

**KING'S MARK
ENVIRONMENTAL REVIEW TEAM**



**REPORT FOR
PEQUONNOCK RIVER VALLEY
TRUMBULL, CONNECTICUT**

PEQUONNOCK RIVER VALLEY

TRUMBULL, CONNECTICUT

Environmental Review Team Report

Prepared by the King's Mark Environmental Review Team
of the King's Mark Resource Conservation
and Development Area, Inc.

Wallingford, Connecticut

for the

Pequonnock River Valley Committee

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 Pequonnock River Valley Committee and the Town. The results of the Team action are oriented toward the development of a better environmental quality and long-term economics of the land use. The opinions contained herein are those of the individual Team members and do not necessarily represent the views of any regulatory agency with which they may be employed.

OCTOBER 1988

ACKNOWLEDGEMENTS

The King's Mark Environmental Review Team Coordinator, Nancy Ferlow, would like to thank and gratefully acknowledge the following Team members whose professionalism and expertise were invaluable to the completion of this study:

- * William Warzecha, Geohydrologist
Department of Environmental Protection - Natural Resources Center
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- * Nicholas Bellantoni, State Archaeologist
Connecticut Museum of Natural History
- * James Wang, Executive Director
Greater Bridgeport Regional Planning Agency

I would also like to thank Susan Anderson, Secretary of the King's Mark Environmental Review Team for assisting in the completion of this report.

Finally, special thanks to Louise Cole and Mary Keane of the Pequonnock River Valley Committee and Morag Vance, First Selectman of Trumbull for their cooperation and assistance during this environmental review.

EXECUTIVE SUMMARY

Introduction

The Town of Trumbull Pequonnock River Committee requested that an environmental review be conducted on the Pequonnock River Valley, an approximately 371-acre open space area owned by the Bridgeport Hydraulic Company. The area is bisected by the Pequonnock River and contains wetlands, steep slopes, a river gorge and floodplains. The Pequonnock River Valley Gorge is a Natural Area Inventory site. The vegetation on the site is varied and ranges from second growth upland forest to emergent wetlands. The area is crossed by hiking trails and is currently used for recreation, hunting and fishing. Several potential historic and prehistoric archaeological sites have been identified on the site. Flooding down stream is a common problem. The site was once considered for a flood control dam.

The Bridgeport Hydraulic Company is selling this piece of property in the fall. The company envisions light industrial uses for part of the site and residential uses for other parts. The Town would like to buy the property and keep it for recreational uses. The primary concern of the Pequonnock River Committee is the increased development pressures and the potential competing uses of the tract. Natural resource information is needed so that the Town may continue to raise funds for purchase and for decisions on the uses of the site.

The review process consisted of four phases: (1) inventory of the site's natural resources; (2) assessment of these resources; (3) identification of resource problem areas; and (4) presentation of planning and land use guidelines. Based on the review process, specific resources, areas of concern, development limitations and development opportunities were identified. Below is a brief description of the major findings of the ERT study.

Setting, Land Use and Topography

The site is surrounded by medium density residential uses and Route 25. The site has been preserved as open space because it once served as water supply for the Bridgeport Hydraulic Company. The major feature of the site is the Pequonnock River and its floodplain. The river once had a water supply impoundment which can still be identified on the air photos. The site contains steep slopes which are controlled by the underlying bedrock. The bedrock is at or near ground surface throughout the site. Flat to gentle slopes are found in the area of the old impoundment and the northeast corner. These areas contain sand and gravel deposits.

Geology

The bedrock underlying the site consists of the lower member of the Straits Schist. Schists are metamorphic which means they have been subject to great heat and pressure within the earth's crust. They range in age from 478 to 438 million years old.

The surficial geology of an area consists of those unconsolidated materials overlying bedrock. Most of the site is covered by a thin layer of till. In the area along the Pequonnock River, the predominant surficial geologic material is stratified drift. The other widespread deposits are alluvium and swamp deposits. These are considered to be wetlands and are important from an ecological and hydrological perspective.

Hydrology/Water Resources

The site lies within the Pequonnock River watershed. The river drains approximately 15.6 square miles at its intersection with Daniel's Farm Road. Surface and groundwater runoff from the site eventually discharges into the Pequonnock River. Development within the watershed has been mostly residential. Water quality in the area can be adversely affected by non-point sources of pollution, such as stormwater runoff and sedimentation, and point sources, such as piped discharge from a commercial or industrial source. These sources of pollution can impact the environmental health of the river. Town officials will need to monitor all future development of the area to ensure that the water quality is not impacted.

Water quality of the Pequonnock River is classified as B/A. The groundwater is classified as GA. The principal aquifer underlying the site is the bedrock. The schist underlying the site is capable of yielding three or more gallons per minute at penetration of about 200-300 feet of bedrock. This is considered adequate for residential development. The other potential aquifer is the stratified drift in the northeast corner. Generally, where stratified drift deposits are coarse grained, thick and close to a major streamcourse, it may be possible to obtain large quantities of groundwater. The hydrologic data is incomplete and verification will require testing. The natural quality of the water should be good. There is a possibility that the water could be mineralized with iron or manganese and will need to be filtered.

Suitability for Development and Recreation Uses

The Pequonnock River Valley site is a large tract of land in a highly developed area. Because of its location, the area is attractive for development. Most of the land is zoned for residential use. The eastern side is zoned for one-acre lots and currently will require on-site septic and water systems. The west side is zoned for one-half acre lots and has access to water and sewer lines. The site holds low potential for development. Major limitations include shallow to bedrock soils, steep slopes and a major floodplain/wetland system. The areas most suitable for development are the flatter areas in the northeast and northwest corners. Shallow bedrock conditions are found in both areas. The northeast corner is not serviced by sewers or water lines, and soil testing needs to be done to determine the soils ability to accept sewage flows. Sewer and water lines service the southern end of the property. If these were extended up the river valley, the hydrogeologic concerns would be minimized. The shallow bedrock would still be an obstacle and construction might be costly.

Although the limitations are a hinderance to development, they are attractive for recreational uses. The river and the abandoned railroad grade provide an attractive walk. The presence of ecological and historical features make the site very attractive for open space. With good planning, the site could have greatly expanded active and passive recreational facilities.

A relatively narrow portion of the river lies within the 100-year flood boundary. Because of the detention/flood storage potential, construction in this area should be discouraged.

Soil Resources

Soils mapped on the site include Agawam fine sandy loam, Charlton-Hollis fine sandy loams, Haven silt loam, Hinckley gravelly sandy loam, Hollis-Charlton-Rock outcrop complex, Ninigret fine sandy loam, Rippowam fine sandy loam, Raypol silt loam, Ridgebury, Leicester and Whitmen extremely stony fine sandy loam, Sutton very stony fine sandy loam and Udorthents. The erodibility factor for these soils indicates a moderate erosion susceptibility.

Water Resources and Quality

The Pequonnock River originates in an unnamed pond in Monroe and empties into Bridgeport Harbor. Two miles of the river flow through the site. An old impoundment was removed in 1935 after the Easton Reservoir was built. Water quality above the old dam site is Class B/AA and below the dam site is Class B/A. Existing water quality is high. Several potential discharges exist which is the reason for the B classification. There is potential for leachate from the Vitramon Corporation and the landfills to enter the River. Water tests show no significant impact on the river at present. Increased runoff is a concern, and the Towns of Monroe and Trumbull need to monitor construction carefully to protect the water quality. There appears to be no leaching from septic systems in the area.

Wetland Considerations

The wetlands on the site are primarily forested floodplain areas with some emergent wetlands along the river. Nearly all of the wetlands function as flood storage areas within the floodplain. Other functions currently include recreation, wildlife habitat, environmental education, water renovation, increased fishery quality and aesthetics. The site as a whole does not present much opportunity for development. Areas on the east side of the river present the greatest opportunities for development but will require extensive amounts of disturbance which will have unavoidable adverse impacts to the valley. The Pequonnock River Valley is considered to be a high quality wetland system. It is recommended that a flood impact analysis be done prior to any further development in the valley. A setback of 200-feet from the river is suggested. Also, the DEP-Water Resources Unit should be contacted to assist the Town with the evaluation of future projects in this area.

Forest Resources

The site contains four broad forest cover types: mixed hardwood, hemlock, softwoods/hardwoods and open. These forest types are common in Connecticut and are not considered unique. However, the combination of tree species and other natural features may provide some unique sites. Possible limiting conditions to management include topography and access.

With or without management the forest will change over time. Some causes are fire, disease and insects. Management options will vary with the eventual purchaser but can range from complete development to total preservation with no management options.

Wildlife Considerations

The Pequonnock River Valley area contains a wide variety of wildlife habitats including forest, open early successional areas, open water and emergent/shrub wetland areas. The diversity provides good to excellent habitat for a wide variety of wildlife. Any development of the site will result in a net loss of wildlife habitat. Some of the area will be broken up and lost with construction. Some habitat will be lost to lawns and landscaping. The increase of human presence, vehicular traffic and domestic animals will have an impact. The less tolerant species will be driven from the immediate area of the development. The value of the area for wildlife will decrease as the amount of development increases. If left as open space, the site could be used as a multipurpose area for hunting, fishing, hiking, crosscountry skiing, and outdoor education. The site provides wildlife habitat and an opportunity to pursue wildlife based recreation. Possible wildlife management practices can include patch clearcuts, limited forestry cuts to improve mast production, mowing the early successional stage areas to maintain them and preservation of snag and den trees.

Fisheries Resources

The Pequonnock River averages approximately 25 feet wide and 2 to 3 feet deep. The channel is characterized by riffle and moving pool over ledge, small boulders, cobbles, coarse sands and sand/silt fines. The Pequonnock is listed as a major trout stream and is stocked with trout. It receives extremely heavy sport fishing pressure. In addition to hatchery trout, blacknose dace, longnose dace, fallfish, creek chub, tessellated darter, white sucker and American eel are expected to reside in the river. If development occurs within the area, increased runoff into the river is expected with corresponding increases in sedimentation. Introduction of road sand and salts can degrade water quality. Introduction of lawn chemicals and fertilizers can degrade water quality and lead to "fish kills." Any degradation of water quality will eventually appear downstream. Recommendations include maintaining a buffer zone along the shoreline, requiring and monitoring a comprehensive erosion and sediment control plan for any construction, designing and implementing a stormwater management plan so that stormwater runoff does not directly enter the river and limiting lawn care and chemicals near the river.

Threatened and Endangered Plant and Animal Species

According to the Natural Diversity Database, there are no Federal Endangered and Threatened Species of Connecticut "Species of Special Concern" that occur on or adjacent to the site. The Pequonnock River Valley is a Natural Area Inventory site. While this classification imparts no legal protection, it identifies areas that should receive consideration before any proposed development is approved.

Archaeological Resources

The Pequonnock River Valley site contains at least five potential prehistoric sites, including an encampment occupied between 7,000 and 8,000 years ago, and four historical sites associated with the early industrial development of Trumbull. The site is a significant area in the state because

it is virtually untouched. The record through time is still intact. This presents a unique opportunity for archaeological researchers and historians to understand the past cultural systems. It is recommended that a professional archaeological reconnaissance be conducted in order to locate and identify all of the resources. It is also recommended that every effort be made to identify and preserve the cultural resources of the site.

