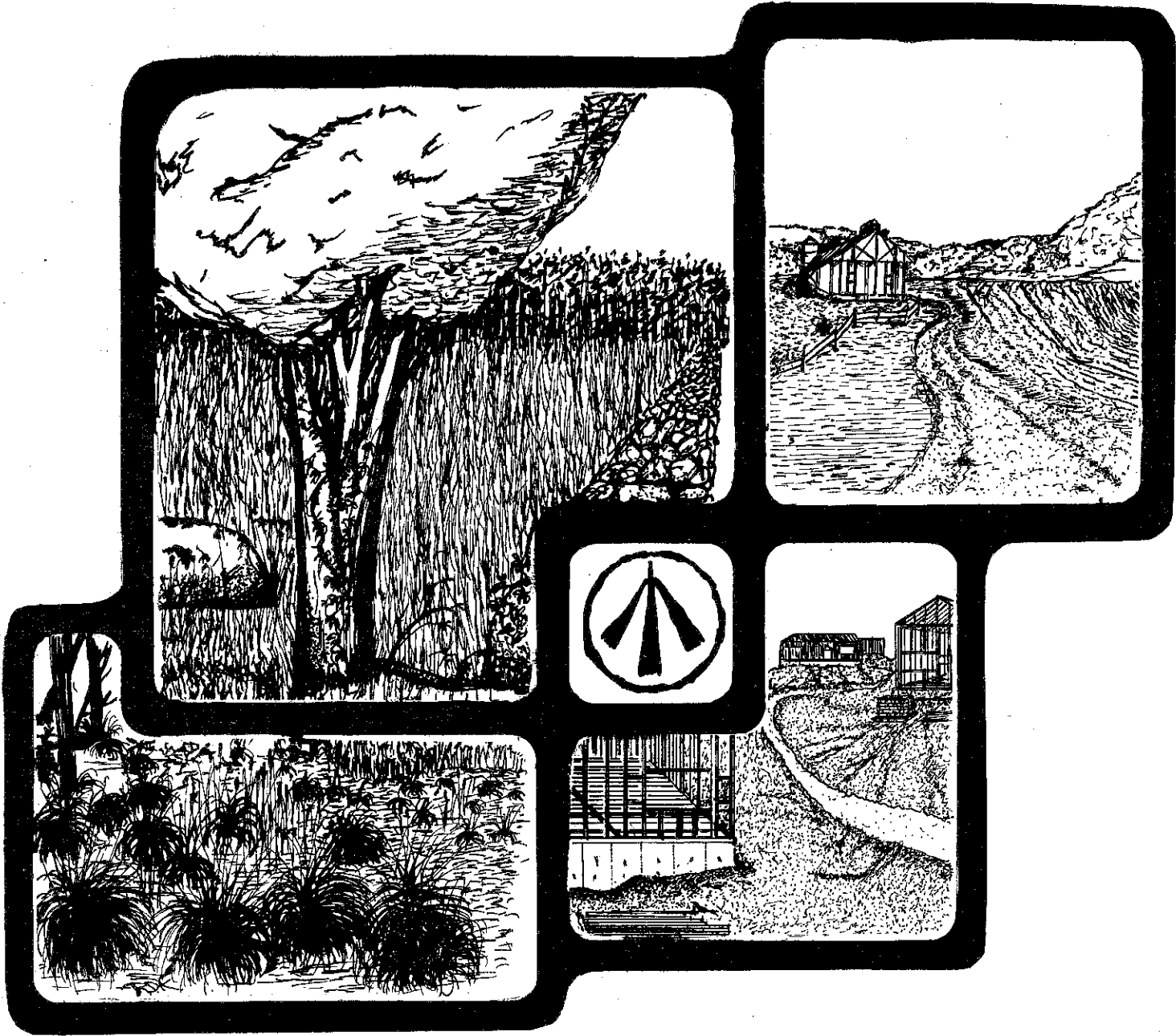


ENVIRONMENTAL REVIEW TEAM REPORT



COMMUNITY LAKE WALLINGFORD, CONNECTICUT

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RESOURCE CONSERVATION AND DEVELOPMENT AREA

KING'S MARK ENVIRONMENTAL REVIEW TEAM REPORT

On

COMMUNITY LAKE WALLINGFORD, CONNECTICUT



AUGUST 1979

Kings Mark Resource Conservation & Development Area

Environmental Review Team

P.O. Box 30

Warren, Connecticut 06754

ACKNOWLEDGMENTS

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

Federal Agencies

U.S.D.A. SOIL CONSERVATION SERVICE

State Agencies

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEPARTMENT OF HEALTH

DEPARTMENT OF TRANSPORTATION

UNIVERSITY OF CONNECTICUT COOPERATIVE EXTENSION SERVICE

Local Groups and Agencies

LITCHFIELD COUNTY SOIL AND WATER CONSERVATION DISTRICT

NEW HAVEN COUNTY SOIL AND WATER CONSERVATION DISTRICT

HARTFORD COUNTY SOIL AND WATER CONSERVATION DISTRICT

FAIRFIELD COUNTY SOIL AND WATER CONSERVATION DISTRICT

NORTHWESTERN CONNECTICUT REGIONAL PLANNING AGENCY

VALLEY REGIONAL PLANNING AGENCY

LITCHFIELD HILLS REGIONAL PLANNING AGENCY

CENTRAL NAUGATUCK VALLEY REGIONAL PLANNING AGENCY

HOUSATONIC VALLEY COUNCIL OF ELECTED OFFICIALS

AMERICAN INDIAN ARCHAEOLOGICAL INSTITUTE

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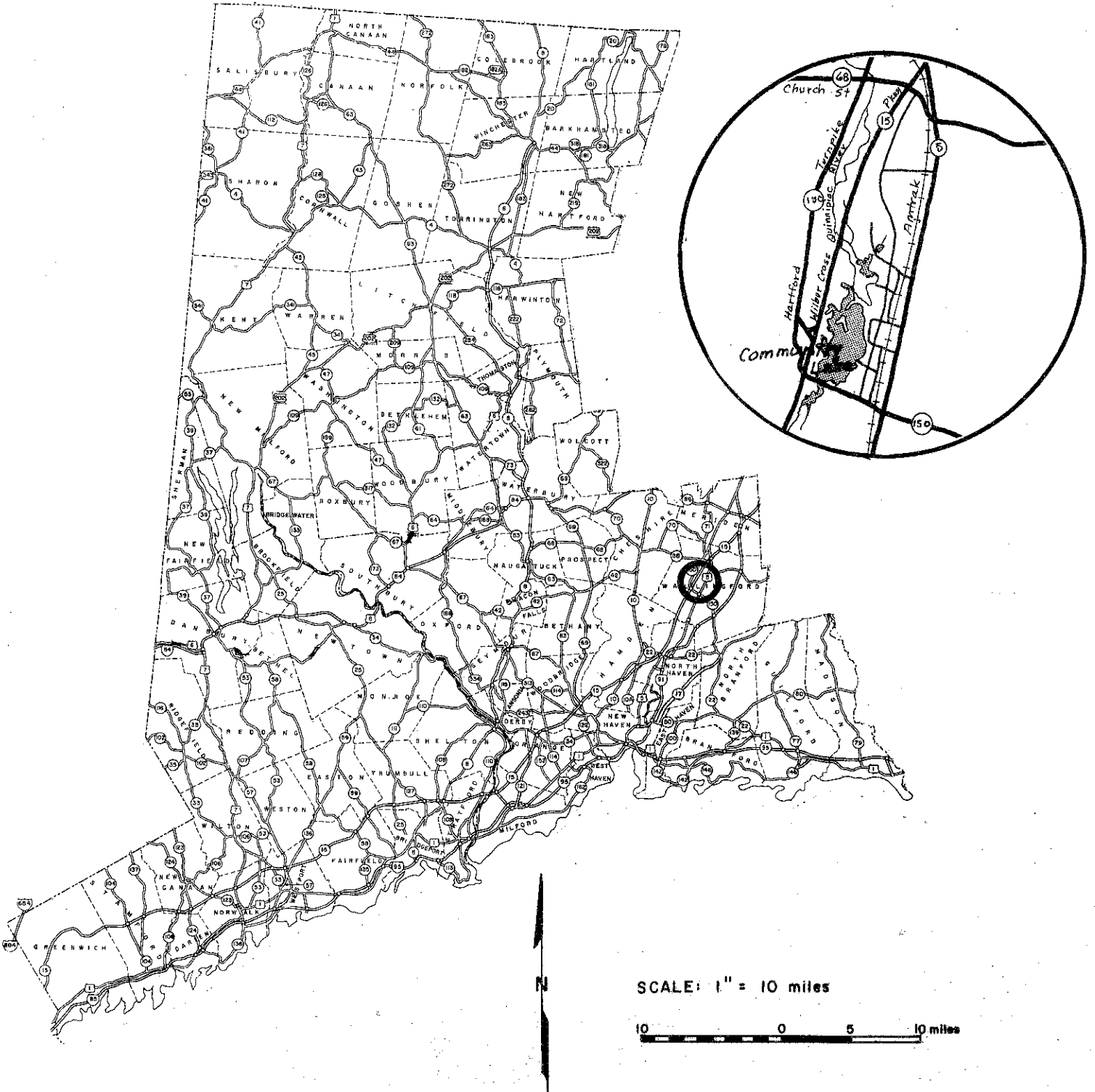
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LOCATION OF STUDY SITE

