley soil downslope beyond the ledge. Leachate from these systems will inevitably drain to the wetlands and aquifer.

A driveway entering Lots 3 and 4, as shown will require between 10 and 15 feet of fill material. It is important to build up a relatively flat length of driveway at the road to allow visibility over the hood of a car. Due to the road's curve and very limited sight distance in either direction entering the road is dangerous here. It is suggested that Lots 3 and 4 might be made one lot with an entrance drive located at the present boundary of Lots 2 and 3. Visibility is much better here. Final grade lines should be shown on the subdivision plan.

Concerns for driveway entrances and foundation excavations are minimal on Lots 5 and 6. There are several wet spots near the road. It would be wise to use footing drains and grade the yard away from foundations. Driveways should be graded to direct water away from the foundations. A paved bump (or berm) could be installed at the road edge to prevent road runoff from flowing down the drive. Again septic system leachate will drain to the wetland and aquifer.

Lots 7 and 8 are limited by seasonally high water table, low elevation subject to periodic flooding, an 18 inch diameter road culvert entering Lot 7 which provides a steady flow of water across this area, and the need to fill wetlands if developed. Use of these lots for homes is discouraged. Lot 6 might be made larger encompassing Lots 7 and 8.

Lots 9, 10, and 11 front Moosup Pond Road. Original native soils on Lot 9 and a major portion of 10 have been disturbed. As previously mentioned, the boundary of the wet soils has been flagged on the land. Water was seen standing in test pits dug on these lots. It is recommended that building not be allowed within these wetland areas. This low land may be subject to flooding now during severe storms depending on elevation above the brook. If building is allowed on filled material, installation of footing drains and surface graded swales to direct runoff away from a house located lower down the slope is advisable. All final grading at two (2) foot contour intervals should be shown on the subdivision plan.

WATER SUPPLY

Water would be provided to the subdivision by individual on-site wells tapping the bedrock aquifer. Water flows through the bedrock primarily along fractures and parting planes. It is difficult to estimate the yield of a new well, as this depends upon such factors as the distribution of fractures within the bedrock and the total depth of the well. However, based on statistical studies of other bedrock-based wells in the area, it is possible to predict well yield. In the Connecticut Water Resource Bulletin No. 8, it is estimated that 85% of the wells drilled in the Quinebaug River basin and penetrating 100 feet of bedrock could yield 3 gallons per minute or more. This yield should adequately supply enough water for the average home.

Each well should be located on a relatively high portion of each lot, and properly separated from all sources of pollutions, i.e., septic systems, fuel storage tanks, etc. Also, it should be located in a direction opposite the expected direction of ground water movement. While the minimum separating distrance from a sewage disposal system is 75 feet, a greater distance, however, would normally provide additional protection for a well.

Water quality in this area could be effected by iron and manganese. Although objectionable levels of these minerals are not a certainty, it should be recognized that this problem may arise. It should be noted that there are filters available to alleviate such problems. Should the property owner/developer have questions regarding ground water quantity or quality, they may be advised to contact owners of drilled wells in the area around this proposed subdivision.

WASTE DISPOSAL

Sewage disposal for the proposed subdivision would be handled through on-site subsurface sewage disposal systems.

Based on visual observations, soil service mapping data and on-site test findings of the Northeast District Department of Health, it is apparent that a considerable portion of the overall property is unsuitable or marginally suited for sewage disposal purposes. However, for those lots proposed along Green Hollow Road, with the exception of several lots at the south end where possible

useable area is too restricted due to encroachment of wetlands and an entering stream from across the road, there appears to be sufficient area to locate possible sewage systems in the better drained soils above the wetlands. Areas would more or less be limited as to what could actually be utilized and possibly the depth or type of system installed. It is understood a minimum distance of 50 feet is to be maintained from the wetlands. Due to sloping terrain, elevated seasonal ground water conditions and the type of soils it appears desirable to keep systems shallow and spread out along the hillside or contours. Engineered systems would be recommended.

