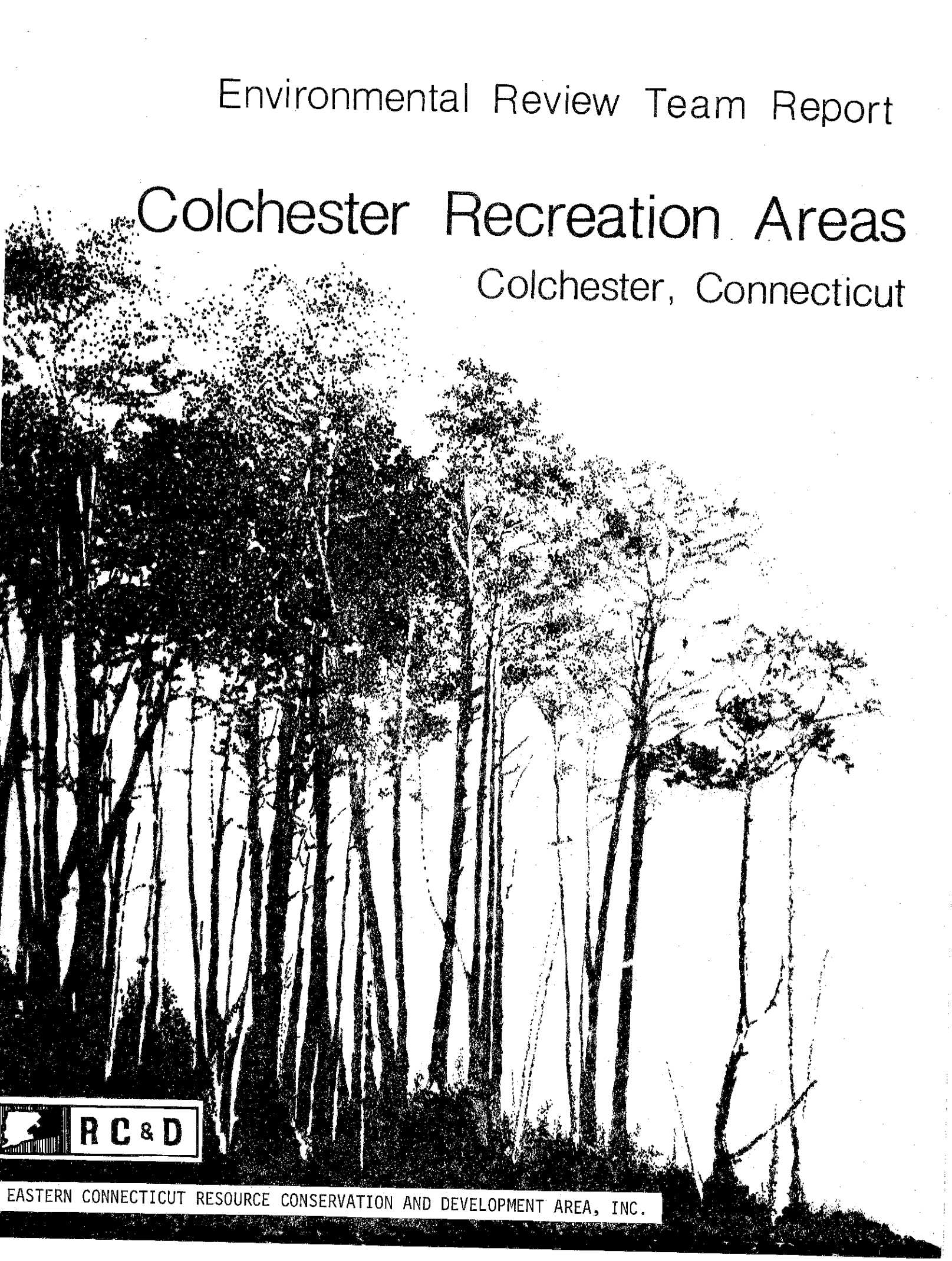
Environmental Review Team Report

Colchester Recreation Areas

Colchester, Connecticut



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EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT AREA, INC.

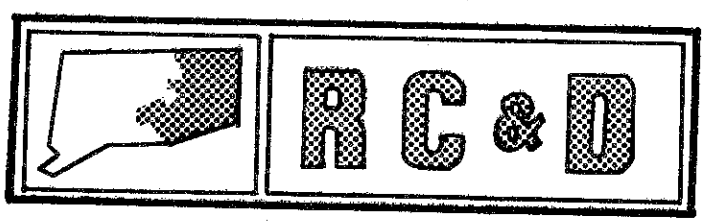
Environmental Review Team Report

on

Colchester Recreation Areas

Colchester, Connecticut

September 1978

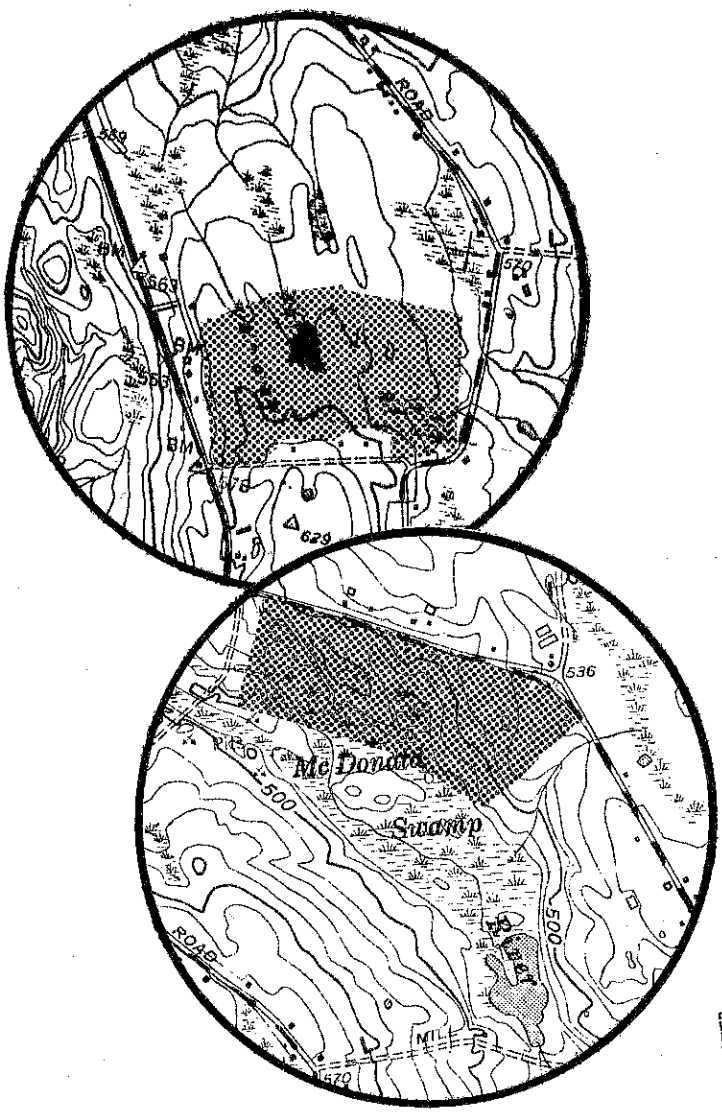


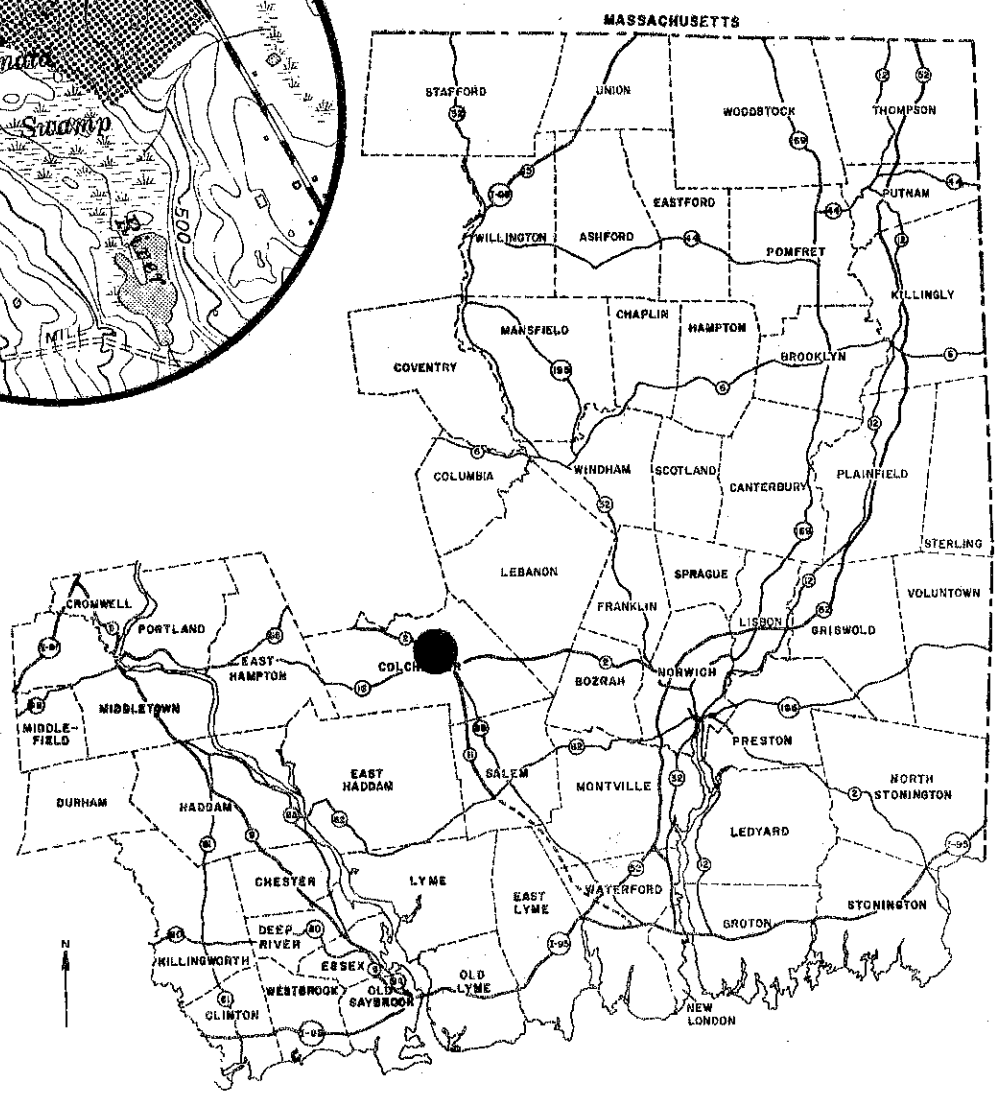
eastern connecticut resource conservation & development area