COMMUNITY LAKE WALLINGFORD, CONNECTICUT



ENVIRONMENTAL REVIEW TEAM REPORT

ON

COMMUNITY LAKE

WALLINGFORD, CONNECTICUT

I. INTRODUCTION

The Town of Wallingford, Connecticut is applying for federal funds through the Heritage Conservation and Recreation Service to reconstruct a dam at Community Lake. The original dam at the lake was breached in January of 1979, leaving only the Quinnipiac River winding through the former ± 75 acre lake bed area. Just upstream from the former lake bed is a sizeable wetland area (± 75 acres) which is considered important for ecological and educational reasons.

Over the years, much recreational facility development has taken place around the lake using funding from different sources. In an effort to maintain the recreational, environmental, and educational values of the Community Lake environs, the town is interested in constructing a new dam to return the water level of the lake to its former elevation. The old dam, built in the late 1800's, is not considered suitable for repair.

The State and Federal Program Administrator from the Town of Wallingford requested the assistance of the King's Mark ERT to help the town in applying for the federal funds. Specifically, the town requested the ERT to prepare an environmental assessment of the proposed lake restoration project according to Heritage Conservation and Recreation Service guidelines. Such an assessment is required as part of the HCRS grant application. The town's request was considered and approved as an ERT project by the King's Mark RC&D Executive Committee.

The ERT met and field reviewed the site on June 13, 1979. Team members for this review consisted of the following:

Philip Hamel.....	State & Federal Program.....	Town of Wallingford, Connecticut
	Administrator	
Frank Indorf.....	District Conservationist.....	U.S.D.A. Soil Conservation
		Service
Erin O'Hare.....	Planner.....	South Central Ct. Regional
		Planning Agency
Robert Orciari.....	Fishery Biologist.....	State Dept. of Environmental
		Protection
Robert Rocks.....	Forester.....	State Dept. of Environmental
		Protection
Alan Williams.....	Sr. Environmental.....	State Dept. of Environmental
	Analyst	Protection
Michael Zizka.....	Geohydrologist.....	State Dept. of Environmental
		Protection

Prior to the review day, each team member was provided with a summary of the proposed project, a checklist of concerns to address, a detailed soil survey map, a list of soil descriptions and a topographic map. Following the field review, individual reports were prepared by each team member and forwarded to the ERT Coordinator for compilation and editing into this final report.

This report presents the team's findings and recommendations. The format for the report was designed to be consistent with that suggested in the "HCRS Environmental Assessment Outline". If any additional information is required please contact Richard Lynn, (868-7342), Environmental Review Team Coordinator, King's Mark RC&D Area, P.O. Box 30, Warren, Connecticut 06754.

* * * * *

II. DESCRIPTION OF THE PROPOSAL

The proposed project is designed to restore the water level in Community Lake and adjacent wetlands to the north by installing a new dam. The project is being proposed by the Town of Wallingford. A new dam is required because an old dam built in the late 1800's was breached in a severe flood on January 25, 1979. The old dam, because of its antiquated design and inappropriate location (immediately under a bridge carrying State Route 150) is not suitable for repair.

In restoring the water level, the town will re-establish an area used for boating, fishing and ice skating. The area will serve the entire community of Wallingford and others from out of town who would like to use it. The 75 acre lake area and river and wetlands north of it will provide large numbers of people with fishing and boating opportunities.

The subject area is located immediately north of Hall Avenue and east of Route 15, the Wilbur Cross Parkway. In this area there is more than 200 acres of lake bed, wetlands and natural and recreation areas. The Town, with Federal assistance, has provided a developed recreation area at the southwest corner of the lake including basketball, tennis, paddle tennis, Little League baseball, a tot lot, large pavillion and picnic areas. To the west and northwest of the lake, the town has developed nature and hiking trails through the wetlands area which have now been substantially drained. To the east of the lake the Town has developed a Senior Citizen's Center. In the southwest corner of the lake the town has developed a boat launch area to allow access to the lake. It should be noted that this is the only town-owned facility at which boating is possible. Choate-Rosemary Hall, a private school in Wallingford, has also used the lake for its rowing practice and has a boat house to the east of the lake. Hunting is also allowed particularly through the wetlands area. The area surrounding the lake, in addition to the recreation areas, is predominately residential with some older commercial and industrial development also present.

It is expected that design for the dam will be completed by spring of 1981 and construction started in the summer or early fall of 1981. The town expects that construction will be completed by 1983 or 1984. However, it is possible that the lake bottom may be contoured during the period that the lake is dry, and if that occurs, the completion of construction of the dam as part of an integrated process may be delayed until 1985.

Since there has been a lake in the area dating back to the early 1800's, all plans of the Municipal Region and State include the lake as a recreational resource. It should be recognized that the Quinnipiac River is being cleaned up through improved or expanded sewerage treatment facilities and other Federally mandated programs. It is conceivable that in the future swimming will be allowed in Community Lake. The town currently owns only two other areas where swimming is possible--both of them chlorinated pools.

III. DESCRIPTION OF THE ENVIRONMENT

A. LAND USE AND SOCIO-ECONOMIC CONDITIONS

The present land use of the immediate site is recreational and under the project will remain the same. In the past a portion of the site (southwest corner of the lake) was used for agricultural purposes. Immediately to the south of the site there is an industrial plant, to the west is Route 15. The remainder of the surrounding area is predominately residential with a small amount of commercial and industrial usage. This has generally been the pattern of usage during this century.

A zoning map delineating present usage is presented in the Appendix of this report. There will be no change in zoning or land use if the project is implemented.

