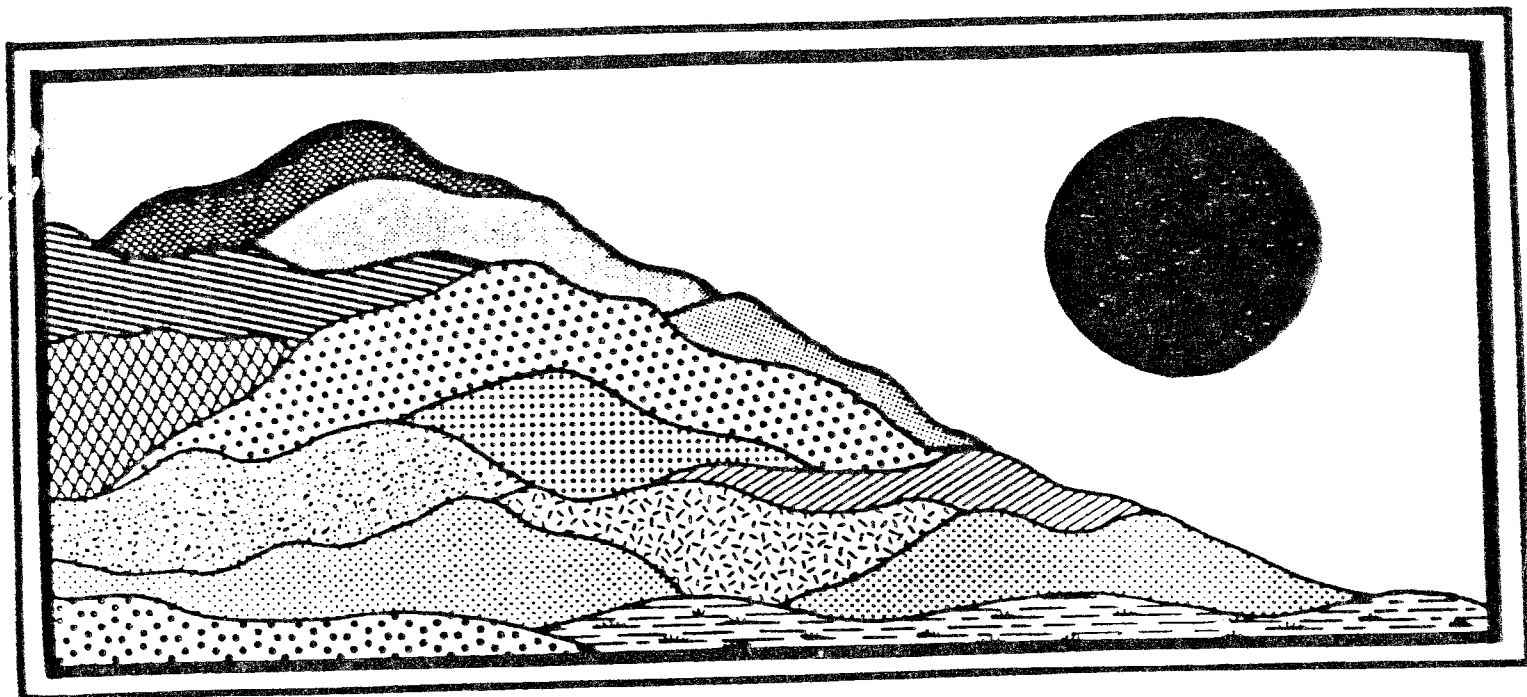


Miki Block Subdivision

Coventry, Connecticut

February 1986



ENVIRONMENTAL

REVIEW TEAM

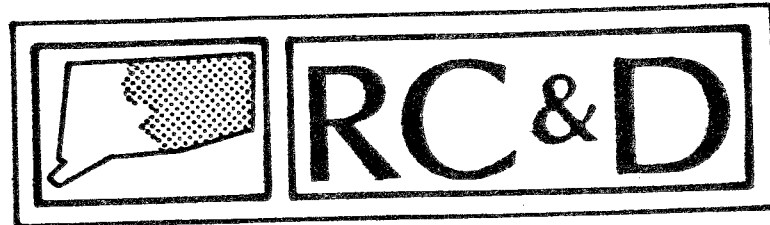
REPORT

Miki Block Subdivision

Coventry, Connecticut

Review Date: JANUARY 7, 1986

Report Date: FEBRUARY 1986

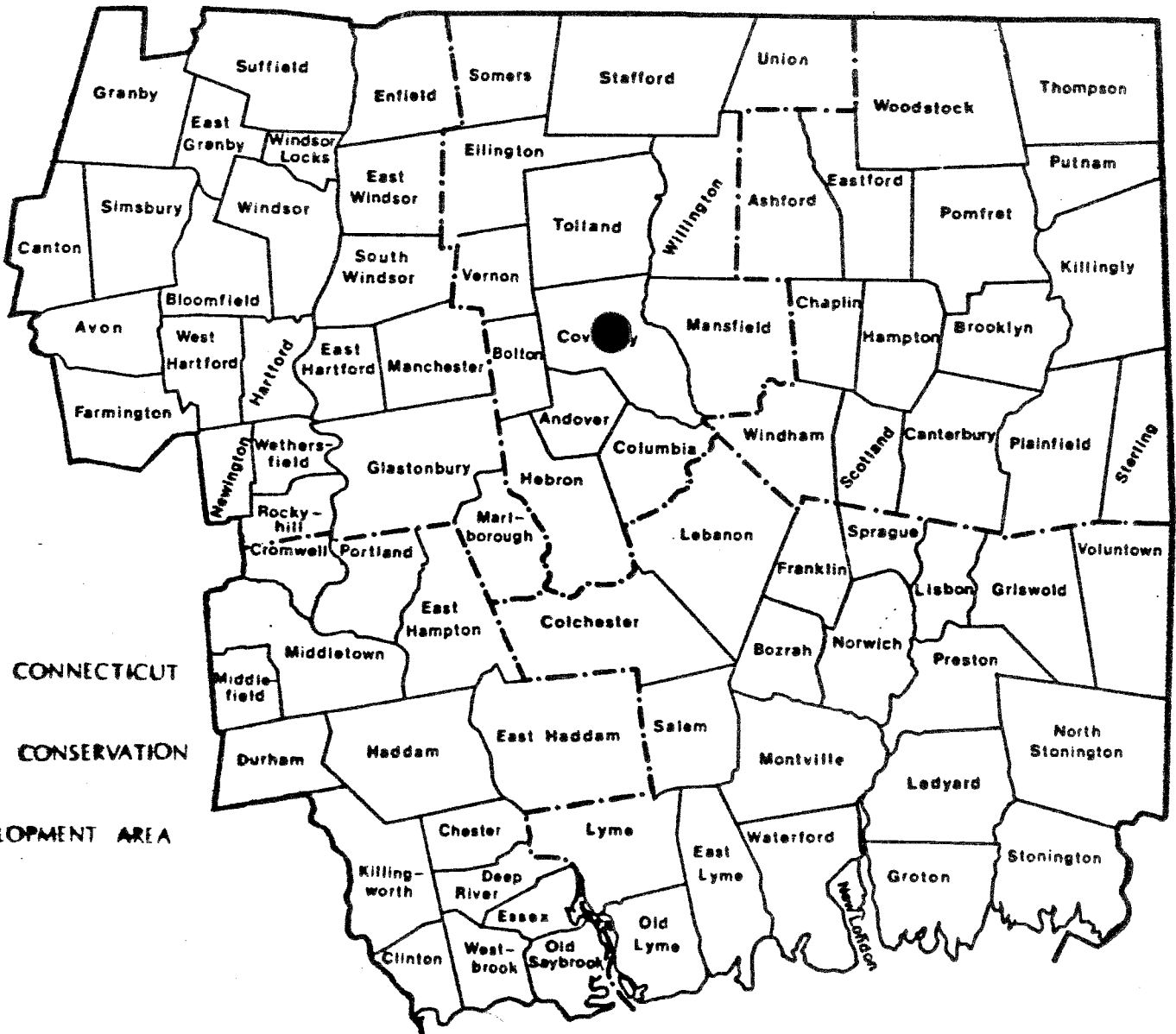
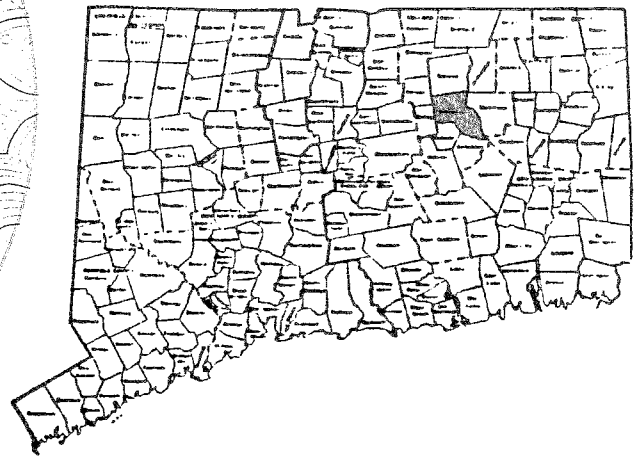
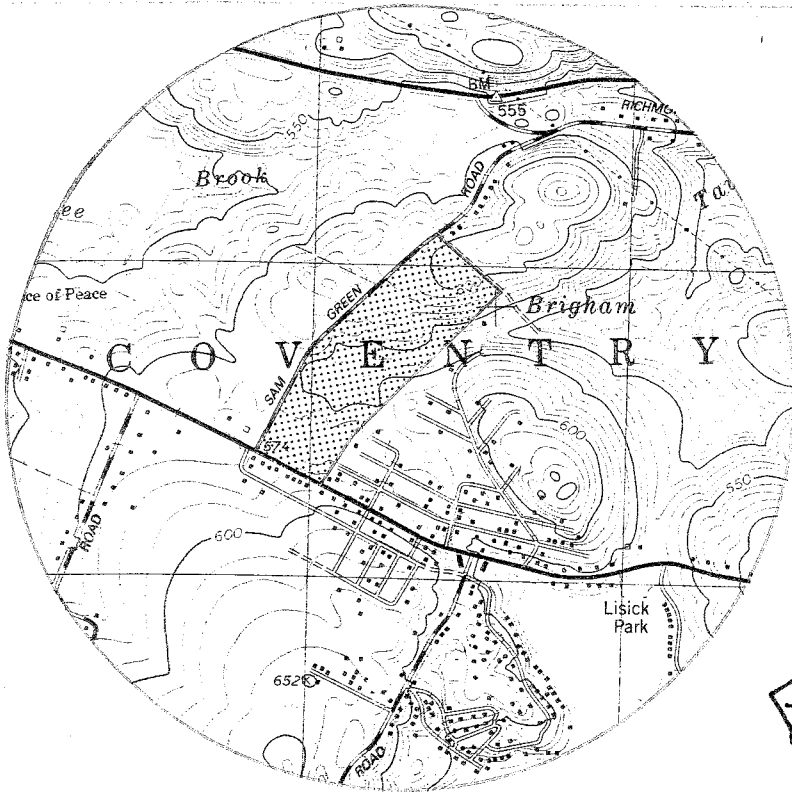


ENVIRONMENTAL REVIEW TEAM
PO BOX 198
BROOKLYN, CONNECTICUT 06234

Site Location

MIKI BLOCK SUBDIVISION

COVENTRY, CONNECTICUT



EASTERN CONNECTICUT
 RESOURCE CONSERVATION
 & DEVELOPMENT AREA

ENVIRONMENTAL REVIEW TEAM REPORT
ON
THE MIKI BLOCK SUBDIVISION
ROUTE 31 & SAM GREEN ROAD
COVENTRY, CONNECTICUT

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

The ERT met and field checked the site on Tuesday, January 7, 1986. Team members participating on this review included:

Don Capellaro	-	Sanitarian - CT Department of Health
Alan Page	-	Soil Conservationist - U.S.D.A., Soil Conservation Service
Meg Reich	-	Regional Planner - Windham Regional Planning Agency
Alfred Roberts	-	Soil Resource Specialist - U.S.D.A., Soil Conservation Service
Eric Schluntz	-	Fisheries Biologist - Department of Environmental Protection
Elaine Sych	-	ERT Coordinator - Eastern CT RC&D Area
Bill Warzecha	-	Geologist - DEP, Natural Resources Center

Prior to the review day, each team member received a summary of the proposed project, a list of the Town's concerns, a location map and a soils map. Available on the day of review were a large scale topographic map and subdivision plans. The Team met with and were accompanied by the Town Planner and the engineer for the subdivision. Following the review, reports from each team member were submitted to the ERT Coordinator for compilation and editing into this final report.