environmental review team
139 boswell avenue
norwich, connecticut 06360

Location of Study Site

COLCHESTER RECREATION AREAS
COLCHESTER, CONNECTICUT





EASTERN CONNECTICUT
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

ENVIRONMENTAL REVIEW TEAM REPORT
ON
COLCHESTER RECREATION AREAS
COLCHESTER, CONNECTICUT

This report is an outgrowth of a request from the Colchester Recreation and Parks Commission to the New London County Soil and Water Conservation District (S&WCD). The S&WCD referred this request to the Eastern Connecticut Resource, Conservation and Development (RC&D) Area Executive Committee for their consideration and approval. The request was approved and the measure was reviewed by the Eastern Connecticut 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 property boundaries were distributed to all Team members prior to their review of the site.

The ERT that field-checked the site consisted of the following personnel: Gary Parker, District Conservationist, Soil Conservation Service (SCS); Mark Traceski, Soil Conservationist, SCS; Don Smith, Forester, Connecticut Department of Environmental Protection (DEP); Michael Zizka, Geologist, DEP; Gerhard Amt, Regional Planner, Southeastern Connecticut Regional Planning Agency; and Jeanne Shelburn, ERT Coordinator, Eastern Connecticut RC&D Area.

The Team met and field checked the site on Thursday, June 1, 1978. Reports from each contributing Team member were sent to the ERT Coordinator for review and summarization for the final report.

This report is not meant to compete with private consultants. As requested by the Town, this report, which identifies the existing resource base of the Colchester Recreational Areas, shall constitute the environmental assessment portion of the Town's open space application for Federal Department of the Interior, Heritage Conservation and Recreation Service funds to assist in the acquisition of this property.

The Eastern Connecticut RC&D Area Committee hopes that this report will be of value and assistance in making any decisions regarding this particular site.

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

DESCRIPTION OF THE PROPOSAL

The Eastern Connecticut Environmental Review Team was asked to provide the Town of Colchester with a comparative review of the Stula-Bengston property and the Machowski property for acquisition of the most adaptable site for recreational purposes. The Stula-Bengston property is approximately 120 acres in size and the Machowski property is approximately 200 acres in size. As uniform assessor's maps have not been prepared for the Town of Colchester, property boundaries for the Machowski property have not been established. Maps included in this report indicate the areas which the Team reviewed; however, during the course of compiling this report, it was discovered that McDonald Swamp, a portion of which was included in the Machowski property, was owned by the City of Norwich (see Appendix B). Property boundary discrepancies would have to be resolved before any acquisition by the Town could take place.

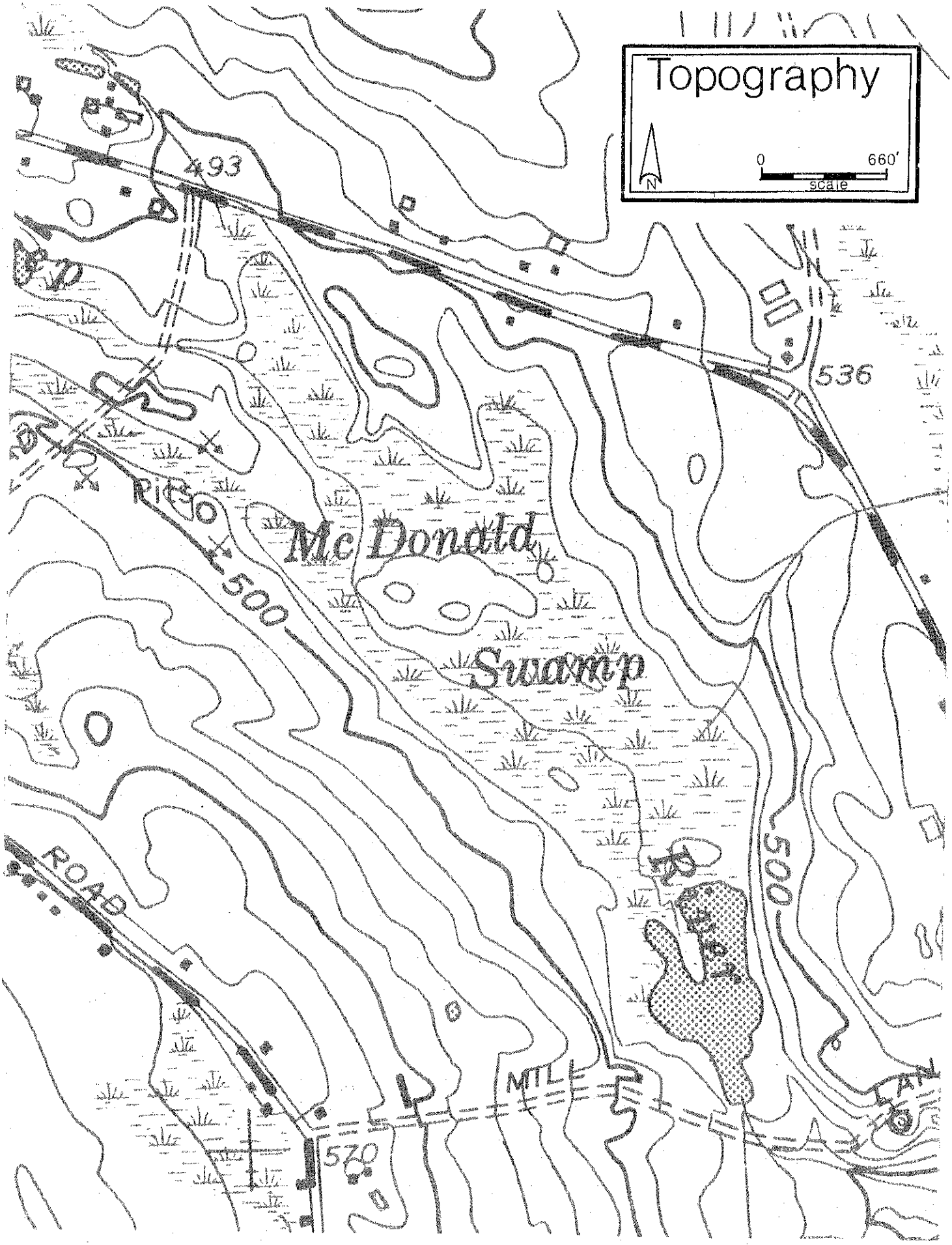
Both sites currently have wooded and open areas as well as wetlands. Both also have a building established on the site. The Stula-Bengston site is located on Homonick Road, directly off Route 85. The Machowski property fronts on Route 354. The purpose of the acquisition would be to secure a site which could eventually be the focus of recreational activity for the Town of Colchester. It is intended that future development will provide for a full range of activities, including active and passive, indoor and outdoor, summer and winter.

The Town is interested in providing such facilities as baseball fields, softball fields, football fields and a track, an archery range, horseshoe pits, tennis courts, volleyball courts, basketball courts and shuffleboard courts, nature trails, horseback riding trails, snowmobile trails, ice skating rink, indoor-outdoor pool and a fully equipped gymnasium.

Although the town contains considerable land devoted to open space uses, there is relatively little town-owned active recreation area. Table 1 enumerates the open space land in Colchester at present.

