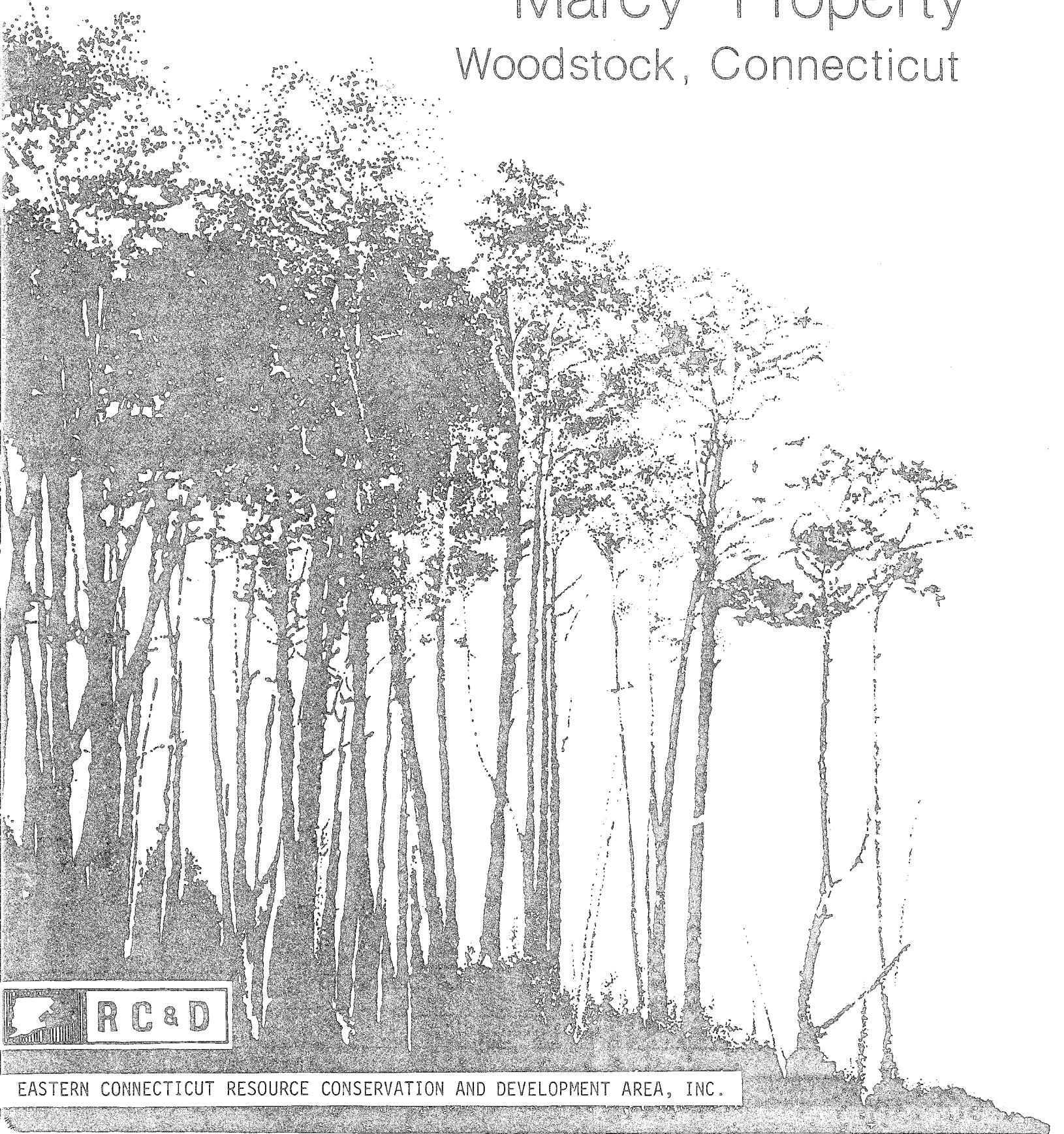


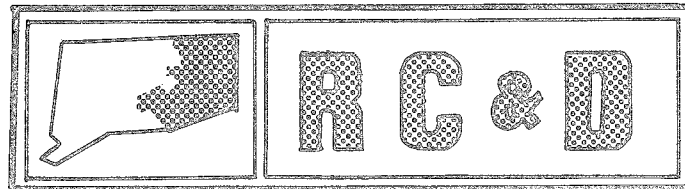
Environmental Review Team Report

Marcy Property Woodstock, Connecticut



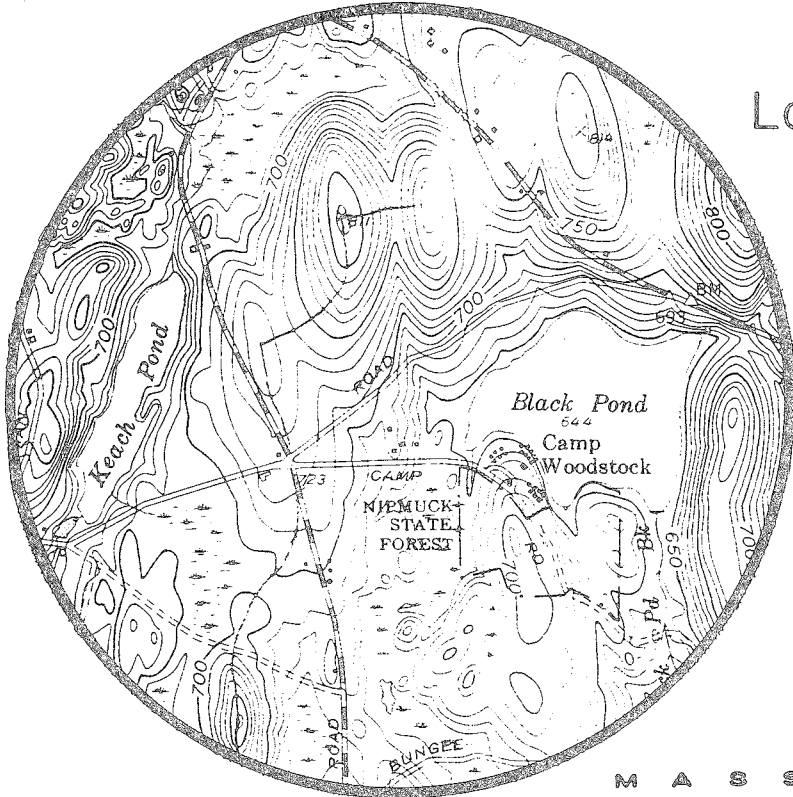
EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.

Environmental Review Team
Report
on
Marcy Property
Woodstock, Connecticut
February 1981



eastern connecticut resource conservation & development area
environmental review team
139 boswell avenue
norwich, connecticut 06360

Location of Study Site



MARCY PROPERTY
WOODSTOCK, CONNECTICUT



ENVIRONMENTAL REVIEW TEAM REPORT
ON
MARCY PROPERTY
WOODSTOCK, CONNECTICUT

This report is the outgrowth of a request from the Town of Woodstock to the Windham County Soil and Water Conservation District (S&WCD). The Eastern Connecticut Resource Conservation and Development (RC&D) Project Executive Council also approved the request as a project measure which was subsequently reviewed by the Environmental Review Team (ERT).

The soils of the site were mapped by a soil scientist from the United States Department of Agriculture, Soil Conservation Service (SCS). Reproductions of the soil survey map, a table of soils limitations for certain land uses, and a topographic map showing the property boundaries were forwarded to all members of the Team prior to their review of the site.