Planning Considerations

The surrounding land uses are predominantly medium to low density residential. The site is zoned Residential A on the west and Residential AA on the east. The Town's Plan of Development does not designate a specific land use for the site. The changes in the land uses in the Town have been great over the last 36 years. The Town is nearing the limits of development and the competition between open space and development will be a major issue in the future. The Town has enough facilities in its parks categories except for community parks and recreational facilities. The Pequonnock River Valley is located in the center of the Town. The size, location, topography, natural woods and water make this site an excellent candidate for a community wide park and recreational area.

Traffic Considerations

Due to the long, narrow orientation of the site and the topography, there are only two access points. Any development must channel traffic either to Route 127 and Daniel's Farm Road or Whitney Avenue. Access onto Route 127 would be via Tait's Mill Road and Tait Road, both local roads. The intersection of Daniel's Farm Road and Route 127 was recently upgraded. The current volumes are still high and addition of further traffic may deteriorate the traffic flow through this intersection. Whitney Avenue is narrow and winding in the area near the site. The grades are steep. Access here may require an upgrade of the road. If the entire site is developed, access for emergency vehicles to the central portions will be difficult and may lead to safety problems.

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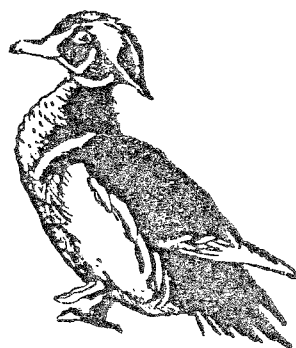
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INTRODUCTION



THE ERT PROCESS

Through the efforts of the Pequonnock River Committee and the King's Mark ERT, this environmental review and report was prepared for the Town. This report primarily provides a description of on-site natural resources, and presents planning and land use guidelines.

The review process consisted of four phases:

- 1) Inventory of the site's natural resources (collection of data).
- 2) Assessment of these resources (analysis of data).
- 3) Identification of resource problem areas.
- 4) Presentation of planning and land use guidelines.

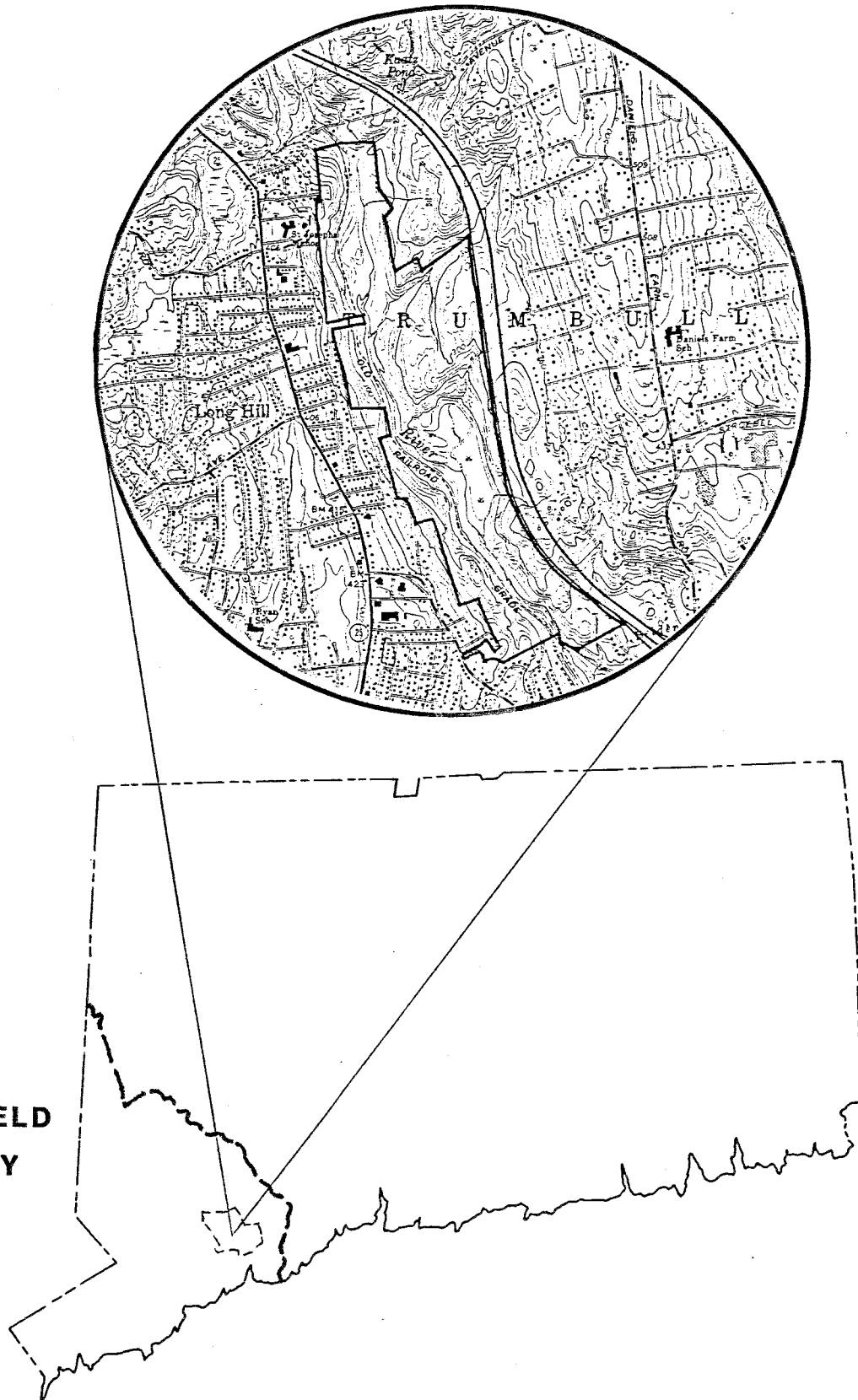
The data collection phase involved both literature and field research. The ERT field review took place on August 24, 1988. Field review and inspection of the site proved to be a most valuable component of this phase. The emphasis of the field review was on the exchange of ideas, concerns or alternatives. Mapped data or technical reports were also perused and specific information concerning the site was collected. Being on site also allowed Team members to check and confirm mapped information and identify other resources.

Once the Team members had assimilated an adequate data base, it was then necessary to analyze and interpret their findings. The results of this analyses enabled the Team members to arrive at an informed assessment of the site's natural resource development opportunities and limitations. Individual Team members then prepared and submitted their reports to the ERT Coordinator for compilation into the final ERT report.

The primary goal of this ERT is to inventory and assess existing natural resources occurring on the site as well as providing management guidelines.

Figure 1

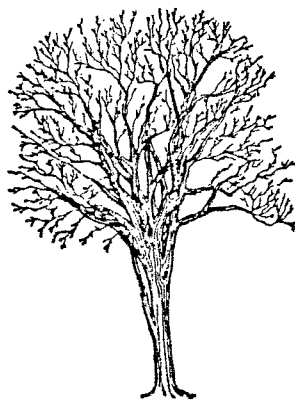
LOCATION OF STUDY SITE



Specific objectives include:

- 1) Assess the geological characteristics of the site, including geological development limitations and opportunities;
- 2) Assess the hydrological characteristics of the site, including wetland hydrology and storm water management;
- 3) Assess the suitabilities of the soils to support recreational and industrial development;
- 4) Determine areas that are sensitive to erosion and sedimentation and discuss possible mitigating measures;
- 5) Assess existing wetland conditions and provide alternatives on how best to manage wetland resources;
- 6) Provide forest vegetation data and assess areas that are prime forest habitat;
- 7) Assess fish and wildlife habitat and provide management guidelines to enhance fish and wildlife habitat and populations;
- 8) Assess the water quality of the area and provide guidelines to protect and/or improve the water quality;
- 9) Assess the potential for archaeological sites and provide guidelines to protect them; and,
- 10) Assess the planning and land use issues including open space and development issues.

PHYSICAL CHARACTERISTICS



SETTING, LAND USE AND TOPOGRAPHY

The Pequonnock River Valley site consists of approximately 371 acres of land located in the northern parts of Trumbull. The site is bounded on the east by Route 25 and on the north, west and south by private residential properties. An abandoned railroad grade bisects the western side of the site in a north-south direction. The railroad grade intersects with Whitney Avenue on the north and Tait Road on the south, both of which provide access to the parcel. The site could also be accessed by any of the numerous residential streets off of Routes 25 and 127 on the west.

The site, which constitutes a sizeable chunk of undeveloped open space within a densely populated area, is currently owned by the Bridgeport Hydraulic Company (BHC). Land use in the area surrounding the site consists mainly of moderate density residential. Because it once served as water supply land for the BHC, the site has been preserved as open space, most of it in wooded land.

The major topographical feature of the parcel is the Pequonnock River. It flows north to south through the central parts of the site enroute to Long Island Sound. A review of a 1934 air photo depicts the former public water supply reservoir in the central parts of the site. The outline of the former reservoir, which is an impoundment of the Pequonnock River, is visible on a 1986 air photo. There are numerous tributaries that feed the river within the site.

The site lies in an area of steep terrain, which is controlled largely by the underlying bedrock. Soil mapping data indicates that bedrock is at or near ground surface throughout most of the site. Steep slopes, which are festooned with numerous outcrops, characterize the western half of the site. Much of the

eastern part of the site is comprised of steep slopes. Flat to gentle slopes characterize the area of the former reservoir and northeast corner of the site. Much of the latter area is dominated by sand and gravel deposits. Maximum and minimum elevations range from about 380 feet above mean sea level along the western border to 130 feet above mean sea level at the southern limits of the property, respectively (see Figure 2).

The Pequonnock River and its accompanying floodplain form an important element of the site's landscape. Except for ponded water that occurs in the area of the former reservoir and an occasional pool within the river, the site has no other major surface water bodies. The river has eroded the streambed down to bedrock in many places, which has allowed for the creation of natural pools. It appears that the site receives at least some recreational use by residents of the area. This would be informal, since the site is under BHC ownership. It is not known how much security is enforced on the site, since water quality protection is probably no longer observed. Nevertheless, it is expected that recreational uses of the land include fishing, jogging, biking, occasional swimming and picnicking.

GEOLOGY

The study area is located entirely within the Long Hill/Bridgeport quadrangle. A bedrock geologic map (QR-24, by W.P. Crowley) has been published for the quadrangle. No surficial geologic map has been prepared to date. The Team's geologist referenced the Soil Survey of Fairfield County and the unpublished Surficial Material Map of Connecticut (Stone, et al, 1985), for the purpose of this section.