The Town-owned recreation areas are those associated with Halls Hill School (elementary), Central School (junior high), and Bacon Academy (high school), and the Lapping Property, being developed largely under the direction of the Recreation Commission. The three schools are located on adjacent properties and together contain a track, tennis courts, a ball field, soccer field and playground apparatus area. The Lapping Property currently has two ball fields, two tennis courts, a basketball court, storage facilities, a concessions building and bleachers. Two additional ball fields are planned in this location. Both the school facilities and the Lapping Property are located near the more developed center of the community. Potential for added development of facilities at both sites is limited.

Neither of the sites being considered for acquisition is consistent with the open space and recreation recommendations of the Colchester Plan of Development except to the extent that both contain parts of streams recommended for conservation. There is no formal recreation plan to which development of additional sites would be related.


Topography
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scale
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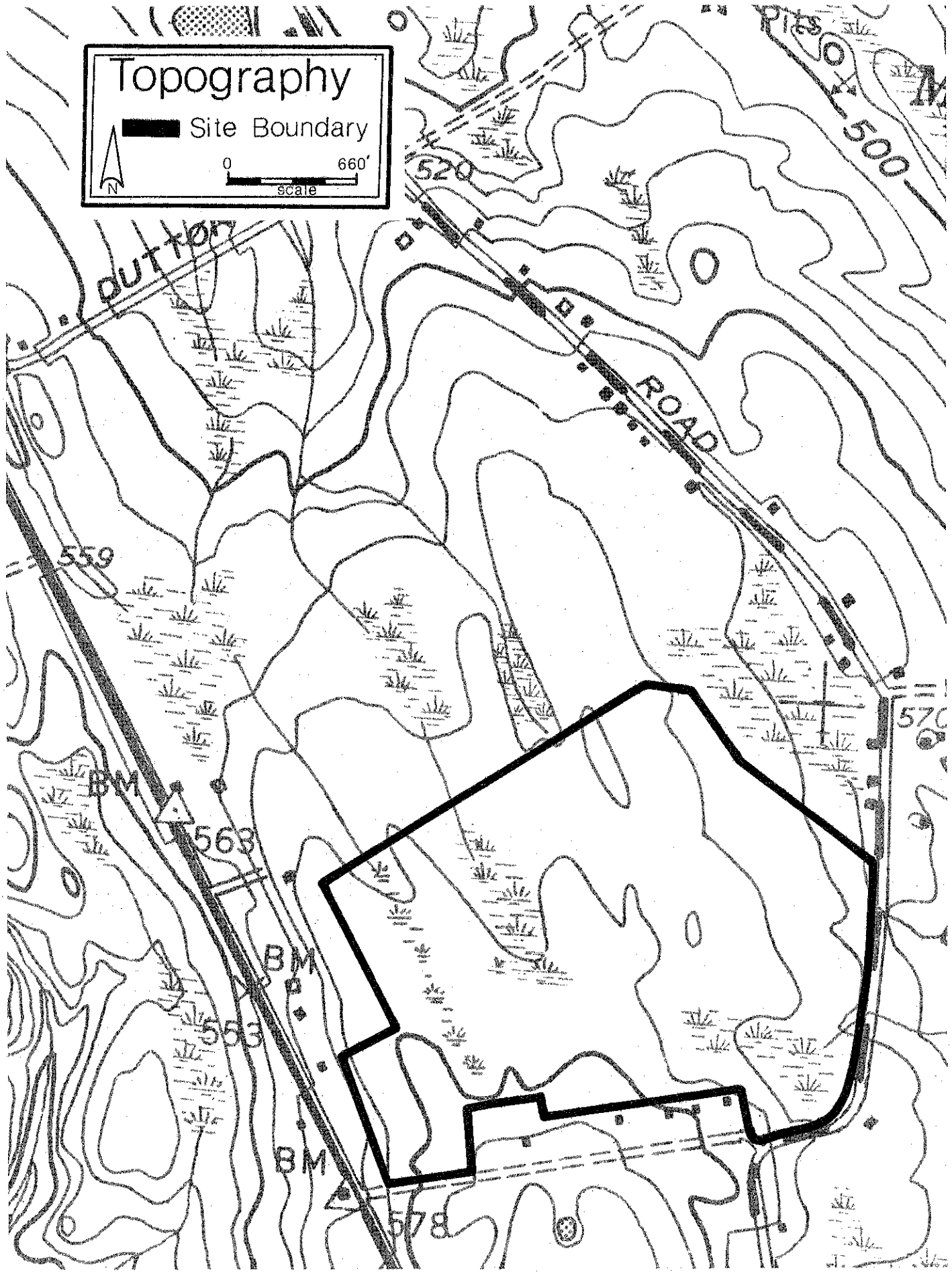
536
Ridge
500
Mc Donald
Swamp
ROAD
570
MTL
500


Topography
Site Boundary
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660'
N
scale
Pits
500
520
ROAD
559
BM
563
BM
553
BM
578

TABLE 1

EXISTING OPEN SPACE AND RECREATION FACILITIES
TOWN OF COLCHESTER, CONNECTICUT

Public Open Space	Acres
Salmon River State Forest	2,140
Town Land (Old Railroad ROW)	8
Town Green	5
State Fish and Game Access Areas	30
Town Land (Vicinity of sanitary landfill)	140
Open space in Beechwood Subdivision (undeveloped)	16
Restricted Open Space	
Norwich Reservoir Property	1,060
East Haddam Fish and Game Club	1,000
Colchester Fish and Game Club	90
Lincoln Lake Lodge	10
New Britain Hunting and Fishing Club	120
Public Recreation	
School playground	45
Lapping Property (Town)	18
Boat Launching Site at Pickerel Lake (State)	2
Day Pond State Park	184

SOURCE: Plan of Development, 1972, Colchester, Connecticut

DESCRIPTION OF THE ENVIRONMENT

PRESENT/PAST LAND USES

Stula-Bengston Site. The site has one open field of about eight acres, which has been used for raising corn. A corner of the field contains a large one-story warehouse, constructed of steel framing and corrugated steel siding, and covering about a quarter of an acre. The building could possibly be adapted to some sheltered recreational activities, but it lacks insulation and would probably require a substantial investment to make it usable for year-round indoor activities. The remainder of the tract is wooded. The eastern one-third of the tract is zoned Residential/Agricultural, with a minimum lot size of 40,000 square feet. The western two-thirds of the site is zoned Industrial. The area of town where the site is located is rural, with scattered residential and agricultural uses mixed with large wooded areas. The site is located approximately 3 1/2 miles south of the center of the Town.

Machowski Site. This site is also heavily wooded, with some open fields existing along the Route 354 frontage. The fields are small except for one con-

taining about seven acres in the southern part of the site. The interior of the site is a large wetland known as McDonald Swamp. The swamp itself is owned by the City of Norwich, whose Deep River Reservoir is located further downstream in the same watershed. A 1,200 square foot concrete-block building exists on the site which may be adapted to some limited use, such as storage, lavatories or concessions. The site is located approximately three miles southeast of the center of Colchester. It too is in a decidedly rural area, with scattered residences, farms and woodlands being the predominant uses.

EXISTING SOCIO-ECONOMIC CONDITIONS

Neither site is in an area of the town that has experienced significant growth in recent years. Most of Colchester's growth has been in the vicinity of the Borough and in the western part of the town.

Colchester's population increased from 6,603 to an estimated 7,900 in 1977.* SCRPA projects a population of 8,300 by 1980 and 9,500 by 1990. The population is predominantly white, with 200 persons, or about 3% of the population indicated as non-white by the 1970 Census of Population. Although the Borough of Colchester contains a small commercial center and there are small businesses scattered throughout the Town, many wage-earners residing in Colchester find employment in the major urban areas of Hartford, Norwich and New London, all of which are accessible over excellent highways.

Both of the sites could remain as they are at present for many years if they are not acquired by the Town. There has not been much development in this part of Colchester in recent years.

EXISTING TRANSPORTATION ROUTES

Both sites are accessible from two-lane state highways, Route 85 and Route 354. These would no doubt be the most likely routes of travel to these town recreation areas.

SURFACE AND SUBSURFACE GEOLOGIC CHARACTERISTICS

Stula-Bengston Site. Bedrock underlying this property is Brimfield Schist, a gray or rust-stained garnetiferous biotite-muscovite schist with subordinate sillimanite schist, garnetiferous quartz-biotite schist and gneiss, garnetiferous calc-silicate granofels, and amphibolite. The Brimfield Schist is more thoroughly described in The Bedrock Geology of the Moodus and Colchester Quadrangles.**

A glacial deposit known as till overlies bedrock on the property. Till is an unconsolidated material that consists primarily of rock particles of all shapes and sizes. The particles were chipped off, plucked, or otherwise removed from preexisting overburden or rock outcrops by glacier ice. The till seems generally compact and rather hard, although a thin, more friable layer may exist in places. The thickness of the till on the property is not known, but it is estimated to be less than 15 feet in most places.