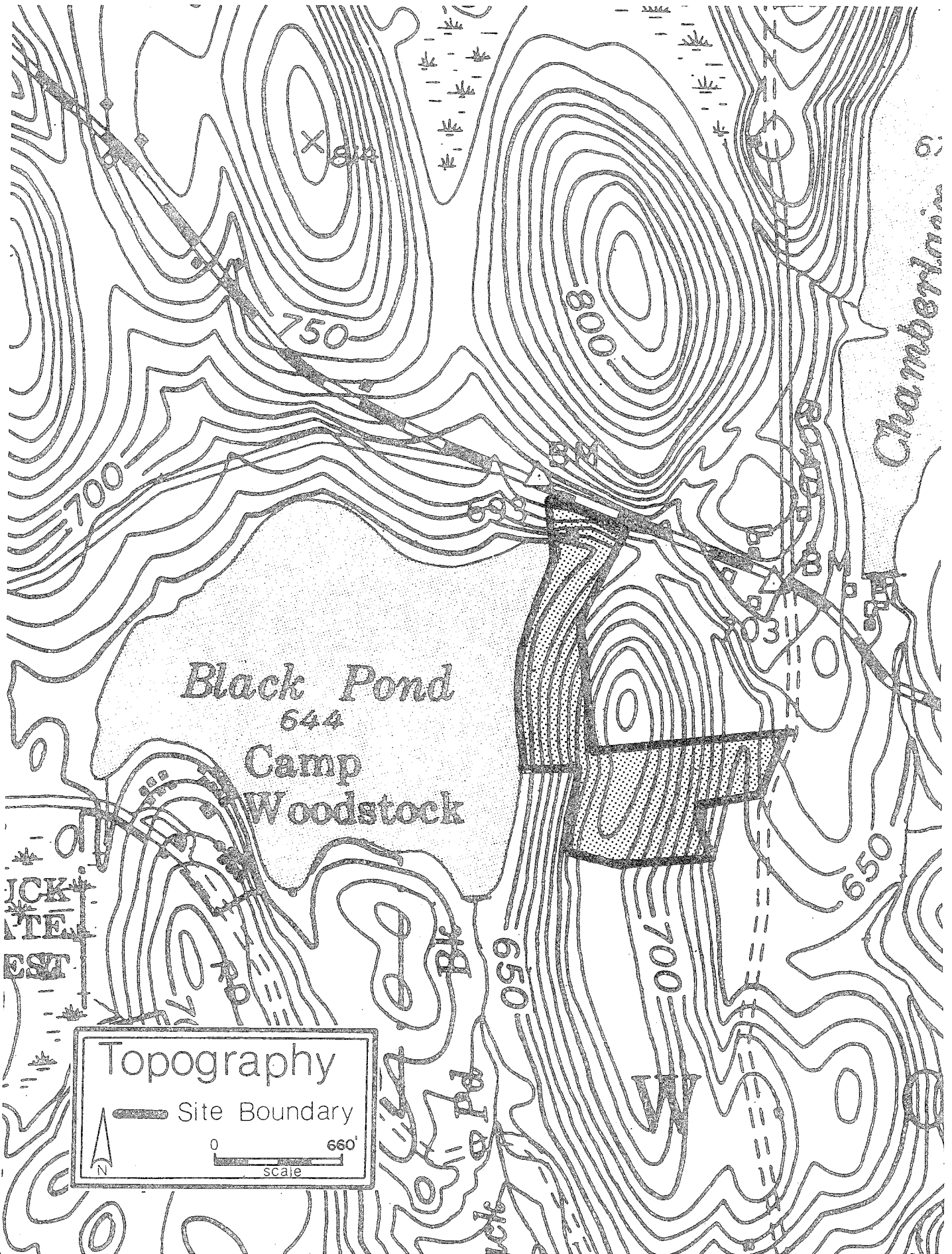
The Environmental Review Team that field-checked the property consisted of the following personnel: Howard Denslow, District Conservationist, SCS; Mike Zizka, Geologist, Connecticut Department of Environmental Protection (DEP); Rob Rocks, Forester, DEP; Andy Petracco, Recreation Specialist, DEP; John Cimochowski and Marcia Banach, Planners, Northeastern Connecticut Regional Planning Agency; Frank Homiski, Sanitarian, State Department of Health; and Jeanne Shelburn, ERT Coordinator, Eastern Connecticut RC&D Project.

The Team met and reviewed the site on Tuesday, November 25, 1980. Reports from each Team member were sent to the ERT Coordinator for review and summarization for this final report.

This report is not meant to compete with private consultants by supplying site designs or detailed solutions to development problems. As requested by the Town, this report, which identifies the existing resource base of the Marcy property, shall constitute the environmental assessment portion of the Town's open space application for federal Department of the Interior, Heritage Conservation and Recreation Service (HCRS) funds to assist in the acquisition of the Marcy property.

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

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



DESCRIPTION OF THE PROPOSAL

The Town of Woodstock is seeking to purchase a 23.3 acre tract of land on Black Pond. The property is located on the east side of the pond with 1,400' of waterfront access. The tract fronts on Rt. 197 and Marcy Road and roughly consists of two corner connected blocks of land with a narrow corridor at the corner juncture. The town hopes to use the property for both active and passive recreation. The pondside block of land has better traffic access (from Rte. 197) and is more suitable for active recreation.

Purchase of this property will enable the town to establish a new town beach area to provide for the swimming needs of Woodstock and nearby towns. The town is now planning to sell the only other town beach/swimming area located in a more remote section of Woodstock. The water frontage being considered on Black Pond would provide an excellent beach area, with the water deepening very gradually, moving out from the shore. Additionally, it should be possible to provide the camping, picnicking, hiking, boating and fishing opportunities sought by the town.

Black Pond is recognized as a clean, clear natural body of water approximately 73 acres in size. It is up to 23 feet deep with a average depth of 12 feet. It is stocked by the state with rainbow and brown trout. Fishing for smallmouth bass is reported good. There is a state launch on the opposite shore from the property under consideration. The watershed of the lake is mostly wooded. Being mostly wooded, and because there is almost no development around the shore, it is probable the water quality will remain good.

DESCRIPTION OF THE ENVIRONMENT

PRESENT/PAST LAND USE

The site at Black Pond which is currently being considered for purchase by the Town of Woodstock is presently used as a privately operated picnic and swimming area. The site itself is wooded, and land surrounding the site is partially wooded and partially in agricultural uses.

Black Pond has a small watershed area because it is surrounded by drumlin hills. The proposed site is unique because the surrounding land uses are easily controlled due to the small size of the watershed. Thus, it should prove relatively easy to ensure that the water quality of the pond remains unspoiled, especially if the site remains in the same land use patterns it now occupies.

SOCIO-ECONOMIC CONDITIONS

Population in Woodstock has experienced a 19% increase from 1970 to 1980. Housing units within the town have increased 30% during the same time frame. Average family income has increased from \$12,139 in 1970 to 18,000 in 1980 (a family is defined as 2.8 persons).

EXISTING TRANSPORTATION ROUTES

Accessibility to the site is by state highway and is very good. Access from the highway to the beach proper may present a problem, as the parcel under consideration for purchase includes only a portion of the access road which the owners of the site used. Consultation with NECRPA's professional engineer yielded the following observations: Sight distance all along the parcel frontage on Route 197 is excellent, and the construction of an access road would be non-hazardous to approaching traffic as turning cars would be easily visible from both directions. If an access road is constructed, an extremely large volume of fill would be required because of the steep grade from the highway to the pond. Standard engineering procedures include specifications for a right-angle turn from the main road, if possible, and at least 100 feet of the new road from the intersection to be no more than a 3% slope from the main road. These requirements combined with the existing situation at the pond will result in the extremely large fill requirement. If fill is available at little or no charge to the town, this project would be financially feasible for the town to undertake. Another alternative which Woodstock might consider is obtaining a right-of-way agreement with the owners of the property which contains the remainder of the existing access road.

SURFACE/SUBSURFACE GEOLOGIC CONDITIONS

The Marcy property is located on a drumlin in the midst of what is probably the most extensive drumlin field in the State of Connecticut. Drumlins are hills composed of glacial sediment which was deposited directly from an ice sheet and which was simultaneously or subsequently overridden and streamlined by the ice. Drumlins are most commonly shaped like the bowl of an inverted spoon, but they may be anything from hemispherical to cigar-shaped (the Marcy drumlin is closest in shape to the latter). The sediment comprising the drumlin is called till. Till contains the full range of rock-particle sizes from clay to boulders in a nonsorted mixture. Due to irregularities in sediment sources, length of transport, and depositional processes, the texture of till may range from coarse-grained and loose to clayey and tightly compact. The till on the Marcy property is sandy, stony, and relatively loose in the upper few feet but it becomes siltier and very compact at depth. The change from one type of till to the other may be abrupt. Where compact till is encountered, it is commonly called "hardpan". This material is very slowly permeable, so an intense or extended rain may quickly saturate the upper soil levels. Evidence of this was seen on the day of the field review following a period of precipitation: numerous seeps from the western hillside across the present access road were observed.

No bedrock was seen on the site. Presently available data suggests that the thickness of the till deposit at the crest of the drumlin may exceed 50 feet. Interpretation of regional outcrops indicates that the bedrock underlying the till is composed of foliated metamorphic rocks whose principal mineral constituents are quartz, plagioclase, and biotite. Scattered calc-silicate-mineral and hornblende layers are present, as are lesser percentages of potash feldspar, garnet, muscovite, sillimanite, graphite, sulfide minerals, and other components. Neither the till nor the bedrock has any substantial economic value.