This report represents the Team's findings. It is not meant to compete with private consultants by providing site designs or detailed solutions to development problems. The Team does not recommend what final action should be taken on a proposed project -- all final decisions and conclusions rest with the Town and landowner. This report identifies the existing resource base and evaluates its significance to future development and changes, and also suggests considerations that should be of concern to the Town and the developer. The results of this team action are oriented toward the development of better environmental quality and the long term economics of land use.

The Eastern Connecticut Resource Conservation and Development Area hopes you will find this report of value and assistance in making your decision concerning this subdivision.

If you require any additional information, please contact: Elaine A. Sych, ERT Coordinator, Eastern Connecticut RC&D Area, P.O. Box 198, Brooklyn, CT 06234, (203) 774-1253.

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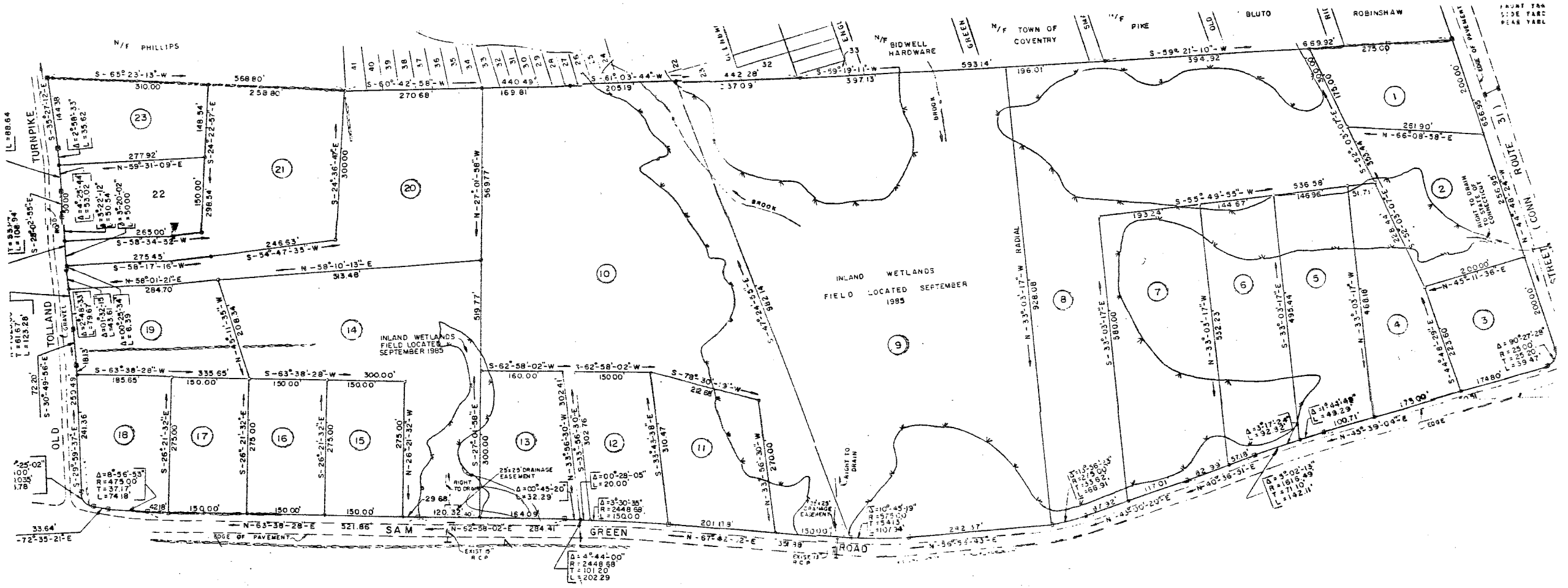
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SUBDIVISION PLAN FOR MIKI BLOCK

Not To Scale

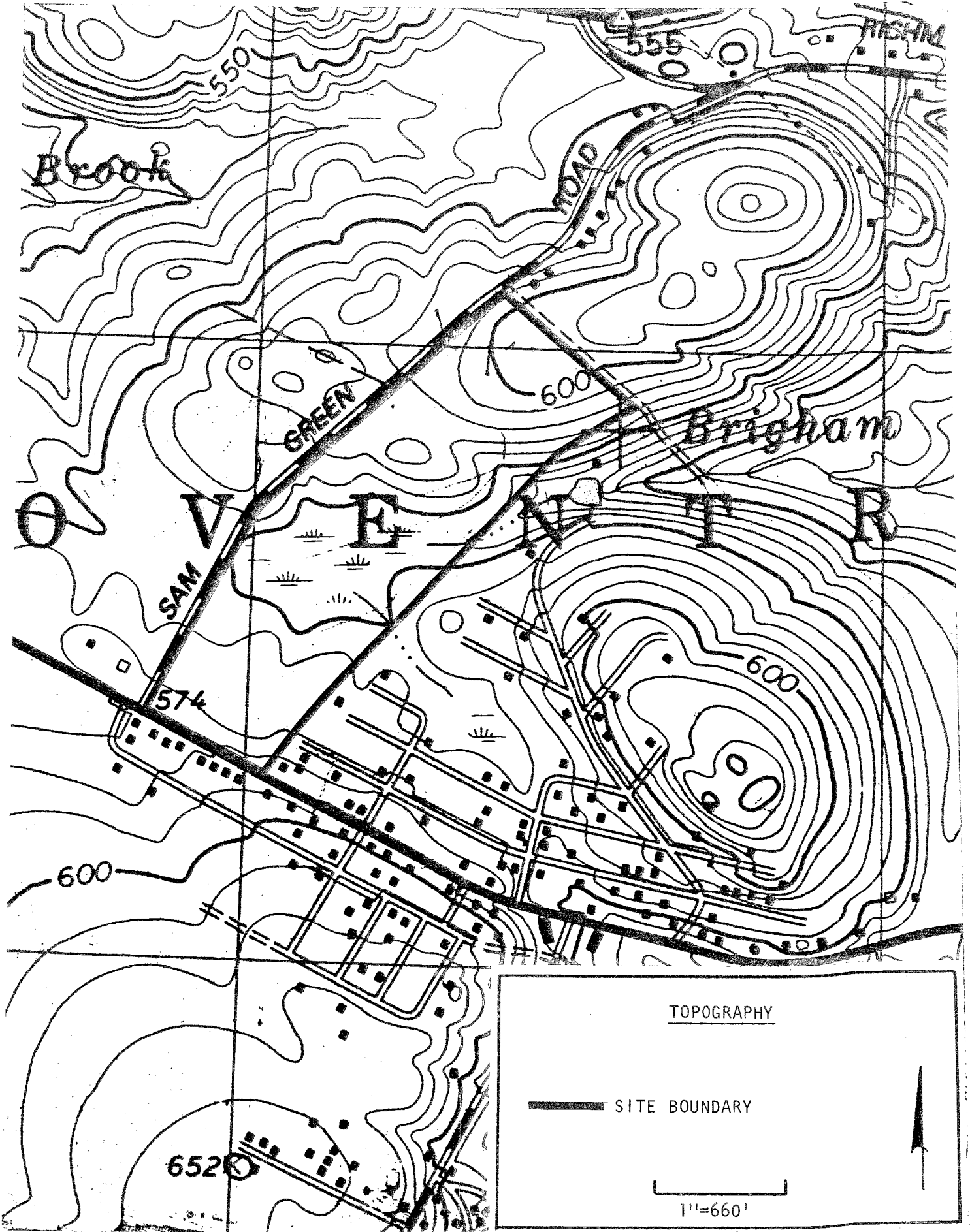


I. INTRODUCTION

The Coventry Planning and Zoning Commission asked for Environmental Review Team assistance in reviewing a proposed twenty-three (23) lot subdivision.

The property consists of approximately fifty-five (55) acres located west of Coventry Lake between Main Street (Route 31), Sam Green Road and Old Tolland Turnpike. Subdivision plans have been prepared by Holmes and Henry Associates for twenty-three (23) lots having a minimum lot size of 40,000 square feet. In all cases lots exceed this size, from slight to considerable amounts. However, in some cases where the lots are quite large, buildable area is restricted due to the presence of extensive wetlands. Most of the lots would be located along Sam Green Road with three (3) lots having frontage on Main Street and six (6) having frontage on or from Old Tolland Turnpike. The parcel is mostly wooded with an open area behind several of the front lots on Route 31 and extending to a wetlands area. The chief feature of the property is the extensive wetlands area having a defined watercourse(s) which lies in the middle part of the property. Several fingers of the wetlands also extend from the main area toward Route 31 where a watercourse enters the central extension. The area north east of the large wetlands to the Old Tolland Turnpike consists of higher, more rolling terrain. A limited wetland area off Sam Green Road projects into this section.

The Team has addressed a number of concerns which are contained in the following sections. Information, comments and recommendations are discussed and explained in the body of the report. The summary contains brief highlights from each section, and the appendix contains traffic counts for Sam Green Road.



II. TOPOGRAPHY AND SETTING

The ±55 acre subdivision site which is northwest of Coventry Lake, is located in the southeast corner of Town. It is nearly rectangular in shape and is bounded on the north by Old Tolland Turnpike, on the west by Sam Green Road and Route 31 (Main Street) on the south. The land is presently undeveloped and is mostly blanketed with a woodland cover. There is an open area in the southern parts. The presence of stonewalls transecting the parcel indicates the land has a history of agricultural use. Land surface within the parcel slopes generally to the wetland and/or its outlet stream in the central parts. The majority of slopes on the site range from relatively flat to moderate. The moderate slopes flank the east side of the upland parts of the site in the northern section. Maximum and minimum elevations on the site are about 600 feet and 550 feet above mean sea level, respectively.

III. GEOLOGY

There are presently no published bedrock or surficial geologic maps for the South Coventry topographic quadrangle, in which the site lies. However, there is preliminary surficial and bedrock geologic information available for review purposes on file at DEP's Natural Resource Center in Hartford for the quadrangle. It should be pointed out that the Team's geologist referenced the Soil Survey - Tolland County for the surficial geology part of the report. The bedrock geology for the South Coventry quadrangle which includes the subdivision site is described by Fahey and Pease.¹ The bedrock underlying the site is comprised mainly of the Southbridge Formation. Fahey and Pease identify these rocks as mostly medium-grained, light gray to greenish gray schists composed of the minerals quartz, plagioclase and biotite. This rock unit also contains layerings of light-gray, medium-grained flaggy gneiss composed of the mineral quartz and plagioclase and trace amounts of calc-silicate minerals, mainly diopside and green amphibole.

A subunit within the Southbridge Formation bisects the southcentral parts of the site as an east-west belt. Fahey and Pease describe these rocks as a calc-silicate gneiss composed mainly of the minerals quartz, plagioclase, diopside, green hornblende and calcite which is interlayered with minor amounts of biotite schist. The terms "schist" and "gneisses" mentioned above refer to rocks that are common in the upland areas of eastern and western Connecticut. These rocks are crystalline metamorphic rocks (rocks geologically deformed by great heat and pressure), which have been complexly folded and subsequently cut by faults, which caused cracks and fractures to appear in the rocks. Faults are cracks in rock where movement has occurred.

