

ENVIRONMENTAL REVIEW TEAM REPORT

ON

PROPOSED RECREATION AREA
CLINTON, CONNECTICUT

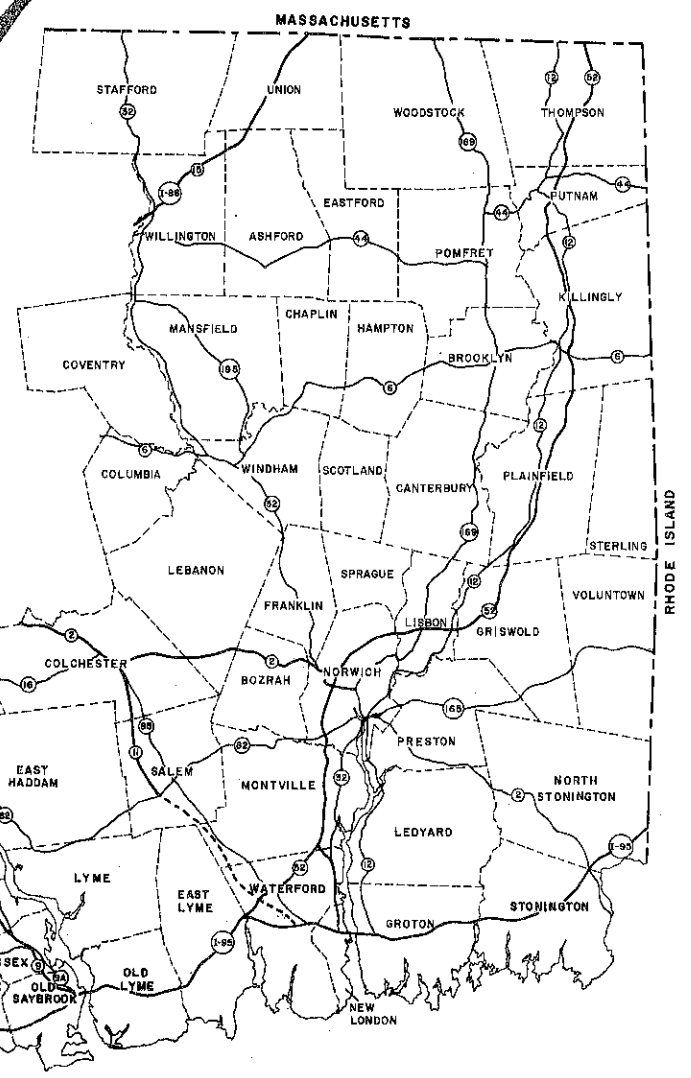
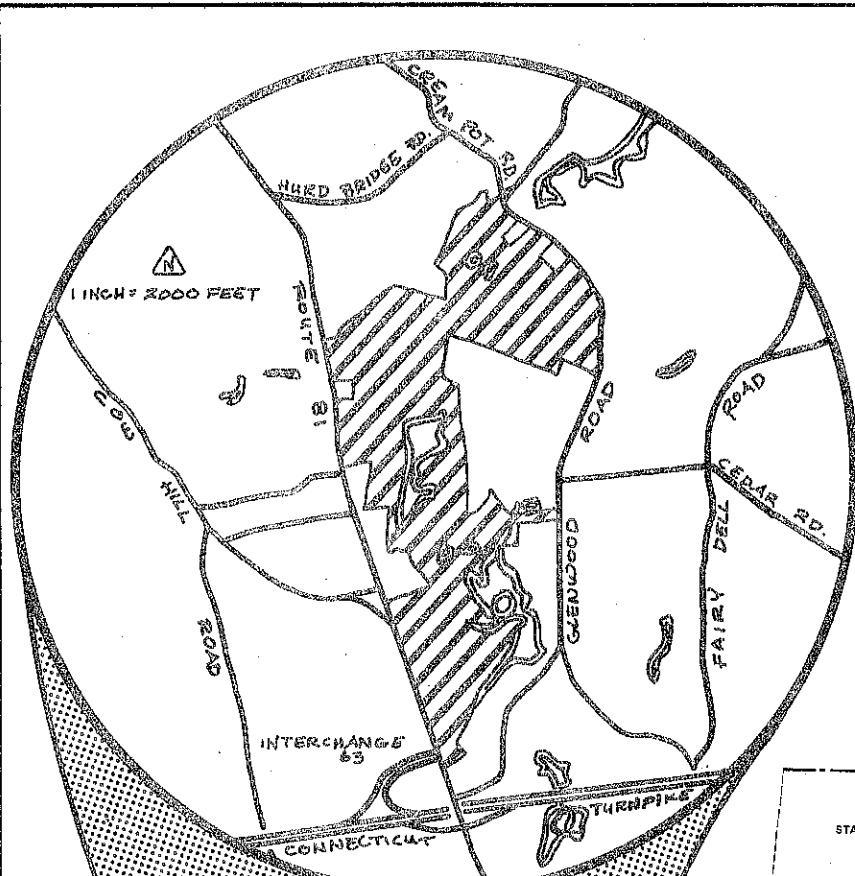
JULY, 1974

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administered by the Eastern Connecticut Development Council.*

EASTERN CONNECTICUT RESOURCE CONSERVATION
AND DEVELOPMENT PROJECT
Environmental Review Team
139 Boswell Avenue
Norwich, Connecticut 06360

LOCATION OF STUDY SITE

PROPOSED RECREATION AREA CLINTON, CONNECTICUT



EASTERN CONNECTICUT
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT



ENVIRONMENTAL REVIEW TEAM REPORT
ON
PROPOSED RECREATION AREA
CLINTON, CONNECTICUT

This report is an outgrowth of a request from the First Selectman of the Town of Clinton, with the approval of the owner, to the Middlesex County Soil and Water Conservation District (S&WCD). The S&WCD referred this request to the Eastern Connecticut Resource Conservation and Development (RC&D) Executive Council for their consideration and approval as a project measure. The request has been approved and the measure reviewed by the Environmental Review Team.