The area or lots proposed for Moosup Pond Road appears to be particularly difficult or poor because of site changes, a severe high ground water condition and soils with apparently slow seepage. This area should have further engineering study and evaluation. Preventing or controlling ground or surface water from draining into the area (or lots) from the higher terrain should be considered. Due to the apparent hydraulic limitations there is concern that leaching systems located in this area would become saturated and overloaded, particularly during the wet season of the year, and could fail. It is possible that 3 lots in this area would not be feasible. Appropriate soil erosion and sedimentation control methods should be included for protection of wetlands, stream(s) or drainageways.

PLANNING CONCERNS

The proposed 11-lot subdivision raises many planning concerns which should be addressed by the developer.

Lots 1 through 4 front on a curved section of Green Hollow Road, with poor sight lines in both directions. Traffic has been observed to move through the area of the proposed subdivision at higher-than-posted rates of speed. Motorists entering or exiting the proposed driveways for lots 1-4 would encounter hazards from Green Hollow Road traffic. Location changes for driveways on Lots 3 and 4 could alleviate problems for cars entering Green Hollow Road. If the driveway on Lot 3 was moved to the northern most portion of its Green Hollow Road frontage and if the driveway on Lot 4 was moved to the southern most part of its frontage, line of sight for the driver entering the roadway would be significantly improved.

Sites 7 and 8 appear to be unbuildable because of the extremely limited amount of soils acceptable for septic system installation. Setback and separating distances between septic systems, wells and wetlands would most likely not be obtainable.

Lots 9, 10, and 11 are of concern because of the extremely shallow depth to the water table caused by removal of sand and gravel from the site. The entire site is underlain by an aquifer and all proposed lots are in a primary recharge area. Lots 1-8 have overlying deposits which can filter septic system effluent and runoff containing other harmful ingredients such as lawn fertilizer and insecticide before it gets into the aquifer. Lots 9 and 10 no longer have this protective covering, and lot 11 has no covering on part of the lot.

Plainfield has an aquifer protection regulation in its zoning ordinance and the proposed lots are in the aquifer protection zone. However, the aquifer protection ordiance does not address a situation such as occurs with lots 9-11, where the overlying material has been stripped and the aquifer is essentially at the surface. The lots meet the requirements of the aquifer protection regulation

as it currently exists, yet there is a very real potential for some contamination of the aquifer if these lots are developed. The Planning & Zoning Commission may wish to consider amending the aquifer protection regulation to encompass such situations.

According to the Town's aquifer protection zoning regulation, the developer must submit a site plan which shall be subject to review by the Planning & Zoning Commission (Article 2.5 of Plainfield Zoning Regulations). The regulation also states that, "the Planning and Zoning Commission shall take into account during its review of an application the public health, safety, and welfare of the general public and may prescribe reasonable conditions and safeguards to ensure that the quality of ground water will not be adversely affected".

The subdivision site is zoned RA-60. All lots as proposed conform to this 60,000 square foot requirement.