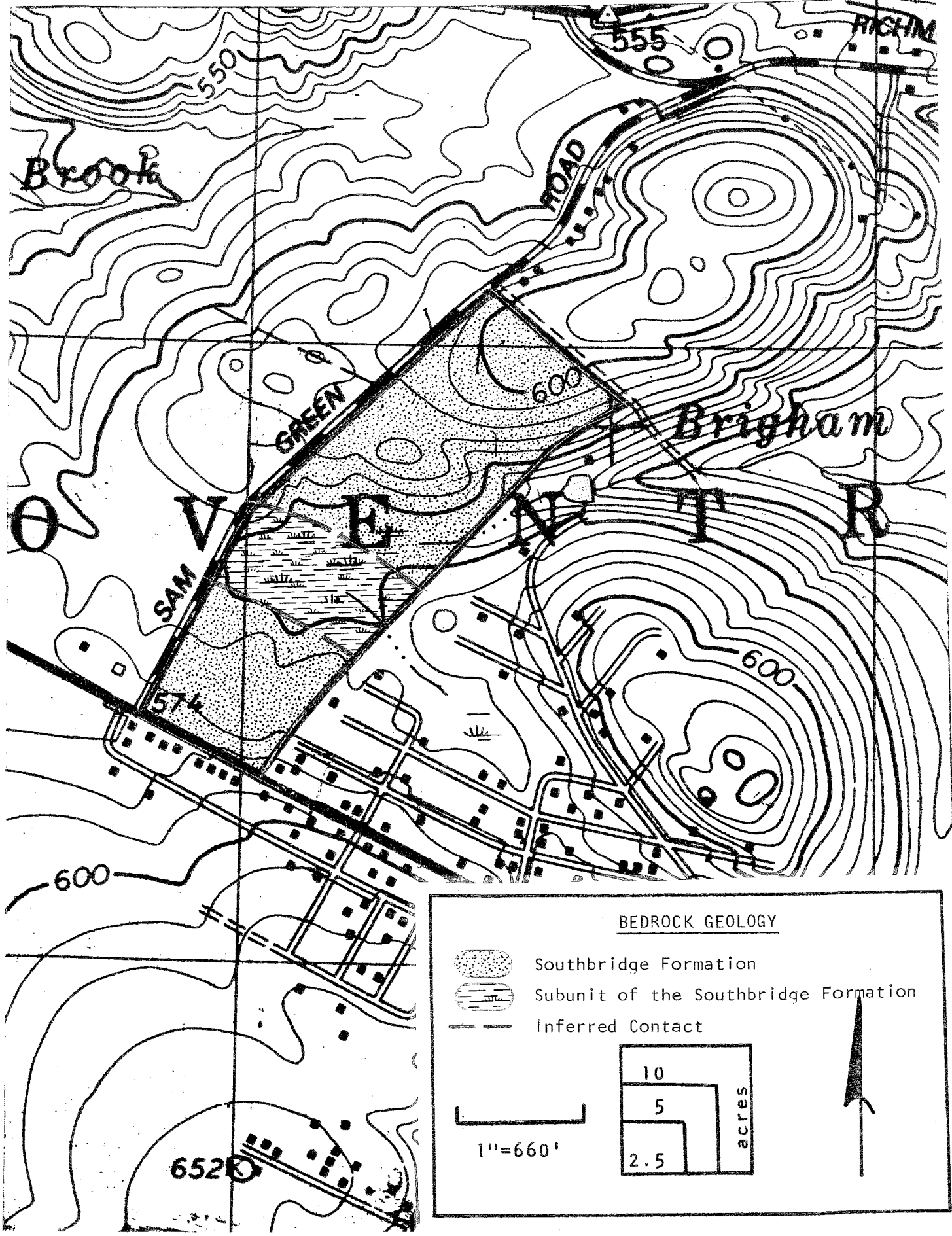
Based on the deep test hole information on sheet 3 of subdivision plan (dated 11/18/85, prepared by Holmes and Henry Associates), ledgerrock was not encountered in any of the 56 test pits excavated throughout the site. All of the test pits were excavated to a depth of about 84" or 7 feet. A log of a drilled well service 5 homes north of the intersection of Sam Green Road and Old Tolland Turnpike suggests that the till is about 20 feet thick in this area. The exact depth of the till elsewhere on the site is unknown, but it is probably is about 10 feet in most places except perhaps for some deeper pockets where it may range between 10 and 20 feet.

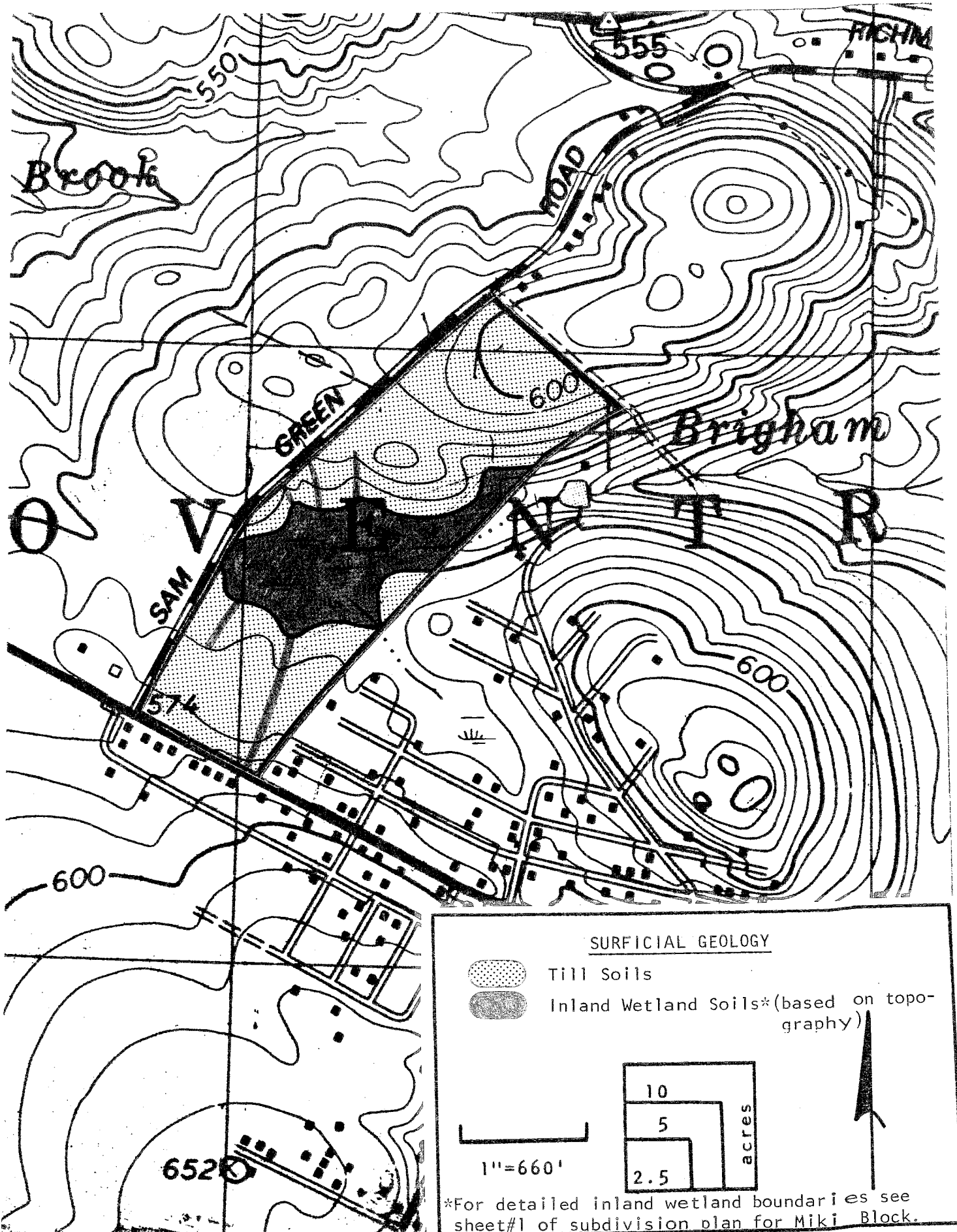
The proposed subdivision site is covered by a blanket of glacial sediment called till. Till is an unsorted accumulation of ground up fragments and particles that were plastered directly onto the ground by glacial ice. The till on the site is composed of boulders, pebbles, silt, sand, and clay particles that were derived from nearby bedrock (i.e., gneisses and schist). Because of differences in source areas for the particles and because of differences in modes of deposition, the texture of the till is highly variable. It may vary from

¹Preliminary Bedrock Geologic Map of the South Coventry Quadrangle, Tolland County, Connecticut by Richard J. Fahey and Maurice M. Pease, Jr., 1977.

sandy, stony and relatively loose, to silty, nonstony and compact. The compact layers are generally encountered at some depth below the looser variety. Based on the deep test pit information supplied by the project engineer, the site contains both types of till. It appears the sandier variety was encountered mostly in the northern parts. As is common in much of eastern Connecticut, numerous surface cobbles and boulders are conspicuous and provided the material for the construction of stone fences.

Overlying the till in the central parts is an east-west trending band of seasonally wet soils. They occupy the low-lying areas on the site. This area is delineated on the accompanying soils map as Lg, and are classified as inland-wetland soils in Connecticut. As a result, they are regulated under Public Act 155. Any activity which involves modification, filling, removal of soils, etc., will require a permit and ultimate approval by the Town's Inland-Wetland Commission. This wetland area has at least some ability to reduce runoff and control water quality. For this reason, it is recommended that inland-wetland soils on the site not be disturbed.





IV. GEOLOGIC DEVELOPMENT CONCERNS

Team members were informed on the review day that homes in the proposed subdivision would be serviced by individual subsurface sewage disposal systems and on-site wells.

Subsurface exploration of the proposed subdivision has been conducted by Holmes and Henry Associates. According to the subdivision plan (sheet 3), this work involved the excavating of 56 deep test pits throughout the parcel, all of which were 7 feet deep. Nearly 90 percent of the test holes excavated encountered groundwater at relatively shallow depths (less than 36") or shallow mottling lines, which is also an indicator of seasonally high groundwater levels. Based on soils information, the elevated water level is probably a perched water table resulting from the relatively low permeability of the deeper soil zones. The State Public Health Code indicates that where the maximum groundwater is less than three feet below ground surface, the lot is considered an area of special concern in terms of subsurface sewage disposal.

Based on the soils information, it appears that nearly all the lots will require engineered septic systems because of the seasonally high groundwater levels. It seems likely that filled and raised systems would be required on lots with these subsurface conditions. Depending upon the slope of particular lot and subsurface conditions, curtain drains may also be installed to help protect septic systems from seasonal high water tables. It should be pointed out that soil testing was conducted during the month of September and early October. Because the testing was conducted during the dry time of year (in terms of precipitation), it is recommended that the shallowest indicator of groundwater, whether the actual groundwater table or mottling line, be used for design purposes for engineered septic systems. On some of the lots which were wetter, consideration should be given to reinvestigating groundwater levels during the wet time of year (spring) before designing. Also, percolation tests which are not indicated on the subdivision plans will need to be run on each lot.

The Team's Geologist has reservations with regard to the present layout of septic systems and house locations serving lots 1 and 2. Present plans show septic systems located in the front part of the lots at a higher elevation than the proposed house. On-site wells, which are not indicated on the plans, would need to be located to the rear of the property in order to meet Public Health Code separating distances. (As noted earlier, proposed well locations should be shown on the final subdivision plans.) Best planning practices would be to locate a well upgradient from a septic system(s). In this particular area (lots 1 and 2), it seems likely that a better arrangement would be to locate the house closer to the road, at a higher elevation on the lot, and to locate the leaching system (primary and reserve areas) off to the side of the house, and properly locate the well on the opposite side of the lot. Using this arrangement, the well, septic system and house could take advantage of higher ground and ultimately better subsurface conditions. However, it appears

that in order to use this arrangement, lots 1 and 2 would have to be combined, particularly in view of the Town's 75 foot separating distance requirement from inland-wetland areas, as well as other required Public Health Code separating distances. Also, based on visual observations, it appears that development of lot 9 (the front portion along Sam Green Road) will be difficult due to the presence of inland-setland soils, which require a 75 foot setback. This will significantly limit the suitable area for development, i.e., house, well, and septic system on this lot.

