

ENVIRONMENTAL REVIEW TEAM REPORT



HARWINTON WOODS SUBDIVISION

HARWINTON, CONNECTICUT

**KING'S MARK
RESOURCE CONSERVATION AND DEVELOPMENT AREA**

KING'S MARK ENVIRONMENTAL REVIEW TEAM REPORT

On

HARWINTON WOODS SUBDIVISION HARWINTON, CONNECTICUT



NOVEMBER 1978

Kings Mark Resource Conservation & Development Area

Environmental Review Team

P.O. Box 30

Warren, Connecticut 06754

ACKNOWLEDGMENTS

The King's Mark Environmental Review Team operates through the cooperative effort of a number of agencies and organizations including:

Federal Agencies

U.S.D.A. SOIL CONSERVATION SERVICE

State Agencies

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEPARTMENT OF HEALTH

DEPARTMENT OF TRANSPORTATION

UNIVERSITY OF CONNECTICUT COOPERATIVE EXTENSION SERVICE

Local Groups and Agencies

LITCHFIELD COUNTY SOIL AND WATER CONSERVATION DISTRICT

NEW HAVEN COUNTY SOIL AND WATER CONSERVATION DISTRICT

HARTFORD COUNTY SOIL AND WATER CONSERVATION DISTRICT

FAIRFIELD COUNTY SOIL AND WATER CONSERVATION DISTRICT

NORTHWESTERN CONNECTICUT REGIONAL PLANNING AGENCY

VALLEY REGIONAL PLANNING AGENCY

LITCHFIELD HILLS REGIONAL PLANNING AGENCY

CENTRAL NAUGATUCK VALLEY REGIONAL PLANNING AGENCY

HOUSATONIC VALLEY COUNCIL OF ELECTED OFFICIALS

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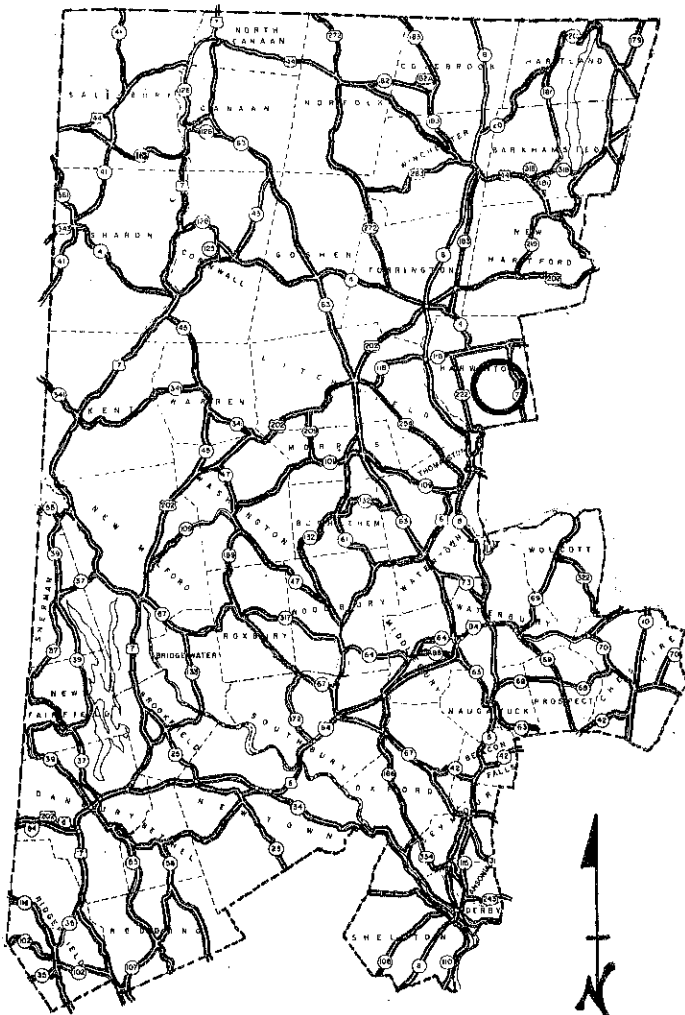
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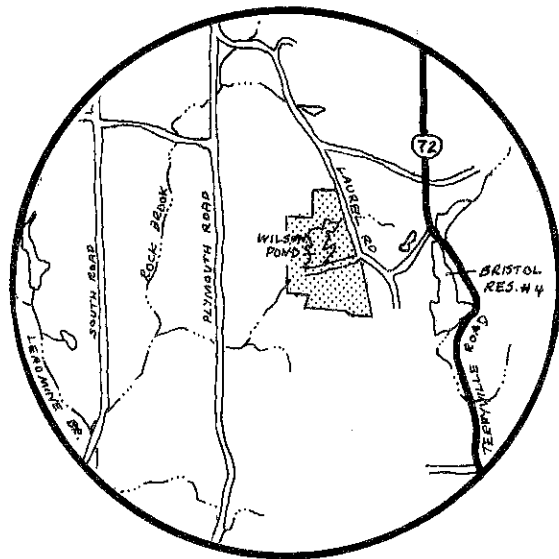
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LOCATION OF STUDY SITE

HARWINTON WOODS SUBDIVISION HARWINTON, CONNECTICUT



0 5 10 miles
0 2,640' 52,800'



ENVIRONMENTAL REVIEW TEAM REPORT
ON
HARWINTON WOODS SUBDIVISION
HARWINTON, CONNECTICUT

I. INTRODUCTION

The Town of Harwinton, Connecticut is presently reviewing a subdivision application which calls for 35 lots on 132.7 acres of land. The proposed subdivision, known as "Harwinton Woods", has been submitted by Stanley Lessler and Emil Schipul of Trumbull. The proposed development would create 34 building lots from 2-7 acres in size and one recreation lot of 29.8 acres in size (See Figure 1). The proposed recreation lot, shown as lot 13 in Figure 1, would encompass Wilson Pond, another smaller pond, and \pm 1.5 acres of land. The subdivision would also result in the construction of a new town road and the abandonment of an existing town road (See Figure 1). Proposed lots would be serviced by on-site wells and septic systems.