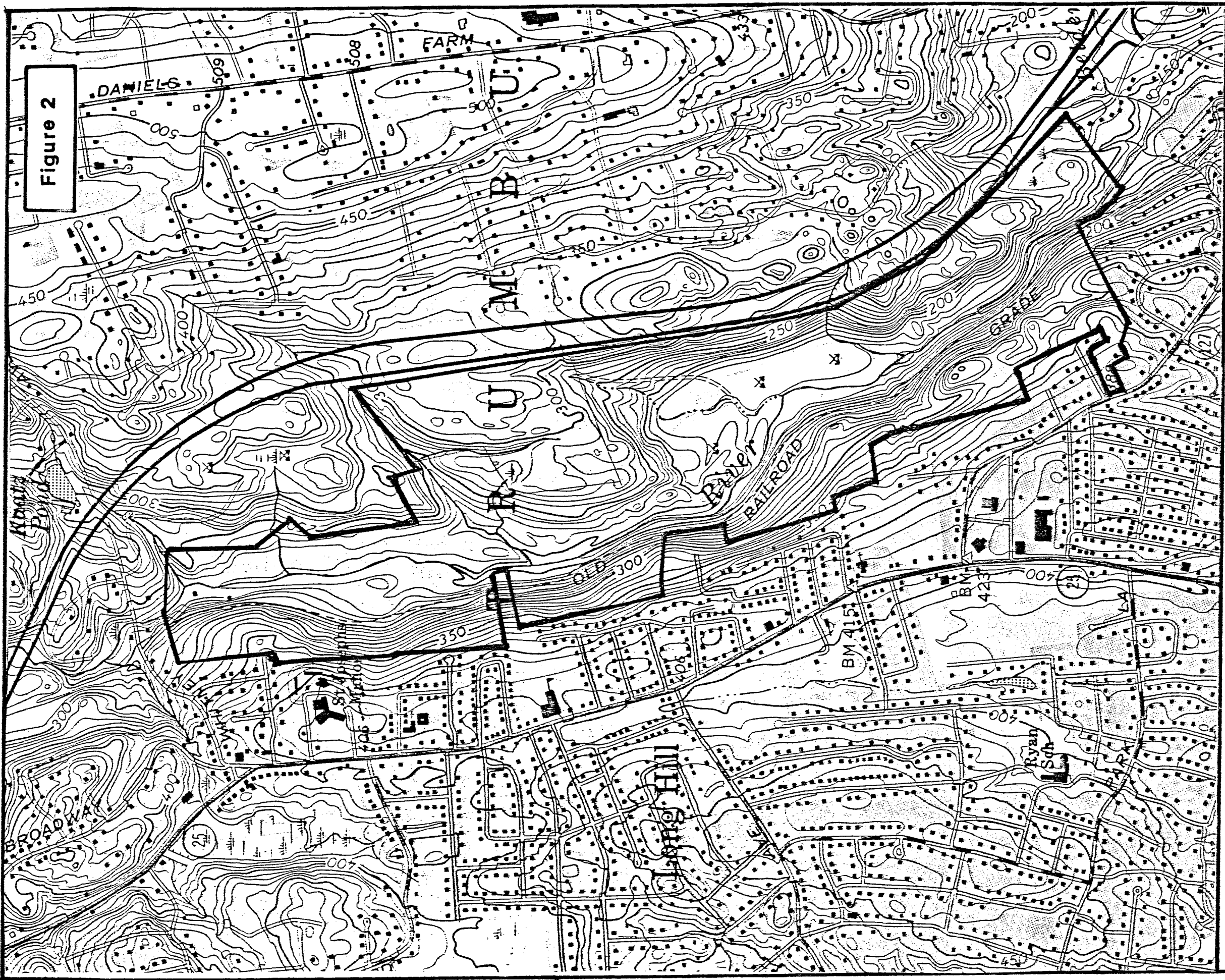


Figure 2

**PEQUONNOCK
RIVER VALLEY**

TRUMBULL, CONNECTICUT

TOPOGRAPHY

King's Mark Environmental Review Team



NOTE: Information from USGS Topographic maps
Long Hill Quadrangle

Depth to bedrock on the site ranges from zero in areas of bedrock exposures to perhaps 60-90 feet at the northeast corner of the site.

Unconsolidated materials overlying bedrock in the study area may be described as the surficial geology of the area (see Figure 4). The majority of the site is covered by a relatively thin blanket (i.e., less than 10 feet) of unconsolidated material known as till. Till is a glacial sediment composed of rock particles ranging in size from small clay particles to large boulders deposited directly by glacier ice. The textural components of the till are not sorted. For example, fine grained particles are intermixed with coarse grained particles. The upper portions of a till deposit are usually sandy, stony and friable. Where till exceeds 8 feet in depth (i.e., usually the north sides of hills), a compact layer may underlie the friable till layer. The texture of the till covering the site is mostly sandy, stony and loose.

Another type of glacial sediment found on this site is a sandy and gravelly sediment called stratified drift. Though minor in terms of distribution and abundance, these sediments were laid down by glacial meltwater during ice retreat. These deposits are restricted primarily to the northeast corner flanking the east side of the river. The sand and gravel comprising the stratified drift deposits were probably mined in places along the river valley. Perhaps they were used as a source of fill material and construction aggregate. The sand and gravel in the northeast corner may be as much as 90 feet thick. As such, it may have some economic and hydrogeologic value (see Hydrology/Water Resources section).

The only other widespread surficial geologic deposits, which formed post-glacially, are alluvium and swamp deposits. Alluvial deposits consist primarily of sand, silt and fine gravel deposited along recent stream channels or on floodplains. Layers of clay and coarser gravel may also be present in alluvial deposits. They are generally less than 10 feet thick.

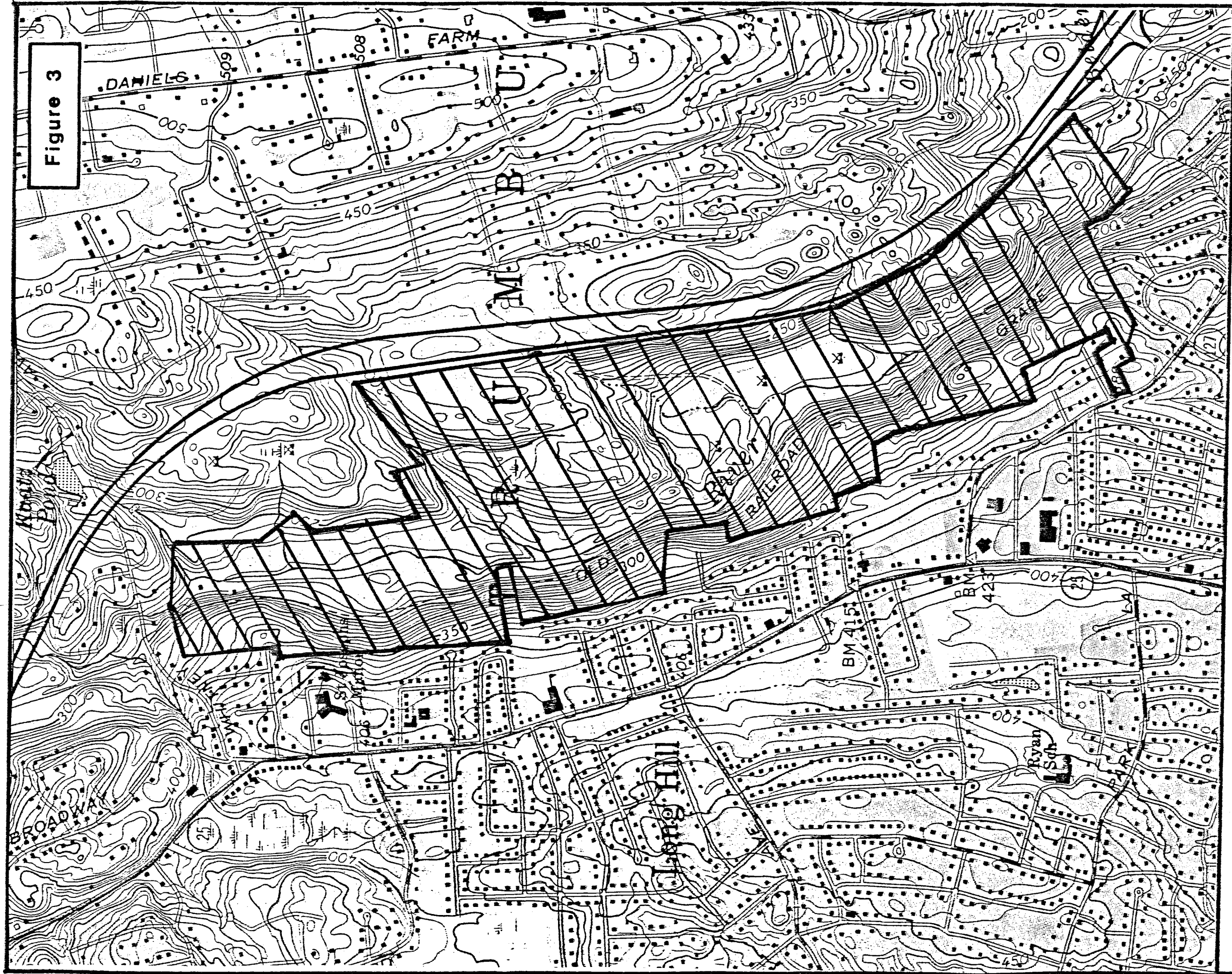


Figure 3



Lower Member Straits Schist

**PEQUONNOCK
RIVER VALLEY
TRUMBULL CONNECTICUT**

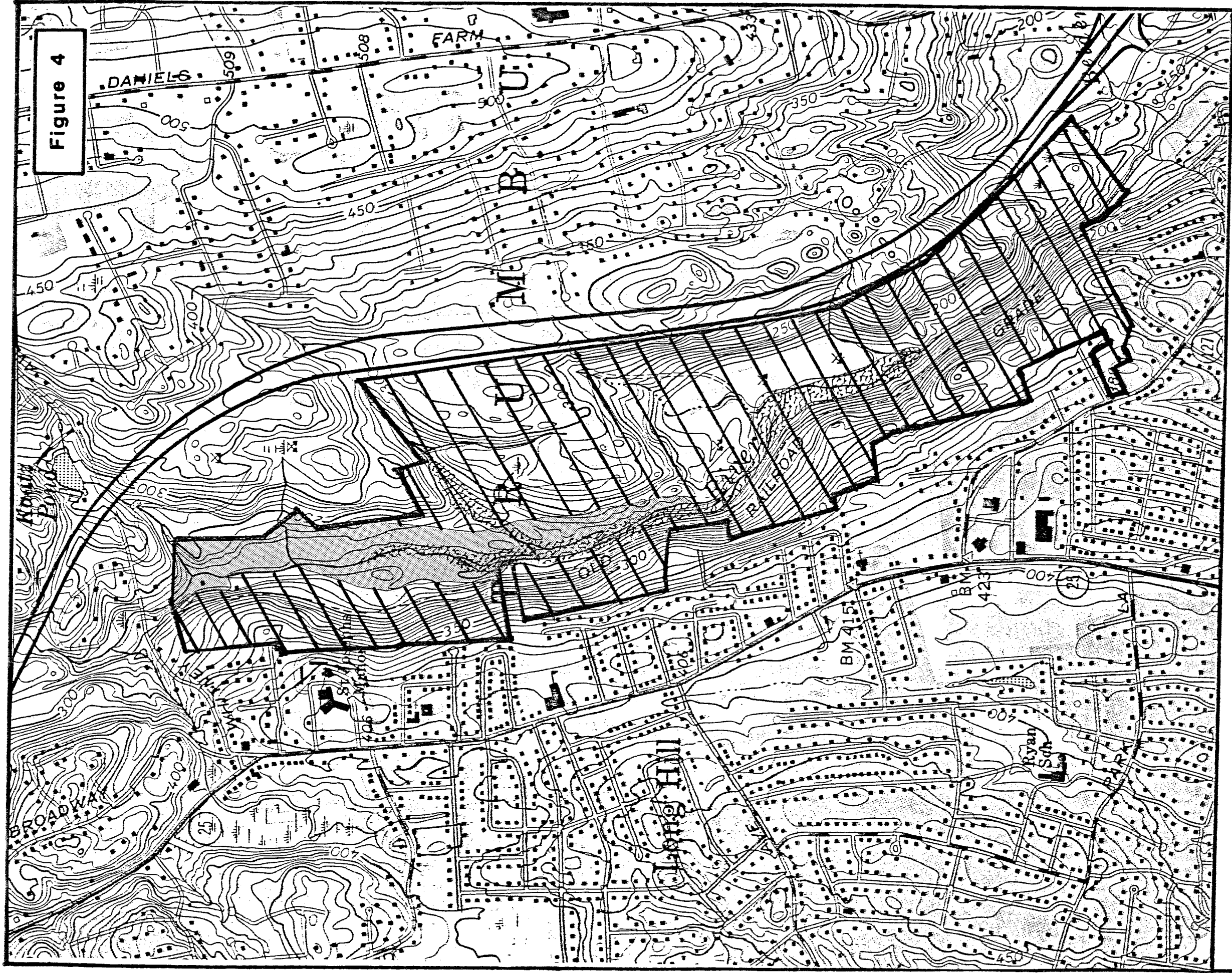
**BEDROCK
GEOLOGY**

King's Mark Environmental Review Team

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NOTE: Information from USGS Topographic maps
Long Hill Quadrangle