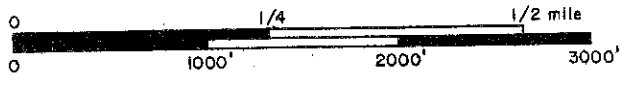
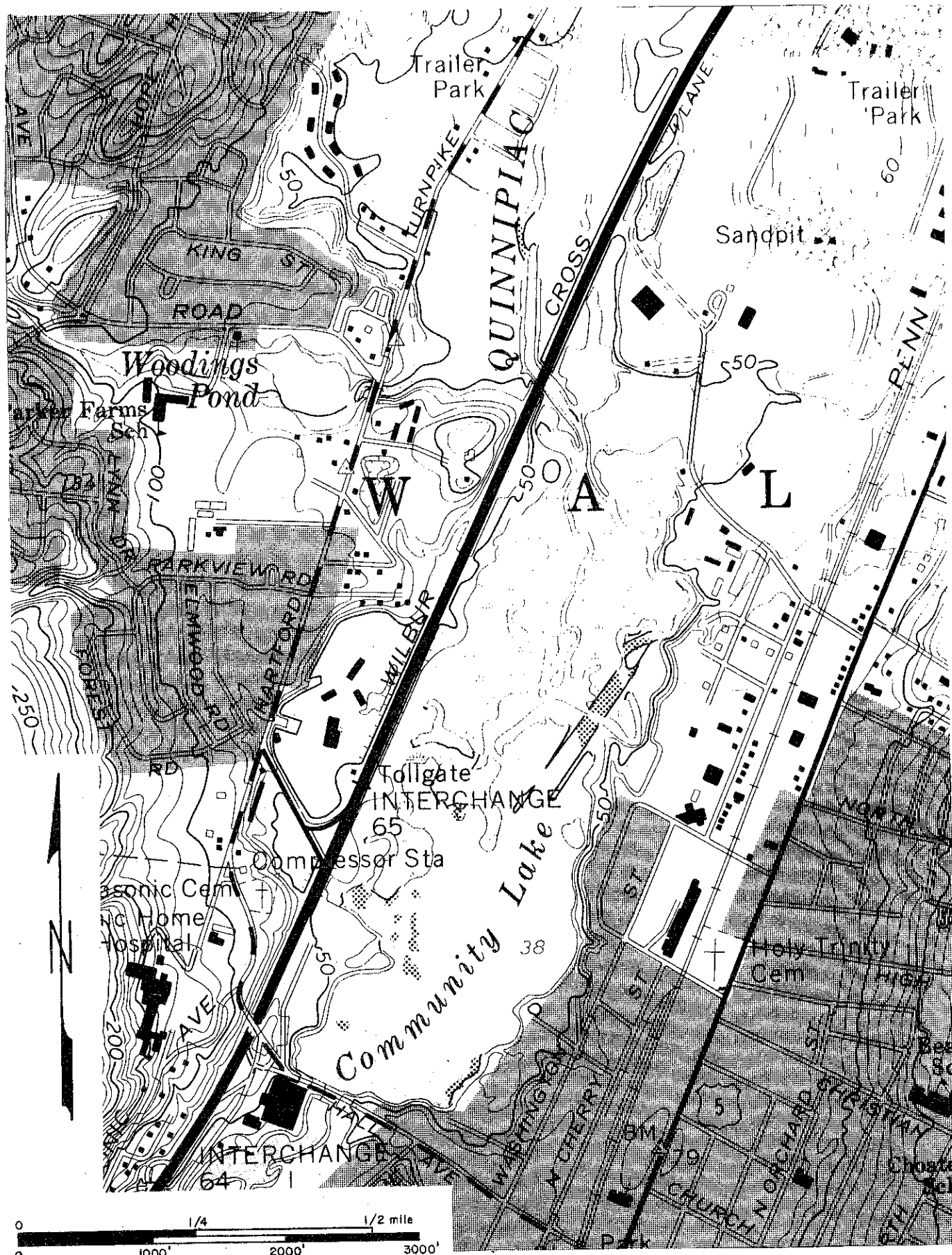
The proposed project is in an area which contains town-wide the highest percentage of both low income and minority individuals. There is a relatively high concentration of minority and low income families in other adjacent census tracts. While these facilities will be used by all Wallingford residents, the Spanish community and the low income community have a particular interest in this recreation area and the Spanish community has in the past expressed an interest. The towns projected population for 1980 is 36,000; for the year 2000, 42,500 (source: Southcentral Regional Planning Agency).

B. TOPOGRAPHY AND GEOLOGY

The major topographic features in the Community Lake area (see Figure 1) are the result of glacial deposition and postglacial erosion. Quinnipiac River flows through a relatively flat to gently sloping floodplain. The damming of the river at Hall Avenue created Community Lake by submerging a portion of the floodplain. Immediately east of the northern half of the former lake's location, a steep slope rises more than 30 feet to a gently sloping terrace, the remains of an extensive glacial outwash deposit. Along the southeastern boundary of the former lake, a lower terrace indicates a previous erosional level of Quinnipiac River; that is, an area in which the river cut into the outwash deposit and established an earlier floodplain. West of the Community Lake site, the outwash terrace is discontinuous: near Hall Avenue, the terrace "wedges out" and the floodplain directly abuts a moderately to steeply sloped till-covered bedrock hillside. The Wilbur Cross Parkway, supported by a dike of artificial fill, forms the western boundary of the site.

The site is underlain by thick sand and gravel deposits of glacial and post-glacial origin. Test borings made by the Department of Transportation, on-site investigations, and test-hole logs reported in Connecticut Water Resources Bulletin No. 26 indicate that most of the deposits consist of sand. Gravel is a common subcomponent within the site; silt and clay are less conspicuous but increase in percentage north of the site. The top two feet of the surficial materials in the wetlands north of the former lake area consist of organic deposits, clay, silt, and fine sand. Bedrock underlies the site at depths generally exceeding 100 feet but less than 130 feet. The bedrock appears to be arkose, a reddish-brown, feldsparrich sandstone.

FIGURE I.
TOPOGRAPHIC MAP



SCALE: 1" = 1000'

C. SOILS

A soils map of the project area, prepared by the U.S.D.A. Soil Conservation Service, is shown in Figure 2. Basically, there are three soil series located in the Community Lake area. A brief description of each of these soils is presented below.

PENWOOD SERIES (Map symbols: 14A, 14B, 14C) These are excessively drained soils developed in deep sands and loamy sands derived primarily from reddish Triassic sandstone and conglomerate. Normally these soils are free of gravel to a depth of 4 or 5 feet, but some gravel is allowed in the range of the series. Texture in the surface soil and upper subsoil ranges from loamy sand to loamy fine sand. The texture of the lower subsoil is loamy sand, fine sand or sand. Penwood soils are on nearly level to undulating or sloping topography. Natural fertility of these soils is low.

RUMNEY SERIES (Map symbols: 855) These soils have formed in alluvial sediments and are somewhat poorly to poorly drained. Rumney soils are subject to seasonal flooding and are regulated by Public Act 155--Connecticut's Inland Wetland and Water Courses Act. The majority of the site is underlain by this soil type.

MADE LAND (Map symbols: ML-2) Soil characteristics are variable.

Erosion and Sedimentation

All the soils on the site are susceptible to erosion. Siltation and sedimentation into streams and lakes would become a serious problem should these soils be left with poor and inadequate cover. At the present time there is significant erosion occurring on the banks of the Quinnipiac River in the northern half of the property. Most of the soils in this area are of Rumney Series (855) and have been built up by river deposits of sand and silt. This type of soil is highly erodible due to the high percentage of fine particles in its structure. When the dam at the southern terminus of Community Lake failed in January of 1979, the water level was lowered by several feet. This event resulted in lowering the level of the river as it entered Community Lake by an equal amount. Furthermore, this lowering exposed the banks of the Quinnipiac River to significant down cutting caused by the river during storm periods. The banks which had been built up by over a hundred years of Alluvial deposits do not have the structure to resist this increased force.

The result of these events has been one of a significant decrease in water quality due to an increase in turbidity which has been caused by erosion of the river banks. This turbidity can have a significant negative impact on fish and wildlife habitat downstream.

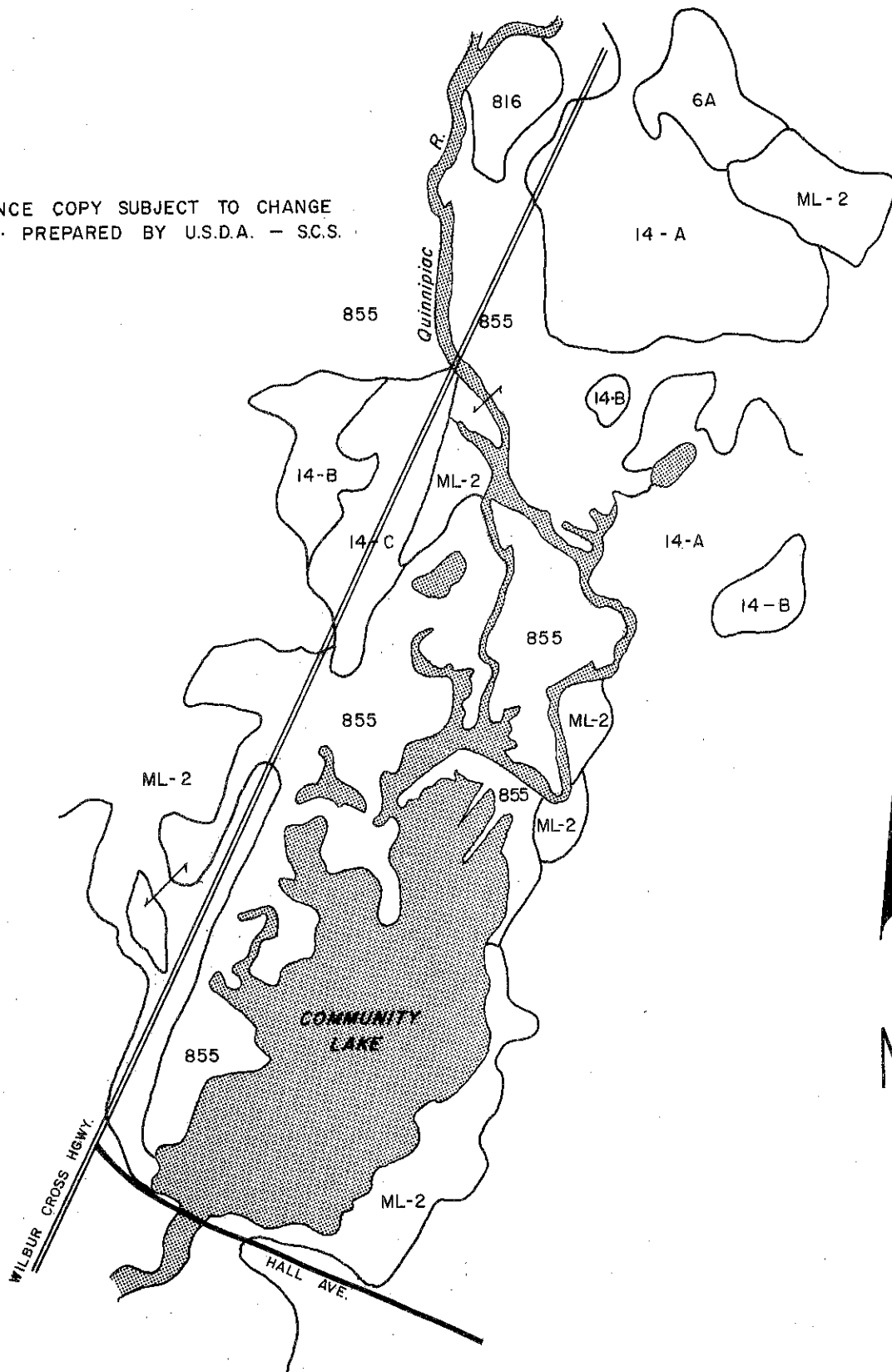
In their natural condition, the soils in the project area are relatively infertile and highly acidic. Areas of high acidity require annual maintenance treatment of lime and fertilizer.