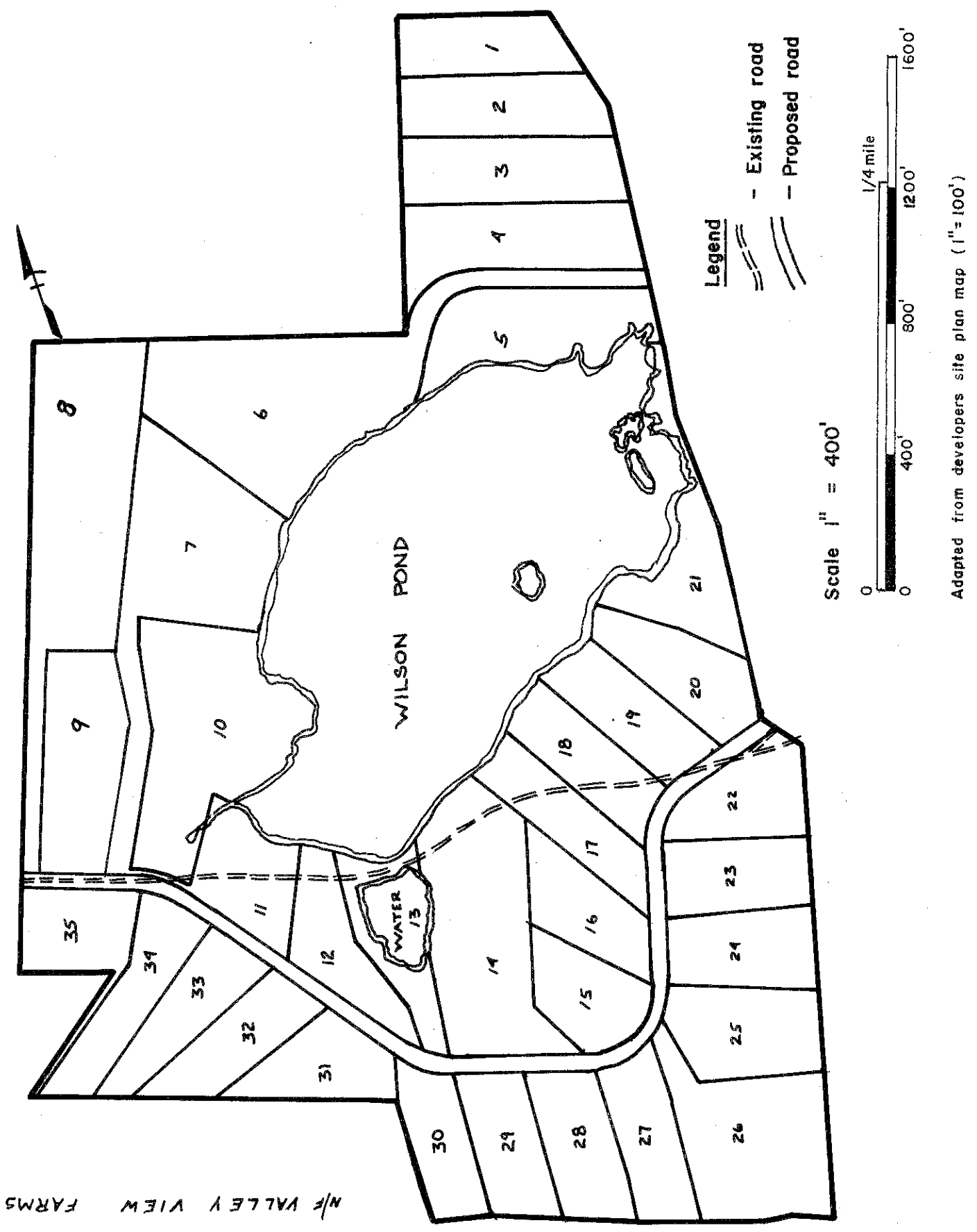
The Town of Harwinton Planning Commission requested the assistance of the King's Mark Environmental Review Team (ERT) to help them in analyzing the proposed development. Specifically, the ERT was asked to identify the natural resources of the site, highlight opportunities and limitations for development of the land, and comment on the environmental impact of the proposed development. It should be pointed out that the developers of this project have done a substantial amount of background research on the environmental effects of the proposed subdivision. This research has included: detailed soils mapping and analysis of the property by a reputable soils scientist, a hydrogeological report prepared by a professional geologist, a storm drainage impact report prepared by a professional engineer, and a sewage disposal report prepared by a professional engineer which contains results of percolation tests and deep test pits on each lot of the proposed subdivision. The developers' detailed site development plan shows existing contours and wetlands; lot layout; proposed homesite, driveway, and leaching system locations; a detailed soils map; and a plan and profile of the proposed new town road.

The ERT met and field reviewed the site on Wednesday, October 18, 1978. Team members for this review consisted of the following:

Mallory Gilbert...Soil Conservationist....U.S.D.A. Soil Conservation Service
Charles Reynolds..Soil Scientist.....U.S.D.A. Soil Conservation Service
Mike Zizka.....Geohydrologist.....State Department of Environmental
Protection

FIGURE 1

SIMPLIFIED SITE PLAN - HARWINTON WOODS



Larry Bandolin....Fishery Biologist.....State Department of Environmental
Protection
Steven Jackson....Wildlife Biologist.....State Department of Environmental
Protection
Tim Hawley.....Forester.....State Department of Environmental
Protection
A. Carl Stamm....Recreation Specialist...State Department of Environmental
Protection
Gilbert Roberts...Sanitarian,...,.....Torrington Area Health District

Prior to the review day, each team member was provided with a summary of the proposed project, a checklist of concerns to address, a detailed soil survey map, a soils limitation chart, a sketch of the site plan, and a topographic map of the area. Copies of the developers' research material was made available to appropriate Team members on the day of the field review. Following the field review, individual reports were prepared by each Team member and forwarded to the ERT Coordinator for compilation and editing into this final report.

This report presents the Team's findings and recommendations. It is hoped this information will assist the Town of Harwinton and the developers in making decisions regarding the future of the "Harwinton Woods" site.

If any additional information is required, please contact Richard Lynn, (868-7342), Environmental Review Team Coordinator, King's Mark RC&D Area, P. O. Box 30, Warren, Connecticut.

* * * * *

II. SUMMARY

1. In general, the soils underlying the Harwinton Woods site are favorable for the proposed development.
2. To ensure effective erosion and sediment control with the development of this land, consideration should be given to preparing an erosion and sediment control plan for the entire development process.
3. Runoff volumes and peak flows in the Wilson Pond watershed may be expected to increase to a limited extent with the proposed development. Runoff control is an important consideration with development of this land and appropriate run-off control measures should be included in the preparation and implementation of an erosion and sediment control plan for the property.
4. Five forest types are present on the tract. Periodic thinning and regeneration harvests are advisable to maintain the health and vigor of the forested area.
5. Wilson Pond and the surrounding woodland presently offers good wildlife habitat. The proposed development will have minimum impact on the woodland wildlife habitat. The wildlife habitat offered by Wilson Pond is more sensitive to land use change, however, environmental impacts will be minimized by the proposed vegetative buffer strip around the Pond.
6. The proposed development will have a negligible effect on the fish population of the ponds on the property.
7. Bedrock wells on individual lots can be expected to produce water of adequate quantity and quality for domestic needs.
8. A subsurface sewage disposal review of the proposed development performed by the Torrington Area Health District concluded that subsurface sewage disposal on the lots, as proposed, is feasible; however soil and site conditions are such that a number of the lots will require a professional engineer's decision prior to issuance of a permit.
9. It is anticipated that little, if any, difficulty will be encountered in foundation development on the majority of the lots. Road profiles and associated storm water management proposals appear to be adequate.
10. A few maintenance repairs to the spillway at Wilson Pond are advisable.
11. Wilson Pond offers excellent potential for iceskating, fishing, and non-motorized boating, but has limited potential for satisfactory swimming.

12. The Harwinton Woods development proposal appears to have been well thought out and carefully researched. It is a fine example of a development proposal that has been produced with environmental concerns and existing resources carefully addressed. Providing that basic principles and practices of erosion and sediment control are followed throughout the entire development process, the Harwinton Woods proposal should have an insignificant environmental impact.

II. NATURAL RESOURCE BASE

A. SETTING, TOPOGRAPHY, LAND USE

The "Harwinton Woods" parcel is approximately 132.7 acres in size and is located in an upland area about 2½ miles southeast of the center of town. The site is bordered on the east by Laurel Road and on other sides by privately owned woodland. The focal point of the property is Wilson Pond which is ± 27 acres in size and located in the central portion of the property.

Topography varies throughout the parcel from gently rolling to steeply sloping with most of the property sloping towards Wilson Pond (See Figure 2).

The parcel is predominately forested by mixed hardwoods with a few groves of conifers (hemlock and white pine) interspersed. Historically, the parcel has been in private residential use and a few dilapidated structures are still standing on the property along the old town road south of Wilson Pond (See Figure 2). Planned use of the parcel does not appear to conflict with surrounding land uses.