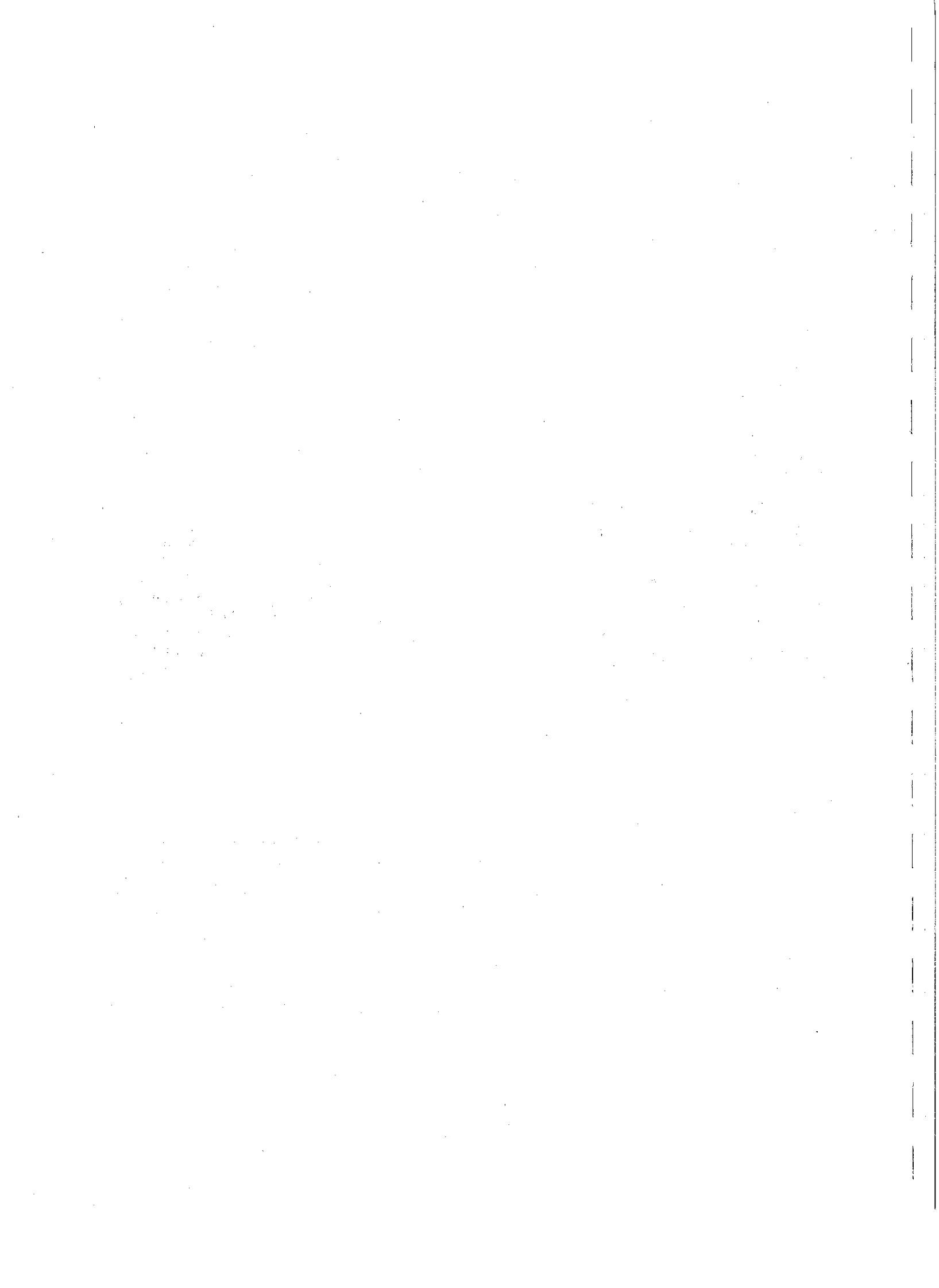
The soils of the site were mapped by a soil scientist of the USDA Soil Conservation Service. Reproductions of the soil survey and a table of limitations for urban development were forwarded to all members of the Team prior to their review of the site.

The Team that reviewed the proposed recreation and open space area consisted of the following personnel: Howard B. Denslow, Soil Conservationist, Soil Conservation Service (SCS); Edwin L. Minnick, Civil Engineer, SCS; Timothy N. Dodge, Biologist, SCS; Richard Hyde, Geologist, Natural Resource Center, State of Connecticut Department of Environmental Protection (DEP); Stanley T. House, Forester, DEP; Peter Houle, Recreation Specialist, DEP; Donald Capellaro, Principal Sanitarian, State of Connecticut Department of Health; Ed Meehan, Planner, Connecticut River Estuary Regional Planning Agency; Barbara A. Hermann, Team Coordinator, Eastern Connecticut RC&D Project.

The Team met and reviewed the site on May 16, 1974. Reports from each Team member were sent to the Team Coordinator for review and summarization.

This report is not meant to compete with private consultants by supplying site designs or detailed solutions to development problems. This report identifies the existing resource base and evaluates its significance to the proposed development and also suggests considerations that should be of concern to the Town of Clinton. The results of this Team action are oriented toward the development of a better environmental quality and the long-term economics of the land use.

If you require any additional information, please contact: Miss Barbara A. Hermann (889-2324), Environmental Review Team Coordinator, Eastern Connecticut RC&D Project, 139 Boswell Avenue, Norwich, Connecticut 06360.



INTRODUCTION

The area reviewed in Clinton consists of four separate, but contiguous parcels, located along the Indian River just north of the Connecticut Turnpike and east of Route 81. Two parcels are town-owned school sites: the Morgan High School property with 38 acres and the Glenwood School property with 50 acres. Situated between these two parcels are a nursery with 36 acres and a sand and gravel operation with 39 acres.

The Town of Clinton appears to be considering this land from two viewpoints. First is the short-range expansion of school and community recreational facilities on existing town-owned property. Second is the long-term development of a major community recreation and open space area which would encompass the nursery and gravel pit properties as well.