Swamp sediments consisting of sand, silt, clay and decayed organic material cover relatively low lying areas. Swamp sediments were deposited in stagnant, well-vegetated bodies of water. Regulated inland wetland areas also parallel the streamcourses on the site. The swamp occupying the valley developed after the last period of glaciation in the state, about 10,000 to 12,000 years ago. Wetlands are very important from an ecological and hydrological standpoint. They maintain water quality through biochemical processes and reduce stormwater runoff. For these reasons as well as others, every effort should be made to protect the regulated wetlands on the site.

HYDROLOGY/WATER RESOURCES

The entire site lies within the Pequonnock River drainage area. The river bisects the site in a southerly direction enroute to Long Island Sound. The drainage area, which is long and relatively narrow, is characterized by light to medium density residential land use north of the Pequonnock River Valley site. At its intersection with Daniels Farm Road, the river drains an area of about 15.6 square miles or about 10,000 acres. The Pequonnock River originates near the Monroe/Newtown town line. Water, sediment and dissolved materials comprise the surface and subsurface flow. Several unnamed streamcourses, some of which are intermittent, feed the Pequonnock River on the site.

Precipitation, which takes the form of runoff, flows across the surface of the land until it reaches a brook or other surface water bodies. Precipitation may also be absorbed into the ground. Once absorbed, the water may either be returned to the atmosphere through evaporation and plant transpiration, or it may percolate downward to the water table and eventually become part of the

groundwater. Once the water reaches the groundwater table, it moves downslope by the force of gravity, ultimately discharging to the surface in the form of a spring, wetland area, stream, lake or directly into a river. To a large extent, groundwater flow in the Pequonnock River watershed reflects the surface flow pattern. Groundwater flow within the site is controlled by the underlying bedrock.

Development that has taken place within the watershed has been largely residential. The natural quality of ground and surface water in the Pequonnock River drainage area can be adversely influenced by various non-point (indirect) pollution sources related to residential development, such as malfunctioning or improperly installed septic systems, sedimentation and erosion, lawn and garden fertilizers and stormwater runoff from roads, particularly those which are close to the river. In addition, point (direct) sources of pollution may also contribute to the degradation of water quality of the river. An example of this would be a piped discharge which contains pollutants from an industrial or commercial land uses. These sources of pollution either singularly or in combination can severely impact the environmental health of the river. Town officials (Monroe, Trumbull) will need to closely monitor all future development within the drainage area for properly constructed and installed septic systems and effective erosion and sediment control measures, such as maintaining catch basins, etc., to ensure that the water quality of the river is not adversely affected. It should be noted that the river was turbid on the review day. The exact source(s) of turbidity is unknown. Potential sources include silt laden road drainage and/or uncontrolled runoff from development in the drainage area.

According to the Water Quality Classifications Map of Connecticut (Murphy, 1985), the section of the Pequonnock River bisecting the site is classified as B/A. This means that currently the river water is Class B, and the state long term goal is to upgrade it to Class A. Class B includes surface waters where the water quality goal is a fishable/swimmable condition. Wastewater discharges may be allowed under permit. Class A may be suitable for drinking water supply and/or bathing, as well as other uses.

Groundwater within the site is classified as GA, which means that it is presumed suitable for direct human consumption. The State's goal is to maintain that condition by banning almost all discharges to groundwater.

The principal aquifer underlying the study area appears to consist of the crystalline metamorphic bedrock. Bedrock transmits water by means of an interconnected system of fractures or seams. The amount and natural quality of water withdrawn from a bedrock well depends upon the numbers of water bearing fractures or seams it intersects and the mineralogy of the rock formation through which the fractures pass.

The schist underlying most of the study area is usually capable of yielding three gallons per minute or more of penetrations of 200-300 feet of bedrock. It is possible to estimate the probability that any given well could supply three gallons per minute (an amount considered adequate to meet most household needs). This is based on a survey of wells in the Southwestern Coastal River Basins (Connecticut Water Resources Bulletin #17). This study indicates that of 725 crystalline bedrock wells examined, approximately 90 percent yielded one gallon per minute or more, and 29 percent yielded ten gallons per minute or more.* In general, a yield of 3 gallons per minute or more may be obtained from bedrock at most places in the drainage basin.

* Note: These statistics refer to wells drilled through 350 feet or less of uncased saturated bedrock.

The other potential aquifer (any geologic unit capable of yielding usable amounts of water to a well) that occurs on the site is the stratified drift deposits in the northeast corner.

According to a map entitled Groundwater Availability in Connecticut (Meade, 1978), this area is believed to be underlain by relatively thick (60-90 feet), coarse grained stratified drift material. However, hydrogeologic data for this area is incomplete and verification will require further investigation. Commonly, where stratified drift deposits are coarse grained, generally thick and close to a major streamcourse (saturated), it may be possible to obtain relatively large volumes of groundwater (approximately 50 to 2,000 gallons per minute).

The natural quality of the water supply should be good. However, there is a chance the underlying bedrock may be mineralized with iron and/or manganese. If concentrations of these minerals are high, the well water may need to be treated with a suitable method of filtration.

SUITABILITY FOR DEVELOPMENT AND RECREATION USES

The 371-acre Pequonnock River Valley site is a large tract of open space land in a highly populated area of Trumbull. Undoubtedly, if the land had not been owned by a water company and used for protecting a water supply reservoir, it is likely that at least parts of it would have been developed, despite certain geologic limitations. Because it is located in a highly populated area, the land certainly appears economically attractive for development.

Most of the land is currently zoned for residential uses. The eastern side of the site is located in a zone which would permit residential development with minimum lot size of one acre. Each lot in this zone would require on-site wells and septic systems at the present time. The western parts have access to municipal water and sewer lines and allow residential development at higher densities (one-half acre).

Based on soil mapping data, geologic maps and visual observation made during the field review, most of the site holds low potential for development. The major geologic limitations include the widespread presence of shallow to bedrock soils, steep to very steep slopes and a major floodplain/wetlands system.

The areas that would probably be most suitable for development are limited to the flatter parts in the northeast corner and some scattered, moderately sloping land in the northwest corner. Shallow bedrock conditions, which may require blasting, prevail in both of these areas. The northeast corner of the site is not presently serviced by municipal water and sewers, which makes this area less favorable for development. Exploration for subsurface sewage disposal (soil testing) would be required before a determination of the soils ability to handle the anticipated sewage flows is made. Sewer and water lines service the area at the southern limits of the property. If the public utility lines (sewer and water) were extended up the river valley, the need for on-site wells and septic systems could be eliminated. As a result, the hydrogeologic concerns would be minimized. However, the presence of steep slopes and shallow to bedrock soils would still be a major obstacle for development. Also, extending the sewer lines might be very costly. If development does take place, it may be inordinately expensive.

Although the limitations would likely be a hindrance to development, they would be desirable for active and passive recreational uses. The site's major natural feature is the Pequonnock River. In addition, the abandoned railroad grade, which generally parallels the river, would afford hikers a quiet and scenic walk through a large tract of land set in the middle of highly developed area. The presence of certain geologic and ecologic features of the site as well as local historical significance, make the site very attractive for open space. From a recreation standpoint, the amenity value of the site is very high. With good planning it seems likely that the passive and active recreational values of the site could be greatly expanded.

A flood insurance study was prepared by the U.S. Department of Housing & Urban Development Federal Insurance Administration for the Town of Trumbull. According to the study, a relatively narrow section of the site which parallels the Pequonnock River, lies within the 100 year flood boundary. These areas would be subjected to flooding during a 100 year storm event. A 100 year flood is a flood with a one chance in 100 or 1% chance that it will happen in any year. This does not mean that a flood of this size will occur only once in 100 years. The probability of occurrence remains the same each year regardless of what happened the year before. Because of the natural detention/flood storage in these areas, the construction of buildings in the 100 year flood boundary should be discouraged. Any building that does take place will require strict compliance with the Town's building code as it pertains to flooding and the National Flood Insurance Program.

SOIL RESOURCES

Soil Map Units & Soil Descriptions (see Figure 5)

AfB - Agawam fine sandy loam, 3 to 8 percent slopes: Agawam is a well drained soil that formed in a loamy mantle over stratified sand and gravel derived mainly from gneiss and schist. Agawam soils are on outwash plains and terraces in stream valleys.

The permeability of this Agawam soil is moderately rapid in the surface layer and subsoil and rapid in the substratum.

The rapid permeability of the soil causes a hazard of groundwater pollution in areas used for on-site septic systems.

CrC - Charlton-Hollis fine sandy loams, very rocky, 3 to 15 percent slopes: This complex consists of gently sloping and sloping, well drained and somewhat excessively drained soils on hills and ridges. They have an undulating topography marked with exposed bedrock, a few drainage ways and a few small, wet depressions.

The complex is about 50 percent Charlton soils, 25 percent Hollis soils and 25 percent other soils and exposed bedrock.

The Charlton soil consists of well drained nonstony to extremely stony soil that formed in loamy glacial till derived mainly from gneiss and schist. Charlton soils are on hills and ridges of glacial till uplands.

The Hollis soil consists of somewhat excessively drained, nonstony to extremely stony soil that formed on a thin mantle of loamy glacial till derived mainly from gneiss and schist. Hollis soils are on hilltops, ridgetops and side slopes of bedrock-controlled uplands.

These Hollis and Charlton soils have moderate to moderately rapid permeability.

The major limitations of this complex for community development are the shallow depth to bedrock in the Hollis soils, the areas of exposed bedrock and the stones and boulders on the surface. The depth at bedrock limits the soils as a site for on-site septic systems and hinders excavations.

CrE - Charlton-Hollis fine sandy loams, very rocky, 15 to 45 percent slopes: This complex consists of the same as above but occurs on steeper slopes.

HcB - Haven silt loam, 3 to 8 percent slopes: Haven is a well drained soil that formed in a loamy mantle over stratified sand and gravel derived mainly from gneiss and schist. Haven soils are on outwash plains and terraces in stream valleys.