SOILS

Soils typical of this site include the Canton-Charlton series, the Paxton series and the Ridgebury, Leicester and Whitman series. Descriptions of these soils are as follows:

3B Canton and Charlton fine sandy loams, 3 to 8 percent slopes. These gently sloping, well drained soils are on ridges, hills, and side slopes of glacial till uplands. Areas are mostly rectangular or irregular in shape and mostly range from 3 to 30 acres. Slopes are mostly smooth and convex and 200 to 400 feet long. About 45 percent of the mapped acreage of this unit is Canton soils, 40 percent is Charlton soils, and 15 percent is other soils. These soils were mapped together because they have no significant differences in use and management. The water table is commonly deeper than 6 feet. The available water capacity is moderate. The permeability of the Canton soils is moderately rapid in the surface layer and sub-soil and rapid in the substratum. The permeability of the Charlton soils is moderate or moderately rapid. Runoff is medium to rapid. This unit is well suited to community development. In places, steep slopes of excavations in Canton soils are unstable. Establishing quick plant cover, mulching, and using siltation basins are suitable management practices to control runoff and erosion during construction. The soils of this unit are well suited to most recreational uses.

3XB Canton and Charlton very stony fine sandy loams, 3 to 8 percent slopes. These gently sloping, well drained soils are on ridges, hills, and side slopes of glacial till uplands. Areas are mostly long and narrow or oval and range from 5 to 50 acres. Slopes are mostly smooth and convex and are 200 to 400 feet long. Stones cover 1 to 8 percent of the surface. The soils were mapped together because they have no significant differences in use and management. The water table is the same as 3B. Runoff is medium. The soils of this unit are well suited to community development. In places, steep slopes of excavations in Canton soils are unstable. Stones and boulders need to be removed for landscaping. Establishing quick plant cover, mulching, and using siltation basins are suitable management practices to control runoff and erosion during construction. The soils of this unit are poorly suited to most recreational uses because of stoniness.

3MC Canton and Charlton extremely stony fine sandy loams, 3 to 15 percent slopes. These gently sloping to sloping, well drained soils are on ridges, hills, and side slopes of glacial till uplands. Areas are oval or irregular in shape and range from 5 to 100 acres. Slopes are mostly smooth and convex and are 100 to 600 feet long. Stones cover 8 to 25 percent of the surface. These soils were mapped together because they have no significant differences in use and management. The water table is the same as 3B. Runoff is medium to rapid. The soils of this unit are well suited to community development. The steepness of slope is the main limitation. Onsite septic systems need careful design and installation to prevent effluent from seeping to the surface. Steep slopes of excavations are unstable. Stones and boulders need to be removed for landscaping. Establishing quick plant cover, mulching, and using siltation basins are suitable management practices to control runoff and erosion during construction. The soils of this unit are poorly suited to most recreational uses because of the stoniness.

3MD Canton and Charlton extremely stony fine sandy loams, 15 to 35 percent slopes. These moderately steep to steep, well drained soils are on ridges, hills, and side slopes of glacial till uplands. Areas are mostly long and narrow and range from 5 to 30 acres. Slopes are smooth and convex and are mostly less than 200 feet long.

Stones cover 8 to 25 percent of the surface. These soils were mapped together because they have no significant differences in use and management. The water table is the same as 3B. Runoff is rapid. The soils of this unit are poorly suited to community development because of the steep slopes. Onsite septic systems need careful design and installation to prevent effluent from seeping to the surface downslope. Steep slopes of excavations are unstable. Stones and boulders need to be removed for landscaping. Establishing quick plant cover, mulching, and using siltation basins are suitable management practices to control runoff and erosion during construction.

35C Paxton fine sandy loam, 8 to 15 percent slopes. This sloping, well drained soil is on sideslopes of drumlins and hills of glacial till uplands. Areas are mostly oval or long and narrow and range from 4 to 20 acres. This soil has a perched water table at a depth of about 2 feet for several weeks in the spring. The soil has a moderate available water capacity. This soil has moderate permeability in the surface layer and subsoil and slow to very slow permeability in the substratum. Runoff is rapid. This soil is fairly suited to community development. It is limited mainly by the steepness of slope and the slow or very slow permeability of the substratum. Onsite septic systems require careful design and installation to prevent effluent from seeping to the surface downslope. Steep slopes of excavations slump when saturated. Foundation drains help prevent wet basements. Lawns are commonly wet and soggy in autumn and spring. Establishing quick plant cover and the use of mulch and siltation basins are suitable management practices to control runoff and erosion during construction. This soil is fairly suited to most recreational uses. It is limited mainly by the steepness of slope and the slow to very slow permeability of the substratum.

35D Paxton fine sandy loam, 15 to 25 percent slopes. This moderately steep, well drained soil is on the sideslopes of drumlins and hills of glacial till uplands. Areas are mostly oval or long and narrow and range from 4 to 20 acres. The water table is the same as 35C. This soil is poorly suited to community development, and is limited mainly by the steep slopes and the slow to very slow permeability of the substratum. Onsite septic systems need careful design and installation to prevent effluent from seeping to the surface downslope. Foundation drains help prevent wet basements. Steep slopes of excavations slump when saturated. Lawns are commonly wet and soggy in autumn and spring. Controlling erosion is a major concern during construction. Establishing quick plant cover and the use of mulch and siltation basins are suitable management practices to control runoff and erosion during construction. This soil is poorly suited to recreational uses because of the steep slopes.

35XB Paxton very stony fine sandy loam, 3 to 8 percent slopes. This gently sloping, well drained, soil is on the tops and sideslopes of drumlins and large hills of glacial till uplands. Areas are mostly oval or irregular in shape and range from 3 to 50 acres. Stones and boulders cover 1 to 8 percent of the surface. The water table is the same as 35C. Runoff is medium. This soil is fairly suited to community development. It is limited mainly by the slow to very slow permeability of the substratum. Onsite septic systems require careful design and installation. Steep slopes of excavations slump when saturated. Foundation drains help prevent wet basements. Lawns are commonly wet and soggy in autumn and spring. Stones need to be removed for landscaping. Establishing quick plant cover and the use of mulch and siltation basins are suitable management practices to control runoff and erosion during construction. This soil is poorly suited to some recreational uses because of stoniness.

35XC Paxton very stony fine sandy loam, 8 to 15 percent slopes. This sloping, well drained soil is on the sideslopes of drumlins and hills of glacial till uplands. Areas are mostly oval or irregular in shape and range from 4 to 20 acres. Stones and boulders cover 1 to 8 percent of the surface. The water table is the same as 35C. This soil is fairly suited to community developments. It is limited mainly by the steepness of slope, stoniness, and the slow or very slow permeability of the substratum. Onsite septic systems need careful design and installation to prevent effluent from seeping to the surface downslope. Steep slopes of excavations slump when saturated. Foundation drains help prevent wet basements. Lawns are commonly wet and soggy in autumn and spring. Stones need to be removed for landscaping. Establishing quick plant cover and the use of mulch and siltation basins are suitable management practices to control runoff and control erosion during construction. This soil is poorly suited to some recreational uses because of stoniness and the steepness of slope.