The types of recreation the Team was asked to consider include both active and passive uses. Active uses would include facilities such as playing fields, basketball and tennis courts, swimming, tot lots, and horseshoes. Passive uses would include picnicking, nature areas, and hiking trails. Also to be considered are auxiliary uses, such as parking, storage, and sanitary facilities.

This report will first describe the existing resources over the study area. An evaluation of the site for recreational development will follow, highlighting both its opportunities and limitations. Recommendations or comments made within the report are presented for consideration by the town in the preparation of its recreational plans and should not be construed as mandatory or regulatory in nature.

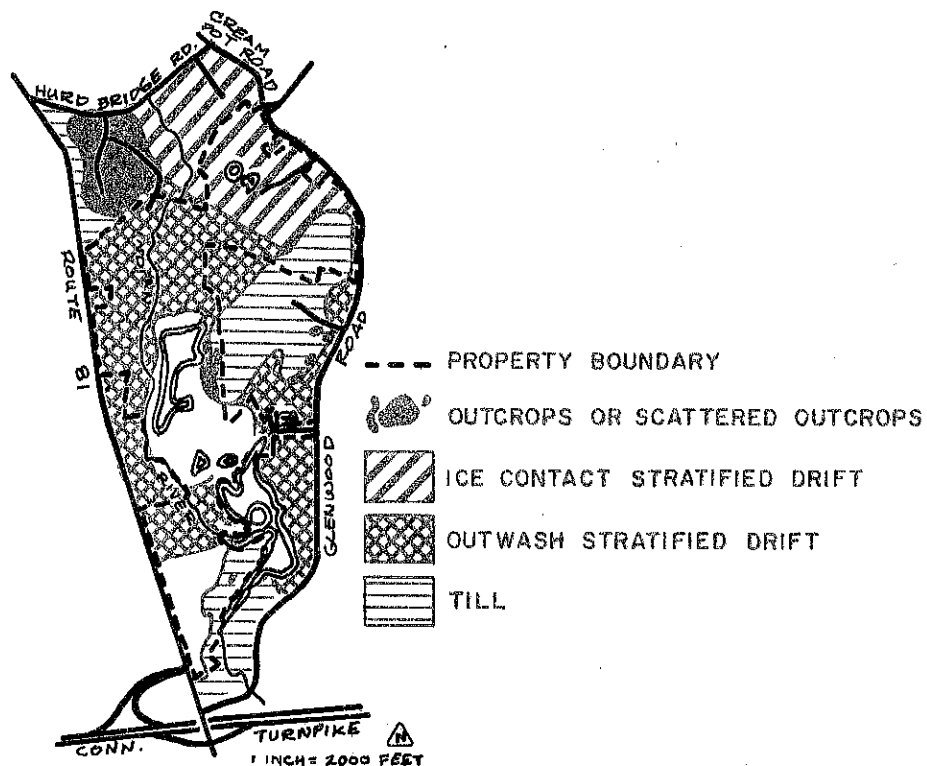
EVALUATION

EXISTING RESOURCES

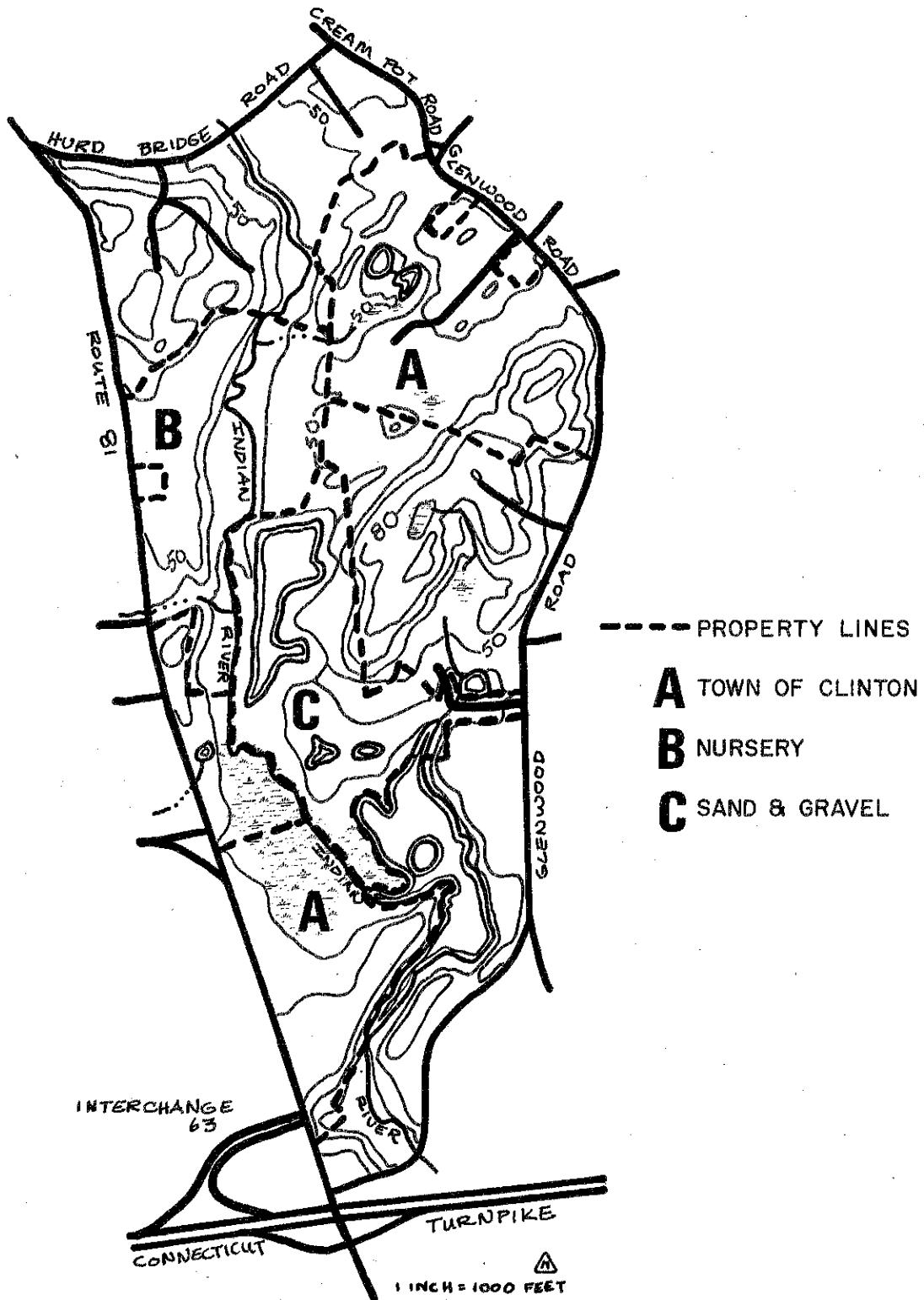
Topographically, the land in question is relatively level due to its location along the Indian River. The only two exceptions would be the small area behind Morgan High School and the area south of Glenwood School. This can be seen on the topography map on the opposite page (Glenwood School is located on the northern town-owned parcel, with Morgan High School being on the southern parcel).