The permeability of Haven soil is moderate in the surface layer and subsoil and very rapid in the substratum. The soil is generally suitable for community development, but the rapid permeability in the substratum causes a hazard of groundwater pollution in areas used for on-site septic systems.

HkD - Hinckley gravelly sandy loam, 15 to 35 percent slopes: Hinckley is an excessively drained soil derived mainly from gneiss and schist. Hinckley soils are on outwash terraces, plains, kames and eskers in stream valleys.

The permeability of this Hinckley soil is rapid in the surface layer and subsoil and very rapid in the substratum. The permeability causes a hazard of groundwater pollution in areas used for on-site septic systems.

The main limitations of this soil for community development are slope and the very rapid permeability.

HpC - Hollis-Charlton-Rock outcrop complex, 3 to 15 percent slopes: The complex is about 35 percent somewhat excessively drained Hollis soils, 20 percent well drained Charlton soils, 20 percent exposed bedrock and 25 percent other soils.

The major limitations of this complex for community development are the shallow depth to bedrock in the Hollis soils and the areas of exposed bedrock.

HrE - Hollis-Rock outcrop-Charlton complex, 15 to 45 percent slopes: This complex is about 40 percent excessively drained Hollis soils, 25 percent exposed bedrock, 20 percent well drained Charlton soils and 15 percent other soils.

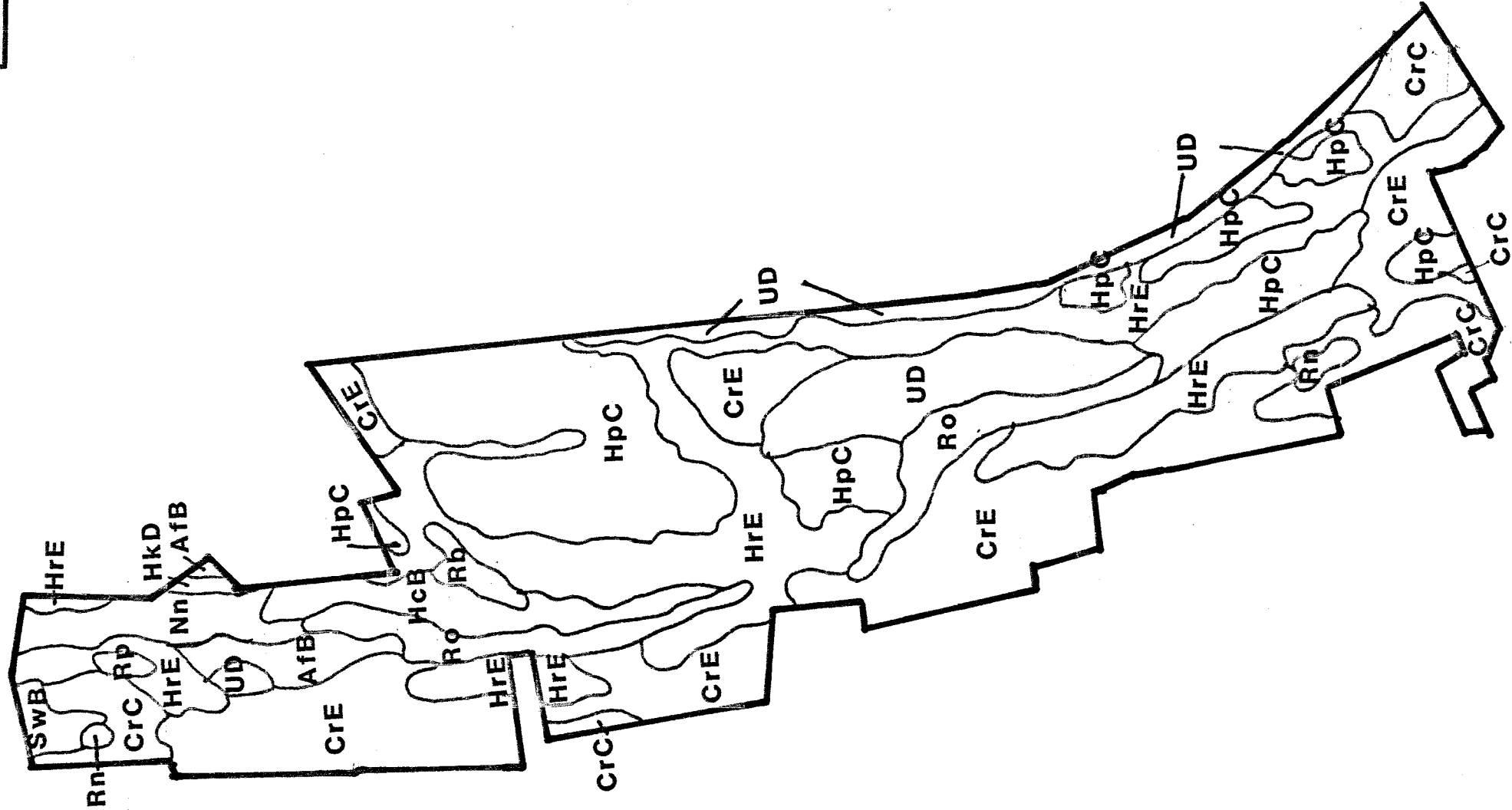
The major limitations of this complex for community development are slope, the shallow depth to bedrock in the Hollis soils, the stones on the surface and the areas of exposed bedrock.

Nn - Ninigret fine sandy loam, 0 to 5 percent slopes: Ninigret is a moderately well drained soil that formed in a loamy mantle over sand and gravel derived mainly from gneiss and schist. Ninigret soils are on outwash plains and terraces in stream valleys.

This Ninigret soil has a seasonal high water table at a depth of about 20 inches from late fall until midspring. Permeability is moderately rapid in the surface layer and subsoil and rapid in the substratum.

The seasonal high water table is the main limitation of this soil for community development. The water table necessitates a special design and installation of on-site septic systems.

Figure 5



- AFB - Agawam fine sandy loam, 3 to 8% slopes
- CrC - Charlton-Hollis fine sandy loams, very rocky, 3 to 15% slopes
- CrE - Charlton-Hollis fine sandy loams, very rocky, 15 to 45% slopes
- HcB - Haven silt loam, 3 to 8% slopes
- HKD - Hinckley gravelly sandy loam, 15 to 35% slopes
- HrE - Hollis-Rock outcrop-Charlton complex, 15 to 45% slopes
- Nn - Ninigret fine sandy loam, 0 to 5% slopes
- Ro - Rippowam fine sandy loam, 0 to 3% slopes
- Rp - Rock outcrop-Hollis complex, 3 to 45% slopes
- Rb - Raypol silt loam, 0 to 3% slopes
- Rn - Ridgebury, Leicester, Whitman extremely stony fine sandy loams, 0 to 8% slopes
- SwB - Sutton very stony fine sandy loam, 3 to 8% slopes
- UD - Udorthents, smoothed

PEQUONNOCK

RIVER VALLEY

TRUMBULL CONNECTICUT

SOILS

King's Mark Environmental Review Team

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Ro - Rippowam fine sandy loam, 0 to 3 percent slopes: Rippowam is a poorly drained soil that formed in recent alluvial sediment derived mainly from gneiss and schist. Rippowam soils are on flood plains of small and large streams.

This Rippowam soil is subject to frequent flooding. It has a seasonal high water table at a depth of about 6 inches from fall until late spring.

The frequent flooding and the seasonal high water table are the main limitations of this soil for community development.

Rp - Rock outcrop-Hollis complex, 3 to 45 percent slopes: This complex is on hills and ridges. It consists of gently sloping to steep, somewhat excessively drained soils and areas of exposed bedrock.

Most of these soils have a rough topography marked with exposed bedrock, a few small drainageways and a few small, wet depressions. Stones and boulders cover 1 to 25 percent of the surface.

The complex is about 50 percent exposed bedrock, 30 percent Hollis soils and 20 percent other soils.

The areas of exposed bedrock, the shallow depth to bedrock and slope limit this complex for community development.

Rb - Raypol silt loam, 0 to 3 percent slopes: Raypol is a very poorly drained soil that formed in a mantle of silt loam or very fine sandy loam over stratified sand and gravel derived mainly from gneiss and schist. Raypol soils are in depressional areas of outwash plains and terraces.

This Raypol soil has a seasonal high water table at a depth of about 6 inches from fall until late spring. The permeability of the soil is moderate in the surface layer and subsoil and rapid or very rapid in the substratum.

The seasonal high water table and the rapid permeability in the substratum limit this soil for community development. Groundwater pollution is a hazard in areas used for on-site septic systems.

Rn - Ridgebury, Leicester, and Whitman extremely stony fine sandy loams, 0 to 8 percent slopes: Ridgebury is a poorly drained, nonstony to extremely stony soil that formed in loamy compact glacial till derived mainly from gneiss and schist. Ridgebury soils are on side slopes, in slightly concave positions and in drainageways on drumlins and till plains.

The major soils in this unit have a seasonal high water table at or near the surface from fall through spring.

The high water table, ponding and the stones and boulders on the surface limit these soils for community development. On-site septic systems require extensive filling and special design and installation because of the high water table.

SwB - Sutton very stony fine sandy loam, 3 to 8 percent slopes: Sutton is a moderately well drained, nonstony to extremely stony soil that formed in glacial till derived mainly from gneiss and schist. Sutton soils are on concave positions on lower slopes or in slight depressions of glaciated uplands.

This Sutton soil has a seasonal high water table at a depth of about 20 inches from late fall until midspring.

The seasonal high water table and the stones and boulders on the surface limit community development.

UD - Udorthents, smoothed: This unit consists of areas that have been altered by cutting or filling. The properties and characteristics of this unit are variable, and the unit requires on-site investigation and evaluation for most uses.

Erosion Susceptibility

The soil erodibility factor or K value was determined for each soil. The K value is a measure of the susceptibility of the soil to erosion by water. Soils having the highest K values are the most erodible. K value classes range from 0.02 to 0.64. These values indicate a moderate erosion susceptibility.

Recreation

The soils of the area are rated in Appendix A according to limitations that affect their suitability for recreation. The ratings are based on restrictive soil features such as wetness, slope and texture of the surface layer. Also considered is susceptibility to flooding. Not considered in the ratings but important in evaluation, are the site's location, accessibility, size and shape, scenic quality, vegetation, access to water, potential water impoundment sites and access to public sewerlines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also

important. Soils subject to flooding are limited for recreation use by the duration and intensity of flooding and the season when flooding occurs. In planning recreation facilities, on-site assessment of the height, duration, intensity and frequency of flooding is essential. The degree of soil limitations is expressed as slight, moderate or severe. Slight means that soil properties are generally favorable and that limitations are minor and easily overcome. Moderate means that limitations can be overcome or alleviated by planning, design or special maintenance. Severe means that soil properties are unfavorable and that limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use or by a combination of these measures.

Camps: Camp areas require site preparation such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The best soils have mild slopes and are not wet or subject to flooding during the period of use. The surface has few or no stones or boulders, absorbs rainfall readily but remains firm and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing campsites.

Picnic Areas: Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for picnic areas are firm when wet, not dusty when dry and not subject to flooding during the period of use. Slopes and stones or boulders increase the cost of shaping sites or building access roads and parking areas.

Playgrounds: Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones and boulders, firm after rains and not dusty when dry. If grading is needed, the depth of the soil over bedrock or a hardpan should be considered.