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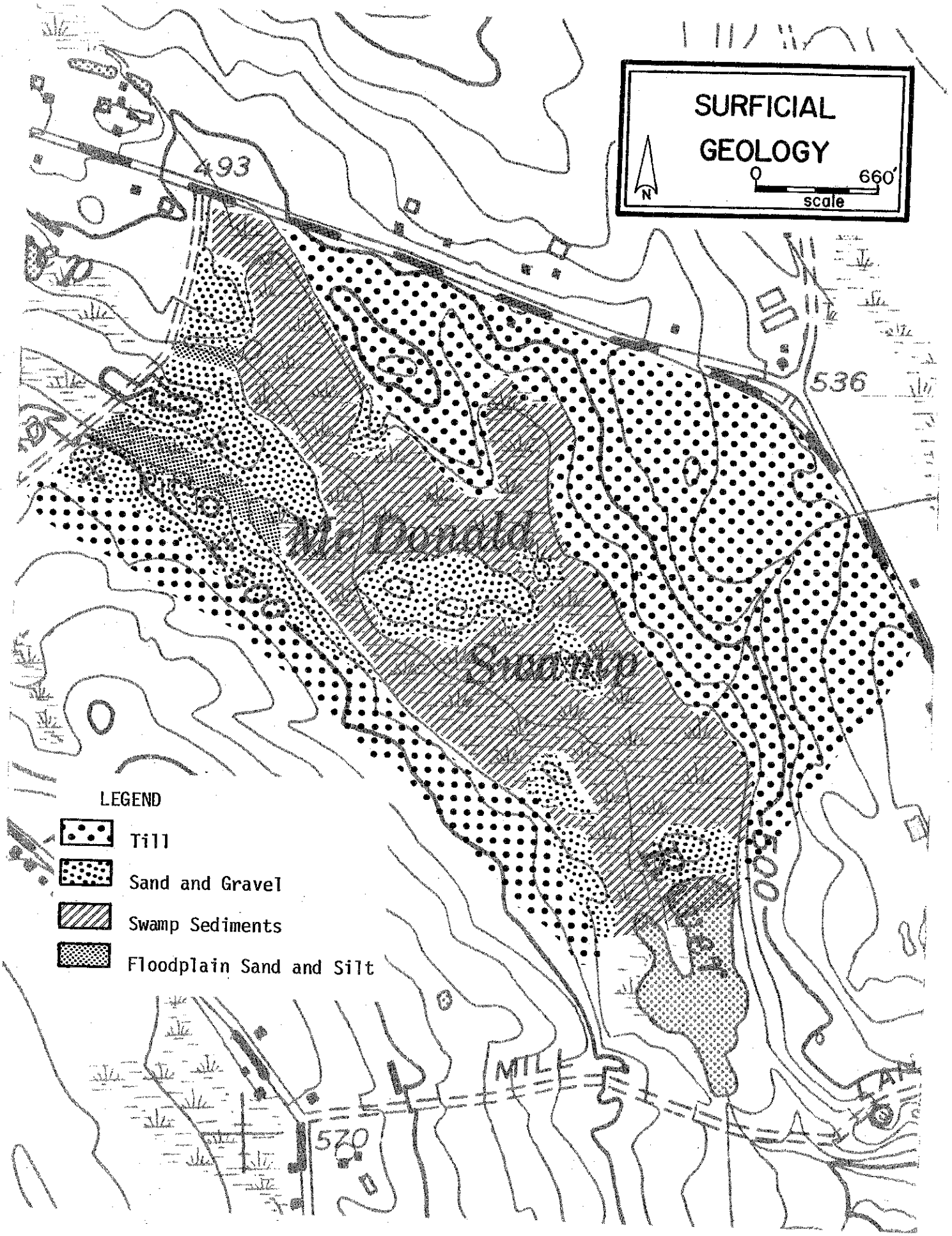
* Connecticut Department of Health.

** Connecticut Geological and Natural History Survey Quadrangle Report No. 27.


SURFICIAL
GEOLOGY
N
0
660'
scale
493
536
500
570
MILL
LAT
LEGEND
Till
Sand and Gravel
Swamp Sediments
Floodplain Sand and Silt

Machowski Site. Bedrock underlying this property is Brimfield Schist, which is described above. Small bedrock exposures were seen in a brook approximately 1,000 feet west of the intersection of Kramer Road and Parum Road (Route 354).

Till covers bedrock on most of the area directly adjoining Parum Road. The till seems to be very friable near the surface and probably contains several thin layers or small lenses of relatively clean sand and gravel. The till is estimated to be less than 10 feet thick in most places. Larger, more distinct sand and gravel deposits are found within or adjacent to McDonald Swamp. Consisting largely of coarse sand and cobble-sized gravel, these deposits were laid down in meltwater from wasting glacial ice. McDonald Swamp itself contains a mixture of sand, silt, and decaying organic material. A map of surficial geologic materials on and around the Machowski property is provided in this report.

Some mining of sand and gravel has occurred in the vicinity of the Machowski property. Although the deposits within the property itself may have value as fill or as construction aggregate, the extent of the material indicates that commercial exploitation would not be practical.

SOILS

The soils found on the Stula-Bengston and Machowski properties fall into the following categories.

1) The Birdsall series (825) consists of nearly level, very poorly drained soils on low flats or in depressional areas. They formed in waterlaid deposits of silt and very fine sand greater than 40 inches deep. Birdsall soils have slow permeability and a high water table at or near the surface 9-10 months of the year. Major limitations are related to wetness and slow permeability.

2) The Carlisle series (92) consists of nearly level, very poorly drained soils in bogs and other depressional areas within lake plains, outwash plains, till plains and moraines. They formed in muck deposits greater than 51 inches thick. Carlisle soils have slow to rapid permeability and a high water table at or near the surface 9 to 10 months of the year. Major limitations are related to wetness and low strength.

3) The Hinckley series (60A, 60C, 60D) consists of nearly level, gently sloping, sloping, moderately steep, and steep, excessively drained soils on stream terraces, outwash plains, kames and eskers. They formed in water sorted outwash. Hinckley soils have rapid and very rapid permeability. Major limitations are related to slope and droughtiness.

4) The Ninigret series (25A) consists of nearly level and gently sloping, moderately well drained soils on stream terraces and outwash plains. They formed in water-sorted outwash. Ninigret soils have moderately rapid permeability and a seasonal high water table at 18 to 24 inches. Major limitations are related to wetness.

5) The Ridgebury, Leicester and Whitman series (43M) is made up of poorly and very poorly drained soils. These soils occur in an intricate and complex

pattern and separation of each individual soil was not practical on the scale surveyed. Each mapping unit may contain an individual soil or a percentage of each of the three soils. They are similar to the soil described for their series.

The Ridgebury series consists of nearly level, poorly drained soils on drumlins, and rounded or elongated hills of uplands. They formed in compact glacial till. Ridgebury soils have moderate to moderately rapid permeability in the surface layer and subsoil, slow or very slow permeability in the substratum (fragipan), and a high water table at or near the surface 7 to 9 months of the year. Major limitations are related to stoniness, wetness, and slow permeability in the substratum.

The Leicester series consists of nearly level, poorly drained soils on uplands. They formed in friable glacial till. Leicester soils have moderately rapid permeability and a high water table at or near the surface 7 to 9 months of the year. Major limitations are related to wetness and stoniness.

The Whitman series consists of nearly level, very poorly drained soils on uplands. They formed in compact glacial till. Whitman soils have moderate to moderately rapid permeability in the surface layer and subsoil, slow or very slow permeability in the substratum (fragipan), and a water table at or near the surface 9 to 10 months of the year. Major limitations are related to slow permeability, wetness and stoniness.

6) The Sudbury series (456A) consists of nearly level, moderately well drained soils on stream terraces and outwash plains. They formed in water-sorted outwash. Sudbury soils have moderately rapid permeability in the surface layer and subsoil, rapid permeability in the substratum, and a seasonal high water table at 18 to 24 inches. Major limitations are related to wetness.

7) The Woodbridge series (31B) consists of nearly level, gently sloping and sloping, moderately well drained soils on drumlins, and rounded or elongated hills of uplands. They formed in compact glacial till. Woodbridge soils have moderate permeability in the surface layer and subsoil, slow or very slow permeability in the substratum (fragipan), and a seasonal high water at 18 to 24 inches. Major limitations are related to wetness, slow permeability and stoniness.

The soils on the Stula-Bengston property are generally moderately well drained with a compact subsoil layer restricting downward water movement. There are several wetland areas but most of the property has gently sloping moderately well drained soil. Fertility and susceptibility to erosion is average for these soil types.

The Machowski property does contain Hinckley soils which are very low in fertility and excessively droughty. The rapidly permeable Hinckley soils are ground water recharge areas. The wetlands are surface discharges of ground water and storage areas for surface water. The Dutton Swamp-McDonald Swamp complex constitutes a large and locally important flood water storage area for the upper Deep River drainage system. The water quality is generally good, but colored with organic matter. The #98 soils are subject to frequent flooding of long duration from November thru May.