Surficial Geology. In terms of the unconsolidated overburden materials shown on the map below, approximately 80% of the total area is covered by sand and gravel deposits with the remaining 20% overlain by till. However, only small areas of the till actually fall within the boundaries of the four parcels under consideration. Sand and gravel deposits occupy virtually all of the flat and excavated land, while till deposits are restricted as a thin covering over irregular bedrock high spots. Of the two major till deposits, one is located adjacent to the Morgan High School property and the other is located east of the active gravel mine and extends north-east to just south of Glenwood School.

SURFICIAL GEOLOGY



TOPOGRAPHY



Till is the predominant type of overburden found in Connecticut, but in this particular area it is restricted to the two small locations as indicated above. Till is the technical term used by the geologist referring to such lay terms as "hardpan" or "boulder clay." This material is relatively thin in these two locations, probably only attaining a maximum thickness of ten feet. Characteristically till may be described as a fairly compact material consisting of a heterogeneous mixture of various quantities of boulders, gravel, sand, silt, and clay particles, none of which are significantly sorted or stratified by grain size.

All sand and gravel deposits in this area are stratified drift. This means that glacial melt waters carried the individual particles from the ice mass and in doing so they were sorted according to size and weight and deposited in a stratified fashion. But, the geologist has been able to differentiate between two types of stratified drift on the basis of bedding disturbance, structure, and texture of the deposits. The two types, ice contact and outwash stratified drift, are shown on the surficial geology map. The exact position of the contact between these two types of stratified drift is not really known for sure because the ice-contact type of deposit grades southward into the outwash type. But in general the line is placed halfway between Glenwood School and Oak Ridge Road and runs northwest by southeast.

Ice-contact deposits typically are formed when meltwater streams flowing against, on, or in close proximity to glacial ice carry away and deposit sand, gravel, silt and clay released from the melting ice. This type of feature characteristically exhibits poor sorting and irregular stratification of materials with large ranges in texture occurring over short distances. Large boulders greater than four to six feet in diameter down to medium to fine sand and silt are not uncommon constituents. Topographically, ice-contact deposits are generally hummocky, interspersed with closed depressions and irregular ridges which reflect the collapse of such deposits after complete melting of buried or supporting ice has occurred. In this particular area, however, the surface topography is relatively flat and smooth, probably the result of years of previous agricultural use, and the historical flooding and meandering of the Indian River.

Outwash sediments are also stratified materials, chiefly sand and gravel, which have been washed away from the glacial ice by meltwater streams and deposited downstream and beyond or in front of the active ice front. These deposits are mainly sand and gravel with cut and fill stratifications. That is, the material eroded from one place by stream currents is deposited nearby until the surfaces are relatively continuous and uniformly graded.

Subsurface information developed from the logs of testholes, highway borings and domestic water wells, indicate the thickness of the stratified drift, both outwash and ice-contact, range from a few feet to over 80 feet. In those places where the bedrock is

exposed at the land surface and along the stratified drift/till contact, the thickness of sand and gravel is at the low end of this range. While generally along the immediate course and ancient floodplain terraces of the Indian River, much thicker deposits are common. Connecticut Water Company records indicate their producing water supply well, situated adjacent to the southern end of the active gravel excavation, was drilled to a depth of 80 feet without encountering the subsurface bedrock.

Soils. A detailed soils map of the proposed recreation site and surrounding area is given in the Appendix to this report along with a soils limitations chart. Due to the original scale at which the soils are mapped (1" = 1,320') the lines shown on the soils map should not be viewed as precise boundaries, but rather as guidelines to the distribution of soil types on the property.

The soils limitations chart indicates the probable limitations for each of the soils for on-site sewage disposal, buildings with basements, landscaping, streets and parking, and athletic fields. However, limitations even though very severe, do not preclude the use of the land for development. If economics permit greater expenditures for land development and the intended objective is consistent with the objectives of local and regional development, many soils and sites with difficult problems can be used.

The two predominant natural soil groups on the site are A, terrace soils over sands and gravels, and E, floodplain soils. These two groups together with the unclassified soils comprise 87.6 percent of the site. With the possible exception of some of the made land (ML-2), these soils overlie the areas of stratified drift shown on the surficial geology map. The remaining 12.4 percent are upland soils which overlie the till areas.

Within the terrace soils there are three drainage groups. A-1a and A-1b (63A, 70A, 70B, 60C, 63C) are excessively well-drained soils. Droughtiness can create difficulties in establishing vegetation on these soils. A-2 (45A) consists of moderately well drained soils which have a high water table during wet seasons. A-3b (91) falls within the legal classification of inland wetlands due a high water table being present during most of the year.

The floodplain soil, 58, also falls within the definition of an inland wetland. This particular soil classification includes areas on floodplains which are so variable in texture and/or drainage that it is difficult to classify the material. These areas range in texture from sands or loamy sands to silts and in drainage from well drained to very poorly drained.