A final possible geologic limitation are moderate slopes in the eastern parts. They may be a hindrance for heavy equipment, installing septic systems, and house foundations. Also, because most the lots are wet, it is recommended that building footing drains be installed when possible. Hopefully, this will protect basements from becoming wet during certain times of year.

V. HYDROLOGY

Nearly all of the surface drainage on the site flows downslope to either the wetlands in the central parts, or to the outlet stream for the wetlands. This stream empties into a small pond just east of the site. There are two outlets for this pond. Some of the water flows eastward and forms the headwaters of Bingham Tavern Brook, a tributary to the Willimantic River. The other outlet consists of a man-made canal which routes the water directly to Coventry Lake. It should be pointed out that the canal has been obstructed between the Pond and the Lake. Surface runoff from a very small, northwest corner of the subdivision site appears to flow northward to Lee Brook, which is a tributary to Skungamaug River.

The subdivision of the property as planned, followed by the construction of new homes, driveways, interior road systems, etc., will lead to some increases in runoff from the property. Ordinarily, the Team geologist would recommend that consideration be given to measures that would mitigate the effects of these increases (e.g., a stormwater detention basin).

In this case, however, the relatively large flat wetland area in the central parts should help detain any increased runoff from the development. In addition, the small pond to the east, which will also ultimately receive drainage from the site, will serve as a natural runoff control basin. Under these circumstances, runoff retention does not seem to be necessary. However, if the Town has an ordinance which requires no increases in the amount of runoff shed from a particular site following development, then the project engineer will need to address this possible concern.

As mentioned earlier, slopes in the eastern parts of the site are moderate. For this reason, every effort should be made to prevent potential erosion and siltation problems, particularly to nearby watercourses and Coventry Lake. In this regard, it is strongly recommended that a comprehensive erosion and sediment control plan be developed covering each stage of the proposed subdivision, since increased runoff from developed areas could cause streambank erosion and gullyng, ultimately causing siltation problems. Disturbed areas should be kept to a minimum under such a plan. The erosion and sediment control measures called for on the plan should be carefully followed and supervised by a competent person.

Town officials on the review day expressed concern with regard to inland-wetland crossings. Based on the subdivision plan submitted to team members on the review day, access drives on at least two lots (depending on desired house location) will need to cross regulated inland-wetland soils. It should be noted that the project engineer indicated on the review day that access to lots 8 and 9, both of which contain substantial wetlands, might be accomplished by town roads, i.e., Glenbrook Trail, Englewood Trail, Smallwood Trail and Old Oak Trail from the east. The exact inland-wetland boundaries on the properties each of the subdivision plan were not made available to team members on the review day. Depending on these boundaries, access to lots 8 and 9 might be

more desirable from the east, thereby causing less or no disturbance to wetlands. Although undesirable, wetland road crossings are feasible provided they are properly engineered. The road should be constructed adequately above the surface elevation of the wetlands. This will allow for better drainage of the road and also decrease the frost heaving potential of the road. Road construction through wetlands should preferably be done during the dry time of the year, and should include provisions for effective erosion and sediment control. Finally, culvert(s) should be properly sized and located so as not to alter the water levels in the wetland or cause flooding problems.

WATERSHED BOUNDARY



Watershed for unnamed, manmade canal which drains most of the property.



Point of outflow.*



Property Boundary



Canal route showing direction of flow.



Direction of surface water flow.



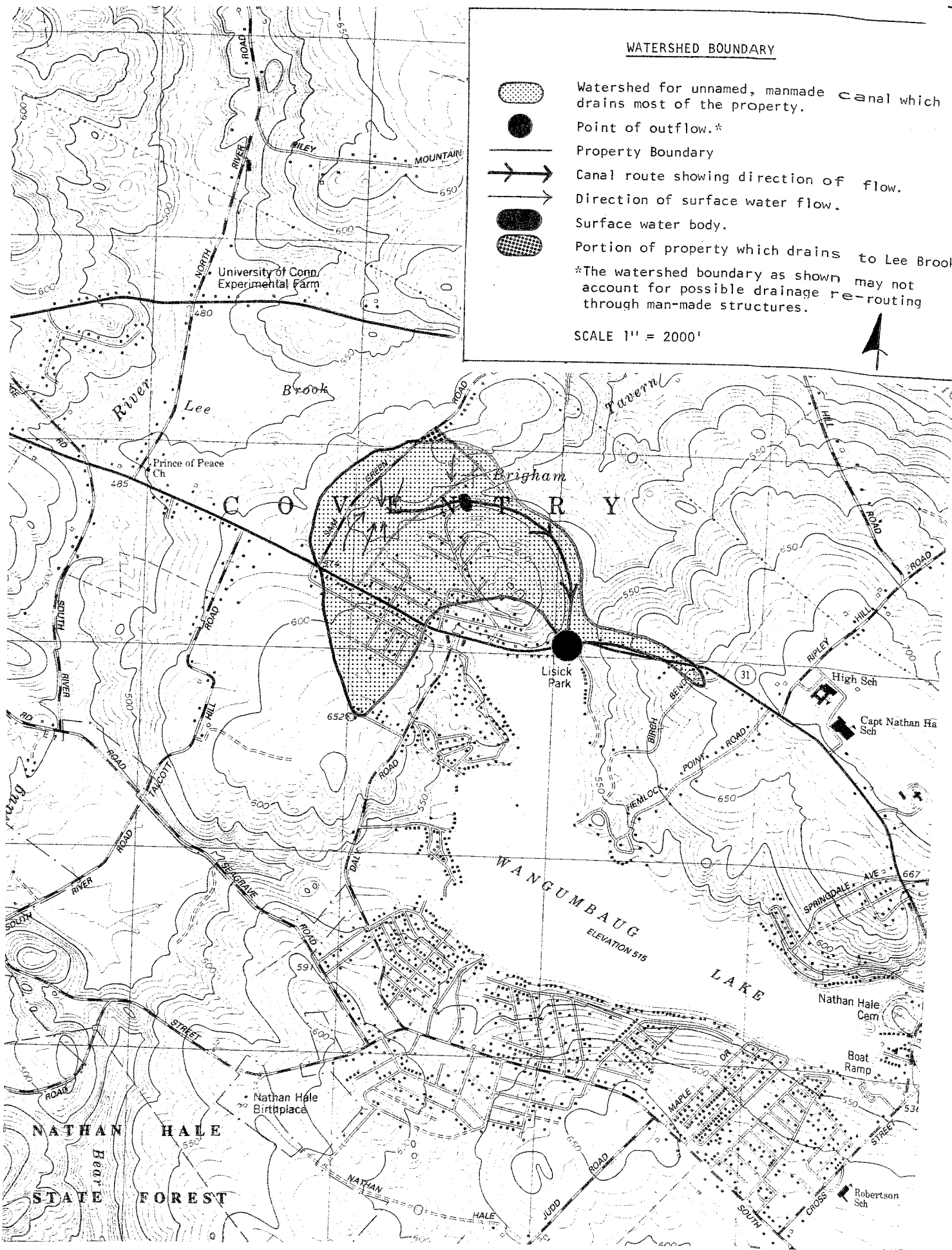
Surface water body.



Portion of property which drains to Lee Brook

*The watershed boundary as shown may not account for possible drainage re-routing through man-made structures.

SCALE 1" = 2000'



VI. WATER SUPPLY

On-site water supply wells have been proposed to serve the subdivisions. Bedrock appears to be the only suitable aquifer for such wells in this area. Water is supplied to bedrock-floored wells chiefly through fractures in the rock. Fractures in the bedrock are mainly a result of the geological forces (folds and faults) described earlier in the report (see Geology section).

Because of the uneven distribution of the fractures, it is very difficult to predict the potential yield from any new well. A yield of at least 3 gpm (gallons per minute) is desirable and is adequate for most household needs. According to Connecticut Water Resources Bulletin #12 (Shetucket River Basin), a 56 (foot) deep drilled bedrock well located at the north corner of Old Tolland Road and Sam Green Road, recorded a yield of 12 gallons per minute. It appears the well serves 5 homes to the north along the east side of Sam Green Road. In a survey of 134 wells in the Shetucket River basin, where the site lies, it was found that about 90 percent shatucket of the bedrock-based wells provided 3 gpm or more (Source: Connecticut Water Resources Bulletin No. 11). According to Water Resources Bulletin No. 11, only a few wells yielded 50 gpm or more, and only a few yielded no water at all.

In addition to potential supply problems, Bulletin No. 11 suggests that moderate levels of iron and manganese may taint the local well water. Hence, water from any new wells should be analyzed for chemical problems and, if necessary, appropriate filtration measures taken. Proposed well site locations for each lot in the subdivision have not been plotted on the subdivision plan. It is advised that the wells be plotted on the subdivision plan in compliance with applicable sections of the State Public Health code (sec. 19-13-B51a to 19-13-B51m, inclusive, Water Supply Wells and sec. 19-13-B103a to 19-13-B103f, inclusive, On-site sewage disposal systems with design flows of 5,000 gallons per day or less and non-discharging toilet systems as it pertains to water supply wells.

In general, wells should be located towards the high side of lots, properly separated from on site sewage disposal systems or other potential sources of pollution such as buried fuel oil tanks or discharges from on site water treatment facilities. They must also have adequate separation from watercourses or drains and be protected from surface drainage, erosion, particularly if wells are of the shallow (dug) type.

In regard to well types, experience has shown, in most cases, that wells of the drilled type will provide for more flexibility in site location, more reliable yield, particularly during prolonged dry periods, and generally greater sanitary protection for the water source. Drilled wells will also usually yield an adequate quantity of water in order to meet the domestic needs from single family residential houses. Wells that tend to have low yields can be compensated by providing additional well depth and water storage tanks having greater capacity.

VII. SEWAGE DISPOSAL

Sewage disposal is to be provided by conventional means of on site subsurface sewage disposal. Based on visual observations, soil service mapping data and review of engineering soil test results, it is apparent that the major concern for on site sewage disposal relates to high ground water conditions particularly along the front portion (Route 31) of the property, lot 8 and lot 9. The land along Route 31 slopes into the property and has evidence of a hardpan layer at a relatively shallow depth. Lot 8 apparently has more of the firm underlying till. Lot 9, a very large lot, seems to be rather limited as to possible buildable and sewage disposal area due to the wetland which covers most of the lot. It is noted that wetlands also extend onto and limit usable areas on several other lots along Sam Green Road. However, in these cases ground water is apparently at a deeper depth and soils tend to be more pervious and better drained.

The Public Health Code requires the bottom area of any type of a subsurface sewage leaching system to be at least 18 inches above maximum ground water level. This criteria can usually be met by the use of ground water control drains and/or proper surface grading and drainage. However, areas which have very high ground water levels (ground water level is less than 18 inches below the surface of the natural ground for a period of one (1) month or longer during the wettest season of the year) must be considered unsuitable for sewage disposal purposes due to the saturated condition of the soil. Under such saturation, the natural soil may fail to adequately absorb or disperse the volume of sewage effluent discharged to it. Elevating systems in fill, under such conditions, is not considered to be an acceptable procedure. This is not to imply that some filling might not be needed provided the level of ground water could be controlled by other means.

For some of the more questionable or marginal lots, monitoring ground water during the spring of the year should be considered in order to observe for maximum ground water levels and bases for a more complete assessment as to the suitability for possible subdivision. Also, apparently there is no actual percolation test information on the soils present.

There is no doubt that a number of the proposed lots would fall into the area of special concern. As such detailed engineered plans for new subsurface sewage disposal would be required for review and possible approval.