B. SOILS

A detailed soil survey map and soils limitation chart of the tract is presented in the Appendix of this report. The soils map illustrates the geographic location of all soils identified on the property. The soils limitation chart identifies limiting factors for various land uses on individual soil types and also rates the severity of these limitations as determined by the U.S.D.A. Soil Conservation Service.

SOIL DESCRIPTIONS

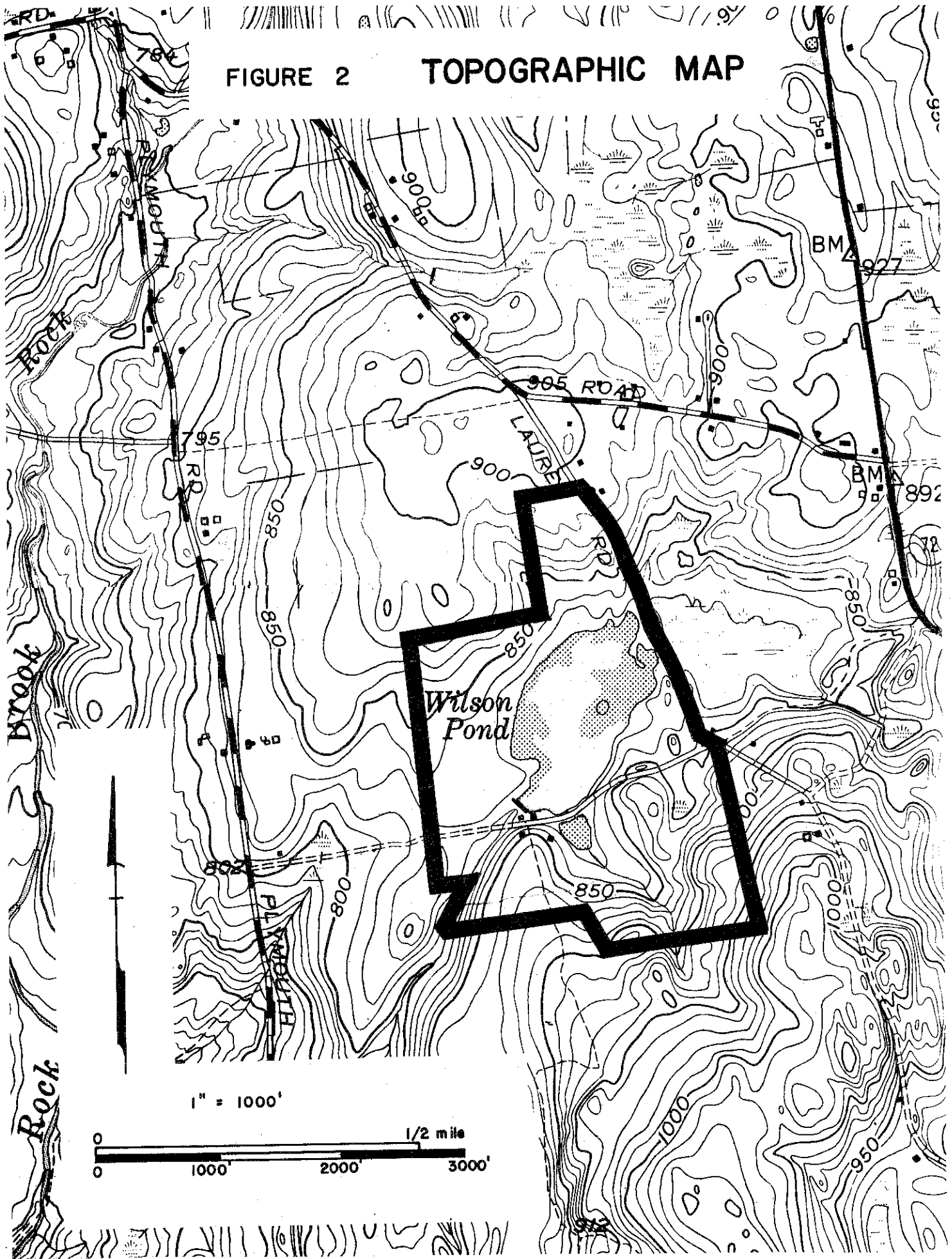
Five different soil series have been identified on the property. These soils include:

Charlton Soils: The Charlton series consists of deep, well drained, nearly level, or undulating to hilly soils that developed in friable to firm glacial till. These soils are well distributed on uplands throughout Litchfield County. They are stony to very stony on about two thirds of their total acreage. Permeability is moderate to moderately rapid throughout. These soils are classified as fine sandy loam. Except where slope and stoniness are problems, they are well suited for homesites, landscaping, septic fields and roads. The Charlton soils are the dominant soil found on the Harwinton Woods site.

Hinckley Soils: Soils of the Hinckley series are nearly level to undulating or rolling. They are excessively drained and droughty. They developed in deep deposits of stratified sand and gravel. Permeability is moderately rapid to rapid in the surface layer and is very rapid in the subsoil. They are well suited for homesites and roads. Conventional lawns and landscaping may have some difficulty because of the droughty nature of

FIGURE 2

TOPOGRAPHIC MAP



the soil. Septic fields work well in these soils, however, the excessively rapid percolation rate in the subsoil allows septic effluent to move down rapidly in the direction of the water table.

Leicester, Ridgebury and Whitman Complex: This undifferentiated unit is made up of poorly and very poorly drained soils. All of these soils are nearly level.

Stones and excess water make these soils unsuitable for development. They are, however, suitable for wildlife habitat development.

This complex is considered a wetland soil type as defined by Public Law 155, as amended.

Paxton Soils: The Paxton series is made up of well-drained soils that developed in glacial till. These soils have a compact layer at a depth of about 2 feet. They are moderately permeable in the surface layer and subsoil but slow to very slow in the substratum. Most use limitations are associated with slow percolation rates, seasonal wetness, and large stones. Some engineering modifications may be needed for foundation placement, septic fields and road construction.

Woodbridge Soils: The Woodbridge series consists of moderately well drained, nearly level to sloping soils developed in compact glacial till. These soils are underlain by a compact layer, or hardpan at a depth of about 24 inches. Their permeability is moderate in the surface layer and subsoil but is slow in the substratum. Most use problems are related to seasonal wetness and slow percolation. Generally, these soils require engineering modifications for foundation placement, septic fields, and road construction.

SOILS VS. PROPOSED LAND USE

In general the soils found on this site are favorable for the proposed development as shown in the site development plan. No home construction is shown within the wetland areas. Those areas where wetland crossings are shown for the proposed road are minimal. The crossing in the area of lots 28 and 29 is the most significant area. If this crossing is made as proposed (a permeable road base fill material, plus the proposed culvert, and erosion and sediment control measures during and after construction), the overall effect on Wilson Pond and the associated wetlands should be negligible. The major benefits that the wetlands in this area provide are as sediment traps, as storm water flood control areas, and as wildlife habitat to a limited degree.

The developers have shown discretion in their approach to wetland disturbance. Their intentions to maintain a minimum home site set back from Wilson Pond plus a vegetative barrier are commendable. Also, the proposed road placement back from the water's edge is a positive means of avoiding adverse environmental impacts which could be associated with development of the existing town road.

The development, as proposed, should have little accelerating effect on the eutrophication rate of Wilson Pond.