The soil survey map and the accompanying charts indicating soil limitations for certain land uses further distinguish the soil types and their potential for the listed land uses. As the detailed soils map provided here is an enlargement from the original 1,320'/inch to 660'/inch scale, the soil boundary lines shown, should not be viewed as absolute boundaries but rather as guidelines to the distribution of soil types on the property. The soils map along with "Interim Soil Survey Report: New London County, Connecticut" (USDA-SCS 1978), can serve as an educational tool regarding the identification and interpretation of soils.

WATER RESOURCES

Both the Stula-Bengston and the Machowski properties form part of the watershed of Deep River. Approximately the eastern half of the Stula-Bengston property drains eastward through a pair of small brooks into Deep River. The western half drains northward into Dutton and McDonald Swamps via a series of small brooks and wetland areas. All drainage from the Machowski property enters McDonald Swamp directly.

It does not appear that the sand and gravel deposits in and adjacent to McDonald Swamp (Machowski property) have potential for large groundwater supplies. The presence of the swamp indicates that subsurface drainage is impeded, either by bedrock or by fine-grained glacial meltwater deposits that underlie the coarser sand and gravel. Either condition would inhibit the development of high-yielding wells. Nevertheless, small supplies for certain recreational purposes (e.g. drinking fountains) may be possible from wells placed in some parts of the meltwater deposits.

Bedrock may be the most reliable source of groundwater for the Machowski property and clearly is the most likely source for the Stula-Bengston property. Bedrock generally will provide small but reliable yields, which should be sufficient for most of the desired recreational functions. Unfortunately, the typically high iron and manganese content of the Brimfield Schist may result in poor water quality. Hence, filtering may be necessary to make the groundwater suitable for drinking.

CLIMATE

The climate is typical of southern New England. Cool dry air from the subarctic regions of North America and moist warm air from the Gulf of Mexico have a major effect on day-to-day weather.

Average winter temperature is 29°F and average summer temperature is 69°F. The length of the growing season varies from 180 to 220 days, but averages about 200 days. Annual precipitation averages nearly 48". Seasonal snowfall averages 26". Winter storms moving northeastward along the coast frequently bring rain and thawing, and then more snow and cold weather.

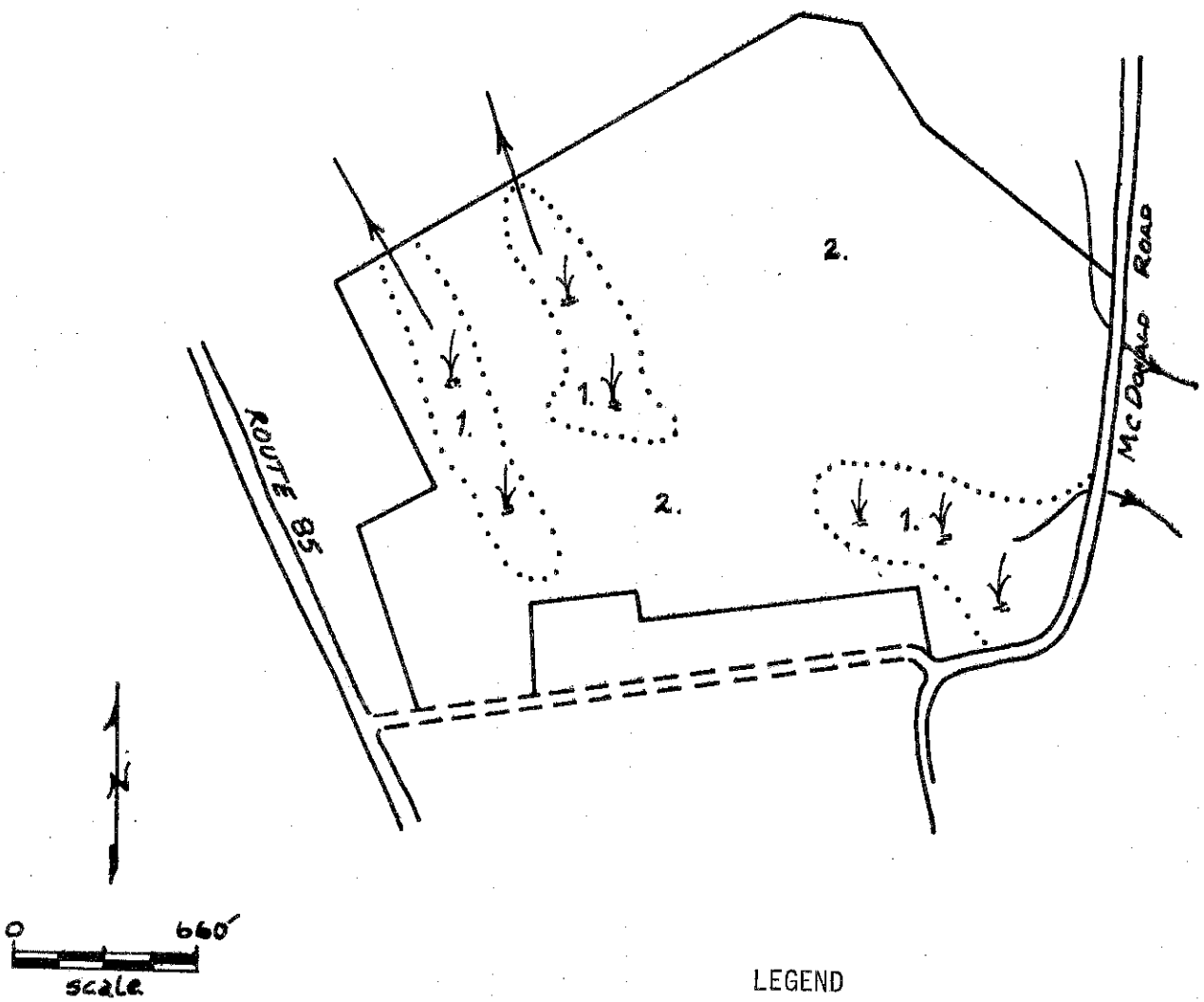
VEGETATION

Stula-Bengston Site. There is a cultivated corn field on the 31B soil type between the two long 43M soil types on the eastern portion of the property.

FOREST STANDS

STULA AND BENGSTON PROPERTY

COLCHESTER, CONNECTICUT



LEGEND

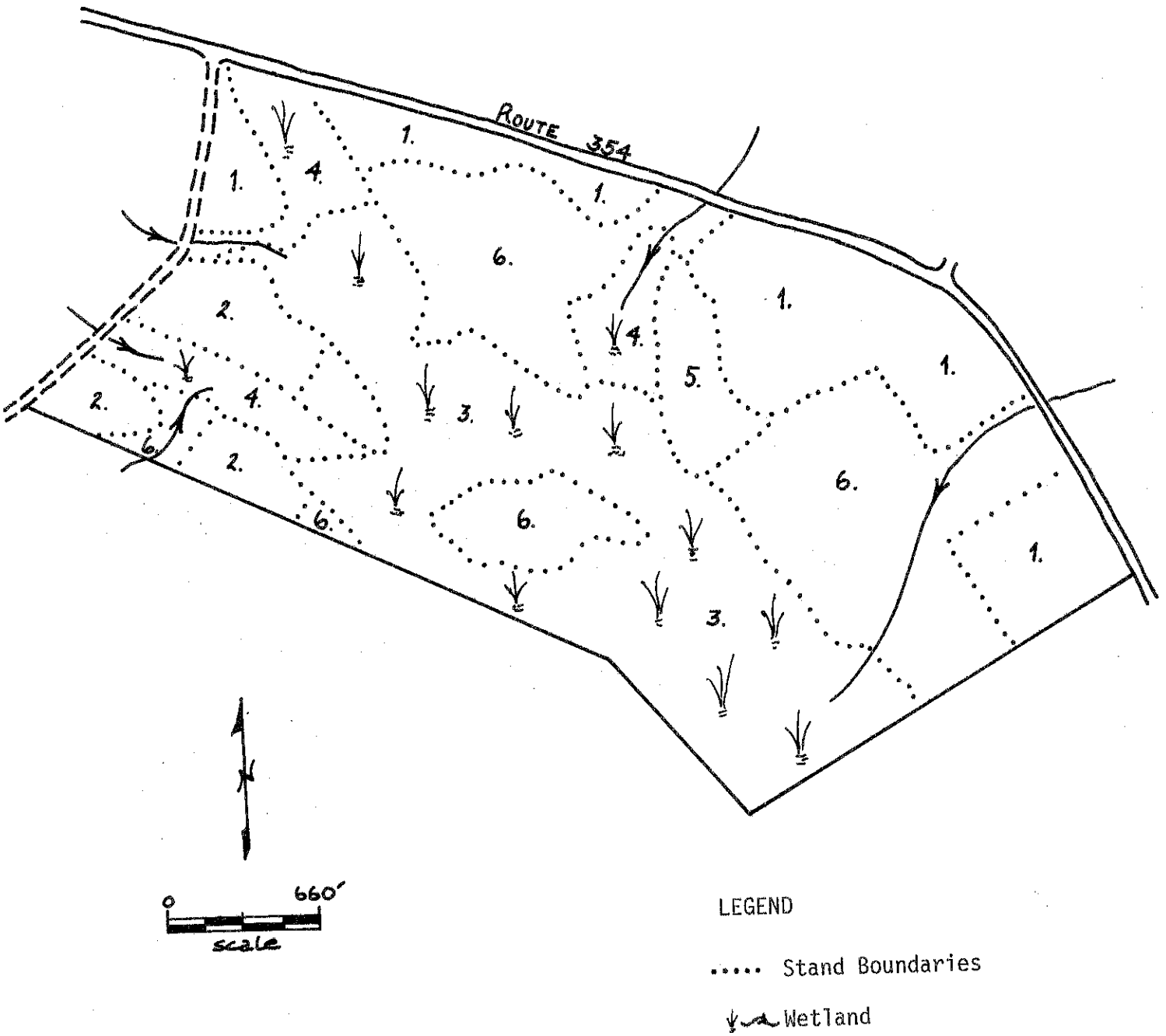
..... Stand Boundaries

Wetland

FOREST STANDS

MACHOWSKI PROPERTY

COLCHESTER, CONNECTICUT



(Property lines are not accurate, but due to lack of boundary information, were set to include approximately 200 acres.)