In general, it would seem that some modification or reduction of lots in the front portion (Route 31 area) of the subdivision would be desirable given limited area and restrictive site factors.

VIII. SOILS

Soil series identified on this 55-acre tract are:

MAP SYMBOL	SOIL NAME
GeC	Canton and Charlton fine sandy loam, 3 to 15 percent slopes, extremely stony
CaB	Canton and Charlton fine sandy loam, 3 to 8 percent slopes
Lg	Ridgebury, Leicester, and Whitman fine sandy loam, extremely stony
SxA & SxB	Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony
WyB	Woodbridge fine sandy loam, 2 to 8 percent slopes, very stony
WzC	Woodbridge fine sandy loam, 2 to 15 percent slopes, extremely stony

The soil symbols listed above are as they appear in the published soil survey of Tolland County. The soil names listed are as these areas are currently interpreted.

CaB - Canton and Charlton fine sandy loams, 3 to 8 percent slopes. This unit consists of gently sloping, well drained soils on ridges, hills, and side slopes of glacial till uplands. The areas are mostly rectangular or irregular in shape. Slopes are generally smooth and convex and 200 to 400 feet long. About 45 percent of this unit is Canton soils, 40 percent is Charlton soils, and 15 percent is other soils. In some areas, this unit will consist almost entirely of Canton soils or almost entirely of Charlton soils. The soils were mapped together because they have no significant differences in use and management.

Included with these soils in mapping are small areas of somewhat excessively drained Gloucester and Hollis soils, well drained Paxton soils, and moderately well drained Sutton soils. Also included are a few nearly level areas and a few areas that have a compact substratum at a depth of 40 to 50 inches.

The water table in these soils is commonly at a depth of more than six feet. The permeability of the Canton soils is moderately rapid in the surface layer and subsoil and rapid in the substratum. The permeability of the Charlton soils is moderate or moderately rapid. Both soils have medium to rapid runoff, have moderate available water capacity, and both are very strongly acid to medium acid.

Instability of some excavations in the Canton soils is the main limitation of the unit for community development.

GeC - Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony. This unit consists of gently sloping to sloping, well drained soils on ridges, hills, and side slopes of glacial till uplands. The areas are oval or irregular in shape. Slopes are mostly smooth and convex and are 100 to 600 feet long. Stones cover 8 to 25 percent of the surface. About 45 percent of this unit is Canton soils, 40 percent is Charlton soils, and 15 percent is other soils. In some areas, this unit will consist almost entirely of Canton soils or almost entirely of Charlton soils. The soils were mapped together because they have no significant differences in use and management.

Slope is the main limitation of these soils for community development, especially for on-site septic systems. Slopes of excavations in these soils are unstable. The stones on the surface hinder landscaping. These are features which separate this unit from the CaB unit.

Lg - Ridgebury, Leicester, and Whitman fine sandy loams, extremely stony. This unit consists of nearly level, poorly drained and very poorly drained soils in depressions and drainageways of glacial till uplands. The areas are mostly long and narrow or irregular in shape. Slopes range from 0 to 3 percent and are mainly 100 to 300 feet long. Stones cover 8 to 25 percent of the surface. About 40 percent of this unit is Ridgebury soils, 25 percent is Leicester soils, 15 percent is Whitman soils, and 10 percent is other soils. Some areas of this unit will consist of one of these soils, and other areas will consist of two or three. The soils of this unit were mapped together because they have no significant differences in use and management.

The Ridgebury soils have a seasonal high water table at a depth of about 10 inches from fall through spring. The permeability of the soils is moderate to moderately rapid in the surface layer and subsoil and slow to very slow in the substratum. Runoff is slow. The Ridgebury soils have moderate available water capacity and are very strongly acid to medium acid.

The Leicester soils have a seasonal high water table at a depth of about 10 inches from fall through spring. The permeability of the soils is moderate or moderately rapid. Runoff is slow. The Leicester soils have moderate available water capacity and are very strongly acid to medium acid.

The Whitman soils have a seasonal high water table at or near the surface from fall through spring. The permeability of the soils is moderate or moderately rapid in the surface layer and subsoil and slow to very slow in the substratum. Runoff is slow. The Whitman soils have moderate available water capacity and are very strongly acid to slightly acid.

The high water table and slow to very slow permeability are major limitations of the soils of this unit for community development. Steep slopes of excavations in these soils slump when saturated. The stones on the surface restrict landscaping, and lawns are soggy most of the year.

SxA & SxB - Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony. Sutton soils in these units are gently sloping to sloping and they are moderately well drained. These soils are at the base of slopes and in slight depressions in glacial till uplands. The areas are mostly oval or irregular in shape. Stones are over 8 to 25 percent of the surface. Slopes are smooth and concave.

Included in these areas when mapping are well drained Canton, Charlton, and Paxton soils; moderately well drained Woodbridge soils; and poorly drained Leicester soils. Also included are a few small areas where stones cover less than 8 percent of the surface or where slopes are more than 8 percent. Included areas make up about 15 percent of any unit.

Sutton soils have a seasonal high water table at a depth of about 20 inches from fall to spring. The permeability is moderate or moderately rapid and runoff is medium. These soils also have moderate available water capacity and is very strongly acid to medium acid.

The seasonal high water table is the main limitation of these soils for community development, especially for homesites and onsite septic systems. Lawns on these soils are soggy in autumn and spring.

WyB & WzC - Woodbridge fine sandy loam, 3 to 15 percent slopes extremely stony. Woodbridge soils in these units are gently sloping to sloping and they are moderately well drained. These soils are on the tops of large drumlins and hills on glacial till uplands. The areas are mostly oval or irregular in shape. Stones cover 8 to 25 percent of the surface.

Included with these soils when mapping are well drained Paxton soils, moderately well drained Sutton soils, and poorly drained Leicester and Ridgebury soils. A few small areas do not have stones on the surface. Included areas make up about 10 percent of any unit.

Woodbridge soils have a seasonal high water table at a depth of about 20 inches from fall to spring. The available water capacity is moderate. Permeability is moderate in the surface layer and subsoil and slow to very slow in the substratum. Runoff is medium. These soils are very strongly acid to medium acid in the surface layer and subsoil and very strongly acid to slightly acid in the substratum.

The water table and the slow or very slow permeability in the substratum are the main limitations of these soils for community development, especially on-site septic systems. Lawns on these soils are soggy in the autumn and spring and after heavy rains.

Following is a chart listing the soils of this parcel and their limitation ratings for selected uses. Soils are rated in their "natural state," that is, no unusual modification of the soil site or material is made other than that which is considered normal practice for the rated use. Only the most restrictive features are listed. There may be other features that need to be treated to overcome soil limitations for a specific purpose. Therefore, a soil rated severe gives those soil features that cause the soil to be rated severe. Because a soil is rated severe does not mean it cannot be used. This rating only means major reclamation or special design is required. The definitions of the ratings are as follows:

Slight - The degree of limitation is minor and can be overcome easily.

Moderate - This degree of limitation can be overcome or modified by special planning, design, or maintenance.

Severe - This degree of limitation generally requires major soil reclamation, special design, or intensive maintenance.

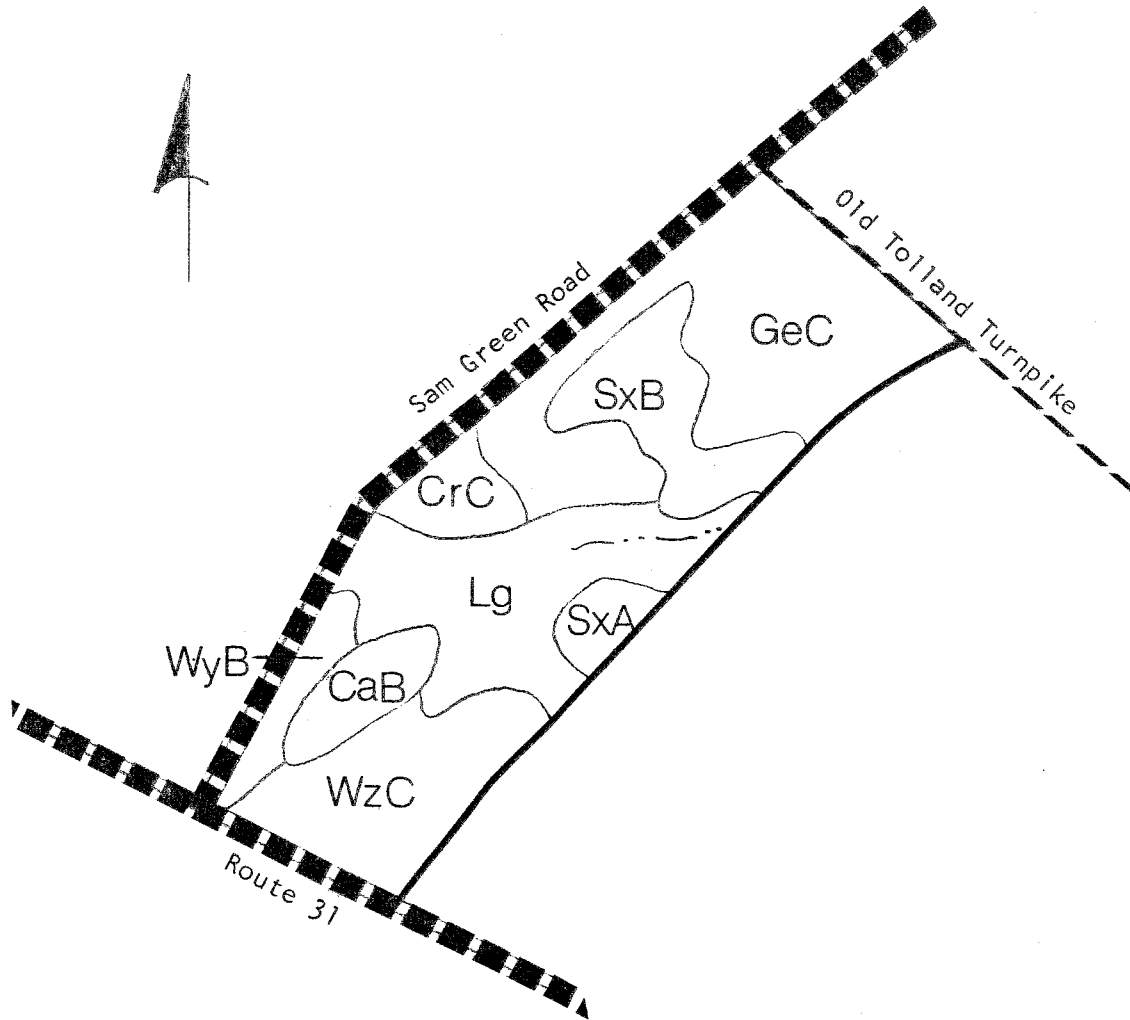


United States
Department of
Agriculture

Soil
Conservation
Service

Tolland County USDA-SCS
Agricultural Center
Rockville, CT 06066
875-3881

Scale 1" = 660'



*Soil boundary lines were derived from a smaller scale map and should not be viewed as precise boundaries, but rather as a guide to the distribution of soils on the site.