D. CLIMATE

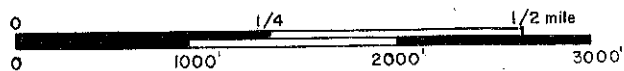
The subject site is located in the southcentral lowlands ecoregion as defined by I. Dowhan and R. Craig in the publication "Rare and Endangered Species

FIGURE 2. SOILS MAP

ADVANCE COPY SUBJECT TO CHANGE
1979 · PREPARED BY U.S.D.A. - S.C.S.



SCALE: 1" = 1000'



of Connecticut and Their Habitats" (The Natural Resources Center, Connecticut Department of Environmental Protection, 1976). The following is an excerpt from that document:

"The mean annual temperature of the (southcentral lowlands) region is 50.5°F., the warmest in the state outside of the coastal area. Average winter temperature is about 29.5°F., with the monthly mean minimum for the coldest month approximately 20°F. Mean annual minimum temperature is -5°F. Seasonal snowfall accumulation averages somewhat less than 40 inches. The average frost-free season is 165 days. This region, along with the southern portion of the Northcentral lowlands, has one of the earliest spring warm-ups (initiation of the growing season) in the state. The average summer temperature is 70°F.; the monthly mean maximum temperature for the warmest month is 83°F. The average annual precipitation is about 45 inches, with wide variations over the region as a whole."

E. WATER RESOURCES

The project site's recreational value is based largely upon Quinnipiac River and its associated wetlands; hence, the quality of water in the river and in the lake, if recreated, is important in assessing the potential of the proposal. The newly published Connecticut Water Resources Bulletin No. 27, a U.S. Geological Survey publication in cooperation with the Connecticut Department of Environmental Protection, offers much insight into the general quality of the river. The maximum dissolved solids concentration in the river near the site is moderate, within the range of 101-300 milligrams per liter. Median values of coliform-bacteria concentration have been relatively high (greater than the Connecticut Department of Health's recommended limit of 20,000 colonies per 100 milliliters for raw surface-water sources of drinking water), but the median-value for the last year of the study, 1975, dropped to within the safety margin. The decrease is thought to have resulted from expanded sewage treatment in the Quinnipiac River Basin.

The water quality of this portion of the Quinnipiac River is presently classified as Class C (suitable for fish and wildlife habitat, recreational boating, and certain industrial processes and cooling; good aesthetic value). A Class B designation is proposed for the River (suitable for bathing, other recreational purposes, agricultural uses, certain industrial processes and cooling; excellent fish and wildlife habitat; good aesthetic value).

Groundwater withdrawn from wells on the site, particularly those tapping the stratified drift deposits, may be influenced to some extent by the quality of water in the river itself. Otherwise, well water quality would depend to a great extent upon the mineralogy of the source material. Since the stratified drift on the site is derived largely from sedimentary rock of the type that underlies the site, the quality of water from either source may be expected to be similar. Iron tends to be higher in concentration in water withdrawn from bedrock, while calcium, magnesium, sulfate, chloride, and nitrate tend to be higher in water from stratified drift. The higher levels in stratified drift are due in part to the rapid percolation of contaminated runoff from the surrounding urbanized areas through the coarse overburden and into the groundwater.

In terms of yields, stratified drift offers a greater potential for large-scale supplies than does bedrock. Connecticut Water Resource Bulletin No. 27 indicates that wells tapping the overburden on the site may yield 100-1000 gallons per minutes. The sedimentary bedrock, on the other hand, will occasionally allow a well yield of 100 gallons per minute or more but only 10 percent of such wells studied in the Quinnipiac River Basin yielded more than 30 gpm.

Virtually all of the site lies within the 100-year-flood-hazard zone, as defined in flood insurance rate maps for the Town of Wallingford that were released by the U.S. Department of Housing and Urban Development, Federal Insurance Administration, and that were effective on September 15, 1978. A copy of a portion of those maps is shown in Figure 3.

F. VEGETATION

Four vegetation types occupy the Community Lake area. The distribution of these types is shown in Figure 4 and their composition is described below.

Community A - Community Lake Area. This vegetation type encompasses the + 75 acre lake bed area. In an effort to reduce soil loss through erosion, the U.S.D.A. Soil Conservation Service seeded the area to Reed Canary grass and perennial ryegrasses following the dam blow out. The seeding was successful.

Community B - Hardwood Swamp and Associated Areas. Most of this 63 acre area is fully occupied by medium quality sapling to pole size red maple. Spicebush, arrowwood and speckled alder have become dense where the red maple overstory is patchy. Ground cover vegetation is dominated by skunk cabbage and several species of ferns.*

The species growing along the dirt road, which runs parallel to Wilbur Cross Highway (see Figure 4), are: sapling size white ash, red maple, gray birch and cottonwood with seedling size silky dogwood, black cherry, deutzia, shadbush and grape vines, steeple bush, staghorn sumac, elderberry, raspberry and many species of wild flowers.+

Community C. Marsh. Approximately 40 acres of this property is vegetated by a dense stand of narrow leaved cattail, broad leaved cattail, horsetails, common reed, skunk cabbage, tussock sedge, and pickerel weed. Floating and floating leaved species included yellow waterlily and duckweed.

*Fern species observed:

Bracken fern, cinnamon fern, hayscented fern, interrupted fern, maiden hair fern, marsh fern, royal fern, sensitive fern.

+Wildflowers observed:

Aster, bittersweet nightshade, blackeyed susan, buttercups, campion (bladder & white), daisies, deptford pink, dogbane, fleabane (daisy flea bane), morning glory, red clover, stout blue-eyed grass, venus looking-glass, hawkweed, white sweet clover, whorled loosestrife, wild garlic, wild lupin, yarrow, milkweed, hop clover, cinquefoil (several species).