(Consult soil map.) There is also a large warehouse and an access road at this location. The field edge has an assortment of vegetational species. The overstory is poor and the understory moderate to open. Species found surrounding the field are: common cottonwood, Trembling Aspen, black cherry, red maple, blueberry, nannyberry, honeysuckle, poison ivy, wild geranium, goldenrod, asters, grasses, and assorted forbes.

The remainder of the property has a heterogeneous mix of various amounts of American Beech, white oak, black oak, hickories, black birch, yellow birch, sweetgum, red maple, blue beech, and American Chestnut. The forest is primarily young pole-sized oak of medium density. The understory is open and composed of maple leaf viburnum, azalea, blueberry, American Chestnut, blue beech, sweetgum, witch hazel, and mountain laurel. Some of the occasional herbaceous plants are partridge berry, false lily-of-the-valley, false Solomon's Seal, assorted ferns, grasses and forbes. Sweetgum, Liquidambar styraciflua, is listed by the State Geological and Natural History Survey of Connecticut as being rare in Connecticut but not endangered. It is present in small numbers on this site.

Machowski Site. The 31B soils in the northwest section of the soil map are presently used for open hay fields. The poorly drained and moderately well drained soils are mostly wooded with a poor overstory of swamp (red) maple with some red oaks and white oaks in better drained areas. The understory is very open, especially in previously grazed areas. The woody species consist of barberry, arrowwood, willow, and red maple. The herbaceous vegetation consists mainly of grasses, sedges, Jack-in-the-pulpits, skunk cabbage, wild geranium, violets, touch-me-nots, poison ivy, and assorted ferns. The Hinckley soils are open and are vegetated predominantly by wild cherry, sweetfern, and blackberry.

FOREST RESOURCES

Stula-Bengston Site

STAND ONE: Mixed hardwood swamp, approximately 23 acres. This area is dominated by pole to sawlog-size red maple, ash, and hickory. Occasionally, yellow birch is found in drier areas. The understory is composed of a dense growth of spicebush and witch hazel. Reproduction is limited by heavy herbaceous cover and standing water.

STAND TWO: Mixed hardwood, approximately 97 acres. This site is fully stocked by pole to sawlog-size red oak, white oak, sugar maple, red maple, yellow birch, black birch and beech. The understory consists of the sapling-size trees of the same species with dogwood, blueberry and viburnum scattered throughout. Reproduction is of good quality and of the same species as the overstory.

Machowski Site

STAND ONE: Open fields, approximately 40 acres. This site is generally covered with herbaceous material and scattered shrub species. They are primarily hayfields.

STAND TWO: Abandoned gravel banks, approximately 13 acres. This area is understocked with pioneer species such as birch, poplar, and oak of seedling- to

sapling-size. Flat areas are excessively wet with standing water in places.

STAND THREE: Wetland, approximately 63 acres. This is a freshwater marsh with open water in areas and extremely lush herbaceous vegetation. Occasional shrub species appear on drier sites.

STAND FOUR: Hardwood wetland, approximately 17 acres. This site is overstocked by pole-size red maple, ash and hickory on the drier margins. Reproduction and understory are severely limited due to the heavy herbaceous cover comprised of ferns, skunk cabbage and spicebush.

STAND FIVE: Abandoned pasture, approximately 7 acres. This area is fully stocked with pole-sized mixed hardwoods. Dominant species include red oak, red maple and hickory. Reproduction is limited to red maple.

STAND SIX: Mixed hardwoods, approximately 60 acres. This stand is dominated by sawlog-size red oak, white oak, red maple and hickory. Some ash is found in areas closest to the wetland. The understory is composed of the same species with alder, dogwood and viburnums scattered throughout. Reproduction is of good quality. Some chestnut saplings have been found in this area.

WILDLIFE

Stula-Bengston Site. Grey squirrels, red squirrels, and mice seem to be the dominant wildlife on the site. They are low in abundance. White-tail deer are occasional visitors. A small population of woodland songbirds does exist. The understory is largely too open, the overstory too young, and the cover too uniform to be high-value wildlife habitat. No rare or endangered species or valuable habitat for such was seen during the field review.

Machowski Site. Some of the probable wildlife on the area are: white tail deer, raccoon, opossum, cottontail rabbit, striped skunk, grey squirrels, red squirrels, chipmunks, white-footed mice, field mice, voles, shrews, herons, woodpeckers, towhee, chickadees, swallows, fly catchers, warblers, sparrows, and other woodland field edge species, black snake, garter snakes, water snakes, ring-necked snakes, brown snakes, spotted salamander, red salamander, wood frog, wood turtle, bull frog, spotted frogs, peepers, tree frogs, green frogs, etc. Deep river is probably inhabited by fish, possibly trout. Some rare or endangered species such as the bog turtle, Great Blue Heron, American Bittern, Red Shouldered Hawk, and Marsh Hawk may exist in such a large swamp but no evidence was seen of them in the field survey of the site. McDonald Swamp is of local importance to wildlife.

PROBABLE FUTURE ENVIRONMENT

Good access from two-lane state highways (Routes 354 and 85), as well as developable soils present on both sites, indicate the potential for future residential development if the lands are not acquired by the town for open space/recreation purposes.

ENVIRONMENTAL IMPACT

QUANTIFIABLE LAND USE CHANGES

If either of the sites is acquired and developed for recreational uses, it is conceivable that land in the vicinity would become somewhat more attractive for residential purposes. However, the added growth is unlikely to change the overall character of the areas involved.

SOCIO-ECONOMIC CHANGES

It does not appear that the proposed acquisition will have a noticeable impact on socio-economic conditions, except that there will undoubtedly be some local public expenses produced by developing and maintaining the property.

TRANSPORTATION ROUTES

Both sites front on good two-lane state highways, which should be adequate to accommodate increased traffic generated by the possible future recreation activities.

EFFECT ON VEGETATION

Stula-Bengston Site. Except for building construction and athletic fields, the vegetation will be largely unaffected. The overall character of the area can be maintained.

Machowski Site. Vegetation will be affected by any earth moving or clearing for playing fields or buildings. If the wetland is not disturbed, the effect of the proposal on vegetation will be slight.

EFFECT ON WILDLIFE

Stula-Bengston Site. The site is presently of low wildlife value, and establishment of the proposed recreation area could well improve the habitat. High level recreational use would be harmful but the loss would be minor and there is plenty of room with which to buffer heavy use areas.

Machowski Site. The vastness of the swamp will cause fauna to be only slightly affected by light development of higher ground. If the swamp is drained or filled, it may have a massive effect on the wildlife population.

MITIGATING MEASURES INCLUDED IN THE PROPOSAL

The stream which flows through McDonald Swamp empties into Norwich's Deep River Reservoir at a point approximately one mile to the south of the Swamp. Therefore, all activities would have to be consistent with the need to maintain stream quality. A conservation plan should be developed in cooperation with the New London County Soil and Water Conservation District to develop management practices and any mitigating measures which may be needed.

ADVERSE ENVIRONMENTAL EFFECTS

There should be no adverse environmental effects from the acquisition of these properties. The increased use by humans will be unavoidable; however, it is not viewed as being an adverse effect.

IRREVERSIBLE COMMITMENTS OF RESOURCES

This project as proposed will not create any irreversible commitments of resources.

RECREATION POTENTIAL

Both sites could be adapted for limited recreation facilities, however natural features of these sites preclude their use for the intensive recreational development now desired by the Town. Of the two properties, the Stula-Bengston site has the topography and soil types most suitable to recreational development. It would be possible to establish several ball fields as well as picnic areas and nature trails on this site. The Machowski property has a steeper terrain and would require more initial grading work to establish any kind of playing fields. Both sites contain wetland areas which should be preserved as low intensity passive recreation areas. The type of recreational development desired by the Town will ultimately determine which parcel would meet the Town's needs.