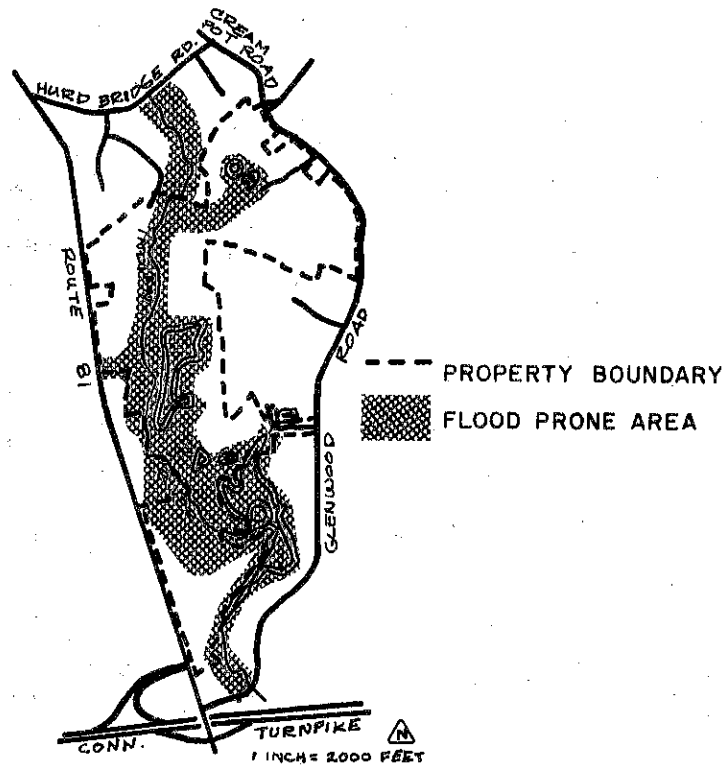
The remaining classified soils fall into two natural soil groups. The small area of B-1c (6MC) south of Glenwood School is an upland soil over friable to firm glacial till. This area is characterized by stoniness and slopes up to 15 percent. Adjacent

to the B-1c and east of Morgan High School are the D soils (17LC, 17LD). These are classified as upland soils which are rocky and shallow to bedrock. Steep slopes are also common here.

The two unclassified soils are ML-2 and GP. ML-2 indicates made land. In this case it represents the area filled in during construction of the high school. GP indicates the location of sand and gravel excavation. Since the map was made, this area appears to have extended somewhat further to the southwest, into the floodplain soils.

Natural Hazards. Flooding is the prime natural hazard on the site. The Indian River channel and floodplain has developed, as all rivers do, in response to thousands of years of rainfall and surface water drainage of the watershed area. As a result, certain areas of this property are prone to flooding. The map below shows the flood prone areas for the one in one hundred chance flood.

FLOOD PRONE AREA



Forestry and Wildlife. Except for two areas, most of the site was not forested. The two areas are located east of Morgan High School and south of Glenwood School on the upland soils previously described. Mixed hardwoods, primarily red maple, hickory, white oak, and red oak, grow in shallow to bedrock soils east of Morgan

High School. The understory is quite dense and includes a shrubby growth of blueberry, greenbriar, sumac, service berry, young cherry, and birch. This area offers habitat for cottontail rabbit, songbirds, and squirrels. The area is bordered on two sides by wetlands and a shallow pond which provides habitat for wild waterfowl. The pond appears quite fertile, has a dense growth of pond lilies and probably contains warm water fish species, including bass and sunfish.

Southeast of Glenwood School is the area of shallow to bedrock soils, with wet pockets which support a variety of vegetation including hemlock, mountain laurel, red maple, cedar, white and scarlet oak. One wet spot has standing water approximately a foot deep surrounded by wetland plants. The Glenwood School lands are established to grasses with an edge or a perimeter of mixed hardwoods, mainly oak, hickory, and maple. Understory shrub growth is present but sparse. Droughty soils are less favorable for a dense understory growth. As in other areas, wildlife habitat is a mix of woodland and open land providing small game, non-game, and bird life opportunities for food and nesting cover.

The gravel mining operation lands are scalped and offer little habitat to wildlife. However, wetland plants border the operation. This wetland extends from the northern edge of the nursery south along the west border of the gravel operation to Morgan High School. This is the area shown on the soil map as 58, the floodplain soils. Vegetation includes red maple, spotted alder, poplar, sumac, birch, wild grape, honeysuckle, greenbriar, skunk cabbage, and ferns. Habitat is offered primarily to songbirds, cottontail rabbit, raccoon, woodcock, and possibly wood ducks, as well as other small non-game animals. The Indian River, which flows through this area, is listed by the Department of Environmental Protection as good for small stream trout fishing.

The nursery area is primarily established grasses, nursery stock, and mixed hardwoods along field borders. Habitat is available primarily to bird life.

Land Use. Existing land use in the immediate vicinity of the study area is residential. Except for a commercial zone west of Route 81, across from Morgan High School, the zoning for the surrounding area is also residential. The Town Plan basically proposes the same pattern of land use as the zoning. However, a greenbelt of open space is proposed on the east bank of the Indian River extending between the two schools. Thus, the Town Plan appears to support the concept and location of a major town park in this general area.

The desirability of additional recreational facilities in Clinton is substantiated by the Town's rapid growth. During the 1960's, the population increased by 6,101 people (146 percent). The Town Plan and Regional Plan estimate that this growth trend will continue, reaching 22,000 people by the year 2000.

From a long range planning viewpoint, the four parcels of land under consideration have potential as a major recreational/open space facility. These parcels are situated in the central part of town in close proximity to recent residential subdivisions and are adjacent to Route 81, the major north/south route through Clinton, or Glenwood Road, which loops around the eastern boundary of the study area.

RECREATION POTENTIAL

As mentioned earlier, the Town of Clinton is concerned with both the short-range development of recreational facilities on the school properties and the long-range purchase and development of the area extending between the schools. In order to serve both purposes, the discussion here will discuss the potential at each of the schools and then the area of the nursery and gravel pit. However, as the Town proceeds with planning, consideration of the long-range possibilities should be given when making decisions about the type and location of short-range facilities.