Paths and Trails: Paths and trails for hiking, horseback riding and bicycling should require little or no cutting and filling. The best soils are not wet, firm after rains, not dusty when dry and not subject to flooding more than once a year during the period of use. They have moderate slopes and few or no stones or boulders on the surface.

WATER RESOURCES AND QUALITY

Description

The headwaters of the Pequonnock River originate in an unnamed pond near Jockey Hollow Road in Monroe. The river subsequently travels through Trumbull and empties into Bridgeport Harbor. Its drainage basin to Daniels Farm Road in Trumbull encompasses 15.6 square miles, contained primarily within the Towns of Monroe and Trumbull and a small area in Newtown. The main stem of the river is approximately 8 miles long from its origin to Daniels Farm Road, two miles of which are located in the approximately 371-acre open space area called the Pequonnock River Valley.

In the late 1800s the BHC constructed a dam in the study area creating the Trumbull Reservoir, which supplied most of Bridgeport's water through the early 1900s. After the construction of the Easton Reservoir around 1930, the Trumbull Reservoir was no longer used, and the dam was taken down in 1935. The current water quality classification of the Pequonnock River in the study area is Class B, with a goal of Class AA, above the site of the former reservoir and Class B, with a goal of Class A, below the former dam site.

Class AA has as part of its designated use existing or proposed drinking water supply, while Class A has as part of its designated use potential drinking water supply. Class B is reflective of existing water quality which should be high enough to support recreational use and serve as a fish and

wildlife habitat. Treated wastewater discharges are allowed in Class B waters with a national Pollutant Discharge Elimination System permit. For further details concerning water quality classifications in Connecticut please refer to Water Quality Standards (DEP, February 1987).

Calculated values for average annual stream flow, and seven day, ten year low flow (7Q10, or the lowest seven day flow expected in a 10 year period), are 21.8 and 2.8 cubic feet per second, respectively (Connecticut Water Resources Bulletin #17 [1970] and #34 [1982]). These values are slightly high because they are unadjusted for any upstream diversions, and there is at least one diversion to the Easton Reservoir.

Existing Water Quality

Water quality is high. Several threats exist, however, hence the Class B designation. The Class B designation is based on potential contamination from continued ground discharge of metal finishing wastes by Vitramon Corporation, Monroe, possibly exacerbated by potential leaching from Trumbull's soon-to-be-closed bulky waste landfill and already-closed mixed waste landfill. The Vitramon property is listed on CERCLIS, the Federal data base system where potential superfund sites are listed and tracked. A preliminary site assessment of the Vitramon property to determine whether the site needs further investigation or remediation was done. That assessment resulted in Vitramon being listed for medium priority site inspection. This means that the site could be scheduled for the next step in the Federal Superfund inspection program in the next couple of years.

Potential Impacts

The preliminary activities that were reviewed in terms of potential impacts to the Pequonnock River were:

- 1) Leaching from Vitramon Corporation and the two Trumbull landfills;
- 2) Increased runoff from construction; and
- 3) Leaching from septic systems on the north and east sides of the property (the west, south and southwest sides of the property are sewerred).

Leaching from Vitramon Corporation and the Two Trumbull Landfills

Samples are taken twice monthly from the Pequonnock River at the Daniels Farm Road bridge, just downstream of the study site, by the BHC. Data covering the entire year 1987 showed no significant pattern (aluminum, iron and bacterial counts were slightly elevated indicating potential groundwater leachate, but the values found were still within the normal range).

The Department of Environmental Protection (DEP) Office of Solid Waste Management had four test wells dug with two rounds of sampling completed within the last year at the landfill sites. In addition, two rounds of sampling were done up-stream and down-stream of the landfills, and sampling was done on surrounding domestic wells as part of an environmental assessment prior to designing final closure of the two sites. Although the data is currently tied up in review by the Hearing Examiner, it showed that there is no discernible impact on the river or surrounding groundwater from the landfills at this time.

Increased Runoff from Construction

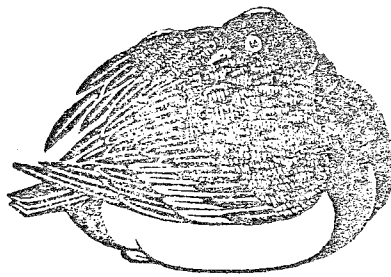
Adverse impacts from siltation and erosion were observed during a rain event which occurred at the field review. In addition, turbidity values from the BHC monitoring showed slightly elevated levels. Best engineering practices need to be employed and monitored to stabilize disturbed soil during construction, as well as incorporated into the design of storm drainage systems for parking lots and other structures that tend to concentrate stormwater

runoff. These practices are discussed in Guidelines for Soil Erosion and Sediment Control (DEP, January 1988). All activities should be coordinated with the Town Engineering Department, Inland Wetlands Commission and Planning and Zoning Commission.

Leaching from Septic Systems

Based on the data gathered for DEP's Office of Solid Waste Management, there appears to be no impact from the various septic systems located on the north and northeast perimeters of the property.

BIOLOGICAL RESOURCES



WETLAND CONSIDERATIONS

Wetland Description and Classification

The Pequonnock River Valley occupies approximately 371 acres in the Town of Trumbull and is owned by the BHC. The wetland resources which exist on site are primarily forested floodplain areas with some emergent wetland systems along the periphery of the river. Additionally, there are several open water bodies which were created as a result of past sand and gravel excavation activities. Overall, there are approximately 70 acres of regulated wetlands and/or watercourses on the property which account for nearly 20% of its area.

Wetland Functions

Nearly all of the wetlands function as flood storage areas within the floodplain of the Pequonnock River. Apart from their role as flood storage areas, these wetlands perform other high quality functions within an area which has experienced considerable development pressure. Due to the existence of an old railroad grade which runs along the western bank of the river, opportunities for the wetlands and river corridor to be used for recreational purposes are excellent. The relative isolation of the site from development and roadways makes it an excellent refuge for wildlife which make regular use of wetland resources. At several points along the path of the railroad grade, views overlooking the wetlands provide excellent points from which to observe birds and other wildlife. The wetlands, in conjunction with the river and the surrounding upland environments, provide an ideal learning laboratory for area schools, residents and colleges.

The wetlands and watercourses contained on the property also perform important functions in maintaining environmental and water quality within the watershed and the surrounding community. The wetlands function as a natural water renovation system for runoff waters before they reach the main flow of the Pequonnock River. The existence of alternating riffles and pools within the watercourse leads to an increase in the dissolved oxygen content of the water, which in turn has many secondary benefits. Such benefits include increased quality of the fishery and higher BOD loading capacity which leads to greater capacity of the system to cleanse itself and recycle organic nutrients. The river valley and its associated wetlands represent a unique aesthetic area within the town. The existence of dense development, combined with the fact that this area is the largest expanse of uninterrupted open space within the town, only serves to intensify its value and need to be maintained in its present condition.

Development Potential

As a whole, the site does not contain many opportunities for development. The areas of past sand and gravel operations on the east side of the river present the greatest potential for development. The ponded and wet areas within these old quarries do not exhibit the quality or functions which are possessed by the wetlands associated with the Pequonnock River. But given time and the opportunity to ecologically mature, these systems may develop into high quality functional areas in portions of the site which are removed from the main river system. Additionally, accessing these portions of the site would require significant amounts of excavation and disturbance which would have unavoidable adverse impacts to the environmental integrity of the valley.

Areas to the west of the river present almost no opportunities for future development. The steep slopes and rock outcrops, which are abundant on this side of the river, create severe environmental constraints to any future development.

Comments and Recommendations

- 1) The Pequonnock River Valley is viewed as a significant high quality wetland and natural resource to this region and the State of Connecticut. The wetlands associated with this valley possess a variety of important high quality functions, including flood storage, recreation, education, water renovation, sediment filtration, open space and aesthetics. All of these functions exist within a region of dense population and development, which in turn increases their value and need to be maintained.
- 2) With respect to the importance and maintenance of the floodplain, it should be noted that the last FEMA (Federal Emergency Management Administration) study done in the Town of Trumbull was in 1979. Since significant amounts of development have occurred in the watershed of the Pequonnock River since that time, it is recommended that a full flood impact analysis be done for the area prior to evaluating any future developments which may be proposed within the river valley.
- 3) Any development which may be proposed for the site should be removed from the area immediately adjacent to the river and its associated floodplain areas. A minimum distance of 200 feet is suggested as a set-back from the river and its wetlands. Additionally, it is suggested that the Trumbull Wetland Commission request the assistance of the DEP Water Resources Unit in the evaluation of any future proposals which may occur within this area.

FOREST RESOURCES

Vegetation

The approximately 371 acres of property owned by BHC may be categorized into four broad forest cover types - mixed hardwoods, softwoods/hardwoods, hemlock and open. These areas are indicated in Figure 6 and encompass approximately the following acreage:

mixed hardwoods	- 240
hemlock	- 67
softwoods/hardwoods	- 37
open	- 27

A partial list of deciduous species found on the property follows:

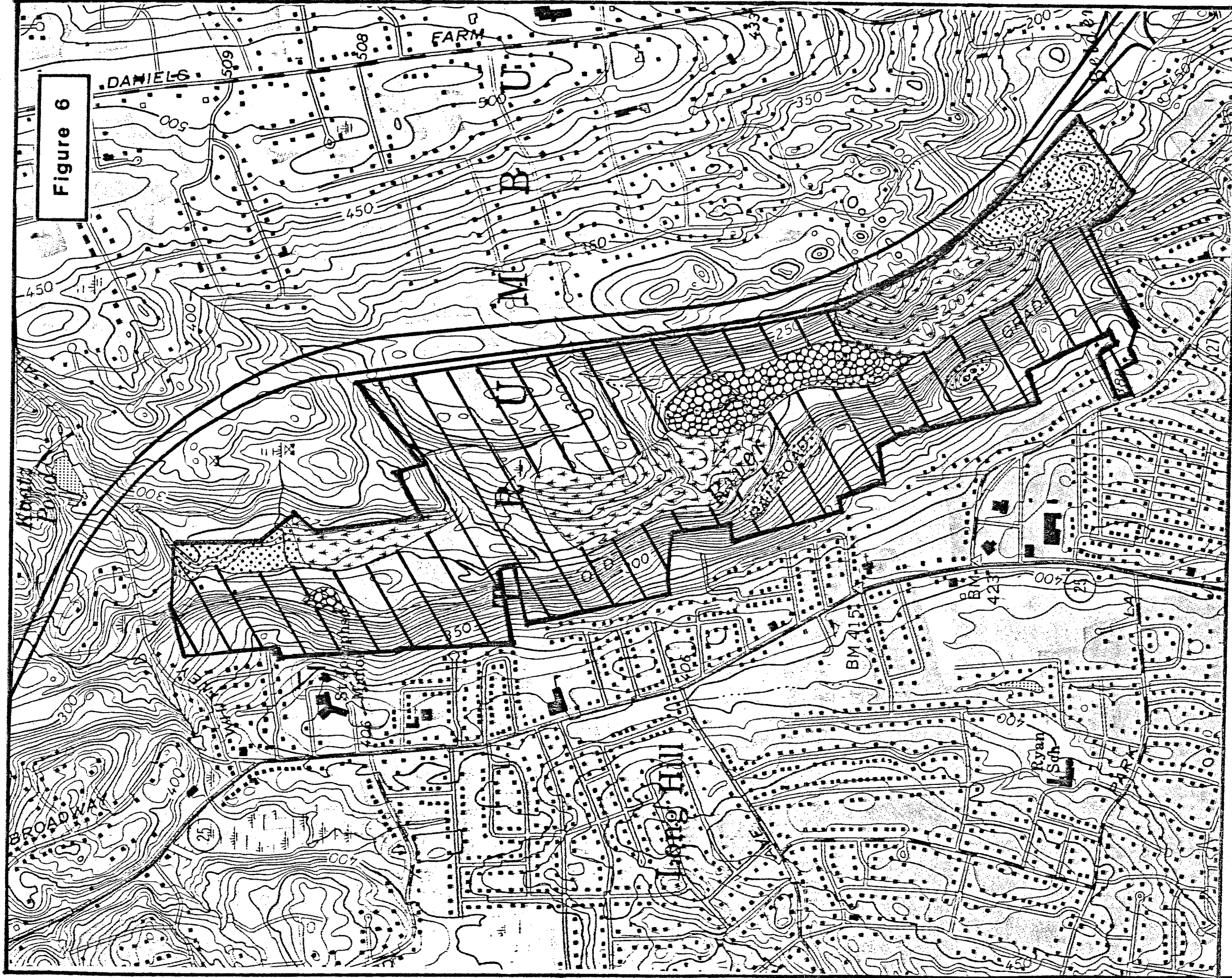
American beech		<u>Fagus grandifolia</u>
Birch	- black	<u>Betula lenta</u>
	- yellow	<u>B. alleghaniensis</u>
Hickories		<u>Carya spp.</u>
Maples	- sugar	<u>Acer saccharum</u>
	- red	<u>A. rubrum</u>
Oaks	- red	<u>Quercus rubra</u>
	- black	<u>Q. velutina</u>
	- white	<u>Q. alba</u>
	- chestnut	<u>Q. prinus</u>
Elm		<u>Ulmus spp.</u>
Tulip or yellow poplar		<u>Liriodendron tulipifera</u>
Sassafras		<u>Sassafras albidum</u>
Aspens	- quaking	<u>Populus tremuloides</u>
	- big tooth	<u>P. grandidentata</u>
Sycamore		<u>Platanus occidentalis</u>
Cherry	- black	<u>Prunus serotina</u>
	- pin	<u>P. pensylvanica</u>
Apple		<u>Malus spp.</u>
Ash		<u>Fraxinus americana</u>