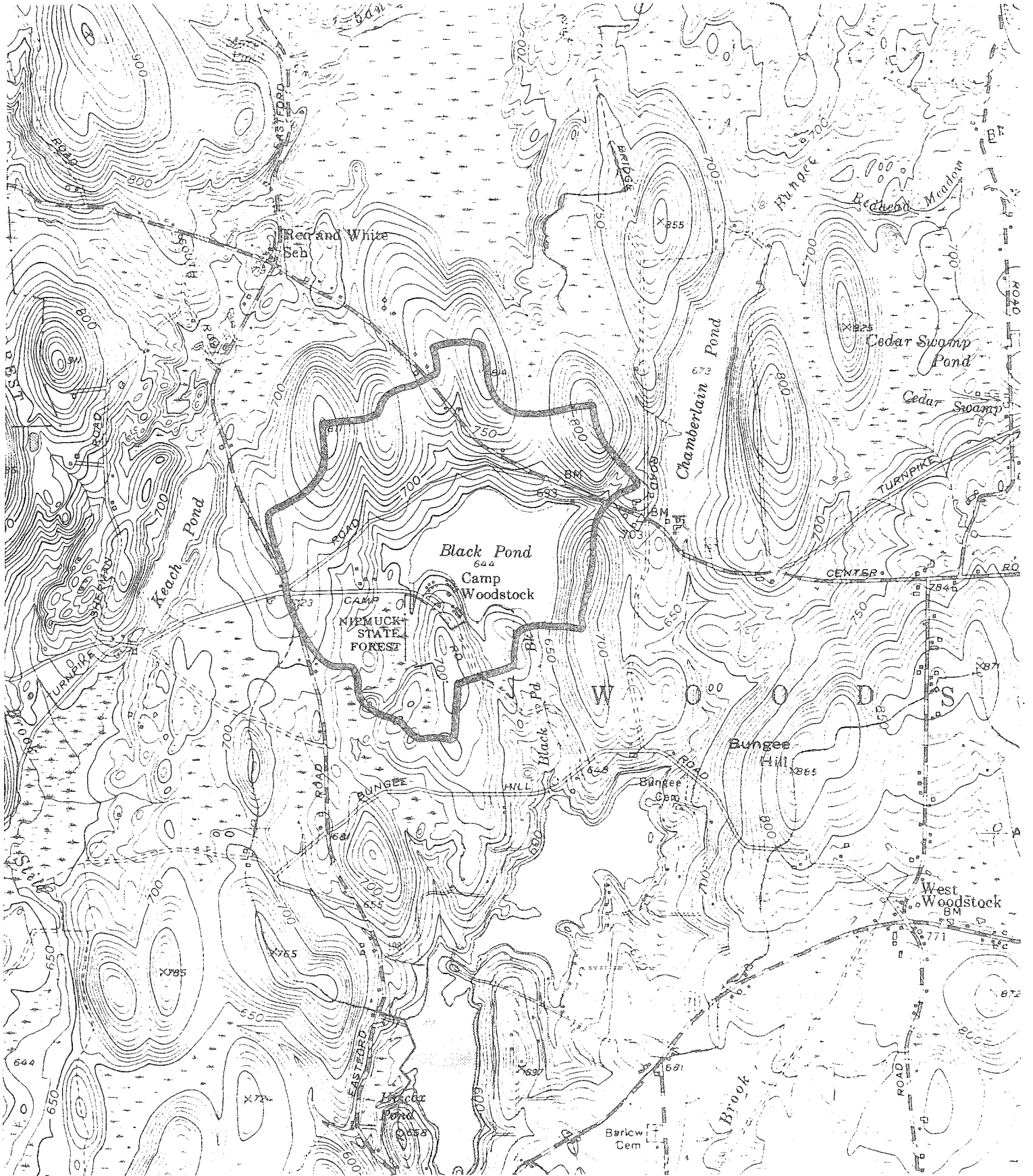
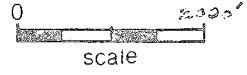
35MC Paxton extremely stony fine sandy loam, 3 to 15 percent slopes. This gently sloping to sloping, well drained soil is on the tops and sideslopes of drumlins and large hills of glacial till uplands. Areas are mostly oval or irregular in shape and range from 5 to 60 acres. Stones and boulders cover 8 to 25 percent of the surface. The water table is the same as 35C. Runoff is medium to rapid. Description for community development is the same as the one for 35XC. This soil is poorly suited to most recreational uses because of stoniness.

35MD Paxton extremely stony fine sandy loam, 15 to 35 percent slopes. This moderately steep to steep, well drained, soil is on sideslopes of drumlins and hills of glacial till uplands. Areas of this soil are mostly oval or long and narrow and range from 5 to 25 acres. Stones and boulders cover 8 to 25 percent of the surface. The water table is the same as 35C. This soil is poorly suited to community developments because of the steep slopes and the slow or very slow permeability of the substratum. Description for community development is the same as the one for 35XC. This soil is poorly suited to recreational uses. It is limited mainly by the steep slopes and stoniness.

43M* Ridgebury, Leicester and Whitman extremely stony fine sandy loams. This unit consists of nearly level, poorly drained and very poorly drained soils in depressions and drainageways of glacial till uplands. Areas are mostly long and narrow or irregular in shape and range from 5 to 150 acres. Slopes range from 0 to 5 percent and are mostly 100 to 300 feet long. Stones cover 8 to 25 percent of the surface. About 40 percent of the mapped acreage of this unit is Ridgebury soils, 35 percent is Leicester soils, 15 percent is Whitman soils, and 10 percent is other soils. Some areas of this unit consist of one of these soils and were mapped together because they have no significant differences in use and management. The Ridgebury and Leicester soils have a seasonal water table at a depth of about 10 inches from fall through spring, and the Whitman soils have a water table at or near the surface from fall through spring. These soils have a moderate available water capacity. Runoff is slow. The soils of this unit are poorly suited to community development. Wetness and the slow to very slow permeability are the major limitations. Steep slopes of excavations slump when saturated. Areas used for onsite septic systems require extensive filling. Surface stones need to be removed for landscaping. Lawns are wet and soggy most of the year.

* designated wetland soil by P.A. 155.

Watershed Area



Used for limited private recreation in the past, i.e. picnicking, swimming, cabin camping, etc., the property consists of two rather separate areas. From a water frontage of approximately 1,400 feet the land climbs to an elevation approximately 65 feet above the water. The upper segment of the property climbs another 20-25 feet to the top of a glacial drumlin. The upland soils are all derived from glacial till. There are varying degrees of (Paxton) fine sandy loam where the topographic level rises. The slope, stoniness, and hardpan, present extreme limitations to residential development. However, these characteristics would present less limitations to well-planned recreational use. Seasonally, water will seep from these soils as one moves downslope since, once saturated, the hardpan layer will perch water above it. Such subsurface seepage and surface runoff could be intercepted and diverted from a road and beach area developed across the slope.

WATER RESOURCES

The Marcy property's principal and most obvious water resource is the adjoining Black Pond. One of the few natural medium-sized to large lakes in the state, Black Pond has a relatively small drainage area of approximately 460 acres (about 0.7 square miles). The surface area of the pond is approximately 73 acres; its maximum depth is about 23 feet and its average depth is about 12 feet. The pond is supplied almost entirely by groundwater and has no major perennial inlet streams (intermittent drainage from a wetland located south of the western end of the pond flows into the pond through a well-defined but short channel). Black Pond Brook, the outlet stream, is a feeder stream for Lake Bungee, a large real-estate lake one-half mile south of Black Pond. A summary of data for the pond is included in the Appendix.

In view of the natural conditions surrounding Black Pond (at the present time there is very little development within the watershed) and the small size of its drainage area, an unusual opportunity exists to control the destiny of the pond. The quality of the pond will largely be tied to the usage of the surrounding land. Shoreline development of the density now existing around Lake Bungee and Witches Wood Lake would be very detrimental to Black Pond since, unlike those other lakes, the pond is not buffered by drainage arising from areas far removed from its shoreline. In fact, the point on the watershed boundary that is farthest from the pond is only one-half mile away.

The State of Connecticut owns approximately 27 acres of forest land within the watershed of Black Pond. Ostensibly, this tract is safe from development pressure. If the town purchases the Marcy property, another 31 acres of watershed land would be preserved. Hence, a total of approximately 58 acres, or about 12.5 percent of the overall watershed, would be protected. Of course, the pond itself is not available for construction activities, so that the Marcy purchase would effectively provide control over about 28.5 percent of the watershed. This "safe" area would serve a similar purpose to the "buffer" land in the Witches Woods Lake and Bungee Lake watersheds, as described above.

Being a till-covered area, the Marcy property, and indeed the entire Black Pond watershed, contains no substantial groundwater resources. Although the till and the underlying bedrock are generally suitable for the establishment of low-yielding wells, it is unlikely that a well yielding more than 50 gallons per minute could be easily developed on the site.

The two existing dug wells will have to be upgraded so that they will meet the requirements of Section 19-13-B51 of the Connecticut Public Health Code. Necessary repairs include replacement of well covers with a type made of reinforced concrete at least four inches thick. They must be of a diameter to overlap the casing or side walls by at least two inches. A tight joint must be provided between the casing and cover. To provide water to a toilet building with water flush toilets and hand washing fixtures, an electric pump will have to be utilized. This can be either a submersible or suction type. If a suction pump is utilized, the pump shall rest on a slab which is sloped to drain away from the pump and drop pipe sleeve.

The results of well water samples collected on December 3, 1980 indicate that water from the well near the cabin met the requirements for potable water as set by the Public Health Code. Water from the well near the entrance road met the bacteriological requirements for a potable water but was found to be unsatisfactory due to high turbidity. The turbidity problem may be caused by oxidation of the hand pump, which can be resolved by flushing the well at frequent intervals. Acceptable water analysis results do not preclude the need for proper well construction.

The wells should have yield tests conducted to ensure their ability to provide an ample quantity of safe water for the anticipated usage at this facility.

Results of laboratory analysis indicate that bathing water quality is acceptable.