FIGURE 3.
FLOOD HAZARD ZONES

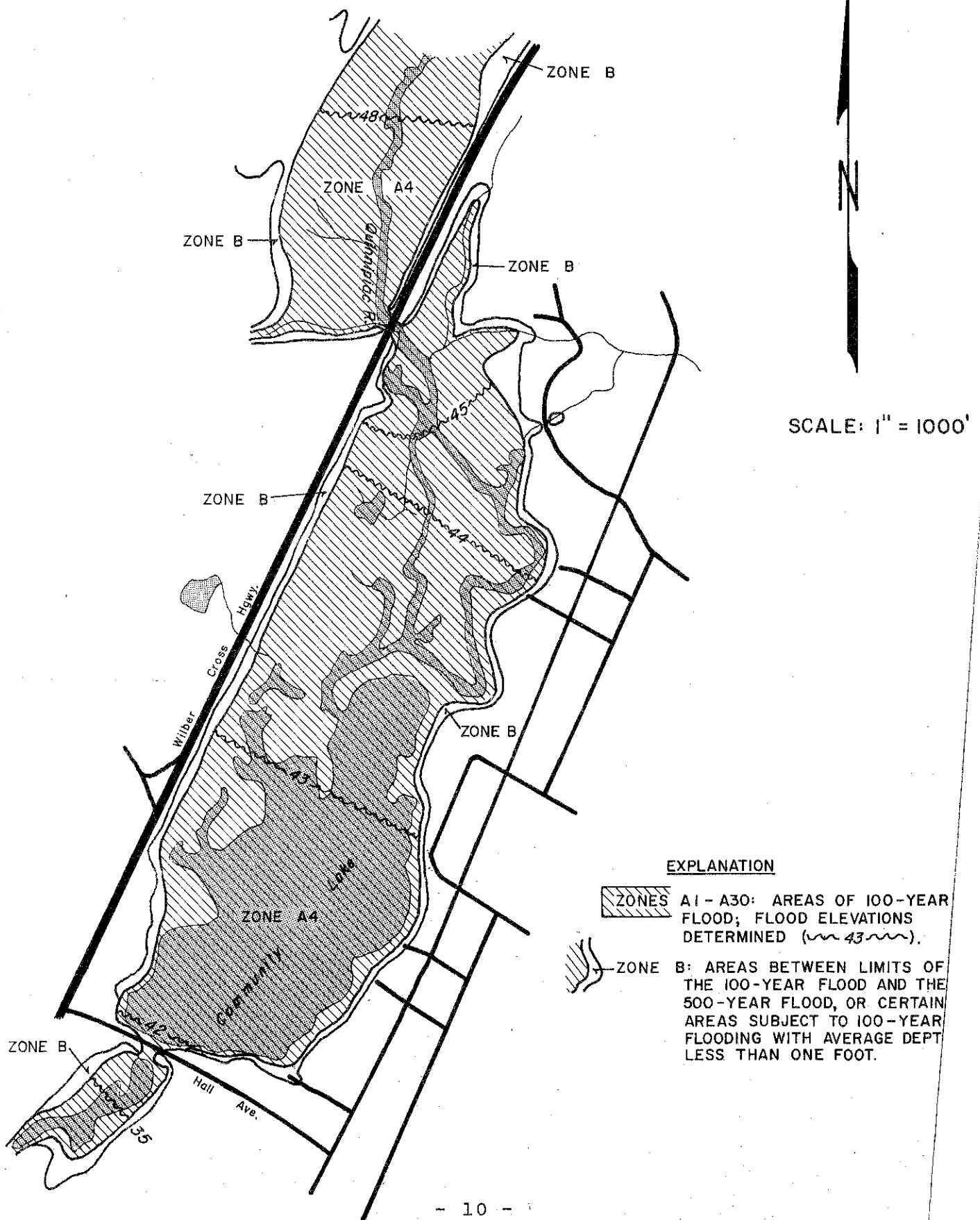
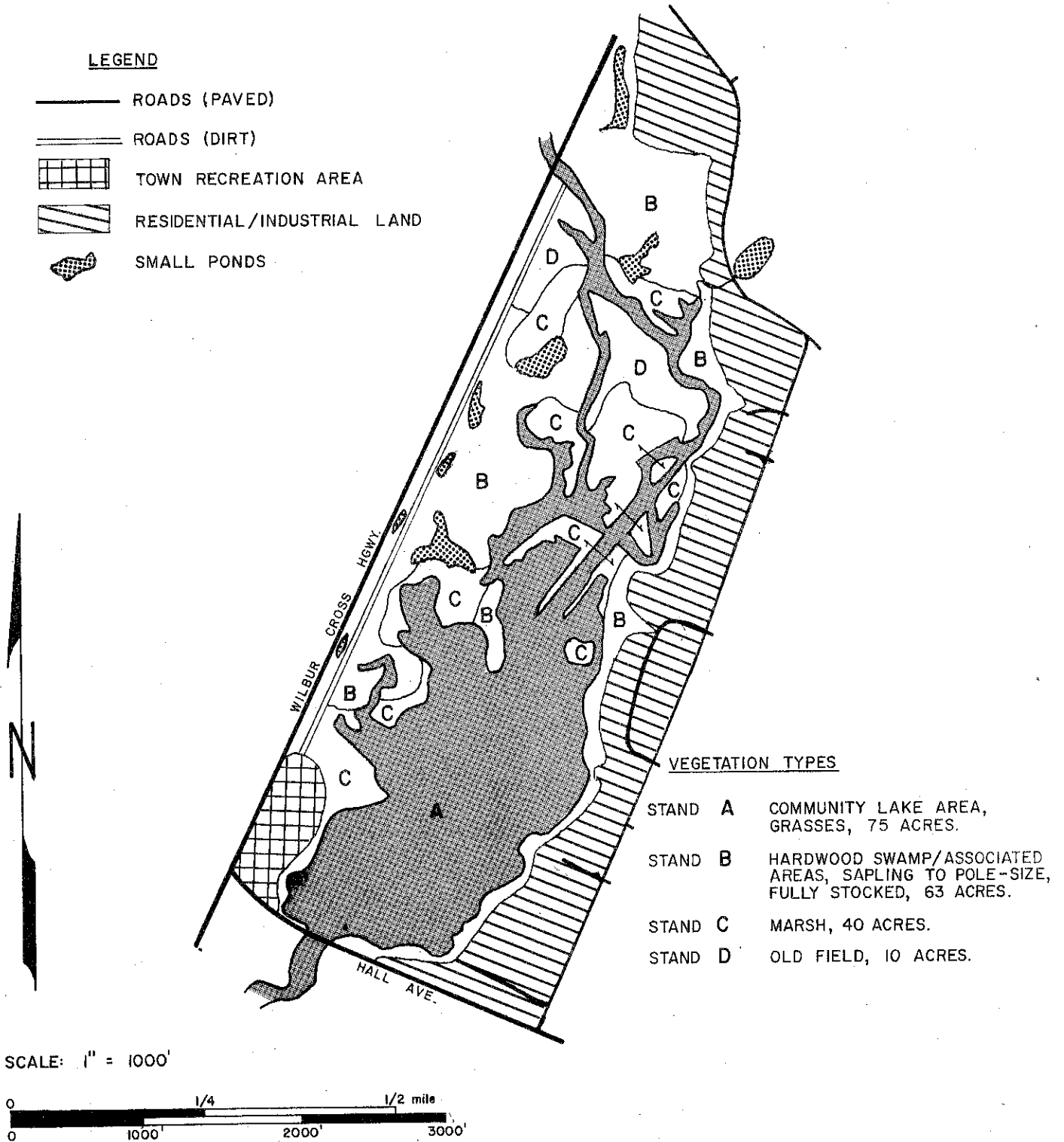


FIGURE 4.
VEGETATION TYPE MAP



Community D. Old Field. Sapling size gray birch, red maple and scattered cottonwood are present in this 10 acre understocked stand. Black cherry seedlings, silky dogwood and raspberry are common. A dense mat of grass covers most of this area along with goldenrod and beggar-ticks.

G. WILDLIFE AND WETLANDS

The wetlands and associated wildlife habitat on this site are in a state of flux due to the recent drawdown of water. Discussion here focuses on pre-drawdown habitat and then the effect of the drawdown on wetland and wildlife resources. It should be noted that the following is a general assesement and not an exact delineation of wetland values which would have required considerable detailed site work and research, plus large scale mapping of water level elevations prior to and after drawdown.

Pre-Drawdown

The pre-drawdown wetland and water course must be rated as valuable wildlife habitat (87.5 on modified Golet scale). Despite the poor water quality, the approximate 150 acres of wetland (75+ acres) and water course (75+) exhibit high wildlife use for fish, waterfowl, small mammals, amphibians, and predatory and song birds. This high wildlife value can be attributed to several factors: large acreage of undeveloped land, diversity of wetland vegetation, diversity of wetland classes and subclasses, proximity to other wetlands, and adjacent and intermixed upland habitats. The food chain is almost entirely water related as even the upland mammals like skunk and racoon are partially dependent upon fish and muskrat for foods. The muskrat population has been estimated to be between 150 and 500, and three commercial trappers are actually licensed to trap the area on three year leases. It is not unlikely that 100 - 200 muskrats are trapped out each year. The going rate, according to a local trapper is around \$6.00 a pelt, which is substantially higher than just a few years ago.

The wetlands fall into several classes including wooded swamp, shrub swamp, open water, deep marsh, shallow marsh and meadow. The most valuable type for waterfowl and muskrat breeding, brooding, feeding and cover are the deep and shallow marsh classes. The marsh classes are most valuable where dominated by cattails, of which there are several dense stands within the 75 acres of vegetated lands. The wooded areas provide valuable predator and bird habitats.