Morgan High School. The shallow to bedrock soils east of Morgan High School have severe limitations, imposed by slope and bedrock conditions, for use as athletic fields and other intense organized recreation. However, natural aesthetic values seem high and in conjunction with the adjacent pond offer possibilities for outdoor education and nature study. Hiking trails would be limited in length due to the land area involved. Some picnic facilities might also be possible. This type of land use would be compatible with wildlife in the area.

The remaining area around the school has exhausted most of its potential for recreational land use expansion. Some linear development, such as tennis courts or parking, might be possible in the narrow corridor north of the school adjacent to Route 81. Any further filling to create land areas adjacent to the high school would appear to encroach upon Indian River and might require streambank stabilization to avoid bank erosion and downstream siltation. It is not recommended that the wetlands be filled to accommodate additional recreational facilities.

Glenwood School. This area offers potential for further expansion of all types of recreational facilities. The open areas are suitable for intensive uses such as ball fields and tennis courts, as well as open fields, tot lots, horseshoes, shuffleboard, etc. The major limitation in this area is the droughtiness of the soils. Topsoil and irrigation will probably be necessary to establish playing fields and lawns.

The shallow to bedrock soils south of Glenwood School support a variety of upland and wetland plants which are ideal for nature study. Help in developing this as a nature and outdoor classroom area could be obtained through various state and federal agencies, such as the Middlesex County Soil and Water Conservation District.

Nursery and Gravel Pit. The northern segment of this area, now being used to grow nursery stock, has high potential for all types of development. The lands are well suited for development of intense organized outdoor sports. Football, baseball, track, and/or field hockey could be developed. As with the Glenwood School property, droughty soils will require irrigation and the possible addition of topsoil and/or sod to establish playing fields.

According to the operator, the sand and gravel operation will continue to be active in mining for the next 5 to 10 years. Pumping water from the pit is required to sustain the mining operation. This would indicate that upon completion, the pits would be allowed to fill with water, creating a deep lake with a surface area of 25 acres or more. The resulting lake could offer water-based recreational opportunities such as swimming, put-and-take fishing, small boating, and passive enjoyment. Grading of the banks, particularly in a beach area, would be necessary to reduce the potential hazards.

The wetland and Indian River offer possibilities for passive recreation. Strips of 50 to 100 feet adjacent to the river are highly vegetated with numerous plant and bird species. This area could be developed for nature study. The wetland soils appear fairly shallow and are underlain with gravel, so a firm base is available for trails and walkways. Some wildlife management might be possible, though the narrow width will impose some problems.

WATER SUPPLY

Municipal. As the existing schools are connected to the public water supply of the Connecticut Water Company, it is assumed that potable water for future recreational facilities could also be obtained from this source. While there does not seem to be any question of the availability of adequate ground water, the public supply meets the various criteria of the Public Health Service Drinking Water Standards and would eliminate the maintenance, monitoring, and possibly treatment of an on-site system.

On-Site. On-site supplies do appear to be available if needed. The drilling log of the Connecticut Water Company's producing well located south of the gravel pit indicates the layers of stratified drift range in composition from a sand and gravel mixture up to a uniform medium gravel. The Company utilizes a 20 foot screen at the bottom of an 80 foot well to withdraw up to 1,000 gallons of water per minute. Volumes at this level may or may not be a safe yield for this particular aquifer, a factor that can only be determined by a study of the water budget for the drainage basin. However, at a 1,000 gallons per minute yield over a 24 hour period, it would be possible to pump a little over 3/4 of a million gallons of water.

As one moves north of the Connecticut Water Company's well, the stratified drift appears to decrease in thickness, so it is unlikely such large water supplies would be possible. But, for

other than municipal needs, this aquifer is capable of supplying sufficient supplies. An example of this is the well behind Glenwood School used for watering the existing recreation area.

Any possible well site would have to be located a sufficient distance from subsurface sewage disposal facilities. In addition, the area formerly used by the town for refuse disposal would impose limitations.

With the presence of the stratified drift aquifer on the site, it is unnecessary to use the underlying bedrock as a source of water. In addition to the higher costs involved in drilling such a well, the yields of bedrock wells generally average around 3 gallons per minute, enough to supply the needs of a single-family dwelling.

WASTE DISPOSAL

With many types of recreational facilities, particularly stadiums, rinks, or pools, some sort of public sanitation facilities must be provided. Without the presence of a municipal system the only other alternative is an on-site system serving each facility.

The overburden materials on the site as stated previously are primarily stratified sands and gravels. Septic leaching fields placed in this material certainly will have no problem in terms of disposing of the fluid effluent. However, there is one other factor involved in the proper operation of an on-site septic system, which is the proper attenuation or purification of the nutrient-rich effluent once it enters the ground from the leaching field.

Sand and gravel deposits, because of their characteristic coarse grained texture, very low silt and clay content, and sorted and stratified layers, are capable of transmitting extremely large quantities of water in a short period of time. This capacity which is so important for high yielding wells may not be the most desirable condition for the disposal of large quantities of septic effluent, particularly if the saturated sand and gravel deposit is being used as a water supply, as in this case. The reason for caution here is with a low silt and clay content, pollutants are able to move great distances with very little change in their character. Problems of this nature may also be extremely difficult if not impossible to correct once begun and may result in the loss of an aquifer for certain uses requiring high quality water. This of course is the extreme case. In this situation, however, where the town only wishes to construct sanitary facilities for seasonal or intermittent use, it would appear few problems could result.

Based on visual observations and soil survey mapping information, the largest expanse of well-drained soil is in the northern portion of the overall area in the vicinity of Glenwood School. There is also limited suitable area just north of Morgan School

along Route 81. The area to the east of Morgan School is not particularly good for sewage disposal due to the rocky conditions and slope of the land.

Precautionary measures, such as maintaining adequate separating distances, need to be taken to protect the water supply well from possible sources of pollution. Besides septic systems, sources of particular concern would be facilities that might require the use of substantial amounts of chemicals (fertilizers, pesticides, weed killers, or salt) for maintenance purposes.