The only coniferous species found was eastern hemlock - Tsuga canadensis.

Eastern white pine, Connecticut's other major conifer, was not seen although it may be present in extremely limited areas.

The open areas consist of approximately 3 acres in the north central section of the property, which is reverting to tree species and a variety of shrubs. The largest area is in the south central portion where gravel was removed and is now primarily wetlands.

The predominant species within the mixed hardwood type are the oaks, hickories, maples and birches. Hemlock may be found in the overstory or understory, but occurs only as a minor component. Some species (e.g., tulip or beech) may occur singly or in small groups, whereas other species (e.g., sycamore, elm or apple) may only be found as widely scattered individuals. The apples might be a remnant of past agricultural practices in the vicinity. Quite frequently, moisture gradient changes will produce changes in species



Access to the western and southern portions of the area is primarily from the railroad grade and from several local roads. Access to the eastern portion appears to be somewhat limited, although there may be possibilities from Route 25 or the Town park.

With or without forest management, certain influences may affect the forest vegetation over time. The three most likely influences would be fire, insects and disease.

The property is used heavily by the public. Evidence of "campsites" and fire rings emphasize the possibility of forest fires. Access from surrounding Town roads, Route 25, the railroad grade or the Town park would benefit fire suppression efforts and probably minimize fire size if fires occurred. The amount of damage that may be caused by a fire is based on a number of factors such as time of year, prior precipitation or lack thereof, temperature, humidity, species involved, etc.

Although the overall health and vigor of the forest vegetation is good, insect populations may build to epidemic proportions in the years ahead. Perhaps the hardwood defoliator most familiar to the state is the gypsy moth (Lymantria dispar). The last defoliations experienced in western Connecticut were in the early 1980's, and it is almost a certainty that more defoliations will occur in the future. Oaks and hickories are among the preferred foods of the gypsy moth, whereas ash and tulip are among the least preferred. Repeated defoliations over a couple of years may cause an increase in mortality rates, especially in the hemlock where mortality may occur after a single defoliation.

A new insect problem, the hemlock wooly adelgid (Adelges tsugae), has been found in Connecticut since 1985. The insect has been identified in the western part of Trumbull and the neighboring Town of Easton. Preliminary indications by the Connecticut Agricultural Experiment Station are that the insect may be

extremely injurious to hemlocks and that mortality may occur within a year or two of insect infestations. Although the hemlock wooly adelgid may be easily controlled by certain sprays, the sprays are effective only when all of the branches are thoroughly covered. Thus what may be an effective means of control for ornamental hemlocks, may have little or no effect on hemlocks in a forest environment where branching patterns would minimize spray effectiveness.

As trees are put under stress, whether by insect defoliation, drought, fire or some other agent, they become more susceptible to other disorders than when under normal or average conditions. For example, oaks stressed by defoliation may be more susceptible to the two lined chestnut borer (an insect) and the shoestring root rot fungus. Rather than a single agent being the cause of mortality, a number of factors may be involved in many cases.

Management Options

At the present time, management options vary depending upon the eventual purchaser of the property. Vegetation manipulation is done to accomplish certain objectives, whatever they may be for a particular owner.

Alternatives for the site could range from the extremes, complete development where physically possible to preservation where no vegetation management will occur. Possibilities exist to manage the vegetation in a variety of ways to accomplish certain objectives.

Examples:

- 1) Species diversity is good, but age class distribution is skewed to the older ages. A variety of age classes might be more suitable for diversity while also providing better habitat for certain wildlife species. Or vegetation may be managed to increase mast production for wildlife or the presence of den trees.
- 2) If an objective were to increase gypsy moth non-preferred species, certain cuttings could be done to change species composition.
- 3) Vegetation could be managed over time to enhance fall coloration or for educational/nature trail purposes.

- 4) Although a detailed inventory of the area was not done, there is a commercial aspect of the woodlands that could be explored. Any financial return from management would rely upon a number of factors, depending upon the eventual goals and objectives of the landowner.

WILDLIFE CONSIDERATIONS

Description of Area/Habitats

The site under review is an approximately 371-acre area of the Pequonnock River Valley, currently owned by BHC. The site is roughly bisected by the Pequonnock River and is characterized by steep forested slopes and rocky outcroppings along the Pequonnock River. This site also contains forestland, emergent/shrub wetlands associated with floodplain areas along the upper portions of the river and open early successional stage areas.

Although the site is almost completely surrounded by development and urbanization, it does offer an area of habitat to many species because of its relatively large acreage. This is one of the few remaining relatively large areas of open undeveloped land left in Trumbull that can serve as habitat for a variety of species, especially those requiring larger areas of habitat.

It appears the site receives much use by the public, both sanctioned and unsanctioned. Illegal dumping of trash, overnight camping with fires and use of ATV's have left their mark. Unfortunately this type of activity can degrade the habitat to some degree. Use of ATV's in an area can cause extensive erosion in some cases.

Forest: The forested area contains hardwoods, small stands of softwoods and mixed hardwoods and softwoods. The small stands of softwoods are composed mainly of hemlock and white pine. The stands of softwoods are found primarily along and/or adjacent to the river.

Crows, grouse, turkey vultures, some raptors and many songbirds use conifers as preferred roosting and/or loafing sites. Some species, such as the mourning dove, goshawk, sharp-shinned hawk and robin, may frequently use hemlock stands for cover. Red squirrels sometimes utilize the small winged seeds of the hemlock for food.

Species of trees within the forest, in addition to the hemlock and white pine, include red and white oak, tulip poplar, red maple, ash, hickory and sycamore. Species comprising the understory include black birch, yellow birch, witch hazel, spice bush and maple-leaved viburnum. A thick understory of trees and shrubs with a variety of species helps to provide good cover and a food source for wildlife. Trees, such as the oaks and hickory, provide nesting places as well as food in the form of mast for some species of wildlife.

The snag trees (dead trees) in the area are a source of insects which serve as food for many species such as woodpeckers and chickadees. Den trees or trees with cavities can serve as a nesting or denning place for animals such as squirrels and raccoons.

River/Wetlands: Rivers can act as natural travel lanes or corridors for wildlife to use. The river provides a corridor for some species to travel through the area and possibly into other areas. In addition to acting as a travel lane, the river and its associated wetlands provides cover because of the tree, shrub and plant species found there. Rivers provide habitat for many species of reptiles, amphibians, aquatic mammals and birds. Some species of mammals make use of river areas by preying upon other wildlife utilizing the river. Mammals such as raccoons and fox often travel along rivers and streams in search of prey. The river also provides a source of water year 'round for wildlife. Rivers and their associated wetlands are often used by shore and wading birds like the blue heron.

There are many areas of emergent/shrub wetlands associated with the northern reaches of the river where the topography is gentle. These wetlands support a variety of vegetation, including elm, red maple, dogwood, spicebush, jewelweed, phragmites, cattail, pickeral weed and a variety of other emergent plants, herbaceous plants, trees and shrubs. This is an important area of habitat for a variety of species because of the diverse vegetation which offers a variety of food and cover. Many species, including a variety of birds, amphibians, reptiles and mammals, make use of areas such as these, especially when they are associated with a river or stream.

Open Early Successional Stage Areas: Much of the open and early successional stage areas are a result of several gravel operations that took place years ago. These areas are characterized by an abundant growth of aspen, a tree that is typically one of the first to take hold in disturbed areas (especially where soil has been removed). In addition to aspen, these areas contain a variety of other trees such as birch and elm, various grasses, herbaceous plants and shrubs.

The open early successional stage areas provide abundant food and cover because of the variety of species present. There are several small pools of water here which help make the area more attractive to wildlife. These areas may provide habitat for some amphibians and reptiles and feeding areas for birds and mammals. The variety of plants and shrubs helps to provide a variety of food in the form of seed and berries. This type of habitat offers structural diversity (varying heights and types of vegetation) which creates cover for a great array of wildlife.

The old field areas have grown up to thick pole-sized stands of hardwood with scattered red cedar in them. Although useful to some species, pole size stands in general are the least useful to wildlife.

Wildlife Habitat/Recommendations

Generally, the greater the habitat diversity and degree of interspersions of these habitat types, the greater the variety of wildlife there will be using an area. The area offers a good variety of habitats and also offers a fair degree of interspersions of these habitat types. The river and its associated wetlands increase the value of this area to many species of wildlife. Because of this, the area currently offers good to excellent wildlife habitat. The site also represents a fairly large habitat in an area where large open acreages are fairly limited.

Any development of the site will result in a net loss of the wildlife habitat. Some portion or portions of the area would be broken up and lost with the construction of homes, roads, parking lots and walkways. Additionally there would be the loss of habitat where cover is cleared for lawns and landscaping. A third impact is the increased human presence, vehicular traffic, and a number of free roaming dogs and cats. This could drive the less tolerant species from the immediate area of development and even from areas where there has been no physical change. The value of the area for wildlife habitat would correspondingly decrease as the amount of development in the area increased. Because of the importance of wetlands to wildlife and the fact that wetlands are limited in quantity and continue to dwindle on an almost daily basis in the state of Connecticut, it is always preferable to choose the option or path of development that least impacts wetlands. The value of wetlands increases as the quantity of the resource diminishes.