SOIL LOSS AND SEDIMENTATION

Soil loss and resultant sedimentation will not be significantly increased as a result of this development if some basic precautions are taken. These precautions include:

- Limit soil disturbance during construction.
- Regrade and revegetate exposed areas as the development progresses.
- Attempt to keep cuts and fills at a 2:1 slope.
- Use erosion and sediment controls such as haybale check dams wherever feasible.
- Plan a time schedule for development (i.e. do not do wetland related work in the spring. Wait for low flows and a lower water table.)
- Provide for sediment traps in the storm water management system and provide for their continual maintenance. If not maintained, sediment cannot be adequately controlled.
- It is advisable to complete each section of the proposed road (with culverts and sumps) before the lots along that section are developed. This includes road bank stabilization and/or revegetation.

In short, preparation of an erosion and sediment control plan for the entire development process would be advisable. Techniques for effective erosion and sediment control are presented in "Erosion and Sediment Control Handbook - Connecticut" (USDA Soil Conservation Service, 1976). Technical assistance in developing erosion and sediment control plans is available from the Litchfield County Conservation District.

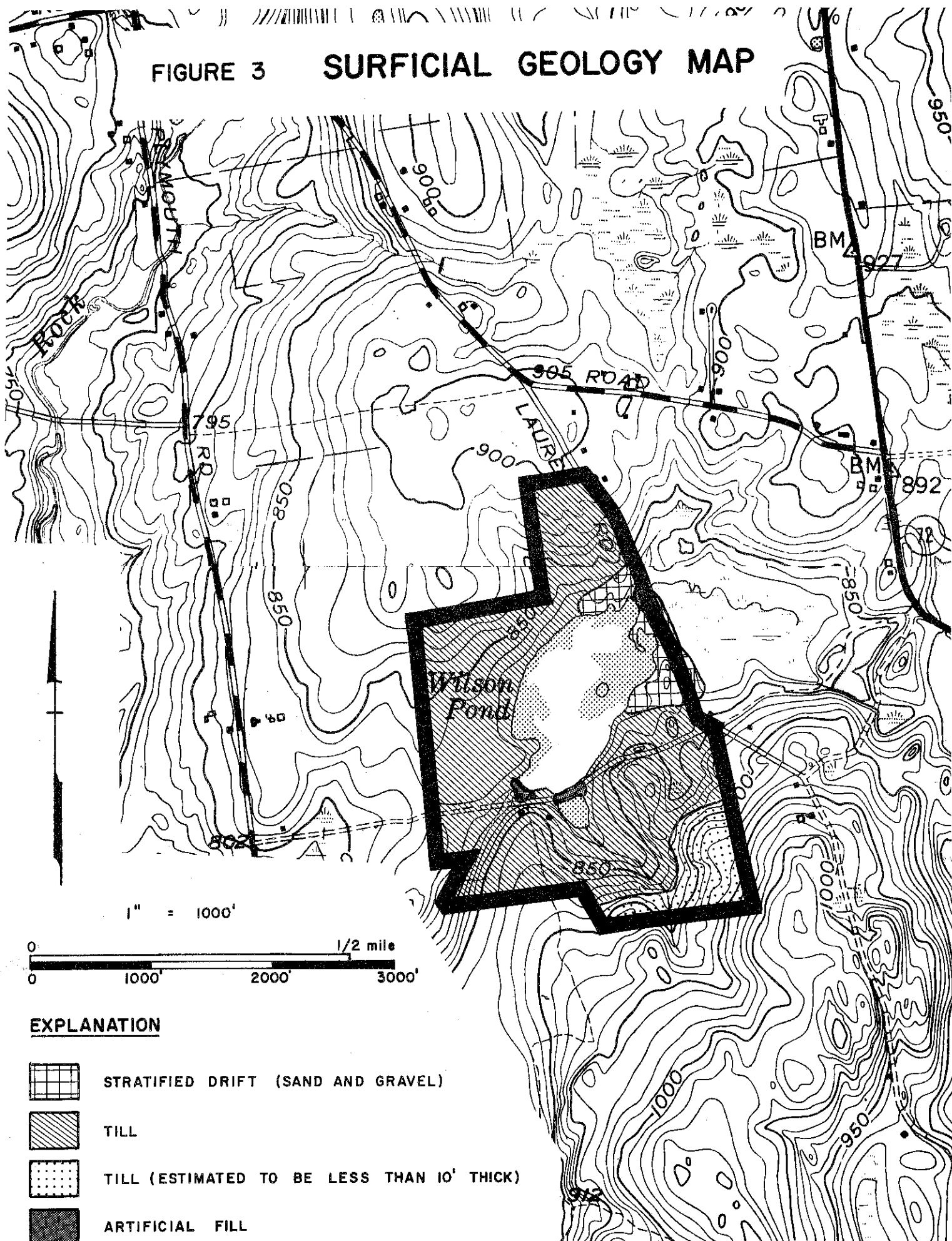
C. GEOLOGY

Bedrock underlying Harwinton Woods is part of the Nonewaug Granite, a formation that is mapped and described in The Bedrock Geology of the Torrington Quadrangle,¹ by Charles W. Martin (1970). The granite ranges from fine-grained to very coarse-grained; it may be either layered or massive (nonlayered), and it is typically white or very light-colored. Predominant minerals include plagioclase, microcline, quartz, and muscovite. Accessory or trace minerals include biotite, garnet, apatite, zircon, and magnetite. Numerous boulders, some extremely large, are scattered about the property. No actual bedrock outcrops were observed, although steep topography and concentrations of very large boulders in the southeastern corner of the site suggest that bedrock is generally within ten feet of the surface in that section (See Figure 3). Elsewhere, the bedrock is presumed to be deeper than ten feet.

Surficial geologic maps of the Thomaston and Torrington quadrangles,² by Charles R. Warren (1972) and Roger B. Colton (1971), respectively, include general information on the Harwinton Woods area. A map of the property itself, slightly modified from the published sources, is shown in figure 3. Field investigation suggested that the distribution of stratified drift, which is described below, is not as widespread as the published maps indicate.

1. Connecticut Geological and Natural History Survey, Quadrangle Report #25.
2. U. S. Geological Survey Maps GQ 984 and GQ 939.