A beach area will have to be developed, with the removal of trees, boulders and some top soil to allow for the installation of beach sand while permitting an unobstructed view of the bathing area of the lifeguards.

VEGETATION

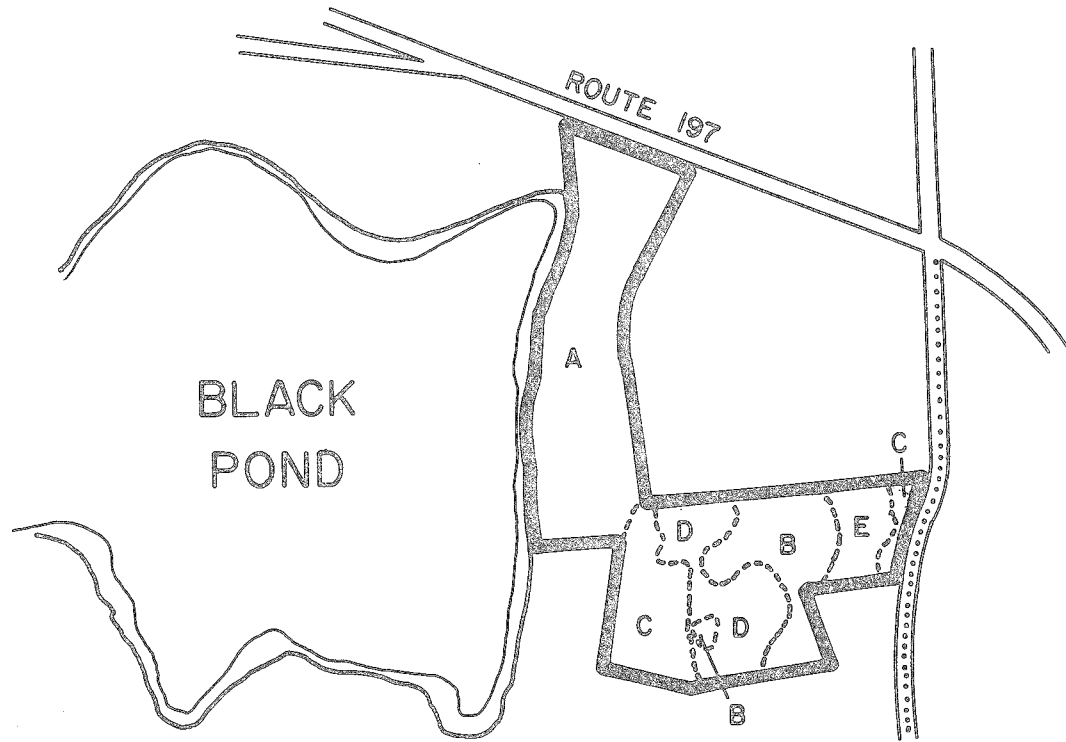
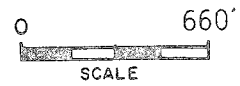
Vegetation found on the site has been divided into five major vegetation types. Descriptions of these units are as follows:

Type A (Softwood/Hardwood). This 10⁺-acre fully-to overstocked stand is made up of seedling to sawtimber-size black oak, white oak, red oak, eastern white pine, hemlock, black birch, yellow birch and occasional pitch pine. Witch-hazel, mountain laurel, flowering dogwood, maple-leaf viburnum, eastern white pine seedlings, hemlock seedlings and hardwood tree seedlings are present in the understory. Ground cover consists of grasses, Christmas fern, club moss, pipsisewa and periwinkle.

Type B (Pine). Pole and occasional sawtimber-size eastern white pine, and eastern hemlock are present in this 4⁺-acre fully-stocked stand. Scattered pole-size red oak, black oak, white oak and shagbark hickory are also present but not in high numbers. The understory is dominated by mountain laurel, and hemlock seedlings. Grasses, Christmas fern and old field juniper form the ground cover in this stand.

Type C (Old Field). Four acres of old fields are present within this tract. A dense growth of old field juniper has become established and is competing with the sapling-size white pine, red pine and scotch pine which are present. Multi-flora rose, gray birch seedlings and white oak seedlings are intermixed with the pine in this under-stocked area. Grasses, goldenrod and milkweed form the ground cover.

Vegetation



LEGEND

	Paved Road
	Gravel Road
	Property Boundary
	Vegetation Type Boundary

VEGETATION TYPE DESCRIPTIONS*

TYPE A.	Softwood/hardwood, 10 \pm acres, fully to over-stocked, seedling to sawtimber-size.
TYPE B.	Pine, 4 \pm acres, fully-stocked, pole to sawtimber-size.
TYPE C.	Old field, 4 \pm acres, under-stocked, sapling-size.
TYPE D.	Mixed hardwoods, 3 \pm acres, over-stocked, pole-size
TYPE E.	Hardwood swamp, 2 \pm acres, under-stocked, sapling-size.

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

Type D (Mixed Hardwoods). This 3¹/₂ acre over-stocked stand consists of poor quality pole-size black oak, shagbark hickory and black cherry along with scattered white pine and pitch pine. Patches of mountain laurel, gray birch and white pine seedlings are present in the understory. Ground cover vegetation is made up of grasses, club moss, Christmas fern, barberry and poison ivy.

Type E (Hardwood Swamp). Poor quality sapling-size red maple in clumps on hummocks are present along with occasional white ash and yellow birch in this under-stocked stand. Winter berry, high bush blueberry and poison summac are present in the understory. Ground cover vegetation is made up of tussock sedge, skunk cabbage, swamp loose-strife, cinnamon fern, sensitive fern and sphagnum moss.

WILDLIFE

The Marcy property is frequented by a number of different wildlife species. These include, but are not limited to raccoons, deer, porcupine, rabbits, squirrel, possum, skunks, ruffed grouse and seasonal songbirds. The upper field provides a diversified habitat for game species.

FISH

The pond is stocked twice a year with trout and also contains Bass, Pickerel, Calico Bass, Alewives, yellow perch, sunfish and bullheads. Fishing is fair to good.

Purchase of the Elford Marcy property would help to stop development of adjacent lake property and keep the pond clear of algae. Submergent and emergent vegetation growth is relatively stable at present. Housing development would probably change this present ideal balance.

PROBABLE FUTURE ENVIRONMENT

If not secured by the Town for future recreation, the land will probably be developed for private recreational subdivision. This type of development could have detrimental affect to the lake considering the severe limitations of slope, seasonally wet soils, and stoniness. If not purchased, town officials should guide private development carefully. Residential development around ponds and lakes has historically contributed to increased water quality problems. Thus the site could suffer detrimental environmental effects should this site be utilized for other than recreational uses. Purchase of the site by Woodstock would result in negligible land use changes.

ENVIRONMENTAL IMPACT

EFFECT ON LAND USE

The proposed use will have no detrimental effect on present land use on the site and in the surrounding area.

EFFECT ON SOCIO-ECONOMIC CONDITIONS

The purchase of the site would not affect socio-economic conditions in Woodstock. Some increase in the local tax rate may be experienced, depending upon financing of the purchase; however, since there will be an exchange of maintenance of one beach site for another, there should be no effect on tax rates for yearly maintenance.

EFFECT ON TRANSPORTATION ROUTES

Transportation routes should not be seriously affected as the site is not large enough to accommodate large numbers of people. The state highway is in good repair and has a low volume usage. Turning problems are not anticipated as sight distances are adequate.

EFFECT ON WATER RESOURCES

Acquisition of the Marcy property and development of a beach area should not seriously affect local water resources. The major sources of potential contamination from the project would be toilet facilities and the act of swimming itself. However, considering the small volume of wastewater that would be discharged through septic systems and the substantial volume of the pond (about 286 million gallons), the overall risk is negligible. According to a formula used by the Department of Health Services, the pond can safely accommodate about 1600 swimmers per day without causing a serious risk of bacterial contamination. The development of the property for swimming and other recreation will not involve the creation of more impermeable surfaces if existing beach houses are either utilized or removed and replaced. Hence, no runoff increases are anticipated.

In contrast, development of the site for housing, the most likely ultimate use if the town does not purchase the property, would probably involve greater volumes of wastewater discharges, and the potential for significant runoff increases. Because of the steep slopes and the marginal ability of the soils to process septic-system effluent, problems of erosion and sedimentation or contamination of the pond in the vicinity of the site may occur.

SOLID WASTES

A recreational area must provide adequate sanitary facilities capable of accommodating those who utilize the area. This is especially true in areas where public bathing is permitted.

This area is not served by public sanitary sewers. Therefore an alternative means of waste disposal must be provided. This can be accomplished by the installation of on-site subsurface sewage disposal systems or the less desirable alternative of pit or vault privies or chemical toilets.