Waterfowl hunters purchased 63 permits for Community Lake in 1978, and reported taking 10 ducks, 3 geese, and some pheasant and squirrels. Much of the area is off limits to hunting because of nature trails and proximity to recreational facilities, so the take of small mammals like racoons and cotton-tails is probably much lower than it might be. Several DEP staff have noted that the reported take of waterfowl may be as much as ten times lower than reality.

Affect of Drawdown

In the immediate future, the affect of the drawdown may not be too evident. The floating leaved and submergents vegetation and anything which uses this material may be significantly reduced, although the water lily populations apparently show a keen ability to survive short term very dry conditions.

With varying degrees, based on site conditions and specie adaptability, the emergents (cattails, sedges, burreed, et als) would give way to shrubs and trees, hence, a lowering of cover and food availability for waterfowl.

There is also some possibility that there might be an increase in soluble nutrients which might assist the growth of submergents in the remaining pool areas.

The affect of the drawdown on wetland and related environments might be quite pronounced in the long run. A reduction in the amount of aquatic invertebrates and algae coupled with a reduction in open water would reduce the fish population and the populations of those, like raccoons, which might feed on fish. However, these animals may be able to substitute other foods, except if the alternatives included aquatic life like muskrat, turtle, snake, or frog. Drawdown and hence drying of previous cattail marshes has already lessened the muskrat population which is now limited to bank dens (much less preferred housing than lodges). Trapping, fishing, and hunting has therefore already been negatively affected. The downcutting and new channel cutting of the Quinnipiac is causing severe erosion in many bank situations, further endangering some of the remaining aquatic habitats.

Areas that were formerly deep waters (greater than six feet) could conceivably become shallow or deep marsh if not within the high velocity channel of the Quinnipiac. However, it will be difficult to determine how much marsh will develop. Areas of potential cattail shallow marsh may become vegetated by Phragmites (common reed) which is far less valuable. Phragmites has the ability to withstand disturbed soil conditions and poor water quality, especially high salt content, hence its possible take over.

What is likely to occur throughout the wetland areas is a succession from marsh types to shrub and wooded swamps, and from wooded swamp to upland (or terrestrial) woodlands. Certain seasonally flooded meadows may become upland woodlands if they will not be flooded annually.

In some cases, previously unexposed areas are high and dry, and due to the lack of organic material present, there may be a slower than expected invasion of trees and shrubs.

H. FISHERIES

Prior to the January 1979 flood, Community Lake was a shallow body of water inhabited by carp, white suckers, fallfish, golden shiners, American eels, largemouth bass and sunfish. Being fed by the Quinnipiac River, Community Lake had reduced water quality, which may have been responsible for the low fishing pressure that occurred there. However, there was some recreational fishing for carp and largemouth bass. In the present condition, in which the Quinnipiac River flows through the dried lake bottom, fishing would even be more limited. Species now present in this river section would likely include fallfish and white suckers.

I. ACCESS

Community Lake is situated between two major transportation routes: the Wilbur Cross Parkway to the west, and Route 5 to the east. The Lake is easily

accessible from both north and south via the Parkway. Hartford Turnpike, running parallel and just west of the Parkway, is a major road accommodating traffic from the western side of Wallingford via the feeder roads, Cook Hill Road, Cheshire Road and Parker Farms Road. Hartford Turnpike feeds into Hall Avenue which forms the southern boundary of the site and continues easterly to the center of town. Hall Avenue provides direct access to the recreation area at the lake from both east and west. A bus route circles the lake, however, there is presently no bus stop at the site.

J. PROBABLE FUTURE ENVIRONMENT IF PROJECT NOT INITIATED

If the project is not initiated, it appears likely that:

- . valuable wildlife habitat will be significantly decreased in areal extent and altered in character,
- . a dire need for an alternate site to meet the demand for water based recreation will result,
- . erosion of the lake bottom sediments and river bank will continue aggravating downstream siltation conditions,
- . the unconsolidated lake bottom would be a hazard area,
- . the site would be deemed unaesthetic by area residents and would affect the ambience of the neighborhood,
- . roads that used to lead to the lakeshore would remain dead ends, and
- . there would be pressure from townspeople to develop the site for alternate uses.

IV. ENVIRONMENTAL IMPACT OF THE PROPOSED ACTION

A. PLANNING CONSIDERATIONS

Cultural Resources

There are no sites in the vicinity of the project listed on the National Register of Historic Places. It should be noted however that a federally funded study, the "Wallingford Historic Survey Project, Phase I", recently completed by an architectural consultant identified forty structures within a two block distance from the site that are historically significant due to architectural style, uniqueness, or age. This designation is an important factor in securing funding for rehabilitation.

Land Use Impact

The lake restoration project would benefit area residents with respect to recreation opportunities and aesthetic value. Should the dam not be restored, the existing park would suffer.

Additional construction in the immediate vicinity of the Lake is not anticipated in this built up area although several homes are slated for rehabilitation.

Settlement patterns, services, and commercial enterprises should not be affected by the project. The local tax benefits should be positive from this action and the proposed project will not displace persons.

Solid Waste

Because the rebuilding of the dam would restore the lake to its previous condition with concomitant recreational use, the solid waste generated through use of the park would be expected to be at the volume it was before the dam broke. Solid waste is disposed of in the municipal landfill to the south of the park.

Access

Because the rebuilding of the dam would restore a previous condition, transportation routes should not be affected, and there should be no increase in congestion, capacity, or hazards.

Energy Consumption

As discussed in the previous section of this report, Community Lake is in close proximity to downtown Wallingford and the densely populated residential areas of town. There is ready access to the site. The rebuilding of the dam will restore the lake as a center of water-based recreation, which will serve to lower energy consumption. Residents will be able to enjoy water based recreation locally once more, obviating the need for out of town trips.

Air Quality and Noise

The flooding of the lake site will improve the air quality locally by eliminating the air borne dust and dirt now generated from the exposed lake bottom. Ambient noise level should not differ appreciably from existing conditions.

B. WATER RESOURCES IMPACT

By raising the surface water elevation of Quinnipiac River on the site, the creation of the dam more than 100 years ago undoubtedly caused a rise in the groundwater table adjacent to and north of the resultant lake. This rise helped to foster the establishment of a wetland wildlife community. The breach of the dam, by allowing the water table around the former lake site to drop, although only slightly in some areas, may change the nature of the community and the extent of wetland area significantly. Reconstruction of the dam to return the water level to its former level (but no greater) would help to preserve the status quo. It is also likely that the increase in surface-water gradient that resulted from the breach has increased the river's velocity in the wetland area and will cause additional erosion along the banks. By the same token, the sediment deposited by the river in its current condition will be more evenly dispersed and less prone to accumulate at the northern end of the former lake site.

C. VEGETATION IMPACT

The proposed construction of a new dam and subsequent reestablishment of Community Lake, should have very little negative impact on the vegetation which existed prior to the drawdown. This will hold true as long as the new water level does not exceed the old water level of Community Lake.

If the new dam is designed in such a way that the lake's surface is expanded (high water level) there is a good chance that much of the vegetation that is permanently exposed to the high water levels will die from drowning. This may include portions of the cattail marsh community and red maple swamp.

If the dam is not reconstructed, and the drawdown becomes permanent, a succession of plant communities will occur. At first the cattail marsh will probably expand into areas where fresh muck has been exposed, later the cattails will recede from areas that become drier. The newly exposed areas which are relatively infertile (sandy-gravelly soils with little organic matter) will be invaded by aspens, gray birch and red maple, and those areas with high organic matter will quickly be dominated by red maple. Over time, areas which are presently red maple swamp, if no longer flooded seasonally, may become drier and be capable of supporting upland species such as oak and hickory.

D. WILDLIFE IMPACT

Restoring or rebuilding the dam could have several positive affects on wetland wildlife and recreation values.

The dam could be constructed so as to restore, and perhaps enhance the quality and acreage of cattail marsh, which in turn would provide muskrat and duck habitat, add diversity to the lake area, and bring about an increase in both upland and wetland plant and animal species. Water depth from 6" to 3' in the growing season would constitute good deep marsh environment; and from 0 to 6" would produce shallow marsh environment, the most productive for muskrats. Overall, wildlife value can be improved by management which promotes a multitude of wetland classes, irregular shaped edges (ecotones) between classes, and a mixture of open water and vegetated areas.