FIGURE 3 SURFICIAL GEOLOGY MAP



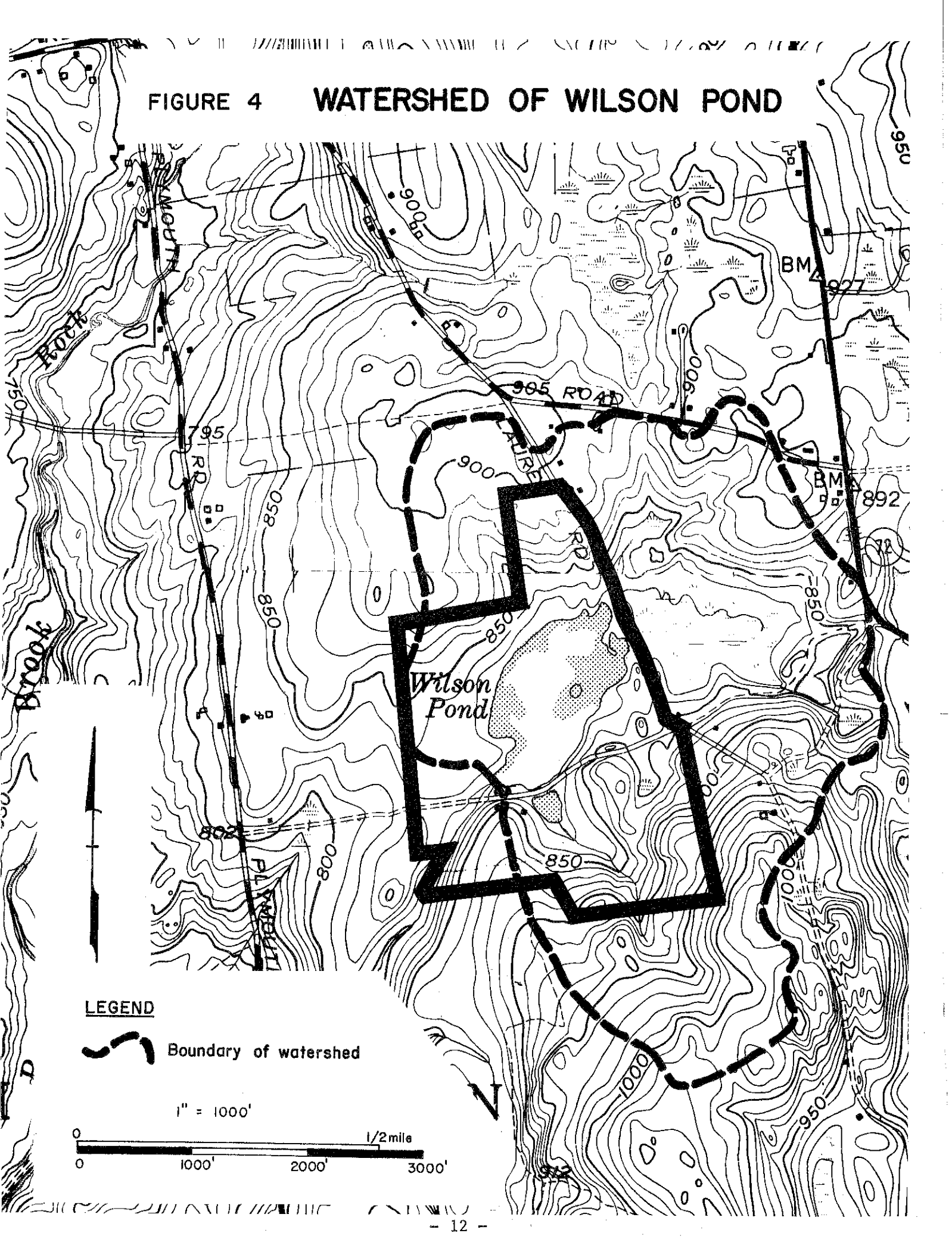
Most of Harwinton Woods is covered by till, a nonsorted accumulation of rock debris that was picked up, transported, and deposited by glacier ice. Despite the characteristic mixture of rock particles of all sizes and shapes, the till on the property tends to be sandy and loose. This texture probably reflects both the granular nature of the parent rocks (the source material for the particles) and the mode of deposition by the ice (by gentle lowering onto the land surface during ice wastage). In a few places near the eastern shore of Wilson Pond, deposits of stratified drift may be found. These deposits consist largely of sand and gravel, which settled out from meltwater produced by the wasting glacier.

D. HYDROLOGY

Wilson Pond is fed by surface and groundwater runoff from a drainage area of approximately 413 acres (See Figure 4). Land use changes, if restricted to the current proposals, should affect no more than 40 acres, or about one tenth, of the overall watershed. The increases in runoff that will result from development may be estimated by a method outlined in Technical Release No. 55 of the Soil Conservation Service. Table 1 lists such estimates for 24-hour storms of 10-year, 50-year, and 100-year intensities; that is, for storms of 24-hour duration that occur on an average basis of once every 10, 50, and 100 years, respectively. (Another way to view these storms is to say that they have a 10 percent, 2 percent and 1 percent chance, respectively, of occurring in any given year.) The numbers presented in the table are not necessarily precise; they are meant to provide only a "ballpark" guide to the magnitude of expected runoff changes.

Table 1. Runoff volumes and peak flows in the Wilson Pond watershed. Estimated by methods outlined in Soil Conservation Service Technical Release No. 55.

	<u>24-hour, 10-year storm</u>	<u>24-hour, 50-year storm</u>	<u>24-hour, 100-year storm</u>
Present runoff volumes (acre-feet)	43.1	68.7	89.7
Future runoff volumes (acre-feet)	45.6 (5.6 % increase)	71.8 (4.5 % increase)	93.2 (3.8 % increase)
Present peak flows into Wilson Pond (cubic feet per second)	53	107	151
Peak flows into Wilson Pond after development (cubic feet per second)	58 (9.4 % increase)	115 (7.5 % increase)	162 (7.3 % increase)

[illegible]

It must be remembered that the runoff increases predicted in Table 1 are for the Wilson Pond watershed as a whole. The percentage of increases in runoff from the immediate areas of development will be much greater. For instance, during a storm that produced 2 inches of rain, it is estimated that more than four times the current volume of runoff would be generated from a developed acre. During a storm that produced 5 inches of rain, approximately 90 percent more runoff would flow from a developed acre. These figures highlight the importance of adequate sediment and erosion-control measures on the property, particularly near the wetlands.

E. FORESTRY

Five forest types are present on the Harwinton Woods site. These forest types, shown in Figure 5, include:

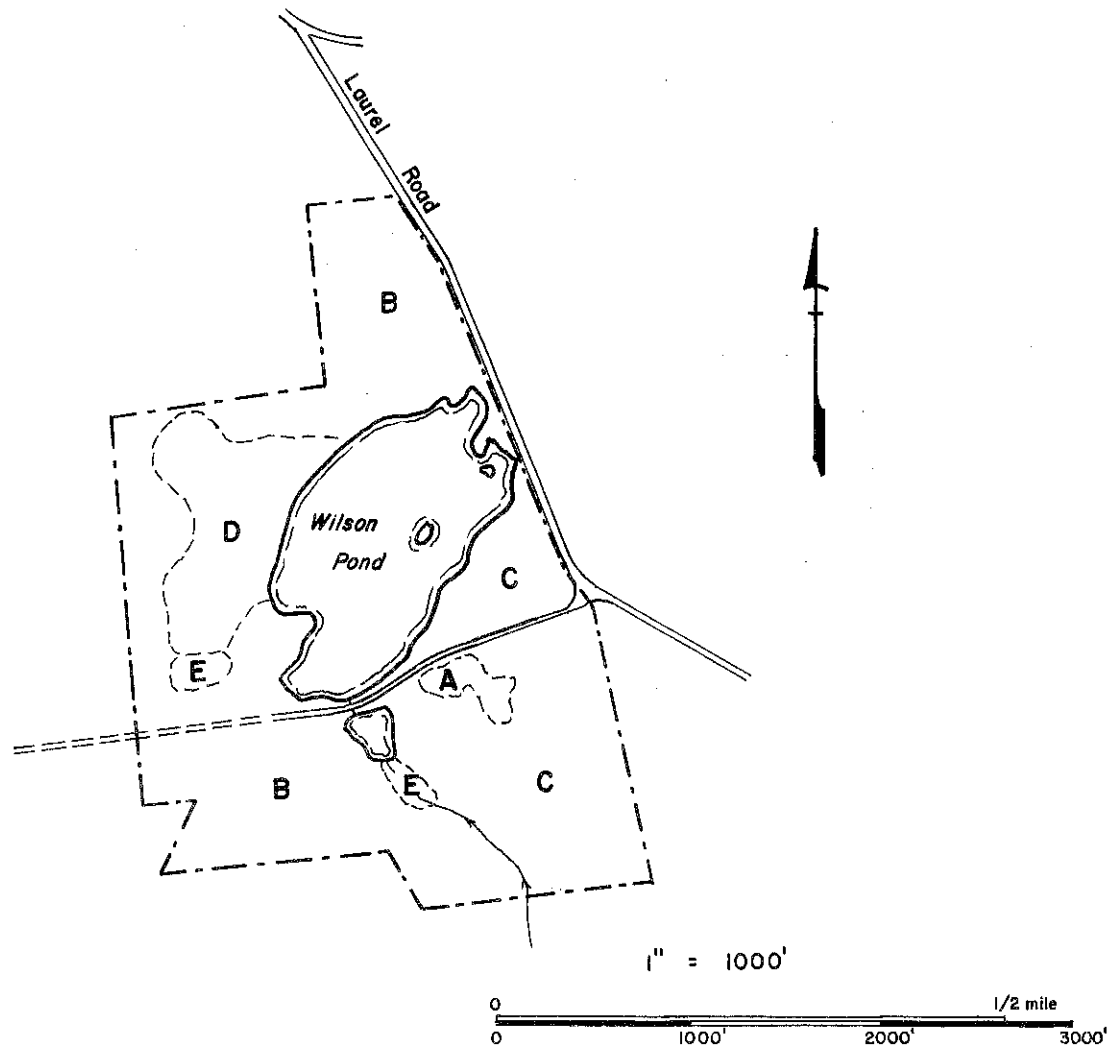
- A. White pine and Nursery spruce plantation, 2 acres. The white pine is pole-sized and heavily overstocked. Live crowns are small and tree stems are spindly. ~~The dense overstory prevents growth of shrubby or herbaceous plants.~~
- B. Upland central hardwoods, sawlog size, 56 acres. Tall-statured red oak dominates this area. Shrubs such as witchhazel, tree seedlings, ferns, and grass occur in openings among the trees. The stand is slightly overstocked and is no longer growing vigorously.
- C. Upland central hardwoods, pole-size, 37 acres. This stand is similar to Type B, but the trees are younger and smaller.
- D. Hemlock - hardwoods, sawlog size, 16 acres. Hemlock is an important component of this type, which resembles Type B with large oak, maple, and birch. Scattered large white pine also occur. Understory vegetation is lacking beneath the heavy shade of the hemlocks, but witchhazel and hardwood tree seedlings are common elsewhere.
- E. Wetland Vegetation, 2 acres. Pole-size red maple is the principal species of the overstory. The understory contains a variety of shrubs (including viburnum, spicebush, and witchhazel), ferns and moss.

GENERAL COMMENTS

Most of the property is well suited to growing timber, and this is reflected in the health and vigor of most of the trees. If the forested land were to be managed primarily for timber, each acre would be capable of producing an average of over 200 board feet annually. This woodland resource won't be realized of course with the planned development. Division of forested land into small ownerships (less than 25 acres) generally prohibits cost-effective forest management.

FIGURE 5

VEGETATION TYPE MAP



LEGEND*

- A SOFTWOOD PLANTATION, POLE-SIZE - 2 ACRES
- B UPLAND HARDWOODS, SAWLOG SIZE - 56 ACRES
- C UPLAND HARDWOODS, POLE-SIZE - 37 ACRES
- D HEMLOCK - HARDWOODS, SAWLOG SIZE - 16 ACRES
- E WETLAND VEGETATION - 2 ACRES

*** NOTE:**

POLE-SIZE TREES = 6 to 11" in diameter at breast height
 SAWLOG SIZE TREES = 11" or greater at breast height

Nonetheless, periodic thinning and regeneration harvests directed by a private forester are advisable for the forested area with implementation of the planned residential development. Partial cutting improves the quality of forest stands and helps protect the best trees from damage by insects, diseases, and weather. Partial cutting also improves wildlife habitat, and protects water quality and soil if done properly. Consideration should be given to encouraging future homeowners of Harwinton Woods to cooperate in forest management of the area.

It would be highly desirable to thin Types A and C (See Figure 5) as soon as possible. The high density of white pine in Type A has made this stand susceptible to wind, ice and snow damage. Type C is approaching the stage at which competition between crowded trees causes a decline in the health and vigor of most of the trees; this trend may lead to the eventual death of over half of the existing trees. The thinning should be directed by a private forester and should yield enough fuelwood (about 2 cords per acre) to cover the cost of the operation.

Most of the soil on the property is deep and blowdown problems should be slight. However, where digging, grading, or filling is required, trees whose roots are disturbed or buried should be removed. Trees are sensitive to such disturbance and usually die as a result of such activity within 2-3 years.

F. WILDLIFE

Two major wildlife habitat types occupy the Harwinton Woods tract. These include: 1) Wilson Pond and 2) the surrounding woodland.

Wilson Pond presently offers good wildlife habitat for beaver, waterfowl, muskrat, and a variety of songbirds and small mammals. Occasional use of the Pond by otter and mink is likely. Blueberry and sphagnum moss along the border of the pond is indicative of a bog environment. This expands the spectrum of wildlife utilization in the small mammal area and makes the area a little more unique.

The surrounding woodland, discussed in a previous section of this report, is a common mixture of forest in Connecticut. This type of habitat provides a home for deer, grey squirrel, raccoon, chipmunk, flying squirrel and a variety of small mammals and song birds.

The proposed development will have minimum impact on the woodland wildlife habitat. Typically wildlife impact is directly proportional to the amount of disturbance and numbers of people and their activities. The large lot sizes proposed in the development plan will serve to protect much of the existing woodland wildlife habitat.

The wildlife habitat offered by the Wilson Pond area is sensitive to land use change. Waterfowl use by ducks other than geese will be

reduced considerably by the presence of people. Geese on the other hand are tolerant of people and may become more abundant. Impact to wildlife habitat in the Pond area can be minimized by limiting disturbance in the vicinity of the Pond (particularly the bog like edges and Pond island). The developers' proposed vegetative buffer strip around the Pond will do much to protect this wildlife habitat.

Future homeowners can enhance their yards and woodland edges as wildlife habitat by planting shrubs which provide food and cover for wildlife, erecting birdhouses, and by keeping dogs and cats under control. It should be noted that aquatic weed control, other than limited localized control, can reduce wildlife food available.

Potential wildlife problem areas with implementation of the project include: raccoons, skunks, etc. in garbage cans; beaver cutting trees surrounding the pond and attempting to raise water level; geese becoming too abundant with consequent noise and feathers/droppings on lawns. These problems are commonly encountered with subdivision of rural land and are relatively minor.

G. FISHERIES

The proposed development will have a negligible affect on the fish population of the ponds on the property. Wilson Pond is too shallow to support trout through the summer and hence should not be stocked with trout. Wilson Pond should however support a variety of warm water fish such as largemouth bass, pickeral, and sunfish. Although sizable populations of large fish are unlikely, Wilson Pond should sustain a good fishery for these warm water species with anticipated use of the pond following the proposed development. There should be no need to stock additional individuals, since each of these species will maintain their population through natural reproduction. Only an initial stocking would be required should one of these species not be found.

* * * * *

III. DEVELOPMENT ACTIVITIES

A. WATER SUPPLY

Water from on-site wells on the property probably would best be provided by the bedrock aquifer. Groundwater in bedrock is transmitted largely through fractures. Because of the granular, granite nature of the local bedrock, the fractures that would supply Harwinton Woods wells probably would be fairly large and would produce adequate yields for domestic needs. Approximately 82 percent of wells tapping bedrock of granitic composition in the lower Housatonic River basin yielded 3 gallons per minute or more of groundwater.³ However, the exact yield of any new well cannot be accurately predicted because of the regional variability of the fracture system.