PROPOSED SUBDIVISION
COVENTRY

Principal Limitations and Ratings of Soils for Building Site Development

SOIL MAP SYMBOL AND SOIL NAME	SEPTIC TANK ABSORPTION FIELDS	DWELLINGS WITH/ WITHOUT BASEMENTS	LAWNS AND LANDSCAPING	SMALL COMMERCIAL BUILDINGS	LOCAL ROADS AND STREETS
#CaB-3-8%					
Canton	Moderate - poor filter	Slight	Slight	Moderate-slope	Slight
Charlton	Slight	Slight	Slight	Moderate-slope	Slight
CeC-3-15%					
Canton	Severe	Moderate-slope	Moderate-large stones, slope	Severe-slope	Moderate-slope
Charlton	Moderate-slope	Moderate-slope	Moderate-large stones, slope	Severe-slope	Moderate-slope
*Lg					
Ridgebury	Severe-wetness	Severe-wetness	Severe-wetness	Severe-wetness	Severe-wetness, frost action
Leicester	Severe-wetness	Severe-wetness	Severe-wetness	Severe-wetness	Severe-wetness, frost action
Whitman	Severe-ponding	Severe-ponding	Severe-ponding	Severe-ponding	Severe-frost action, ponding
SxA, SxB-2-15%					
Sutton	Moderate-wetness	Severe-wetness	Moderate-large stones, wetness	Moderate-wetness, slope	Severe-frost action
WyB, WzC-2-15%					
Woodbridge	Severe-wetness, percs slowly	Severe-wetness	Moderate-large wetness, slope	Severe-slope	Severe-frost action

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

IX. SOIL CONCERNS

Erosion and Sediment Control

Generally, the subdivision plan addresses soil erosion and sediment control. The relatively flat topography of the site does not indicate serious control problems would be anticipated.

However, as individual building lots are developed, detailed and specific control plans must be submitted in order to adequately evaluate specific soil erosion and sediment control measures and provide maximum protection to the resource base. Examples of information needed for evaluation should include, but not be limited to, the following:

1. Sediment barriers, such as "silt fences" and straw bales, which are described in detail and located on a map. These measures, as well as others, are described within the publication entitled Connecticut Guidelines for Soil Erosion and Sediment Control. This is of particular importance in preventing sedimentation from entering the wetlands area.
2. Construction sequences and schedules which provide information addressing the disturbance to and the stabilization of the soil before, during, and after the different project phases. The temporary storage and stabilization of topsoil is of particular importance.
3. A project checklist which will organize and document each project phase, verify control measures, and expedite plan reviews.
4. Personnel whom are delegated the authority and responsibility for coordination and implementation of the above activities.

Inland Wetland Boundary

The wetland boundaries, as marked in the field, appear to be substantially correct.

Fire Control Pond

The feasibility of a fire control pond was addressed. Sites indicating a potential for this project do exist in the subdivision area within the inland wetland boundaries. Test pits can reveal the most favorable sites.

X. FISHERIES CONCERNS

The Miki Block does not presently contain any fisheries resources. One intermittent stream flows east off the property into a small man-made pond. Proper erosion control measures are essential to protect the pond from sedimentation.

The only potential fish resources on the Miki Block are pond sites. One or two locations appear to be suitable sites for constructing ponds. If the developers desire to pursue this, the Soil Conservation Service is an excellent source of information. If a pond is built, fish stocking recommendations can be obtained from the State D.E.P., Bureau of Fisheries, (203) 566-2287.

XI. PLANNING CONCERNS

Compliance With Plans

A. STATE PLAN

The State of Connecticut Conservation and Development Policies Plan 1982-85 recommends the area in which this subdivision lies for "Rural" land use, as shown in the plan's Locational Guide Map. This plan provides "a policy framework for the planning and investment decisions of State government which influence the future growth and development of the State and the conservation of its natural resources."

While no State funds are proposed to be utilized in this subdivision, to this reviewer's knowledge, the applicable plan recommendations are provided for information purposes.

The policies pertaining to the "Rural" areas are as follows:

Definition Criteria

Generally remote from existing urban areas and lacking public water and sewer services as well as industrial, commercial or residential concentrations.

Forest resource and scenic values of general concern.

Areas characterized by single-family housing with basic water supply and waste disposal provided by on-lot systems.

All areas of the state not classified in other categories.

No outstanding single character which warrants inclusion in either a development or conservation classification.

Conservation
Priority 4

State Action Strategy

Avoid support of structural development forms and intensities which exceed on-site carrying capacity for water supply and sewage disposal on a permanent basis, which are inconsistent with open rural character or conservation values of adjacent areas or which are more appropriately located in Rural Community Centers.

Guidelines for State Action

A. Community Environmental Quality

Encourage the protection of natural resource characteristics and the consideration of environmental quality in State actions.

1. Encourage and assist municipalities in the use of soils, geologic surveys and other natural resource information, basin and streambelt planning techniques in developing community plans.
2. Discourage non-agricultural development on prime farmlands.

B. Economic and Human Resource Development

Limit State support and promotion of the development to those uses and densities that ensure indefinite functioning of on-lot water supply and waste disposal systems and that are consistent with a generally open, rural environment.

1. Encourage municipalities to improve their management and regulation of new development to assure compatibility with Plan policies.
2. Respond to housing needs in Rural areas through financial assistance to individual households. Where new large-scale developments are required, these projects should be encouraged in Rural Community Centers.
3. Expand the scientific management of forest lands and support forest product industries.
4. Identify forms of assistance required to continue farming.

C. Public Service and Infrastructure

Minimize the need for costly urban infrastructure facilities.

1. Encourage development regulations which will preclude the need for sewer, water and other urban infrastructure and facilities and which promote intertown or regional approaches where appropriate when needed.
2. Establish guidelines for the control of the number and location of access points along rural State highways to maintain traffic volume capacity and safety standards.
3. Undertake traffic flow improvements to existing highways as a preferred alternative to the construction of new highways.
4. In general, locate interstate highway interchanges in urban rather than rural areas to support the concentration of urban growth in those areas.

B. REGIONAL PLAN

The Windham Regional Planning Agency Land Use Element of the Regional Growth and Preservation Guide Plan (1981) also recommends the area for "Low Density" rural land use as shown on the guide plan's map.

Policies for this use are as follows:

5. Low-Density Rural District

The low-density rural district contributes the bulk of the aesthetic appeal of the region and offers most of the low density recreational opportunities. Emphasis in planning and land regulation should be on minimizing the development of existing road frontages. People living in this district must be automobile oriented and, due to the high utility and energy costs associated with low-density development, they must be willing to pay significantly more to maintain this way of life.

(Policy for Low-Density Rural District)

- . Development incentives should be provided to encourage residential development on internal parcels of land rather than along existing road frontages. Not only will the rural appearance of the region be maintained, but traffic flow will be enhanced and traffic accidents reduced through having two or more residences on a single driveway instead of each individual residence having a driveway entering a state highway or town road.
- . Preservation of agricultural lands and operations should be encouraged.
- . Two-acre building lots should be the minimum and the prevailing lot size.
- . Public services such as sewer, water and trash collection should not be available in the district.
- . Large residential development projects should be discouraged in the low-density rural district. However, if such development occurs, subdivision standards for such developments should be designed to place all possible burdens for serving the residents of the proposed development on the developer (e.g., roads which at least meet town road specifications, drainage, dedication of land for recreation and perhaps additional school facilities or payment in lieu of dedication, etc.). Provision should be made for allowing small developments (e.g., through zoning incentives) to encourage the development of interior parcels.
- . Where opportunities to develop recreational facilities or nature preserves of regional or statewide significance exist, they should be exploited.

- . Very light density development and open space preservation techniques should be used to protect areas along streams, watersheds which drain to public water supply sources and scenic and historic areas.
- . The development of limited access highway interchanges should be discouraged.

Part of the subdivision is within the "Lake Watershed Preservation District" since the land is within the Coventry Lake (A.K.A. Lake Wangumbaug) watershed area. The policies for this district are as follows:

7. Lake Watershed Preservation District

Lakes in the region serve a variety of purposes including recreational opportunities and enhancement of the landscape. Lakes are fragile entities whose water quality and hence usefulness could be threatened by land uses within lake watersheds.

(Policy for the Lake Watershed Preservation District)

- . Towns should adopt and enforce sediment control ordinances within lake watersheds.
- . New development around lakes should be set back at least 300 feet from the high water line.
- . Minimum lot sizes within lake watersheds should be based on physiographic considerations. Generally minimum lot sizes should be two acres or more in order to reduce the amount of deleterious material transported by erosion to lakes.
- . Discharges of phosphorus from on-site waste disposal systems should be eliminated either through reconstructing the on-site system, reducing or eliminating the discharge of phosphorus producing materials into the system or collecting effluent as it leaves the septic tank for transport and treatment-disposal away from the lake shore.
- . Municipalities--and where appropriate, private associations--should maintain storm drainage structures and construct new drainage structures where such structures will significantly reduce the amount of sediment and other materials entering lakes.

"The Regional Transportation Plan for the Windham Region" (1984 Update) contains recommendations for State Highway and Local Road Improvement Needs.

No state highway improvements to Route 31 (Main Street) are listed in the proximity of the proposed subdivision, although upgrading improvements to Route 31 are recommended from Route 44 to the Tolland town line, the intersection of Routes 31 and 44 and the intersection of Route 275 and Lake Street.

Recommended improvements to local roads in the area of the subdivision include drainage improvements to Sam Green Road and Richmond Road.

C. CONNECTICUT MASTER TRANSPORTATION PLAN 1986

No improvements to Route 31 are listed in this state plan in the immediate vicinity of the subdivision. The following improvements are planned within Coventry:

<u>State Project No.</u>	<u>Route</u>	<u>Improvement Type</u>	<u>Limits of Improvement</u>
142-132	31	reconstruction	from the vicinity of Loehr Rd. Vernon to vicinity of Swamp Rd. in Coventry
12-81	6	new expressway	from existing I-84 in Bolton to 200 ft. e/o Swamp Rd. in Coventry
32-114	6	new expressway	from 200' e/o Swamp Rd. in Coventry to 300' w/o Parker Bridge Rd. in Andover
01-90	6	new expressway	300' w/o Parker Bridge Rd. to e/o Rt. 6 & 66 interchange
32-1H02	31	climbing lane	0.1 mi. e/o Colchester tl.
32-1H04	31	realignment	Rt. 275 e-ly 0.5 mi
32-5H01	31	minor drainage	0.4 mi. w/o Root Rd. to 0/1 mi. e/o Root Rd.
32-5H02	44	reconstruction	E. jct. Rt. 31 to W. jct. Rt. 31, incl. minor drainage, Lathrop Dr. to Olsons Brook
32-1H05	275	relocation	Rt. 32 to reloc. US 6 (extension of Faus 1248)
32-6L01		bridge restoration	Woodbridge Rd. over Skungamaug Riv. No. 04627

D. TOWN PLAN

The Coventry Plan of Development map shows much of the area of the proposed subdivision within areas recommended as "Lake Preservation Area" and "Open Space." A small part of the subdivision, land fronting an Old Tolland Turnpike is recommended for "Rural Density Residential" development.

In the Wangumbaug Lake Drainage Basin, low density zoning (two-acre minimum lot size per dwelling unit) is recommended (p. 9 and p. 16). The plan also encourages the purchase of property in the drainage basin for recreational opportunity and to protect ground and surface water quality (p. 44).

Related issues: Common driveways and driveway regulations regarding sight lines are recommended on page 17 of the Plan. The restriction of rear lots on State roads and heavily travelled town roads, however, is also recommended.

. Open space is recommended to be acquired in subdivisions (p. 30, 41, 44).

. Improvements to existing roads are recommended to be required where adjacent development creates safety problems (p. 33). Drainage, grading,

sightline improvements, road widening, and traffic controls are among those recommended to be provided by the developer.

. Sam Green Road is classified in the Town Plan as a town-owned local street carrying traffic between minor local streets and arterial or collector streets (p. 34). These roadways are designed for speeds of 30 to 40 mph and average daily traffic volumes of 200 to 1,000 vehicles per day.

. Route 31 is classed as an arterial road serving as an intermunicipal and interregional transportation link. Land use activities on these roads are recommended to be carefully regulated and reviewed to prevent or minimize traffic flow impediments.

. State approval for curb cuts and drainage on these roads is required.

Zoning

The proposed subdivision is within the RU40 Residence Zone requiring a minimum lot area of 40,000 sq. ft. per lot. All proposed lots in the subdivision meet this requirement for single family homes as well as the minimum required 150 feet of lot frontage. Seven of the proposed 23 lots contain more than 80,000 square feet, the minimum lot area requirement for two-family dwellings in the RU40 zone, but only one meets the 225 foot minimum frontage requirement for two family dwellings, while none of the rear lots meet the minimum 160,000 sq. ft. requirement for two family dwellings.