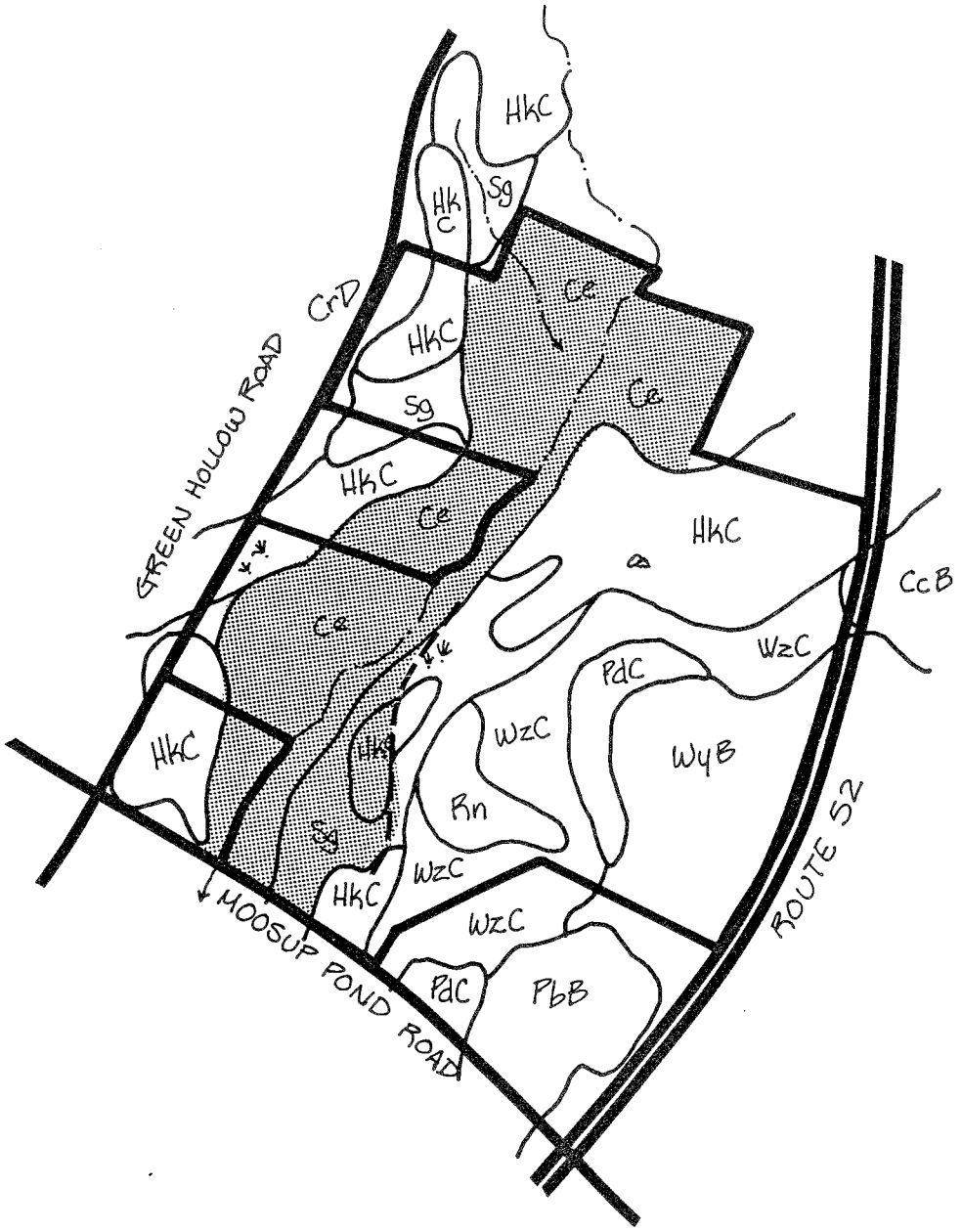
Appendix

Soils

0 660'
scale

N

* Soil boundary lines approximate, adapted from Soil Survey of Windham County, Connecticut; December 1981, USDA, SCS.



——— Revised wetland boundary in area of excavation inspected.