Because of slope, wetness and/or slow permeability, the installation of on-site subsurface sewage disposal systems would be contingent upon soil investigation and testing, a good engineering design and proper construction and supervision.

Electrical and telephone lines would have to be installed to provide the necessary means to operate electrical pumps and lights and to enable the area to have a telephone for emergency and public use.

An adequate number of conveniently located covered containers should be provided for the sanitary storage of refuse. This will aid in the prevention and control of rodent, animal and insect problems. Refuse should be collected on a regular basis with final disposal at an approved off-site sanitary landfill.

EFFECT ON VEGETATION

The proposed utilization of this property for passive recreation such as hiking, picnicking and youth group camping will have some negative impact on area vegetation.

The extent of losses due to original clearing operations will depend primarily on the magnitude of the development. Removal of some of the vegetation to open up the camping and picnic areas to increase sunlight and air flow will be necessary. Clearing operations should remove only the lowest quality trees and those which are a direct hazard to area users. The larger, healthier, high vigor trees should be retained for their shade and aesthetic value.

After development of this property further losses of vegetation may come about. These losses may be attributed to mechanical roof injury, soil compaction, direct trampling and vandalism along the trails and in the picnic and camping areas. These vegetation losses will reduce the aesthetic quality of the area, and potentially cause accelerated erosion in the more steeply sloped sections. These disturbances will also accelerate mortality of low vigor unhealthy trees.

EFFECT ON WILDLIFE

Change of use from basically woodland/wildlife-land to recreation area should cause only minimal disturbance to wildlife. Most recreation areas are not used when wildlife are active during earlier morning and late evening as well as during nighttime hours. The southern area on top of the hill descending to the wetland to the east of Marcy Road, provides the most diverse habitat. This area is probably more frequented by wildlife. Consisting of an overgrown 2-3 acre field, a mature woodland stand, and a swamp, this area might best be used only for trail-oriented recreation. Wildlife would be least disturbed. A small clearing might be developed for backpack camping. Seeding of grasses on trails, on an access road (if infrequently used) to the upper area, and in any clearings developed could encourage wildlife. Access to water would still be available even if not within the confines of the property.

MITIGATING MEASURES

Development of the lower areas upslope from the Black Pond frontage would require clearing some trees, some earthmoving to grade out a parking area, beach area, and an access road. Surface drainage would also need to be intercepted and directed. If possible, purchase of additional road frontage east of the present eastern boundary - toward the Marcy's home - would be desirable to allow easier construction of an

entrance road from Route 197. Otherwise construction of an entrance road west of the stonewall boundary will require more fill. In either case a road swinging down into the property will cross a drainageway. Runoff should be piped under this entrance road, and perhaps under a parking lot, if the latter is established here. Any pipe or possibly open drainage installed should safely discharge runoff where it will not cause soil erosion before entering the lake.

Surface water and ground seepage should be intercepted with a diversion or ditch cut across the slope immediately above an access road (and beach area) leading back to the cabins. If a road branches off and climbs the slope diagonally to the southern upper portion, water bars should be installed to control the runoff. This need and these other drainage measures mentioned should be considered and outlined in a plan of development for the property once purchased. Without intercepting uphill runoff, a beach could erode seriously. A town boat launch area could be developed just off a parking lot north of the beach, however, a state boat launch does exist.

Root injury and vandalism damage are already apparent along the presently existing trails near Black Pond. Many of the affected trees are rapidly declining in health and some are already dead. These trees represent a clear hazard to area users. It would be desirable to remove the dead and damaged trees which are directly adjacent to the trails and the pond.

Careful planning and wise layout of the proposed trails, picnic sites and camping areas are essential to minimize potential problems. Trails should be developed following, for the most part, natural land contours. They should also avoid wet areas and very steeply sloped areas. Picnic and camping sites should be located on well drained soils, preferably with no hardpan layers.

The trails, picnic and camp sites should all be well defined and clearly marked. This should help to limit extensive soil compaction, root injury and trampling of herbaceous vegetation outside these areas.

Root injury and soil compaction may be reduced by spreading wood chips several inches deep along heavily used foot trails, and in picnic and camping areas. As wood chips rot they lose their effectiveness and should be replaced. Wood chips are also used as kindling for campfires at picnic and camp sites. Crushed stone or cinders spread over these areas also reduce soil compaction and are more permanent than wood chips, however, they are usually much more costly.

It is extremely important that provisions for trail, picnic and camping area maintenance be established prior to development of this parcel. If provisions for future maintenance are not made, these areas will rapidly decline in quality.

Vegetation Management

Many of the trees which are present in vegetation type A (Softwood/Hardwood) and vegetation type D (Mixed Hardwoods), are declining in health and vigor, due to crowding. These stands have many damaged and cull trees which may become hazardous as the area becomes more heavily used. It would be desirable from a safety and vegetation health standpoint to remove between one fourth and one third of the total number of the trees present in the overstory. These thinnings should focus on removing damaged and unhealthy trees (at this same time all trees which represent a hazard should be removed.) Three to six cords of fuelwood will be produced if these thinnings are implemented.

A public service forester or consulting forester should be contacted to help the town mark the trees that are to be removed for the thinnings.

ADVERSE ENVIRONMENTAL IMPACTS

No unavoidable adverse impacts on the resource base of the site would be anticipated if the project proceeds as planned.

IRREVERSIBLE COMMITMENTS OF RESOURCES

No irreversible commitments of resources are involved in the proposed project.

RECREATION POTENTIAL

At the northeast corner of Black Pond there is a laneway leading to the water's edge which could easily be used to establish a boat launch area (B.L.A.). Application of processed gravel on this path and providing for adequate drainage should be all that is necessary to providing such a facility. There is a state-operated B.L.A. on the south side of Black Pond. With the limited size of usable area for parking on the Marcy tract, it may be advantageous to limit launching here to car top variety boats as long as there is the option to trailer launch boats and park at the state facility on the other side of the pond. This would also serve to minimize a potential conflict stemming from the use of motorized boats in relative proximity to the swimming area to be established on this property.

A good portion of the shoreline of the Marcy tract is usable for swimming. The slope of the pond bottom is fairly uniform on this side of the pond. There are some boulders in the pond which should be removed from an area proposed for swimming. If these can be relocated either to the north or south (or both) of the beach and put in a line perpendicular to the shore, they can help delineate the beach limits to boaters. Additionally, if there were sufficient separation of such jetties from the beach proper, they may be usable by fishermen. Though the pond has no control structure, there is a small dam at the outflow on the southeast part of the pond which, if breachable, may enable lowering the pond a few feet to expedite beach work.

The pond bottom on this shore appears to be largely gravel and rock. Relocation of the larger rocks and application of washed sand should make for a rather attractive swimming area albeit one with a narrow beach area because of the slope of the shoreline.

Since the land corridor, along the pond, being proposed for picnicking and a swimming beach is rather steep, measures should be taken to minimize the potential for erosion and siltation of the pond. Tree losses, largely from foot traffic and resulting soil compaction, are to be expected but can be minimized by application of wood chips on the gentler slopes where picnicking would be occurring. Wood chip use is less practical on steeper slopes receiving foot traffic so that other methods,

such as the planting of "barrier" shrubs, may be necessary to lessen the impact of foot traffic on existing trees. Evidence can be seen of root damage to trees located in the areas which have been getting heavy traffic. Protection of these trees from avoidable weakening effects (such as mechanical injury) will make for an attractive recreation area providing adequate shade and containing trees of sufficient vigor to minimize the chance of falling dead limbs causing injury.

A trail network could be established on the tract and via which access could be provided to the eastern block of land fronting on Marcy Road. Access to the property from Marcy Road is virtually precluded by a wetland near that road. Because of soil, slope, and access restrictions imposed on the eastern block of the tract, its use may best be limited to trails and backpack camping.