Surrounding Land Use and Compatibility

Land uses surrounding this parcel include Waterfront Heights, an area of high density seasonal homes many of which have been converted to year round dwellings; undeveloped woodland along Sam Green Road; and moderate density residential development in the general area interspersed among large expanses of undeveloped woodland.

The proposed subdivision of 23 lots on 55 acres would produce an average density of development of one housing unit for every 2.4 acres (assuming single family homes) and could be expected to be compatible with surrounding developments.

Lot Layout and Subdivision Design Considerations

Lots #8, 7 and 6 have extensive wetland areas between the road frontage and proposed building site. Wetland crossings will be required to reach these sites although a shared driveway is proposed for lots #7 and 6 and the building site on lot #8 is proposed to be reached via a shared driveway with lot #1.

Alternate lot layouts should be considered to minimize the need to fill wetland areas for driveways.

The town encourages shared driveways to minimize curb cuts on road frontages. Shared drives are a good idea but in practice problems sometimes arise. The parties sharing the driveway sometimes fail to agree on use, maintenance, or repair needs and costs. On occasion, such disagreements lead to each party wishing to construct their own drives on their own property. The Coventry Planning and Zoning Commission should keep these issues in mind when approving shared drives. Where possible an alternate, unobstructed, driveway location should be available to each lot owner on their own lot. Where extensive wetland crossings would be required, alternate lot layouts should be considered. Lot #8 is an example of such an issue.

Lot #2 technically may contain the minimum buildable area requirement of 40,000 square feet exclusive of wet areas and poor soils required by zoning, but the particular circumstances of that lot, the configuration of the wetland area, and the proximity of Route 31 will place constraints on the development of the lot. The septic system and reserve areas as proposed will be upgradient of the house and well. The soil type (WzC--Woodbridge) has severe limitation for septic tank drainage fields and wet basements are common because of high water table (water encountered at 10" in test hole 3-2) where house location is proposed.

All of these factors together indicate proposed lot #2 is not suitable for development in its proposed configuration. Alternative lot layouts or elimination of lot #2 should be considered.

Lot #14 contains a wetland area adjacent to Sam Green Road with standing water. Discussion with the Deputy Fire Chief indicates a fire pond in this location would be appropriate and accessible from the street. Any fire pond location and adjacent driveway development should be coordinated.

Section 1.10 of the Coventry Subdivision Regulations requires the applicant to demonstrate that passive solar energy considerations were included in the development of the plan (P.A. 81-334) (C.G.S. 8-2 and 8-25(b)). The plan should note such considerations, although the lots, as proposed, would allow any lot owner, if he/she should so choose, to orient a house to the south for solar access.

Well locations should be shown on the plan. While not required by law, each well and 75' setback should fall within each lot's area and not include land in adjacent lots for good planning practice.

No open space area is shown to be dedicated. Section 8 of the Town's Subdivision Regulations allows 10 to 20% of the parcel to be so dedicated. The Commission should demonstrate what, if any, land area to request for open space or recreation space.

Traffic Concerns

The proposed subdivision of 23 lots, if developed with single family homes, can be expected to generate about 230 to 244 vehicle trips per day.* Ultimately, the number of vehicle trips actually generated will depend upon the size and price of the homes constructed, the type, age and economic class of families who reside there, the number of vehicles they own, and the price of gasoline. U.S. Census statistics (1980) indicate Coventry residents have an average of 1.56 vehicles per household, slightly higher than the average for the state (1.48) and ten town Windham Region (1.40).

Residents of the subdivision can be expected to commute to work in adjacent towns, or further, since Coventry has few employment opportunities.

Less than ten percent of Coventry's workers are employed in town; 24% are employed outside of Coventry, but within the Windham Region; and 66% are employed outside the region. The mean travel time to work for commuters is 26 minutes; the largest number of workers are detined for Hartford (17%), Manchester (15%), Mansfield (14%), East Hartford (11%), and Windham (10%).** Adding 230 to 244 vehicle trips per day scattered throughout the day will increase traffic on Sam Green Road or Route 31 and other area roads but should not tax the designed carrying capacity of either road. Peak hour traffic during morning and evening hours should average under 30 vehicles per hour.

A traffic counter was placed on Sam Green Road to sample the traffic volume and travel speeds of vehicles using the road. The data collected is in the Appendix. Measures should be considered to reduce speeding on the road.

Since the count was conducted at a time when the University of Connecticut was on winter vacation, the data collected may not accurately reflect all cars which use Sam Green Road. The road may also serve as a shortcut from the Lake area to Route 44 for those commuting to the University. Further counts conducted while the University is in session would need to be taken to verify this assumption.

Adequate site line is required for driveway cuts by subdivision regulations. For Sam Green Road a 375 foot line is required. Lot #9 does not seem to have adequate site line from field observation. Tree removal and grading along road frontage of adjacent lots should take place to ensure visibility and safety.

Sam Green Road curves along the proposed subdivision in the area of lot #9. The Planning and Zoning Commission should consider the need for road straightening and acquire right of way, if needed, in conjunction with the subdivision approval. Route 31 in this area carries an average of 6,500 vehicles per day in both directions (ConnDOT 1983 count). No accidents were reported on Route 31 at the intersection of Sam Green Road between 1981 and 1984.

*Based on the average single family dwelling unit generating an average of: 10.6 vehicle trips/dwelling unit/weekday. Source: Trip Generation Study of Various Land Uses, Israel Zevin, ConnDOT, 1974. 10.0 vehicle trips/dwelling unit/weekday. Source: Trip Generation, 3rd edition, Institute of Transportation Engin., 1983.

**1980 U.S. Census.

Services to Support Development

The proposed subdivision of 23 house lots may be expected, if developed with single family homes, to house 23 families or about 77 people, based on an average family size of 3.34 persons per family (Coventry average family size, 1980 U.S. Census). Coventry's 1980 population was 8,895 persons; population estimates as of July 1, 1984 by the CT Department of Health Services is 9,120.

An average of 1.4 school aged children can be anticipated per three to four bedroom single family home,* or about 32 students.

Schools which would serve the development are the high school on Ripley Hill Road; junior high--Captain Nathan Hall School--on Route 31, next to the high school; and Coventry Grammar School on Route 31 in North Coventry (grades K-4). Capacities and current enrollment are as follows:

<u>School</u>	<u>Grade</u>	<u>Physical^a Capacity</u>	<u>Program^b Capacity</u>	<u>Enrollment^c 1/2/86</u>
Robertson	K-4	300	950	277
Coventry Grammer	K-4	455	combined	368
Nathan Hale	5-8	800	725	479
Coventry High	9-12	800+	650	436
		<u>2355</u>	<u>2325</u>	<u>1560</u>

Source: a. Office of School Superintendent, Coventry 1982
 b. Coventry Town Plan of Development, 1978
 c. Office of School Superintendent, Coventry 1986

Coventry provides local police services. Fire protection is provided by volunteer fire departments and mutual aid pact with adjacent towns. A discussion with the Deputy Chief of the North Coventry Fire Department indicates that in case of fire in this area, three fire companies would respond, two from Coventry and one from Mansfield. A four to five minute response time is estimated. While water for fire fighting is available from pumpers, on-site water supply is lacking in this area of Town. A dug pond would be appropriate in this area. Any natural impoundment or potential area which could hold 8,000 to 10,000 gallons of water would provide a fire fighting water supply for this area. (The wetland area adjacent to Sam Green Road with standing water on lot #14 is a potential site accessible from the road.) The rear lot driveways would pose "not too much of a problem" for emergency vehicles, according to the Deputy Chief. Trucks occasionally get "tied up in traffic" on such long drives, but otherwise experience few problems.

Recreational opportunities are available at two town beach sites on Wangumbaug Lake, active recreation space at the schools and Laidlaw Park. The Nathan Hale State Forest and two private golf courses in Coventry provide additional opportunities.

*New Jersey County & Municipal Government Study Commission, Housing Suburbs, Fiscal and Social Impact of Multifamily Development.

The Town's landfill on Route 31 is expected to expire its capacity in the year 2000 at the present rate of use. (Solid Waste Management Plan, Connecticut D.E.P., 7/85)

XII. SUMMARY

NOTE: This is a brief summary of the major points, concerns and recommendations of the Team. You are strongly urged to read the entire report, and to refer back to the specific sections in order to obtain all the information about a certain topic.

TOPOGRAPHY -- The + 55 acre site is presently undeveloped. It is mostly wooded with an open area in the southern parts. The land surface slopes to the wetland or its outlet stream in the central part. Slopes on the site are relatively flat to moderate.

GEOLOGY -- The bedrock underlying the site is comprised mainly of the South-bridge Formation.

The surficial geology of the site is made up of the glacial sediment called till. Overlying the till in the central parts is an east-west trending band of seasonally wet soils. These are regulated inland-wetland soils, any activity which involves modification, filling or removal of these soils will require a permit and approval by the Town's Inland Wetland Commission. It is recommended that these soils on the site not be disturbed.

GEOLOGIC DEVELOPMENT CONCERNS -- Nearly 90 percent of the test holes excavated encountered groundwater at relatively shallow depths or shallow mottling lines which are an indicator of seasonally high groundwater levels.

Based on the soils information, it appears that nearly all the lots will require engineered septic systems.

Consideration should be given to re-investigating groundwater levels on some of the wetter lots, preferably in the spring, before designing.

Percolation tests (which were not indicated on the subdivision plans) will need to be run on each lot.

The Team's Geologist has reservations with regard to the present layout of septic systems and house locations serving lots 1 and 2.

Development of lot 9 will be difficult due to the presence of inland-wetland soils.

The moderate slopes in the eastern portion of the site may be a hindrance for heavy equipment, installing septic systems and house locations.

It is recommended that building footing drains be installed when possible to protect basements from becoming wet at certain times of the year.

HYDROLOGY -- Nearly all of the surface drainage on the site flows downslope to either the wetlands in the central parts, or to the outlet stream for the wetlands.

The large wetland in the central parts of the site should help to detain increased runoff from the development. Also, the small pond to the east of the site will serve as a natural runoff control basin.

Every effort should be made to prevent potential erosion and siltation problems to nearby waterbodies and Coventry Lake. It is strongly recommended that a comprehensive erosion and sediment control plan be developed covering each stage of the proposed development. These measures should be followed and supervised by a competent person.

There are a couple of alternatives to the proposed wetland crossings thereby causing less or no disturbance to wetlands. Although wetland crossings are undesirable, they are feasible if they are properly engineered.

WATER SUPPLY -- Bedrock appears to be the only suitable aquifer for the on-site water supply wells. It is difficult to predict the supply yield from any new well because of the unevenness of the fractures. Connecticut Water Resources Bulletin No. 11 may be referenced for future information.

There may be moderate levels of iron and manganese that may taint the well water. Water from any new wells should be analyzed for chemical problems and appropriate filtration measures taken if necessary.

Well locations should be shown on the subdivision plans.

SEWAGE DISPOSAL -- Based on visual observations, soil surface mapping data and review of engineering soil test results, it is apparent that the major concern for on-site sewage disposal relates to high ground water conditions particularly along the front portion of lots 1 and 2 and lots 8 and 9.

For some of the more questionable lots monitoring ground water during the spring of the year should be considered to observe for maximum ground water levels and bases for a more complete assessment as to the suitability.

No actual percolation test information on the soils was available.

Some modification or reduction of lots along Route 31 would be desirable

SOILS -- Complete detailed information concerning all the soils on the site are found in the soils section of this report.

SOIL CONCERNS -- The relatively flat topography of the site does not indicate that serious erosion and sediment problems would be anticipated.

As individual building lots are developed, detailed and specific control plans must be submitted in order to adequately evaluate specific soil erosion and sediment control measures.