E. FISHERIES IMPACT

Restoration of Community Lake would improve existing fishing opportunities, since populations of largemouth bass, sunfish and carp would be re-established. The lake may become more important as a fisheries resource, if the water quality of the Quinnipiac River improves over time.

F. MANAGEMENT PRACTICES PROPOSED FOR THE AREA

Management practices for the area will be established by the Wallingford Recreation Department and will be monitored by local, state and federal agencies with specific interest in environmental protection, soil and water resources. The area has in the past been managed successfully by the Recreation Department in order to preserve and maintain recreational and natural resources. Specific practices for the control of the environmental waste products, water quality, etc. have been established and will be maintained by the Wallingford Recreation Department.

Some improvements should be considered prior to restoring Community Lake. Brush piles, placed randomly along the shore, would provide shelter for young fish and holding areas for largemouth bass. The fisheries and recreational potential of the Lake would also be enhanced by removal of accumulated silt, provided that the toxicity and disposal of the sediments do not pose insurmountable problems. Because the new dam would be the first obstruction to upstream movement by anadromous fish, it should be constructed with a fish passageway suited for alewives, blueback herring and American shad. Once, as is expected,

the water of the Quinnipiac River improves, alewives and blueback herring would likely spawn in the Lake. Community Lake would then serve as a nursery area for the young of these fish, which grow to become very important forage to saltwater predator species. Providing passage for American shad would increase the possibility of a seasonal run of this species becoming established.

V. MITIGATING MEASURES INCLUDED IN THE PROPOSED ACTION

The office of the Soil Conservation Service in cooperation with the New Haven County Soil and Water Conservation District, the State Department of Environmental Protection, the University of Connecticut Extension Service, U.S. Forest Service and the U.S. Fish and Wildlife Service will be asked to monitor and make recommendations relative to its special interests as construction proceeds including stabilizing any erosion, siltation or drainage problems. The State Department of Environmental Protection personnel will be monitoring periodically for air, water pollution, and noise control via standardized techniques and methods now available.

VI. ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

As far as can be determined, there will be no adverse environmental effects of great consequence. The major reason for the project is to restore the area to a prior condition, i.e., restore the water level to Community Lake. Since that condition has prevailed for all of this century, the adverse environmental effects will occur if the project is not undertaken. The project is really designed to preclude adverse effects. Some minor adverse environmental effects may, of course, occur during the construction phase of the project and in regular usage if the dam is constructed. These may include littering, water pollution due to uncontrolled animal waste and erosion and siltation during construction in the developmental phase. For the most part these will be mitigated by caretaker personnel.

VII. SHORT TERM vs. LONG TERM VALUES

Impacts of the Proposal in the Context of Other Similar Projects

Wallingford hopes to restore the 75 acre lake and 75 acres of wetlands in the area. There are no similar projects planned although a storage reservoir is planned for perhaps 10 years in the future on a site at the opposite end of town. As was mentioned previously, this is the only town owned area available for boating. As a result of this project, future generations will be assured of having water-based recreation as part of a large and well developed recreation complex.

Immediate and Long Range Impacts on the Area With and Without the Project

Since this area has always contained the lake and wetlands within the memory of most residents, it is extremely difficult to assess what the long range future would be without the project. It is possible that alternative uses (such as recreational facilities) could be designed to utilize the area left open by the breaching of the dam. However, there is some question as to whether all of

the open area will support alternate uses due to the limitations imposed by the soils on the site. Also if the project were not done, there would be a gradual but definite deterioration and change in the wetlands, thereby reducing the value and educational significance of the wetland trails constructed with federal funds.

The long range impact of the proposal would be to stabilize and insure an excellent recreational complex with water-based activities for the near and long term.

VIII. IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

Re-establishment of the lake as planned will, for practical purposes, foreclose the possibility of mining the sand and gravel deposits under the lake. The extent and value of the sand and gravel underlying the lake bed can only be determined definitively by extensive boring tests in the project area. It appears however that the extent of gravel within the deposits is rather small; hence the value of the stratified drift for construction aggregate may be quite limited. The commitment of the resources on the site may therefore be non-crucial. It would be advisable, however, for the town to investigate more thoroughly the suitability of the deposits as a source of sand and gravel prior to making a decision on the matter.

Other than the above, the project in and of itself will cause no irreversible or irretrievable commitments of resources.

IX. ALTERNATIVES TO THE PROPOSED ACTION

- . No Action. The probable future environment of the area if the project is not initiated is discussed in Section III-J (page 14) of this report.
- . Community Lake could be recreated by dredging sand and gravel from the site, rather than by damming. This alternative would allow partial reclamation of the mined materials for commercial use and should narrow the floodprone area in the vicinity of the site. However, this action would not return the groundwater level in the wetland areas to its pre-breach position. Hence, the amount of wetland area would diminish and the wildlife value of the site would decrease or, at least, change.
- . The area could be allowed to grow over and be used as a natural area in which outdoor classrooms could be held year round along hiking trails near the river. Alternately (or possibly concomitantly), portions of the site could be developed for active recreational uses. One possibility here would be the creation of a 2 - 3 acre groundwater pond in the vicinity of the present recreation area. This pond could be developed for both swimming and fishing.
- . The most compelling argument for rejection of the above alternatives is that they will not allow the maintenance or preservation of the important wetlands and associated biota on the site. Only by restoring the lake to its former elevation (i.e. the proposed action) can the existing wetland and wildlife values be protected and preserved.

One alternative to the proposed action which would allow the preservation of present wetland values would be the excavation of a portion of the sand and gravel from the lake bed and then the construction of the dam as planned to restore the lake level to its former elevation. This alternative would re-establish and maintain the former water level in the wetlands, allow the recovery and use of a portion of the sand and gravel, and improve the recreational potential of the lake for boating and fishing. Deepening of the lake would also serve to improve water quality by retarding the process of eutrophication. The feasibility of this alternative would clearly depend upon the economics and social acceptability of the sand and gravel operation in the project area. The environmental consequences of such an action, based upon a specific mining plan, would also need to be more thoroughly investigated.

X. CONSULTATION AND COORDINATION

The townspeople of Wallingford have been made aware of the proposed project through newspaper articles and discussion at council and other agency meetings. The Spanish Community of Wallingford, Inc. has had a long standing commitment to the recreational development of this area.

All Town of Wallingford Commissions have been consulted and are in complete accord with this proposal and urge its inception. The Mayor, Town Engineer, Recreation Director, Federal Grants Administrator, Planning and Zoning Administrator, and Chairman of the Conservation Commission have assisted in the planning.

The non-local New Haven County Soil and Water Conservation District, and State Department of Environmental Protection were also consulted and participated in the development of the proposal.