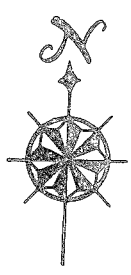
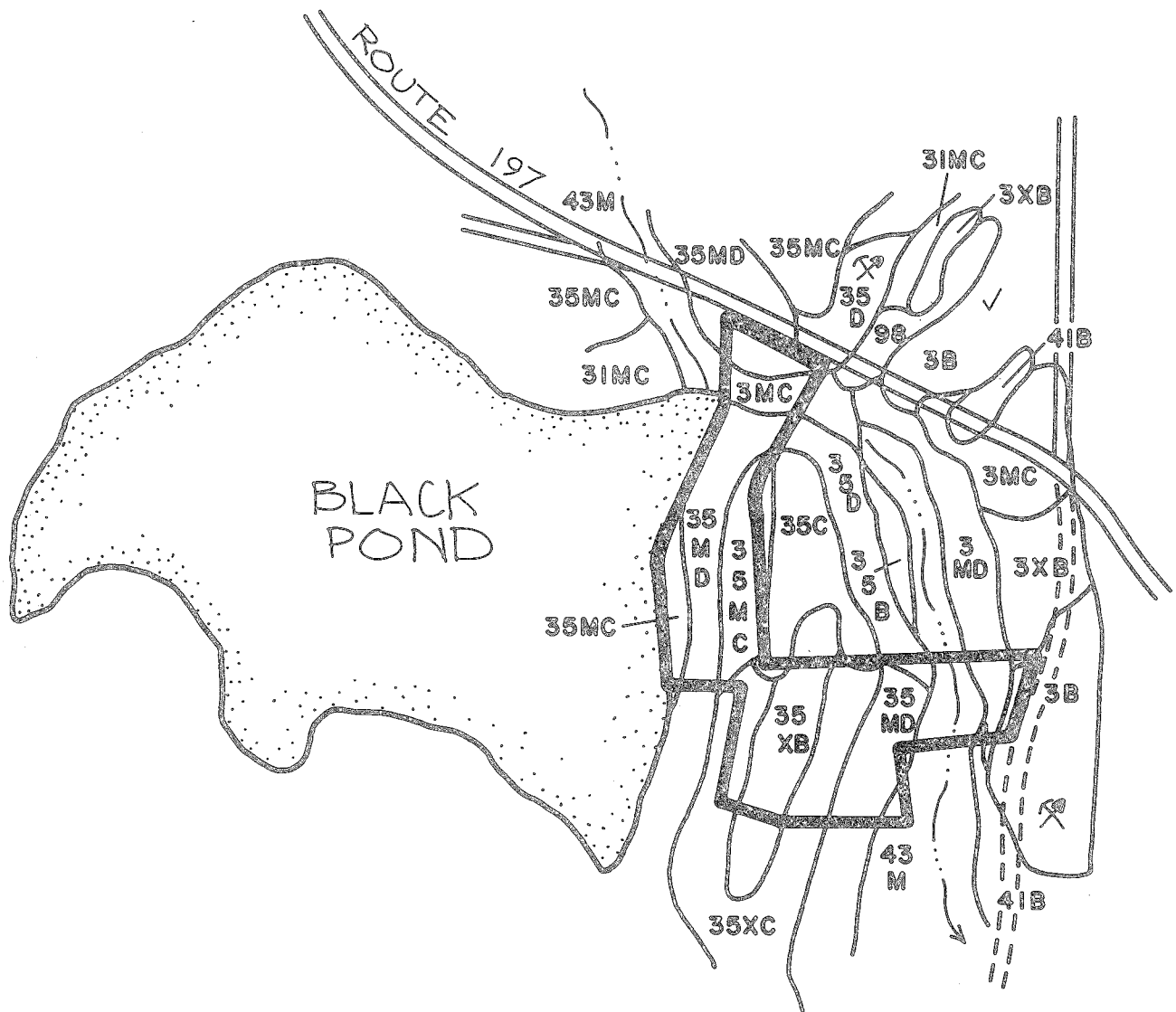
The camping potential seems to lie mainly in use of the existing cabins or in backpack type camping on the east side of the ridgetop.

With the fairly steep slopes found on the site, roads and paths should be so routed that grades are as gentle as possible. They should be constructed in a manner which reduces the erosion potential by routing runoff water from them into noncritical areas where its cutting force may be dissipated harmlessly.

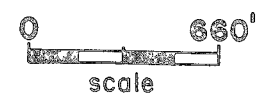
Swimming and picnicking are usually high priority activities with areas available to provide for these needs normally in short supply. It is anticipated that if phased development of the tract were to occur, the initial work would be aimed at providing for these two activities. The lower priority needs could subsequently be provided, though a determination of zones of use and designation of areas for specific activities should be made before any site development work is begun. A coordinated plan for development should therefore be prerequisite to any site modification.

It is anticipated that if the Marcy tract were not purchased by the town, the property would eventually be developed for housing. Restrictive soils and slope would force high development costs, but the demand for homesites near water bodies will likely find potential homeowners who can afford these high costs. Valuable open space and recreation land which could provide opportunities for continued use by many people, would then become the private domain of the few residing there. Purchase of this property by the Town of Woodstock offers the highest probability of the land remaining available for recreational use by the greatest number of people. Development of homesites on slopes close to ponds and lakes usually results in a reduction of the quality of water in them because of sewage leachates and lawn fertilizer run-off introducing undesirable nutrients. A properly designed and built town recreation area is not anticipated to cause appreciable degradation of water quality in Black Pond.

Appendix



Soils



CN-CONS-7
3-73
(File Code U. S. DEPARTMENT OF AGRICULTURE
CONS-14-5)

SOIL AND NATURAL SOIL GROUPS MAP

Prepared by

Cooperating with
CONNECTICUT AGRICULTUREAL EXPERIMENT STATION,
STORRS AGRICULTURAL EXPERIMENT STATION, AND
Windham County SOIL AND WATER CONSERVATION DISTRICT

COOPERATOR Black Pond - Marcy Property, Woodstock, Ct. DATE 11/5/80
COUNTY Windham STATE Connecticut
APPROX. SCALE 1"=1320' SOIL MAP NUMBER 224-116

SYMBOLS

324-B-1 or CaB = DETAILED SOIL SURVEY
A-1a, B-2a, etc. = NATURAL SOIL GROUP

Soil Map Symbol	SOIL NAME	N. S. Group	Sheet No.
#3B	Canton & Charlton fine sandy loams, 3 to 8 percent slopes.		
3XB	Canton & Charlton very stony fine sandy loams, 3 to 8 percent slopes.		
3MC	Canton & Charlton extremely stony fine sandy loams, 3 to 15 percent slopes.		
3MD	Canton & Charlton extremely stony fine sandy loams, 15 to 35 percent slopes.		
#435C	Paxton fine sandy loam, 8 to 15 percent slopes.		
35D	Paxton fine sandy loam, 15 to 25 percent slopes.		
35XB	Paxton very stony fine sandy loam, 3 to 8 percent slopes.		
35XC	Paxton very stony fine sandy loam, 8 to 15 percent slopes.		
35MC	Paxton extremely stony fine sandy loam, 3 to 15 percent slopes.		
35MD	Paxton extremely stony fine sandy loam, 15 to 35 percent slopes.		
*43M	Ridgebury, Leicester & Whitman extremely stony fine sandy loams.		
#	Prime Farmland		
##	Additional Farmland of Statewide Importance		
*	Designated wetland soil by P.A. 155		

Black Pond - Marcy Property
Woodstock, Connecticut

Principle Limitations And Ratings Of Soils For

RECREATION

COMMUNITY DEVELOPMENT

Soil Symbol and Series	Picnic Area	Play-ground	Paths and Trails	Dwellings with Basements	Local Roads and Streets	Septic Tank Absorption Field
#3B Canton & Charlton	Slight	Moderate, slopes, small stones	Slight	Slight	Slight	Slight
3XB Canton & Charlton	Moderate, large stones	Severe, large stones	Slight	Slight	Slight	Slight
3MC Canton & Charlton	Severe, large stones	Severe, slope, large stones	Slight	Moderate, slope	Moderate, slope	Moderate, slope
3MD Canton & Charlton	Severe, slope, large stones	Severe, slope, large stones	Moderate, slope	Severe, slope	Severe, slope	Severe, slope
#35C Paxton	Moderate, slope, perc. slowly	Severe, slope	Slight	Moderate, slope, wetness	Moderate, slope, frost action, wetness	Severe, perc. slowly
35D Paxton	Severe, slope	Severe, slope	Moderate, slope	Severe, slope	Severe, slope	Severe, slope, perc. slowly