The wetland boundaries as marked appear to be substantially correct.

Sites for a suitable fire control pond do exist on the site. Test pits can reveal the most favorable site.

FISHERIES CONCERNS -- Proper erosion control measures are essential to protect the small man-made pond that is east of the proposed subdivision.

PLANNING CONCERNS -- For information concerning recommendations and compliance with the State, Regional, Master Transportation Plan and the Town Plan please refer to each specific section in the body of the report.

The proposed subdivision of 23 lots could be expected to be compatible with surrounding developments, with an average density of one (1) housing unit for every 2.4 acres.

Alternate lot layouts should be considered to minimize the need to fill wetland areas for driveways.

Proposed lot No. 2 is not suitable for development in its present configuration. Consideration should be given to an alternative lot layout or its elimination.

Any fire pond location and adjacent driveway development should be coordinated.

The Coventry Subdivision Regulations require the applicant to demonstrate that passive solar energy considerations were included in the plan of development.

Well locations should be shown on the plan.

No open space area is shown to be dedicated. The Commission should demonstrate what, if any, land area to request for open space or recreation space.

The proposed subdivision should not tax the carrying capacity of Sam Green Road or Route 31. As indicated by the traffic data collected measures should be taken to reduce the speeding on Sam Green Road.

Lot No. 9 does not appear to have an adequate site line for a driveway cut. The Planning and Zoning Commission should consider the need for road straightening in the area of lot No. 9.

The school system, police, fire, recreation and landfill facilities should not be taxed by this new development.

A water supply pond is appropriate for this area. An impoundment which can hold 8,000 to 10,000 gallons of water would supply a fire fighting water supply for this area.

Appendix

WRPA

SAM GREEN ROAD

COVENTRY CT

SITE REFERENCE 000001

CHANNEL 1

CLASSIFIER

PRINT-OUT FOR THURSDAY 9 JANUARY 1986 60 MINUTE DATA

INT	PERIOD ENDING	TOTAL VOLUME	BSZILE SPEED	UPTO 15 MPH	16-20 MPH	21-25 MPH	26-30 MPH	31-35 MPH	36-40 MPH	41-45 MPH	46-50 MPH	51-55 MPH	56-60 MPH	61-65 MPH	66-70 MPH	71 + MPH
1	1:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	2:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	3:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	4:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	5:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	6:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	7:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	8:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	9:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	10:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	11:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	12:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	13:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	14:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	15:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	16:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	17:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	18:00	19	-	0	0	0	0	1	3	10	4	1	0	0	0	0
1	19:00	17	-	0	0	0	0	3	1	8	3	1	1	0	0	0
1	20:00	24	47	0	0	0	0	2	10	8	1	1	2	0	0	0
1	21:00	18	-	0	0	0	1	1	4	9	3	0	0	0	0	0
1	22:00	11	-	0	0	0	0	0	3	2	4	2	0	0	0	0
1	23:00	5	-	0	0	0	0	0	1	1	2	1	0	0	0	0
1	24:00	10	-	0	0	0	0	0	0	5	4	1	0	0	0	0
12	19:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	22:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	24:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	24:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

WRPA

SAM GREEN ROAD

COVENTRY CT

SITE REFERENCE 000001

CHANNEL 1

CLASSIFIER

PRINT-OUT FOR FRIDAY 10 JANUARY 1986 60 MINUTE DATA

INT	PERIOD ENDING	TOTAL VOLUME	BSZILE SPEED	UPTO 15 MPH	16-20 MPH	21-25 MPH	26-30 MPH	31-35 MPH	36-40 MPH	41-45 MPH	46-50 MPH	51-55 MPH	56-60 MPH	61-65 MPH	66-70 MPH	71 + MPH
1	1:00	7	-	0	0	0	0	0	1	1	3	1	1	0	0	0
1	2:00	1	-	0	0	0	0	0	0	0	0	1	0	0	0	0
1	3:00	2	-	0	0	0	0	0	0	1	1	0	0	0	0	0
1	4:00	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0
1	5:00	2	-	0	1	0	0	0	1	1	1	1	0	0	0	0
1	6:00	5	-	0	0	0	1	0	1	1	1	1	0	0	0	0
1	7:00	10	-	0	0	1	0	1	0	6	1	0	1	0	0	0
1	8:00	19	-	0	0	0	0	5	4	5	1	4	0	0	0	0
1	9:00	22	49	0	0	1	0	3	5	8	3	2	0	0	0	0
1	10:00	14	-	0	0	0	1	2	3	7	1	0	0	0	0	0
1	11:00	19	-	0	1	0	1	1	1	9	4	2	0	0	0	0
1	12:00	7	-	0	0	0	0	2	1	2	2	0	0	0	0	0
1	13:00	13	-	0	0	0	0	3	4	3	2	1	0	0	0	0
1	14:00	7	-	0	0	0	0	1	2	3	1	0	0	0	0	0
1	15:00	19	-	0	0	1	0	1	5	8	4	0	0	0	0	0
1	16:00	10	-	0	0	0	0	0	0	4	5	1	0	0	0	0
1	17:00	31	47	1	1	0	2	1	11	9	3	2	1	0	0	0
1	18:00	21	49	0	0	0	0	2	5	7	5	2	0	0	0	0
1	19:00	22	52	0	0	0	0	1	5	3	9	3	1	0	0	0
1	20:00	18	-	0	0	0	0	1	6	5	5	1	0	0	0	0
1	21:00	12	-	0	0	0	0	0	2	5	2	0	0	3	0	0
1	22:00	7	-	0	0	0	0	0	1	4	2	0	0	0	0	0
1	23:00	19	-	0	1	0	0	2	3	10	2	1	0	0	0	0
1	24:00	18	-	0	0	0	0	1	7	3	5	2	0	0	0	0
12	19:00	204	-	1	2	2	4	22	46	68	40	17	2	0	0	0
16	22:00	251	-	1	2	3	4	24	55	88	50	18	3	3	0	0
18	24:00	288	-	1	3	3	4	27	65	101	57	21	3	3	0	0
24	24:00	305	-	1	4	3	5	27	67	105	62	24	4	3	0	0

WRPA

SAM GREEN ROAD

COVENTRY CT

SITE REFERENCE 000001

CHANNEL 1

CLASSIFIER

PRINT-OUT FOR SATURDAY 11 JANUARY 1986 60 MINUTE DATA

INT	PERIOD ENDING	TOTAL VOLUME	BSXILE SPEED	UPTO 15 MPH	16-20 MPH	21-25 MPH	26-30 MPH	31-35 MPH	36-40 MPH	41-45 MPH	46-50 MPH	51-55 MPH	56-60 MPH	61-65 MPH	66-70 MPH	71 + MPH
1	1:00	3	-	0	0	0	0	0	0	1	1	0	0	1	0	0
1	2:00	5	-	0	0	0	0	0	3	0	2	0	0	0	0	0
1	3:00	4	-	0	0	1	0	0	1	0	2	0	0	0	0	0
1	4:00	1	-	0	0	0	0	0	0	1	0	0	0	0	0	0
1	5:00	1	-	0	0	0	0	0	0	1	0	0	0	0	0	0
1	6:00	1	-	0	0	0	0	0	1	1	1	0	0	0	0	0
1	7:00	3	-	0	0	0	0	0	3	2	1	4	0	0	0	0
1	8:00	11	-	0	0	1	0	0	1	1	0	0	0	0	0	0
1	9:00	2	-	0	0	0	0	1	3	5	7	0	1	0	0	0
1	10:00	17	-	0	0	0	0	1	2	5	7	5	2	0	0	0
1	11:00	22	49	0	0	0	1	2	4	6	6	4	1	0	0	0
1	12:00	22	48	0	1	0	0	4	10	5	9	5	1	0	0	0
1	13:00	33	52	0	0	0	1	3	9	3	2	5	1	1	0	0
1	14:00	25	53	0	0	0	1	1	6	6	4	0	0	0	0	0
1	15:00	18	-	0	0	0	1	1	8	9	3	6	0	0	0	0
1	16:00	30	51	0	0	1	1	2	6	8	3	0	1	0	0	0
1	17:00	21	47	0	0	0	1	3	10	14	4	2	0	0	0	0
1	18:00	34	47	0	0	0	1	3	10	14	4	2	0	0	0	0
1	19:00	19	-	0	0	0	0	3	3	4	7	2	0	0	0	0
1	20:00	17	-	0	0	0	0	1	6	6	6	0	1	0	0	0
1	21:00	17	-	0	0	0	1	0	1	3	2	1	0	0	0	0
1	22:00	8	-	0	0	0	1	0	1	2	1	3	0	0	0	0
1	23:00	7	-	0	0	0	0	1	2	1	3	0	0	0	0	0
1	24:00	9	-	0	0	0	1	0	0	7	0	1	0	0	0	0
12	19:00	254	-	0	1	2	6	24	70	70	49	27	4	1	0	0
16	22:00	299	-	0	1	2	7	25	82	86	61	28	6	1	0	0
18	24:00	315	-	0	1	2	8	26	84	94	64	29	6	1	0	0
24	24:00	330	-	0	1	3	8	26	88	97	70	29	6	2	0	0

WRPA

SAM GREEN ROAD

COVENTRY CT

SITE REFERENCE 000001

CHANNEL 1

CLASSIFIER

PRINT-OUT FOR SUNDAY 12 JANUARY 1986 60 MINUTE DATA

INT	PERIOD ENDING	TOTAL VOLUME	85%ILE SPEED	UPTD 15 MPH	16-20 MPH	21-25 MPH	26-30 MPH	31-35 MPH	36-40 MPH	41-45 MPH	46-50 MPH	51-55 MPH	56-60 MPH	61-65 MPH	66-70 MPH	71 + MPH
1	1:00	9	-	0	0	0	0	0	1	5	1	2	0	0	0	0
1	2:00	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0
1	3:00	3	-	0	0	0	0	0	1	1	0	1	0	0	0	0
1	4:00	2	-	0	0	0	0	0	1	0	0	0	0	0	0	0
1	5:00	1	-	0	0	0	0	0	0	2	0	0	0	0	0	0
1	6:00	2	-	0	0	0	0	0	1	0	0	2	0	0	0	0
1	7:00	3	-	0	0	0	0	0	3	4	3	0	0	0	0	0
1	8:00	10	-	0	0	0	0	0	1	3	2	0	0	0	0	0
1	9:00	7	-	0	0	0	1	1	7	8	2	2	0	0	0	0
1	10:00	21	48	0	0	0	1	1	7	5	5	0	2	0	0	0
1	11:00	19	-	0	0	0	0	1	1	8	7	3	1	0	0	0
1	12:00	22	52	0	0	0	1	1	7	9	4	0	1	0	0	0
1	13:00	21	48	0	0	0	0	0	6	8	4	1	0	0	0	0
1	14:00	22	48	0	0	1	1	1	6	7	1	2	1	0	0	0
1	15:00	19	-	0	0	0	1	1	6	7	9	0	0	0	0	0
1	16:00	32	47	0	0	0	1	2	6	14	9	0	1	0	2	0
1	17:00	22	57	0	0	0	1	3	4	5	5	1	1	0	2	0
1	18:00	6	-	0	0	0	1	1	0	3	1	0	0	0	0	0
1	19:00	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0
1	20:00	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0
1	21:00	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0
1	22:00	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0
1	23:00	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0
1	24:00	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0
12	19:00	201	-	0	0	1	7	11	48	74	43	9	6	0	2	0
16	22:00	204	-	0	0	1	7	11	49	74	43	11	6	0	2	0
18	24:00	204	-	0	0	1	7	11	49	74	43	11	6	0	2	0
24	24:00	221	-	0	0	1	7	11	52	83	44	15	6	0	2	0

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--an 86 town 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, a statement identifying the specific areas of concern the Team should address, and the time available for completion of the ERT study. 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 Elaine A. Sych (774-1253), Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, P.O. Box 198, Brooklyn, Connecticut 06234.