C. W. CORSON SUBDIVISION
GREEN HOLLOW ROAD AND MOOSUP POND ROAD
PLAINFIELD, CONN.

Principal Limitations and Ratings of Soils for: Residential Development

SOIL MAP SYMBOL AND SOIL NAME	DWELLINGS WITHOUT BASEMENTS	DWELLINGS WITH BASEMENTS	LAWNS AND LANDSCAPING	SEPTIC TANK ABSORPTION FIELDS	LOCAL ROADS AND STREETS
*Ce - Carlisle	Severe-ponding, low strength	Severe-ponding, low strength	Severe-ponding, excess humus	Severe-ponding, percs slowly	Severe-ponding, frost action
CrD - Charlton	Severe-slope	Severe-slope	Severe-slope	Severe-slope	Deep to water
Hollis	Severe-slope, depth to rock	Severe-slope, depth to rock	Severe-slope, thin layer	Severe-slope, depth to rock	Deep to water
HkC - Hinckley	Moderate-slope	Moderate-slope	Severe-small stones,droughty	Severe-poor filter	Deep to water
PdC - Paxton	Moderate-slope, wetness	Moderate-slope, wetness	Moderate-slope, large stones	Severe-percs slowly	Deep to water
*Rn - Ridgebury	Severe-wetness	Severe-wetness	Severe-wetness	Severe-wetness, percs slowly	Percs slowly, frost action
Leicester	Severe-wetness	Severe-wetness	Severe-wetness	Severe-wetness	Frost action
Whitman	Severe-ponding	Severe-ponding	Severe-ponding, large stones	Severe-percs slowly,ponding	Percs slowly, frost action
#Sg - Sudbury	Moderate-wetness	Severe-wetness	Slight	Severe-wetness, poor filter	Cutbanks cave
WyB - Woodbridge	Moderate-wetness	Severe-wetness	Moderate-large stones,wetness	Severe-percs slowly,wetness	Percs slowly, slope,frost action
WzC - Woodbridge	Moderate-slope, wetness	Severe-wetness	Moderate-slope, large stones, wetness	Severe-percs slowly,wetness	Percs slowly, slope,frost action

*Designated wetland soil by Public Act 155
#Prime farmland soil

SOIL INTERPRETATIONS FOR URBAN USES

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

The user is cautioned that the suitability ratings, degree of limitations and other interpretations are based on the typical soil in each mapping unit. At any given point the actual conditions may differ from the information presented here because of the inclusion of other soils which were impractical to map separately at the scale of mapping used. On site investigations are suggested where the proposed soil use involves heavy loads, deep excavations, or high cost. Limitations, even though severe, do not always preclude the use of land for development. If economics permit greater expenditures for land development and the intended land use is consistant 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 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 activitis. To date, the ERT has been involved in reviewing a wide range of projects including subdivisions, sanitary landfills, commercial and industrial developments, sand and gravel operations, elderly housing, recreation/open space projects, watershed studies and resource inventories.

Reviews are conducted in the interest of providing information and analysis that will assist towns and developers in environmentally sound decision-making. This is done through identifying the natural resource base of the project site and highlighting opportunities and limitations for the proposed land use.

REQUESTING A REVIEW

Environmental reviews may be requested by the chief elected officials of a municipality or the chairman of town commissions such as planning and zoning, conservation, inland wetlands, parks and recreation or economic development. Requests should be directed to the Chairman of your local Soil and Water Conservation District. This request letter should include a summary of the proposed project, a location map of the project site, written permission from the landowner allowing the Team to enter the property for purposes of review, and a statement identifying the specific areas of concern the Team should address. When this request is approved by the local Soil and Water Conservation District and the Eastern Connecticut RC&D Executive Council, the Team will undertake the review on a priority basis.

For additional information regarding the Environmental Review Team, please contact Jeanne Shelburn (774-1253), Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, P.O. Box 198, Brooklyn, Connecticut 06234.

VEGETATION

The parcel may be divided into four vegetation types. These include 41± acres of old fields, hardwood swamps of 27± acres, 9± acres of mixed hardwoods and 4± acres of agricultural fields.

Vegetation Type Descriptions

Type A. Covering 41± acres, these old fields are variably stocked with seedling to pole-size red maple, white ash, black oak, scarlet oak, aspen, grey birch, apple and eastern red cedar. Shrubs include barberry, bayberry, sumac, raspberry, blackberry and multiflora rose. Ground cover consists of goldenrod and various grasses. White pine and silky dogwood are found in the wetter areas along with club moss and sphagnum moss.

In some areas, the red cedar has been recently harvested for posts and poles.