Black Pond - Marcy Property
Woodstock, Connecticut

Principle Limitations And Ratings Of Soils For

RECREATION

COMMUNITY DEVELOPMENT

<u>Soil Symbol and Series</u>	<u>Picnic Area</u>	<u>Play-Ground</u>	<u>Paths and Trails</u>	<u>Dwellings with Basements</u>	<u>Local Roads and Streets</u>	<u>Septic Tank Absorption Field</u>
35XB Paxton	Moderate, large stones, percs. slowly	Severe, large stones	Slight	Moderate, wetness	Moderate, frost action, wetness	Severe, percs. slowly
35XC Paxton	Moderate, slope, large stones, percs. slowly	Severe, slope, large stones	Slight	Moderate, wetness	Moderate, frost action, wetness	Severe, percs. slowly
35MC Paxton	Severe, large stones	Severe, slope, large stones	Slight	Moderate, slope, wetness	Moderate, slope, frost action, wetness	Severe, percs. slowly
35MD Paxton	Severe, large stones, slope	Severe, slope, large stones	Moderate, slope	Severe, slope	Severe, slope	Severe, slope, percs. slowly
*43M Ridgebury, Leicester & Whitman	Severe, large stones, wetness, percs. slowly	Severe, wetness, large stones, percs. slowly	Severe, wetness	Severe, wetness, ponding	Severe, wetness, frost action, ponding	Severe, percs. slowly, wetness, ponding

Prime Farmland
Additional Farmland of Statewide Importance
* Designated wetland soil by P.A. 155

SOIL INTERPRETATIONS FOR URBAN USES

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

The user is cautioned that the suitability ratings, degree of limitations and other interpretations are based on the typical soil in each mapping unit. At any given point the actual conditions may differ from the information presented here because of the inclusion of other soils which were impractical to map separately at the scale of mapping used. On-site investigations are suggested where the proposed soil use involves heavy loads, deep excavations, or high cost. Limitations, even though severe, do not always preclude the use of land for development. If economics permit greater expenditures for land development and the intended land use is consistent with the objectives of local or regional development, many soils and sites with difficult problems can be used.

Slight Limitations

Areas rated as slight have relatively few limitations in terms of soil suitability for a particular use. The degree of suitability is such that a minimum of time or cost would be needed to overcome relatively minor soil limitations.

Moderate Limitations

In areas rated moderate, it is relatively more difficult and more costly to correct the natural limitations of the soil for certain uses than for soils rated as having slight limitations.

Severe Limitations

Areas designated as having severe limitations would require more extensive and more costly measures than soils rated with moderate limitations in order to overcome natural soil limitations. The soil may have more than one limiting characteristic causing it to be rated severe.

STATE OF CONNECTICUT
Department of Environmental Protection

LAKE AND POND SURVEY SERIES NO. 17

BLACK POND

Black Pond is located in Windham County in the town of Woodstock. This natural body of water covers a surface area of 73.4 acres, has a maximum depth of 23 feet and an average depth of 12.2 feet. Submerged and emergent vegetation is relatively abundant, but is confined to the shoal areas. The pond bottom is mostly of sand, gravel, boulders and mud. The water is clear and transparency exceeds 10 feet. The pond is thermally stratified and only the deepest water below 20 feet is deficient in dissolved oxygen.

Shoreline development is low and there are only a few cottages on the well-wooded shores. Public access is provided through a state-owned boat launching facility. There are no public picnic or swimming facilities available.

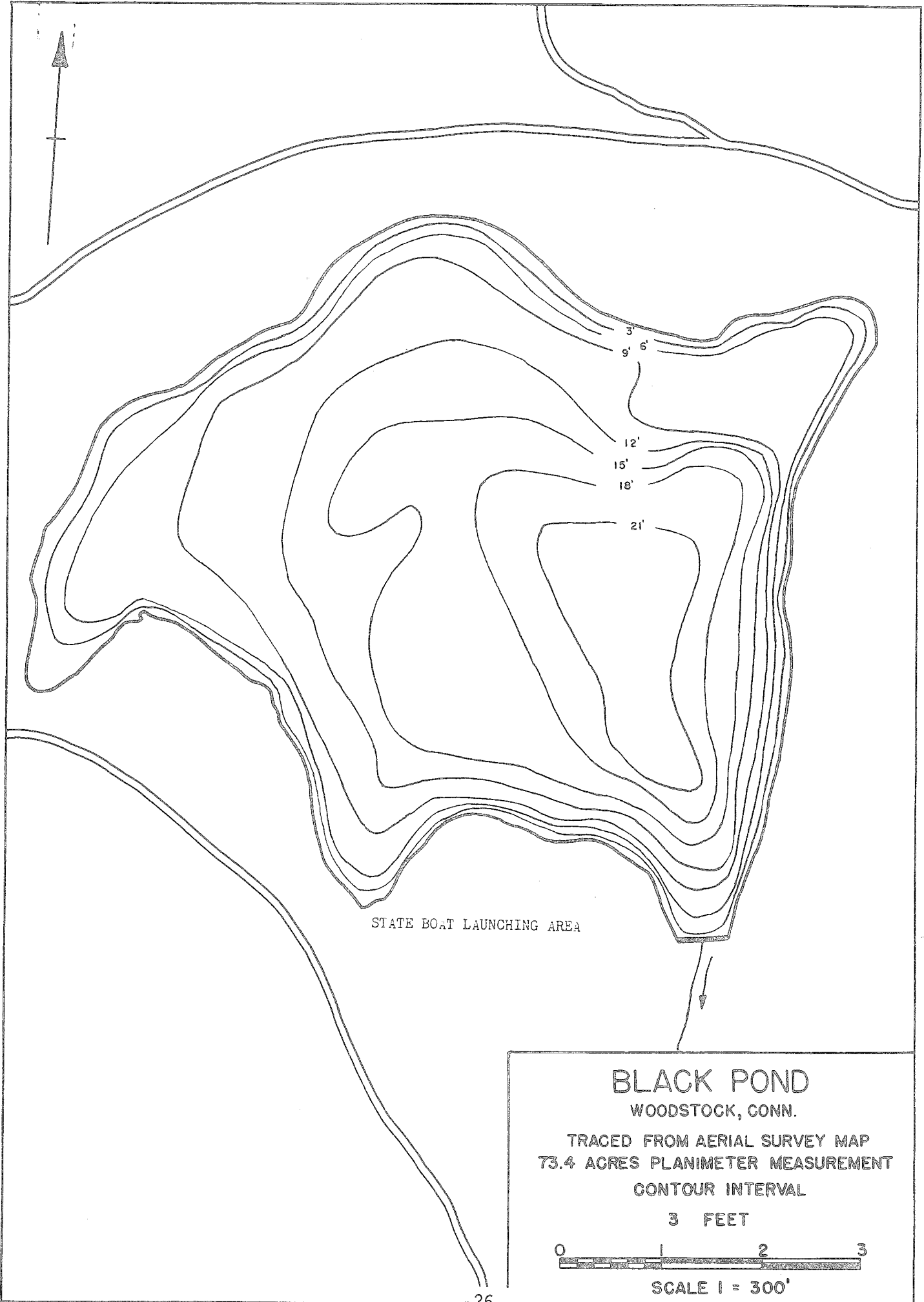
Black Pond has been stocked with smallmouth bass, chain pickerel, yellow perch, bullheads, black crappie (calico bass), sunfish, golden shiners, brown trout, rainbow trout and alewives.

Smallmouth bass are relatively abundant and exhibit lower than average growth rates. Chain pickerel are common in abundance and exhibit below average growth rates. Yellow perch and black crappie are also common in abundance with below average growth rates. Although largemouth bass are present, too few fish were taken to establish their rate of growth. Bullhead, common sunfish and bluegills are common in abundance. The growth rate of common sunfish and bluegills is below the state average for these species.

Black Pond should provide good fishing for smallmouth bass, yellow perch and stocked brown trout.

Revision 1972





STATE BOAT LAUNCHING AREA

BLACK POND

WOODSTOCK, CONN.

TRACED FROM AERIAL SURVEY MAP
73.4 ACRES PLANIMETER MEASUREMENT

CONTOUR INTERVAL

3 FEET



SCALE 1 = 300'

About the Team

The Eastern Connecticut Environmental Review Team (ERT) is a group of professionals in environmental fields drawn together from a variety of federal, state, and regional agencies. Specialists on the Team include geologists, biologists, foresters, climatologists, soil scientists, landscape architects, archeologists, recreation specialists, engineers and planners. The ERT operates with state funding under the supervision of the Eastern Connecticut Resource Conservation and Development (RC&D) Area.

The Team is available as a public service at no cost to Connecticut towns.

PURPOSE OF THE TEAM

The Environmental Review Team is available to help towns and developers in the review of sites proposed for major land use activities. To date, the ERT has been involved in reviewing a wide range of projects including subdivisions, sanitary landfills, commercial and industrial developments, sand and gravel operations, elderly housing, recreation/open space projects, watershed studies and resource inventories.

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

REQUESTING A REVIEW

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

For additional information regarding the Environmental Review Team, please contact Jeanne Shelburn (889-2324), Environmental Review Team Coordinator, Eastern Connecticut RC&D Area, 139 Boswell Avenue, Norwich, Connecticut 06360.