The nature of the bedrock underlying the property suggests that most groundwater derived from it will be low in dissolved mineral constituents and that it will be of good quality for drinking and other domestic uses. Septic system discharges are not likely to affect the quality of the groundwater greatly, assuming that adequate separation is provided between the systems and the bedrock wells, and that proper precautions are utilized in designing the systems for high water-table or shallow-to-bedrock areas. The large lot sizes proposed for this subdivision will help to reduce the overall concentrations of pollutants such as nitrate. It is recommended, however, that as much separation as is practically possible be provided between the wells and the septic systems to assure that the water supply will not be affected.

B. WASTE DISPOSAL

The Torrington Area Health District performed a subsurface sewage disposal review of the proposed Harwinton Woods subdivision at the request of the Harwinton Planning and Zoning Commission. In general, the Health District's report concluded that subsurface sewage disposal on the lots, as proposed, is feasible; however, soil and site conditions are such that a number of the lots will require a professional engineer's decision prior to issuance of a permit. A copy of the Health District's letter to the Harwinton Planning and Zoning Commission is included in the Appendix of this report.

C. FOUNDATION DEVELOPMENT, ROAD CONSTRUCTION, STORM WATER MANAGEMENT

It is anticipated that little, if any, difficulty will be encountered in foundation development on the majority of the lots. Some lots may have large stones to contend with and bedrock may be encountered in the vicinity of lots 24, 25, and 26. These problems can be effectively mitigated however by proper site investigation and good engineering.

As mentioned in the Soils portion of this report, road construction is recommended prior to lot development. Culvert size requirements, etc.

3. Connecticut Water Resources Bulletin No. 19.

could not be calculated in detail due to the limited time frame available for completion of this ERT report, but road profiles and associated storm water management proposals appear to be adequate.

As mentioned in the Hydrology and Soils portion of this report, effective erosion, sediment, and run-off control measures are an important consideration with development of this land. At several locations, the opportunity to install temporary storm water deenergizing basins clearly exists. Use of native stone materials in natural drainageways to form "steps" is also encouraged.

CONDITION OF SPILLWAY AT WILSON POND

The existing concrete spillway appears to be adequate to handle increased runoff from the proposed development. To avoid excessive future maintenance needs it is strongly recommended that a few repairs be made before the development is complete:

- Patch and repair existing cracks and holes.
- Extend the upstream wingwalls a few feet and patch the old walls.
- Place additional fill material on either side of the spillway to increase the freeboard at this point by at least one foot (place fill 8' wide and compact in place). *
- If the old sluice is to be eliminated, all the above mentioned repairs should be accomplished first.
- Remove small trees, and do not allow their future establishment on the earthen dam; encourage grasses and small shrubs only.

D. RECREATION

The shoreline of Wilson Pond (and 20'-50' back) is typically populated with sphagnum moss, leatherleaf, highbush blueberry, goldthread etc. which is indicative of an acidic peat bog ecology. This condition will hamper access to the Pond off individual lots. The peat bog ecology also indicates the bottom of the Pond is probably a black oozy muck which is not conducive to swimming. There may be one or more small areas in the vicinity of the dam where a small swimming area could be satisfactorily constructed, but the rest of the shoreline precludes satisfactory swimming off individual lots and the recreation lot without extensive modification of the natural situation.

Wilson Pond and the smaller adjacent pond offer excellent potential for iceskating, fishing, and ice-fishing. The pond area is characterized by various plants which like a cold atmosphere which leads one to assume that the area is a frost pocket with a lower average mean temperature than the surrounding area which would mean excellent skating on the ponds.

Excluding the two ponds and their associated bog type wetlands, the recreation lot provides little usable upland. There is however a 12'+

* Note: Freeboard is the depth from the bottom of the spillway to the top of the dam. Freeboard is necessary to assure that the dam does not overtop.

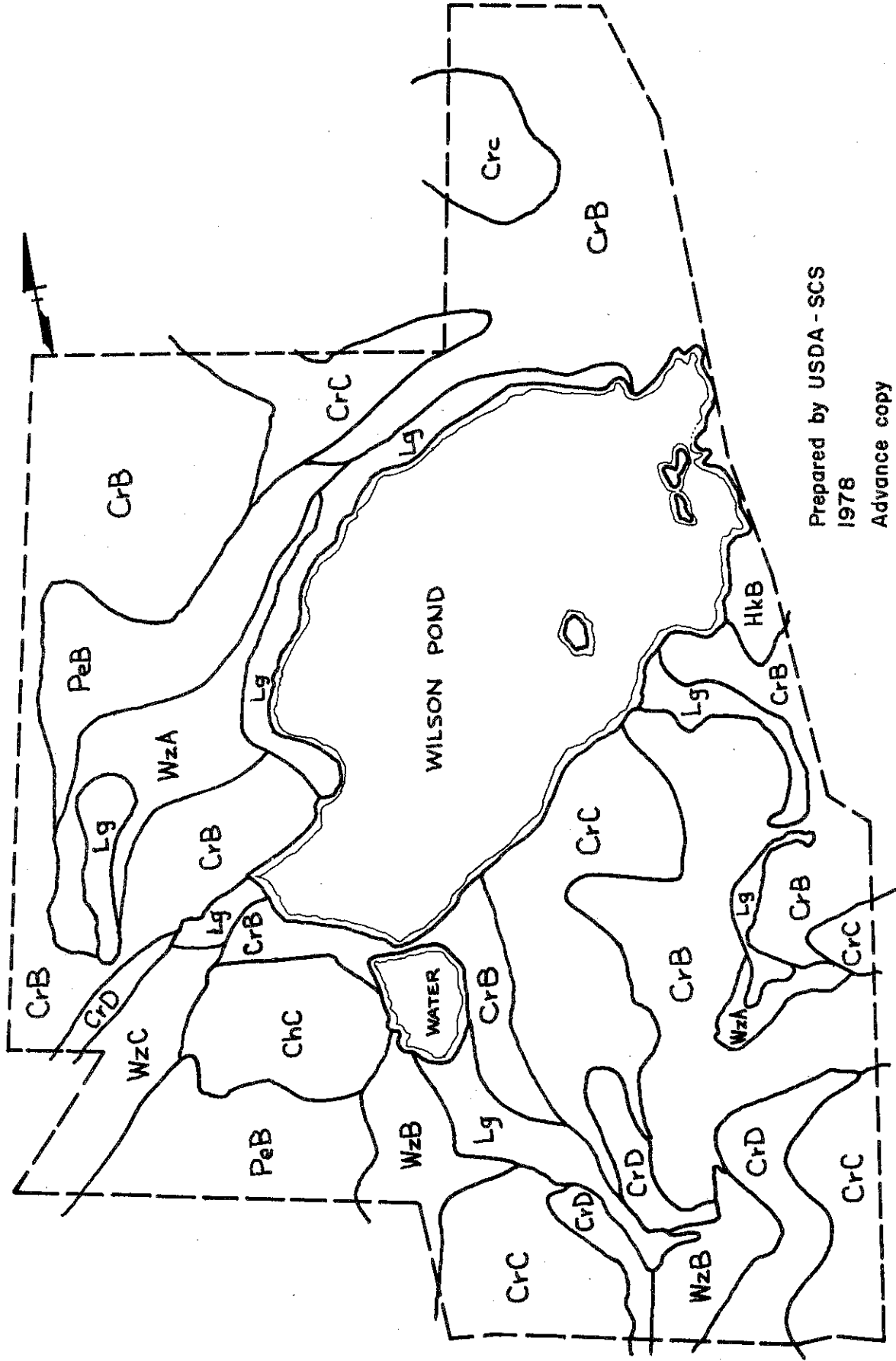
corridor on the western edge of the lot which would provide adequate access to the ponds from the proposed road. There is also space available where a warming/picnic shelter could be constructed. Additional recreational facilities must be developed by individual landowners on their own lots.