FOUNDATION DEVELOPMENT AND GRADED CONDITIONS

The sand and gravel substratum should present no particular problems for foundations. It will be important to provide for sediment and erosion control as any land development occurs (i.e. cuts, fills, grading, etc.). Assistance regarding approved practices for erosion control can be obtained from the Soil Conservation Service. As mentioned before, most of this area has droughty soil conditions. To establish and maintain good vegetative cover will require topsoil and/or sod and an irrigation system.

ROADS AND UTILITIES

Existing access to the school sites and the two private parcels appears adequate. State Route 81 provides good access and is capable of handling increased traffic.

Any roadways, private or public, constructed across a wetland area (soil types 58 and 91) must be developed on a firm base soil. Culverts designed to handle a minimum 10 year frequency storm are necessary. Culvert passages for Indian River would require special design.

HAZARDS

The steep banks of the sand pits could present a hazard for children and adults. If and when the town purchases this parcel, they should regrade the banks to avoid steep slopes, particularly in any swimming areas.

Additional sidewalks in the area, particularly along Route 81, should be constructed to provide for safe pedestrian access to the site.

As mentioned earlier, a portion of this area is subject to flooding. The town should avoid the construction of any major structures within the flood prone area.

AESTHETICS AND PRESERVATION

All of the existing forest should be preserved, if possible. The two wooded areas adjacent to the schools have substantial wildlife value and would be suitable for outdoor classrooms. Some underplanting of hemlock and white pine on the wooded knoll behind Morgan High School would add to the aesthetics. The ledge in these areas would make it difficult to level them for active recreation. Other wooded areas, underlain by sand and gravel, should be preserved due to the difficulty in reestablishing vegetation. Any open land that can be spared from recreational development should be planted to a forest of evergreens, as practically all the existing woodland is of the hardwood type.

Preserving a portion of the natural wetland (not excavating for sand and gravel) would be desirable for school students' appreciation of these natural areas. Ducks, fish, and other wetland wildlife will use the area. In essence, Upper Millpond and its immediately adjacent wetland area could become an outdoor laboratory. This would also provide an example of sound land use planning.

The Indian River drainage system should be carefully observed to prevent potential siltation and/or degradation of surrounding well water sources. Careful consideration should be given to any plan which anticipates the alteration of this natural system.

COMPATIBILITY OF SURROUNDING LAND USES

Existing surrounding land uses are primarily residential. The use of the study area for open space and recreational purposes would be both compatible and desirable. Reserving this area for recreation would also prevent further residential development.

ALTERNATIVE LAND USES FOR AREA

The area has diverse potential for recreational development. If the public interest, support, and funds are available, it could result in a major town park/open space system.

In addition, if development of these properties is primarily restricted to nonstructural types of recreation, the town and its people will be the owners of some very fine natural resources for various uses in the future if the need should arise. First, provided the groundwater quality is protected, the aquifer can supply the community with a certain portion of its freshwater requirements for a long time into the future. Second, the town will own a valuable and accessible sand and gravel deposit to be used if and when sand and gravel becomes a scarce commodity. Third, once this sand and gravel has been extracted down to just above the water table, the land could be leveled if need be and prepared for agri-

cultural purposes or for recreation again. Agricultural use is mentioned here as a potential possibility because with the increasing loss of prime agricultural land to urbanization and the rapidly changing agricultural picture in the world, it is difficult to speculate on the future course of events and thus the needs and methods Connecticut residents will have open to them to meet their agricultural requirements.

ADDITIONAL COMMENTS

If the Town of Clinton were to purchase the nursery property and the sand and gravel mine, these parcels, together with the adjoining school properties, will result in the exclusion of a significant piece of land from the pressures of current and future development. With these purchases, the Town will be ensuring for itself the protection of several long-term social, economic, educational, and environmental benefits.

In the immediate future, the land can serve the public as a centralized, contiguous recreation area to meet the growing needs of the Town. The Glenwood School site is now under study for additional recreational facilities. It has potential for all forms of recreation, active and passive. Assistance from the Middlesex Soil and Water Conservation District can be obtained in developing the wooded area south of the school for nature study. Space at Morgan High School is more constricted. The wooded area east of the school is unsuitable for playing fields, though it also has good potential as a nature study area. The area along Route 81, north of the school's existing football/baseball field, appears to be too small to accommodate the additional recreational needs of the high school. It is not recommended that wetlands be filled for development of additional playing fields. Therefore, additional land will be necessary to fulfill the school's needs.

The gravel pit site could provide for water-based recreation, passive use of the wetlands, Indian River, and pond, and possible development of additional playing fields for Morgan High School. The nursery tract also has potential for playing fields, wetlands management, and other park facilities. Alternatives to utilization of the entire nursery site might be the purchase of the area east of the Indian River or just an easement along the eastern boundary. These options would tie the Glenwood School site to the gravel pits and Morgan High School, with the former option also allowing for additional recreational development.