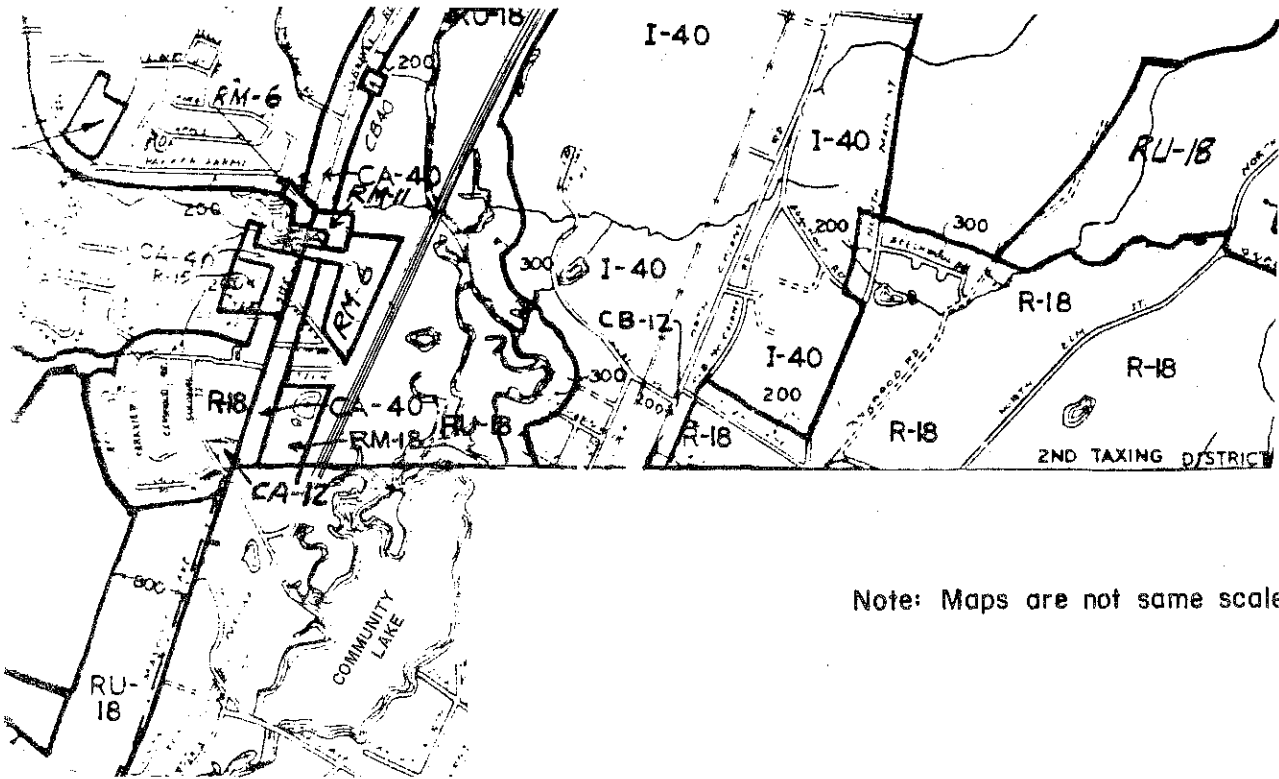
As far as can be determined nearly all of the community is in agreement with this proposal. The only controversy anticipated is from the owners and residents of Gopoian's Trailer Park, a park north of Community Lake and on the west bank of the Quinnipiac River which is flooded regularly because it is in the flood plain, special flood hazard area and channel encroachment lines of the Quinnipiac River. Although a hydrologist consulted by the Town has explained that the trailer park is too far north for the Community Lake dam to have any significant effect on flooding problems experienced by the trailer park, residents of the park, nevertheless, feel that the dam does significantly contribute to their flooding problems and have expressed opposition to the re-establishment of a dam at Community Lake.

* * * * *

XI. APPENDIX

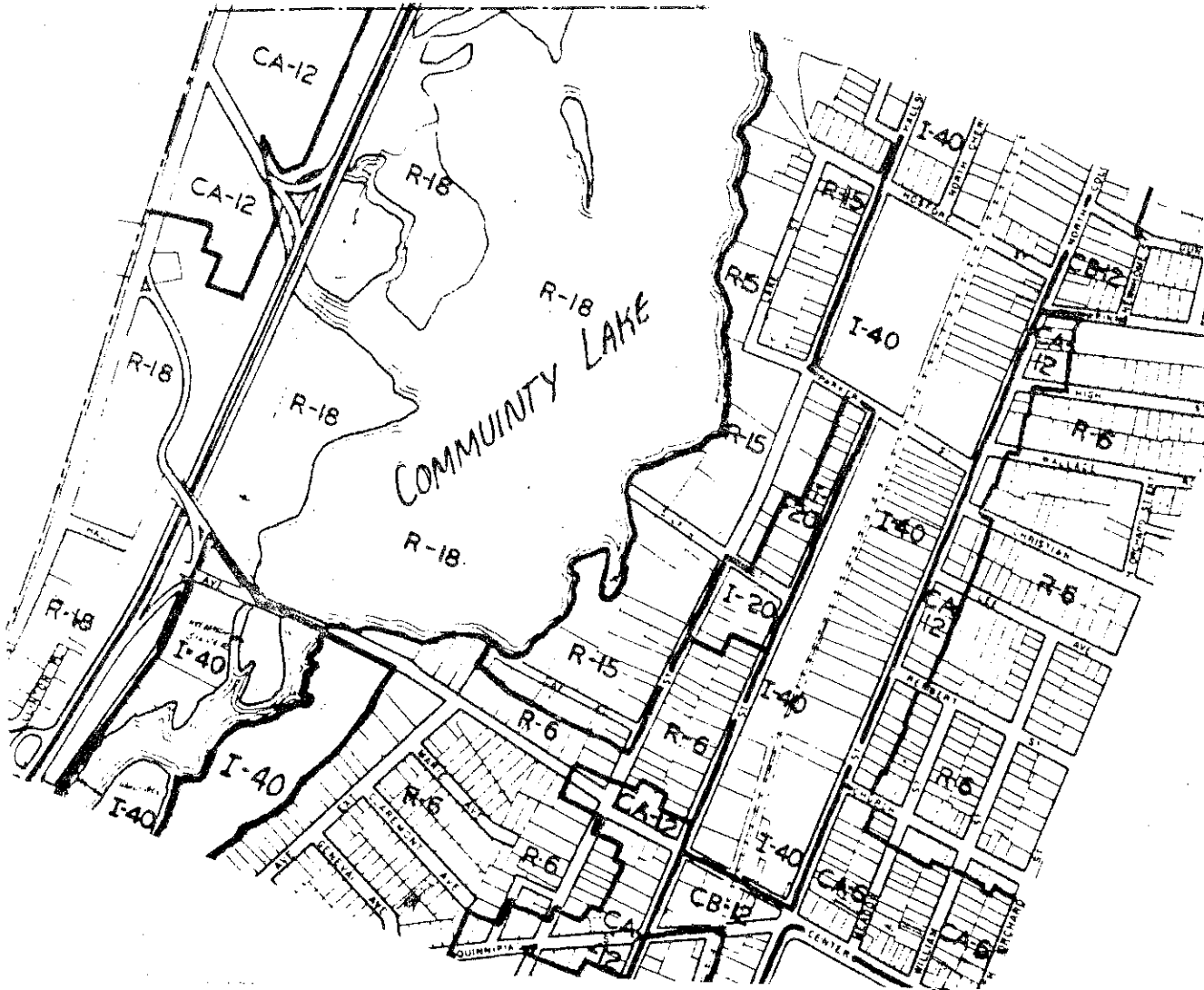
ZONING MAP OF COMMUNITY LAKE AREA

ZONING MAP - 2ND TAXING DISTRICT



Note: Maps are not same scale

ZONING MAP - 1ST TAXING DISTRICT



SUMMARY OF ZONING REQUIREMENTS*

Sect.	District	Min. Area	Width	Area/FU	Front Yard	Side Yard	Rear Yard	Bld. Cov.	Height
4	R-18	18,000	100	14,000	40	20	30	15	30
4	R-15	15,000	85	12,000	20	15	30	20	30
4	R-11	11,250	75	10,000	20	12	30	25	30
4	R-6	6,250	50	6,000	10	6	30	33 1/3	30
4	RM-40	40,000	150	12,000	50	30	30	5	*
4	RM-18	18,000	100	8,000	40	20	30	25	*
4	RM-11	11,250	75	4,300	20	12	30	25	*
4	RM-6	6,250	50	3,125	10	6	30	25	*
5	RU-80	80,000	200	50,000	50	30	30	10	30
5	RU-40	40,000	150	30,000	50	30	30	10	30
	RU-18	18,000	100	18,000	40	20	30	15	30
6	LB-11	11,250	75	3,000	30	12	30	50	30
7	CA-40	40,000	150	20,000	50	20	50	25	30
7	CA-12	12,000	80	10,000	40	12	40	33 1/3	30
7	CA-6	6,250	50	5,000	10	0	12	50	30
7	CB-40	40,000	150	20,000	50	20	50	25	30
7	CB-12	12,000	80	10,000	40	12	40	33 1/3	30
7A	CNB	40,000	150		50	25	50	15	25
8	I-40	40,000	150	10,000	50	25	50	25	30
8	I-20	20,000	100	10,000	25	12	30	33 1/3	30
8A	IX	130,000	250		60	30	50	35	30
	RD	10 ACRES			100	100	100	8842	**

*TABLE FOR INFORMATION ONLY - REFER TO TEXT OF REGULATIONS FOR SPECIFIC STANDARDS

ABOUT THE TEAM

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

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

PURPOSE OF THE TEAM

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

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

REQUESTING A REVIEW

Environmental Reviews may be requested by the chief elected official of a municipality or the chairman of an administration agency such as planning and zoning, conservation, or inland wetlands. Requests for reviews should be directed to the Chairman of your local Soil and Water Conservation District. This request letter must include a summary of the proposed project, a location map of the project site, written permission from the landowner/developer allowing the team to enter the property for purposes of review, and a statement identifying the specific areas of concern the team should address. When this request is approved by the local Soil and Water Conservation District and the King's Mark RC&D Executive Committee, the team will undertake the review. At present, the ERT can undertake two reviews per month.

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