Limiting use of the pond to small non-motor driven boats such as canoes, rowboats, and possibly sunfish type sailboats, etc. is an excellent idea. The pond is not suitable for motor driven boats and prohibiting their use will protect the wildlife value of the pond.

* * * * *

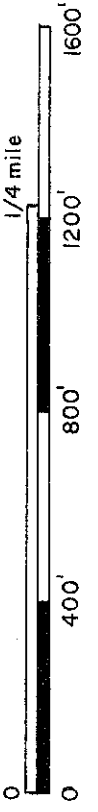
APPENDIX

SOILS MAP - HARWINTON WOODS



Prepared by USDA - SCS
1978
Advance copy
Subject to change

Scale 1" = 400'



SOIL LIMITATION CHART
HARWINTON WOODS SUBDIVISION

MAP SYMBOL	SOIL NAME	SEPTIC			BUILDINGS W/ BASEMENTS			ROADS OR DRIVEWAYS			LANDSCAPING		
		RATING	REASON	RATING	REASON	RATING	REASON	RATING	REASON	RATING	REASON	RATING	REASON
ChB	Charlton stony fine sandy loam, 3-8% slopes	Slight		Slight		Slight		Slight		Slight		Moderate	Small Stones
ChC	Charlton stony fine sandy loam, 8-15% slopes	Moderate	Slope, Stones	Moderate	Slope, Stones	Moderate	Slope, Stones	Moderate	Slope, Stones	Moderate	Slope, Stones	Moderate	Slope, Stones
CrB	Charlton very stony fine sandy loam, 3-8% slopes	Moderate	Large Stones	Moderate	Large Stones	Moderate	Large Stones	Moderate	Large Stones	Moderate	Large Stones	Moderate	Large Stones
CrC	Charlton very stony fine sandy loam, 8-15% slopes	Moderate	Large Stones, Slope	Moderate	Large Stones, Slope	Moderate	Large Stones, Slope	Moderate	Large Stones, Slope	Moderate	Large Stones, Slope	Moderate	Large Stones
CrD	Charlton very stony fine sandy loam, 15-25% slopes	Severe	Slope, Large Stones	Severe	Slope, Large Stones	Severe	Slope, Large Stones	Severe	Slope, Large Stones	Severe	Slope, Large Stones	Severe	Slope, Large Stones
HkB	Hinckley gravelly sandy loam, 3-8% slopes	Slight		Slight		Slight		Slight		Slight		Slight	
Lg	Leicester, Ridgebury and Whitman very stony fine sandy loams	Severe	Wetness	Severe	Wetness	Severe	Wetness	Severe	Wetness	Severe	Wetness	Severe	Wetness
PeB	Paxton very stony fine sandy loam, 3-8% slopes	Severe	Percs Slowly	Moderate	Wet, Large Stones	Moderate	Wet, Large Stones	Moderate	Frost Action	Moderate	Frost Action	Moderate	Large Stones
WzA	Woodbridge very stony fine sandy loam, 0-3% slopes	Severe	Percs Slowly	Severe	Wet	Severe	Wet	Severe	Frost Action	Moderate	Frost Action	Moderate	Large Stones
WzB	Woodbridge very stony fine sandy loam, 3-8% slopes	Severe	Percs Slowly	Severe	Wet	Severe	Wet	Severe	Frost Action	Moderate	Frost Action	Moderate	Large Stones
WzC	Woodbridge very stony fine sandy loam, 8-15% slopes	Severe	Percs Slowly	Severe	Wet	Severe	Wet	Severe	Frost Action	Moderate	Frost Action	Moderate	Large Stones

- EXPLANATION OF RATING SYSTEM
1. SLIGHT LIMITATION: Indicates that any property of the soil affecting use of the soil is relatively unimportant and can be overcome at little expense.
 2. MODERATE LIMITATIONS: Indicates that any property of the soil affecting use can be overcome at a somewhat higher expense.
 3. SEVERE LIMITATION: Indicates that the use of the soil is seriously limited by hazards or restrictions that require extensive and costly measures to overcome.

September 11, 1978

Harwinton Planning & Zoning Commission
Town Hall
Harwinton, Ct. 06790

Dear Sirs:

This letter is in regard to the proposed Harwinton Woods Subdivision located off Laurel Rd. in the Wilson Pond section of Harwinton. It is proposed to create 34 building lots of two plus acres in size (Lot #13 is composed of Ponds). The lots are shown on a site development plan dated August 3, 1978 entitled Harwinton Woods. Engineering data concerning the feasibility of subsurface sewage disposal and soil survey work have been submitted to this office by Roland Desrosiers and Associates and Henry T. Moeller, respectively. As stated previously in Wetland correspondence, no septic systems are proposed in Wetland area. Based upon our review of the engineering data submitted, we feel the lots are suitable for subsurface sewage disposal. The engineer has recommended that Lots 5, 9, 21, 30, 31, and 34 have detailed designs submitted prior to issuance of a permit. We are in agreement with this recommendation. In addition, we feel that Lot #23 should be engineered prior to the issuance of a permit. A number of the lots on the southeast corner of the property (23-28) had very irregular surface contours with a number of large boulders which make installation of a septic system difficult. We will, therefore, reserve the right to require detailed designs on these lots based upon a more detailed field evaluation prior to the issuance of a permit. A number of the lots as described in Mr. Moeller's report have seasonal high water tables. Systems laid out in these areas will require curtain drains and/or fill material. Should a prospective builder desire to utilize a house site other than that indicated on the site plan, it may be necessary to conduct additional soil tests on the lot.

If you have any questions or if we can be of any further assistance, please do not hesitate to call this office at any time.

Sincerely yours,

Gilbert A. Roberts
Chief Sanitarian

GAR:jf

ABOUT THE TEAM

The King's Mark Environmental Review Team (ERT) is a group of environmental professionals drawn together from a variety of federal, state, and regional agencies. Specialists on the team include geologists, biologists, foresters, climatologists, soil scientists, landscape architects, recreation specialists, engineers, and planners. The ERT operates with state funding under the aegis of the King's Mark Resource Conservation and Development (RC&D) Area - a 47 town area in western Connecticut.

As a public service activity, the team is available to serve towns and developers within the King's Mark Area --- free of charge.

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 the review of a wide range of significant activities including subdivisions, sanitary landfills, commercial and industrial developments, and recreation/open space projects.

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 official of a municipality or the chairman of an administration agency such as planning and zoning, conservation, or inland wetlands. Requests for reviews should be directed to the Chairman of your local Soil and Water Conservation District. This request letter must include a summary of the proposed project, a location map of the project site, written permission from the landowner/developer 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 King's Mark RC&D Executive Committee, the team will undertake the review. At present, the ERT can undertake two reviews per month.

For additional information regarding the Environmental Review Team, please contact your local Soil Conservation District Office or Richard Lynn (868-7342), Environmental Review Team Coordinator, King's Mark RC&D Area, P.O. Box 30, Warren, Connecticut 06754.