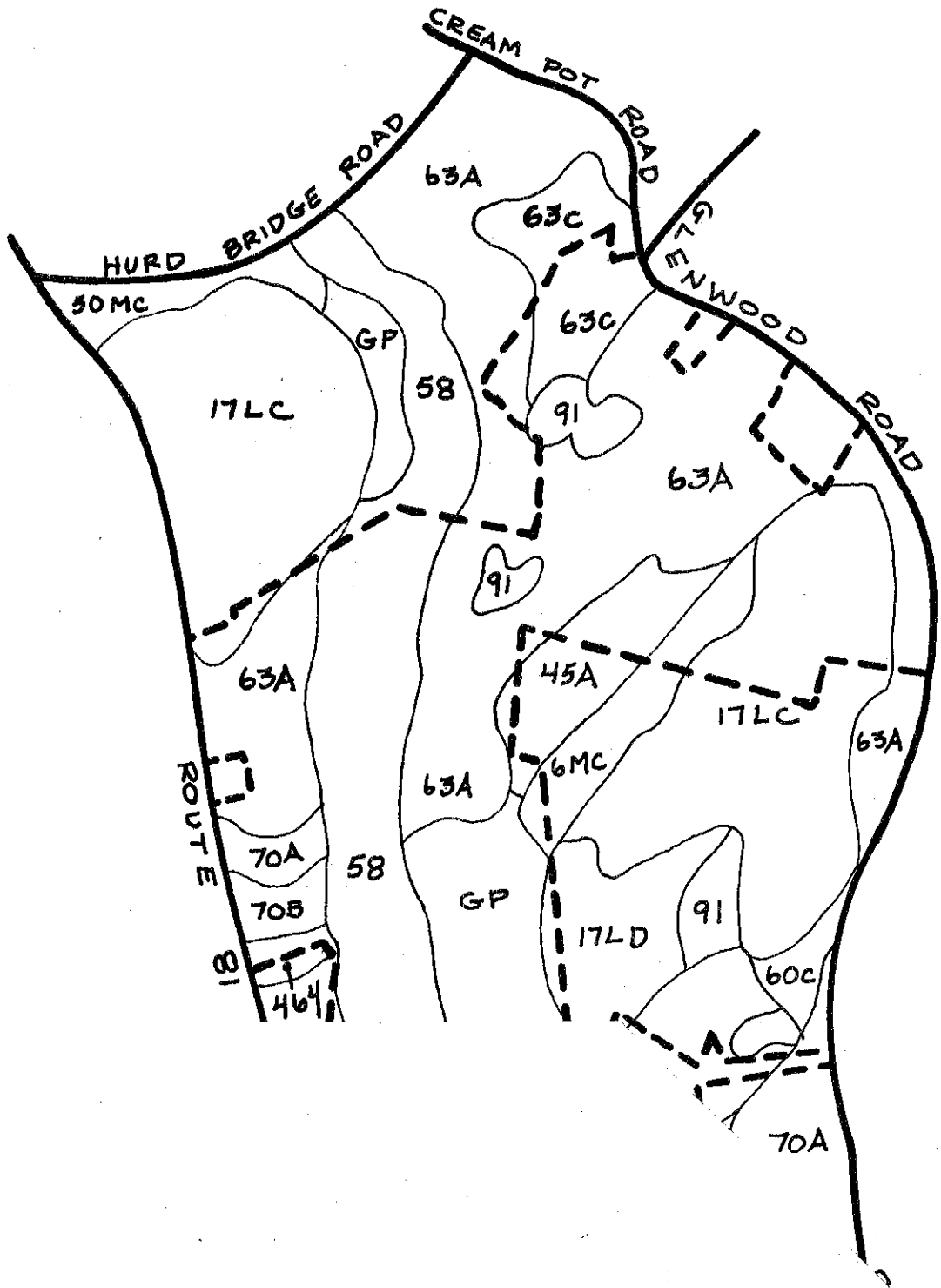
It is recommended, in order to keep the costs of recreational development low and to maintain this land in a condition which will allow for future alternative uses in the future (see preceding section of report), that the types of recreational facilities be restricted to minimum structural forms. This could include such intensive and organized facilities as field hockey, baseball, track, and tennis, but not the extremely expensive stadium types.

A swimming beach and other water-based activities could be developed in the gravel pit without seriously altering the land of its potential future use. Nature trails and study areas will not detract from the present or future value of the wooded areas and wetlands.

In conclusion, the four parcels under consideration appear to have excellent potential for development as a major Town open space and recreation facility, due to their ideal geographic location, the increasing demand for recreational facilities, and the suitability of the land for a variety of recreational uses. With proper planning, the existing values of the site, such as the aquifer, sand and gravel resources, and flood plains, can be maintained while providing a major park for the community.

APPENDIX

SOIL MAP
PROPOSED RECREATION AREA
CLINTON, CONNECTICUT



SOILS LIMITATIONS CHART

Natural Soil Group*	Mapping Symbols	Acres	% of Total Acres	Limitations for:**					Principal Limiting Factors
				On-Site Sewage	Base-ment	Land-scaping	Streets and Parking	Athletic Fields	
A-1a	63A, 70A, 70B	45	31.0	1	1	1	1	1	Droughtiness (70A and 70B)
A-1b	60C, 63C	6	4.1	2	1	3	3	3	Droughtiness, slope.
A-2	45A	4	2.8	2	2	2	2	2	Seasonal high water table.
A-3b	91	3	2.1	4	4	4	4	4	High water table, organic material.
B-1c	6MC, 650M	2	1.4	2	2	3	3	3	Stoniness, slope.
D-1	17LC	15	10.3	3	3	3	3	3	Shallowness, slope, rocky.
D-2	17LD	1	0.7	3	3	4	4	4	Shallowness, slope, rocky.
E-3a	58	38	26.2	3	3	3	3	3	Variable drainage and texture.
Un-classified	ML-2 GP	12 19	8.3 13.1	Made land Gravel pit)					Suitability determined by on-site investigation.
		145	100.0						

* Refer to Know Your Land, Natural Soil Groups for Connecticut, Soil Conservation Service, USDA Connecticut Cooperative Extension Service, for further explanation of the natural soil groups.

** Limitations: 1-slight; 2-moderate; 3-severe; 4-very severe. Where limitations vary within a soil group, the most severe limitation is generally indicated, unless it represents a relatively insignificant percentage of that group.

ACREAGE SUMMARY OF SOILS LIMITATIONS

	<u>Slight</u> <u>Acres</u> <u>%</u>	<u>Moderate</u> <u>Acres</u> <u>%</u>	<u>Severe</u> <u>Acres</u> <u>%</u>	<u>Very Severe</u> <u>Acres</u> <u>%</u>
On-site Sewage	45 31.0	12 8.3	54 37.2	3 2.1
Basements	51 35.1	6 4.2	54 37.2	3 2.1
Landscaping	45 31.0	4 2.8	61 42.0	4 2.8
Streets and Parking	45 31.0	4 2.8	61 42.0	4 2.8
Athletic Fields	45 31.0	4 2.8	61 42.0	4 2.8

Unclassified: 31 acres, 21.4% of site.