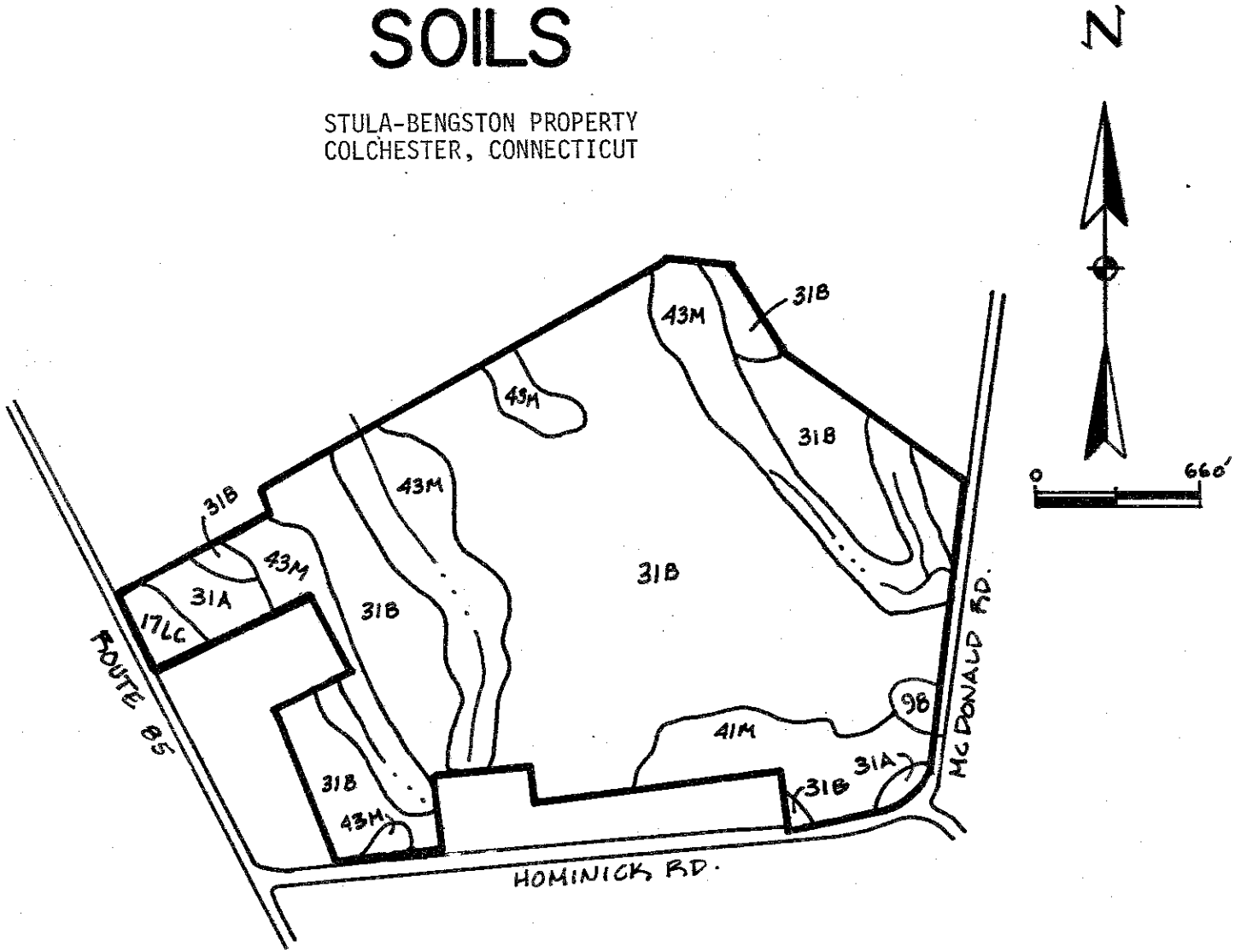
ALTERNATIVES TO THE PROPOSED ACTION

Alternatives to these sites must surely exist since neither of them has any particular assets that cannot be found on numerous other parcels of land throughout the Town. The remoteness of these sites from the potential users could be a growing problem as the cost of traveling increases.

Appendix

SOILS

STULA-BENGSTON PROPERTY
COLCHESTER, CONNECTICUT



This map is an enlargement from the original 1,320'/inch scale to 660'/inch.

Information taken from: Interim Soil Survey Report: New London County, Connecticut, 1978; Soil Survey Sheet No. 1386, 2760, 2758; prepared by: United States Department of Agriculture, Soil Conservation Service. Advance copy, subject to change.

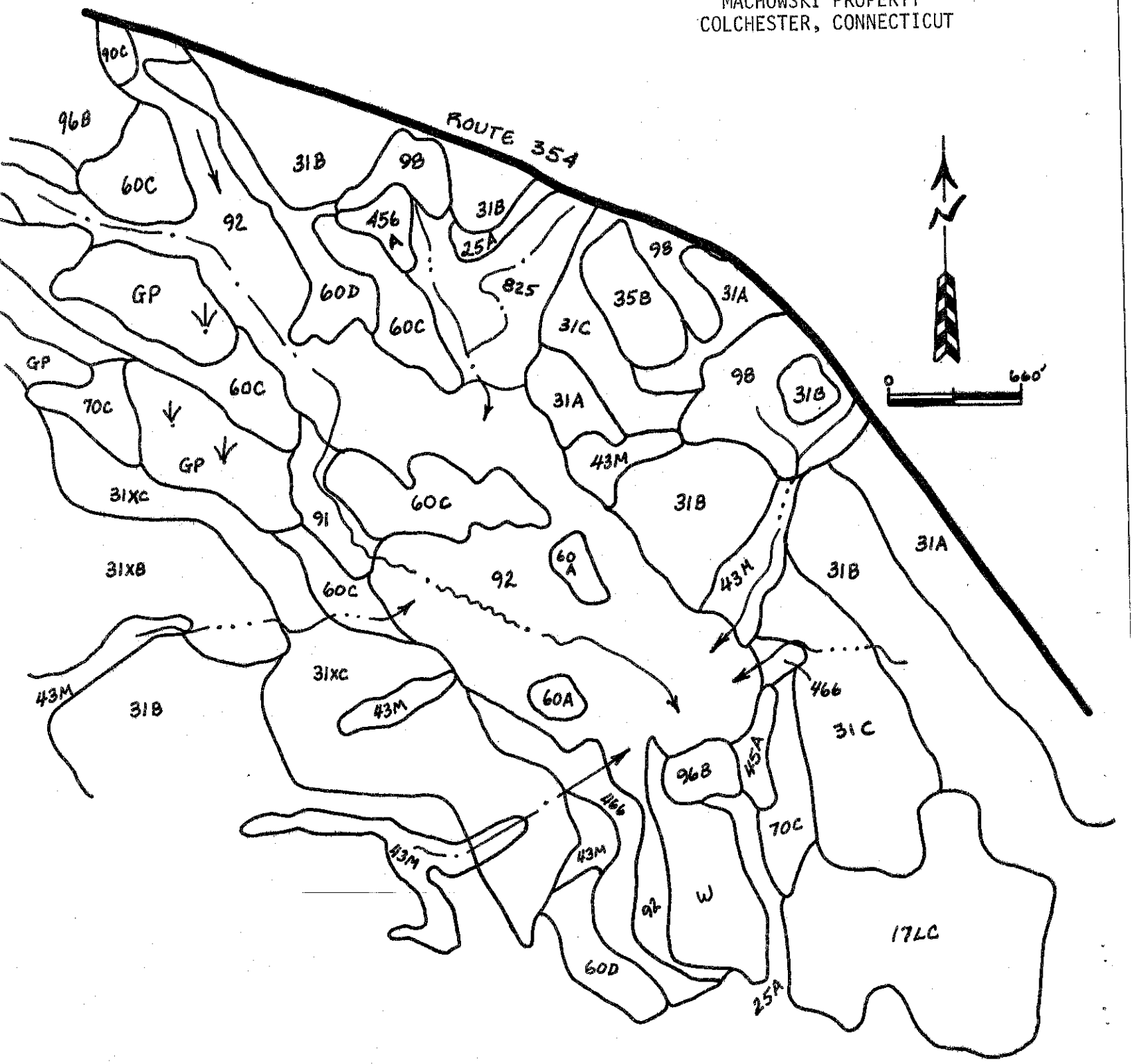
STULA-BENGSTON PROPERTY
COLCHESTER, CONNECTICUT

PROPORTIONAL EXTENT OF SOILS AND THEIR LIMITATIONS FOR CERTAIN LAND USES

Soil Series	Soil Symbol	Approx. Acres	Percent of Acres	Urban Use Limitations						
				On-site Sewage	Camp Sites	Picnic Areas	Play-Grounds	Parks & Trails	Landscaping	Golf Courses
Woodbridge	31B			severe, percs slowly, wetness	moder-ate	slight	moder-ate	slight	slight	slight
Ridgebury, Leicester, Whitman	43M			severe, percs slowly wetness large stones	severe	severe	severe	severe	severe large stones, wetness	severe

SOILS

MACHOWSKI PROPERTY
COLCHESTER, CONNECTICUT



This map is an enlargement from the original 1,320'/inch scale to 660'/inch.