Type B. A variably stocked hardwood swamp/streambelt, this stand of 27 acres contains pole to small sawtimber size red maple and occasional American elm. The trees in this area are poor in quality. A moderately dense understory is formed by swamp algae, sweet pepperbush and spicebush. A ground cover of sedges, cattails, blue flag iris, skunk cabbage and sphagnum moss exists.

Type C. This 9± acre overstocked mixed hardwood stand consists of low to medium quality pole-sized trees with scattered trees of sawtimber-size present. Species found include red maple, black oak, scarlet oak, eastern red cedar and white pine. Barberry and swamp azalea form the understory. The ground cover is various mosses and ferns.

Care should be taken during the construction period not to disturb the trees that are to be retained for their aesthetic value. In general, healthy high vigor trees should be favored for retention as they are usually more resistant to the environmental stresses brought about by construction.

Trees are very sensitive to the condition of the soil within the entire area under their crowns. The site conditions present within lots 1 - 8 may necessitate filling and grading for construction of driveways, septic systems and buildings. These practices may disturb the balance between soil aeration, soil moisture level and soil composition. These disturbances may also cause a decline in tree health and vigor, potentially resulting in tree mortality within 3 to 5 years. Mechanical injury to trees may produce the same results. Dead trees reduce the aesthetic quality of an area and may become hazardous and expensive to remove if near driveways, buildings or utility lines.

The poorly drained and saturated soils which are present in the hardwood swamp areas limit not only the potential for tree growth and quality but also

the ability to effectively manage these areas. The red maple and American elm are able to tolerate the excessive moisture levels which are present, but however, under these conditions, the trees are generally slow growing and of poor quality.

The loss of trees to windthrow in the hardwood swamp areas represents a potential hazard. The saturated soils which are present result in the development of shallow root systems which are unable to securely anchor trees. The crowded condition may also aggravate this hazard as the trees now rely on each other for stability. Heavy thinning operations and clearing in or along side of these areas may increase the windthrow potential by allowing the wind to pass through rather than over these areas. Disturbances in or near these areas should be kept to a minimum.

The trees which are present in Vegetation Type C (Mixed Hardwoods) and parts of Vegetation Type B (Hardwood Swamp) are declining in health and vigor as a result of their crowded condition. Periodic fuelwood thinnings that are focused on the removal of the poorest quality trees in the overstory, removing no more than ¼ of the total cordwood volume, will reduce the crowded condition enough to allow the residual trees to respond with improved health, vigor and stability.

To avoid irreversible soil damage, due to the high soil moisture level, thinning operations in these stands should only be implemented during the winter months when the ground is frozen or the summer months when the ground is dry. Many portions of Vegetation Type C will be inoperable to conventional harvesting equipment.