Information taken from: Interim Soil Survey Report: New London County, Connecticut, 1978; Soil Survey Sheet No. 1386, 2760, 2758; prepared by: United States Department of Agriculture, Soil Conservation Service. Advance copy, subject to change.

MACHOWSKI PROPERTY
COLCHESTER, CONNECTICUT

PROPORTIONAL EXTENT OF SOILS AND THEIR LIMITATIONS FOR CERTAIN LAND USES

Soil Series	Soil Symbol	Approx. Acres	Percent of Acres	Urban Use Limitations						
				On-site Sewage	Camp Sites	Picnic Areas	Play-Grounds	Parks & Trails	Landscaping	Golf Courses
Ninigret	25A			severe, wetness	moder-ate	moder-ate	moder-ate	moder-ate	slight	moderate
Woodbridge	31B			severe, wetness, percs slowly	moder-ate	slight	moder-ate	slight	slight	slight
Ridgebury, Leicester, Whitman	43M			severe, percs slowly, large stones, wetness	severe	severe	severe	severe	severe, large stones, wetness	severe
Hinckly	60A			slight	moder-ate	moder-ate	moder-ate	moder-ate	moderate	moderate
	60C			moderate	moder-ate	moder-ate	moder-ate	moder-ate	moderate	moderate
	60D			severe, slope	severe	severe	severe	severe	severe	severe
Carlisle	92			severe, floods, wetness	severe	severe	severe	severe	severe excessive humus, floods	severe
Ridgebury	98			severe, percs slowly wetness	severe	severe	severe	severe	severe	severe
Sudbury	456A			severe, wetness	moder-ate	moder-ate	moder-ate	moder-ate	slight	moderate
Birdsall	825			severe, wetness	severe wetness	severe wetness	severe wetness	severe wetness	severe wetness	severe wetness

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.

Appendix B

Warranty Deed

William McDonald

TO

City of Norwich

Received for Record Oct. 1 1957

at 2.30 o'clock after noon m.

and recorded in Colchester Land

Records, Vol. 53 page 279 by

John [illegible] Town Clerk

Warranty Deed (80s) Published by John H. Bell, Norwich, Conn.

To all People to whom these Presents shall come, Greeting:

KNOW YE, THAT I, William L. McDonald, of the town of Colchester, County of New London and State of Connecticut,

for the consideration of one dollar and other good and valuable considerations, received to my full satisfaction of The City of Norwich, a municipal corporation, located in the town of Norwich, in said County of New London,

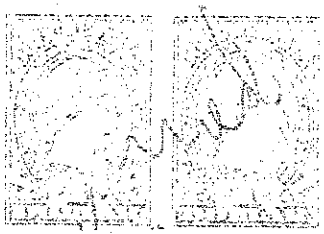
do give, grant, bargain, sell and confirm unto the said The City of Norwich

A certain tract or parcel of land situated in the town of Colchester, in said County of New London, bounded and described as follows:

A strip of land covered by and adjoining Deep River Brook, so-called, which crosses my property conveyed to me by Samuel McDonald by deed dated June 1st, 1925 and recorded in Colchester Land Records, Book 47, page 571.

The intention of this conveyance being to convey all of the brook and 10 feet on each side of the brook for the total distance where the brook crosses said property; being about 2300 feet in length and containing about 1½ acres.

Together with the right to run cross ditches from said brook to my remaining land wherever the brook crosses through any swamps on said land for the purpose of draining out swampy water.



To Have and to Hold the above granted and bargained premises, with the appurtenances thereof, unto it, the said grantee, its successors ~~heirs~~ and assigns forever, to its and their own proper use and behoof. And also, I the said grantor do for myself, my heirs, executors and administrators, covenant with the said grantee, its successors ~~heirs~~ and assigns, that at and until the ensealing of these presents, I am well seized of the premises, as a good indefeasible estate in fee simple, and have good right to bargain and sell the same in manner and form as is above written; and that the same is free from all incumbrances whatsoever.

And Furthermore, I, the said grantor do by these presents bind my self and my heirs forever to warrant and defend the above granted and bargained premises to it, the said grantee, its successors ~~heirs~~ and assigns, against all claims and demands whatsoever.

In Witness Whereof, I have hereunto set my hand and seal this ~~twenty-third~~ day of September in the year of our Lord, 19 37.

Signed, sealed and delivered in presence of
Antoinette F. LaBonte
Richard C. Moran.

William J. McDonald (Seal.)

(Seal)

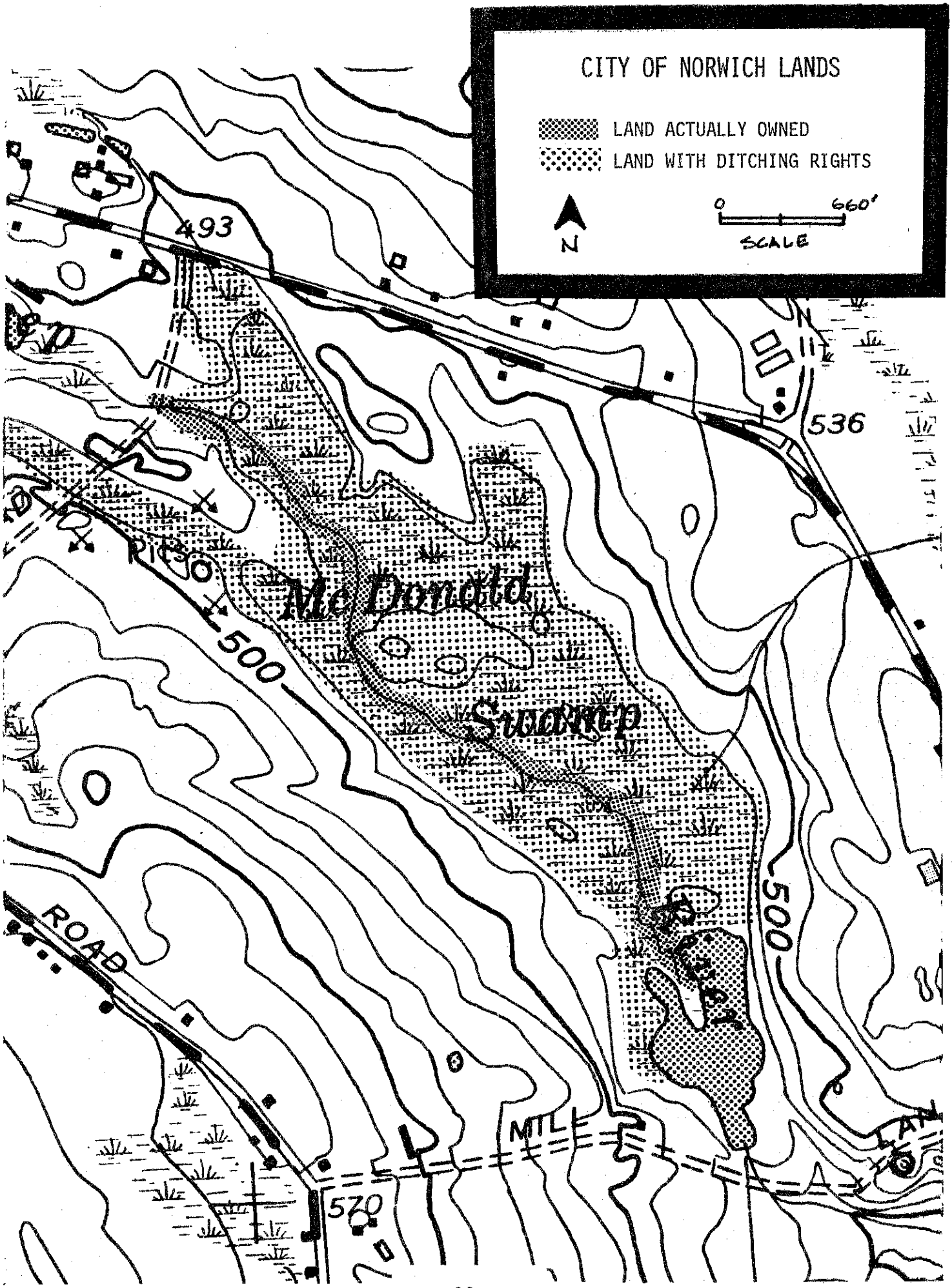
STATE OF CONNECTICUT
Hartford County, } ss. Hartford, Sept. 29, A. D. 19 37.

Personally appeared William J. McDonald,

signer and sealer of the foregoing instrument and acknowledged the same to be his free act and deed, before me,

~~Commissioner of the Superior Court~~
~~Assistant Clerk of the Superior Court~~
~~Notary~~
Walter Anderson
Notary Public.

- 25 -


CITY OF NORWICH LANDS
LAND ACTUALLY OWNED
LAND WITH DITCHING RIGHTS
N
0
660'
SCALE
493
536
500
McDonald
Swamp
ROAD
570
MIL

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.