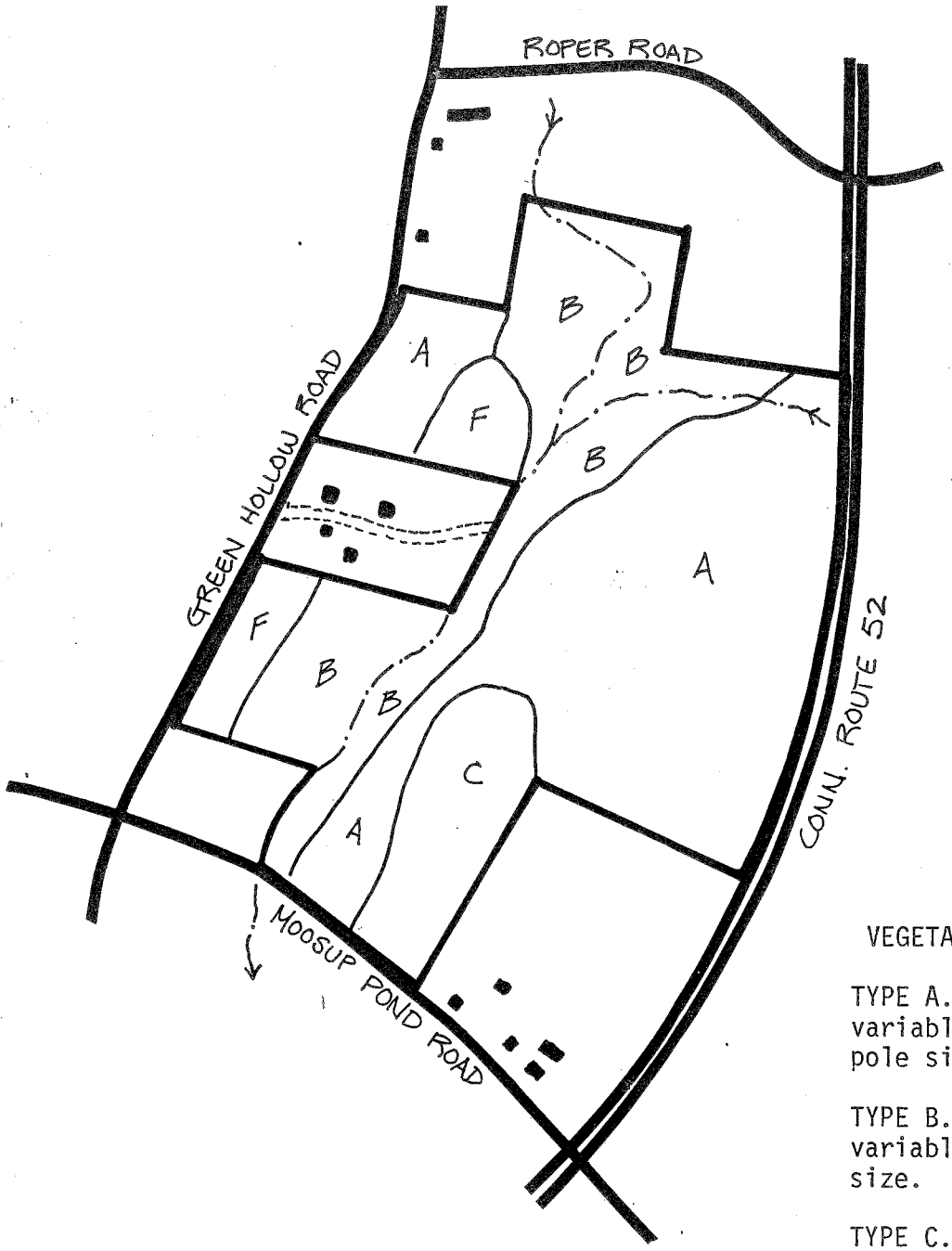
The open areas of Vegetation Type A (Old Field) could be planted to conifer species to improve the aesthetic quality of the area, improve cover conditions for wildlife and eventually provide a potential sawtimber crop. Conifers such as eastern white pine, hemlock, Norway spruce or larch could be planted. The trees should be planted in a random mixture at a spacing of 8 to 12 feet apart. They will not require intensive management, however, some initial grass and weed control may be necessary.

A public service forester or private forester should be contacted to help implement the suggested thinnings and plantings if desired.

Vegetation

0 660
scale

N



LEGEND

- Road
- Property Boundary
- Vegetation Type Boundary
- Stream
- F Agricultural Fields

VEGETATION TYPE DESCRIPTIONS*

TYPE A. Old field, 41± acres variably stocked, seedling to pole size.

TYPE B. Hardwood swamp, 27± acres, variably stocked, pole to sawtimber size.

TYPE C. Mixed hardwoods 9± acres, over-stocked, pole size with scattered sawtimber.

*Seedling size= Trees less than 1" diameter 4.5 feet above ground level (DBH).
Sapling Size= Trees 1 to 5 inches DBH.
Pole Size= Trees 5 to 11 inches DBH.
Sawtimber Size= Trees 11 inches DBH and larger.