If left as open space, the site could certainly be used as a multi-use area. It could be used for a variety of recreational purposes such as hunting, fishing, hiking, cross country skiing and for outdoor educational purposes. The area provides wildlife habitat and the opportunity to pursue wildlife based recreation in an area where both continue to decline due to increasing development pressures.

Because future ownership and use of the site is not known, it is difficult to make specific recommendations for habitat management at this time. Possible wildlife habitat management practices include small patch clear cuts, limited forestry cuts to improve mast production, mowing of the early successional stage areas in order to maintain them and preservation of snag and den trees.

In a small but heavily developed and populated state like Connecticut, where available habitat continues to decline on a daily basis, it is critical to maintain and enhance where possible existing wildlife habitat.

FISHERIES RESOURCES

Site Description

The Pequonnock River is the most salient feature of the Pequonnock River Valley site. The Pequonnock River is classified by the Department of Environmental Protection as Class B/A surface waters. Waters of this designation do not meet water quality criteria of one or more designated uses of Class A water. Designated uses for Class A waters are potential drinking water source, fish and wildlife habitat, recreational use, agricultural and industrial supply and other legitimate uses. The goal for Class B/A waters is an upgrading to Class A.

The Pequonnock River flows through an extensive undeveloped area of wetland and upland hardwood vegetation within this open space. The stream averages approximately 25 feet in width and 2 to 3 feet in depth. The stream channel is characterized by riffle and moving pool over a substrate of ledge, small boulder, cobble, coarse sand and sand/silt fines. Instream fisheries habitat

is composed of deep pools, boulders, undercut banks and a dense streambank canopy of woody shrubs. The riparian vegetation affords the stream cooling summertime shade. Several sections of the stream channel have abundant macrophytic growths.

Aquatic Resources

The Pequonnock River is listed as a "Major Trout Stream" by the Connecticut Bureau of Fisheries. The river is annually stocked with trout. Because the stream is located within a large population area and is easily accessible to anglers, it receives extremely heavy sportfishing pressure. Stocking rates are adjusted to the fishing pressure demand with the river being yearly allocated a total of 8,380 trout. A combination of brook, brown and rainbow trout are released by one pre-season and three in-season plantings.

In addition to the hatchery trout, the following fish species are expected to reside in the Pequonnock River: blacknose dace, longnose dace, fallfish, creek chub, tessellated darter, white sucker and American eel. Hatchery trout have the ability to survive angling and remain in the stream throughout the year, as was evident by the visual observation of several adult brown trout. It is possible that the adult trout have the capability to spawn within suitable in stream habitats. Further investigation is required to determine spawning occurrence and spawning success.

Impacts

The following potential impacts to the Pequonnock River can be expected if development occurs within the open space:

- 1) During construction, soil erosion and sedimentation of the watercourse may occur through increased surface runoff from unvegetated zones. Research has shown this to be a major cause of stream degradation. There exists a great potential for increased surface runoff given the topography of the site.
- 2) Introduction of road salts, sands and oils to the watercourse via surface drainage from roads, parking lots and driveways may allow these pollutants to enter the Pequonnock River. This will result in water quality and stream habitat degradation.

- 3) Transport of lawn fertilizers to the watercourse will stimulate excessive aquatic plant growth. Introduction of lawn chemicals may result in "fish kills" and water quality degradation.
- 4) Any water quality problems and habitat degradation within this area of the Pequonnock River due to increased sedimentation, road and stormwater drainage and lawn chemicals and fertilizers will eventually be observed in downstream areas.

Recommendations

Impacts to the Pequonnock River obviously will be negligible if the area is to remain as open space. The following measures should be observed should the area be slated for development:

- 1) Maintain at the minimum a 200-foot open space buffer zone along both river shorelines. No construction or alteration of riparian habitat should take place within this zone. The buffer zone should be widened in areas of steeper terrain.
- 2) A comprehensive erosion and sedimentation control plan should be submitted and installed prior to the start of construction and maintained through all construction phases. Mitigative measures should include, but not be limited to, detention basins, catch basins, silt fences and hay bales. Surface runoff must not be allowed to directly enter the Pequonnock River. Once construction is initiated, officials from the Town of Trumbull should regularly police any development to ensure that all erosion and sedimentation controls are properly emplaced and are maintained regularly.
- 3) An effective stormwater management plan should be designed and implemented. Stormwaters should not directly enter the Pequonnock River.
- 4) Limiting liming, fertilizing and the introduction of chemicals to lawns developed close to the river will help abate the amount of additional nutrients entering into the Pequonnock River.

THREATENED AND ENDANGERED PLANT AND ANIMAL SPECIES

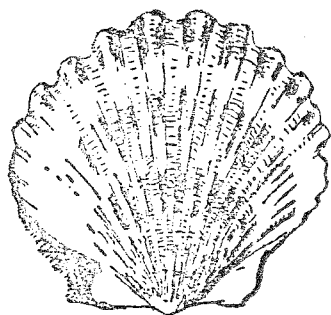
According to The Natural Diversity Data Base there are no Federal Endangered and Threatened Species or Connecticut "Species of Special Concern" that occur at or adjacent to the site.

The Pequonnock River Valley is a Natural Areas Inventory site. In 1972 the Connecticut Forest and Park Association, Inc. prepared a natural area inventory which included 459 sites. These were nominated as significant sites for one or more of the following attributes: geologic, hydrogeologic, biologic, archaeologic, cultural, aesthetic, research/educational. Being listed as an NAI site does not impart any restrictions or provide legal protection. It identifies areas that should receive consideration before any proposed development is approved.

In addition, invertebrate information has been included by a member of the Connecticut Entomological Society. The locational information is about beetles (Coleoptera) considered rare in the state and collected during the late 1940s through 1987. These species are included in a list put together by the Connecticut Entomologic Society (Second Working Draft; March 1986).

Natural Diversity Data Base information includes all information regarding biologic resources available at the time of the request. This information is a compilation of data collected over the years by the Natural Resources Center's Geological and Natural History Survey and cooperating units of DEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultation with the Data Base should not be substituted for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

ARCHAEOLOGICAL RESOURCES



ARCHAEOLOGICAL RESOURCES

The State Archaeologist has reviewed the 371-acre open space area owned by the BHC in the Pequonnock River Valley. The review process consisted of consultations with local Indian artifact collectors and a professional archaeologist familiar with the valley, a walk-over field inspection and a survey of the State of Connecticut Archaeological Site Files and Maps. No field excavations have been conducted. The results of the review have verified the existence of at least five prehistoric sites, including an encampment occupied by some of the earliest inhabitants of the area between 7,000 and 8,000 years ago. In addition, four 19th century historic ruins associated with the early industrial development of the Town of Trumbull were located.

The Pequonnock River Valley property is one of the most significant areas for potential archaeological research in the state. The fact that BHC held the property as open space with minimal disturbance has contributed to the integrity of the archaeological sites. As a result, the physical record through the time of the range of prehistoric site types and historic land use changes is still intact. This represents a unique opportunity for archaeological researchers and historians to understand past cultural systems in the Pequonnock River Valley. Knowledge of the full range of site types and activities will allow us to reconstruct how prehistoric peoples migrated throughout the valley and beyond in their yearly subsistence-settlement systems.

Historic sites along the river include stone structures associated with Trumbull's industrial past. All of these sites possess a great deal of integrity for future archaeological research. For example, the Old Trumbull

Ice House, Radcliffe's Textile Factory and the Long Hill Sawmill ruins still have the potential to provide us with archaeological evidence for understanding Trumbull's historic past.

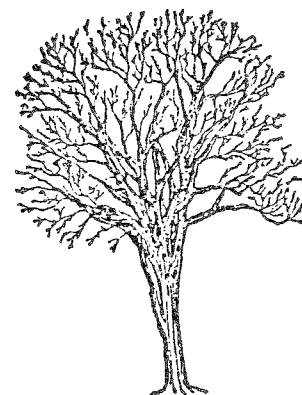
The richness of prehistoric archaeological resources here is suggested in part by the presence of historic Paugussetts in the region. In 1659, the Golden Hill Reservation was set up specifically for the "Indians of Pequonack."

It is strongly recommended that a professional archaeological reconnaissance survey be conducted in order to locate and identify all prehistoric and historic resources which might exist in the project area. All archaeological studies should be undertaken in accordance with the Connecticut Historical Commission's Environmental Review Primer for Connecticut's Archaeological Resources.

In summary the Pequonnock River Valley site is an important region for prehistoric and historic site locations. To have such an area still preserved contributes to its archaeological significance. It is strongly recommended that all feasible efforts be undertaken to identify and ensure the preservation and conservation of the cultural resources in the area.

The Office of State Archaeologist is prepared to offer any technical assistance to the Town of Trumbull and the BHC in handling the archaeological resources of the valley. Contacts include Nicholas Bellantoni, State Archaeologist, and Dr. David A. Poirier, Staff Archaeologist, Connecticut Historical Commission.

LAND USE AND PLANNING CONSIDERATIONS



Although the recreational use land has more than doubled since 1950, less than 11% of land in the Town of Trumbull remains vacant in 1986. There was 74% vacant in 1950. This clearly indicates that the Town of Trumbull has almost reached the limits of development. The competition between open space and development land in the future over existing vacant land will be a major issue for the Town and its residents. The Pequonnock River Valley is part of this remaining vacant land with potential to become the Town's major open space.

Recreation and Open Space

In 1984 Plan of Development, the standards for parks and recreational facilities were established to project the future needs. Based on these standards, Trumbull has more than enough facilities in all categories of parks and recreational facilities except community parks and recreational facilities. This is especially true in the older sections of the Town and intensively developed non-residential areas.

The Pequonnock River Valley is located in the center of the Town and surrounded by Trumbull's major old and new residential areas. Although the site is owned by BHC, it is used by the Town's residents for hiking, riding, fishing, etc.

A Federal definition of "open space" can be found in the Open Space Provisions of the Housing Act of 1961, Title VII, Section 706:

"(1) the term 'open space land' means any undeveloped land or predominantly undeveloped land in an urban area which has value for (A) park and recreation purpose, (B) conservation of land and other natural resources, or (C) historic or scenic purposes."

It is important to note that in this definition, the term "open space" has been expanded beyond a purely recreational framework to include conservation of land and its resources and preservation of any associated historic or scenic values.

Based on the Federal definition, a detailed list is constructed to evaluate the potential of the Pequonnock River Valley as a possible community-wide open space.

	<u>Yes</u>	<u>Maybe</u>	<u>No</u>
A. Open Space for Managed Resource Production			
1. Land for Agriculture			X
a. Highly fertile lands		X	
b. Land for special crops	X		
c. Horticulture			
2. Land for Water Supply			
a. Ground water recharge areas	X		
b. Watershed protection and water retention basin sites	X		
c. Hunting preserves or clubs with managed restricted use		X	
B. Open Space for Preservation of Natural and Human Resources			
1. Water and Marshland Areas for Fish and Wildlife Habitat	X		
2. Forest and Woods for Wildlife Refuges	X		
3. Geological Features of Note		X	
C. Unique Open Space (Historic & Cultural Sites)			
1. Indian Camping Sites	X		
2. Historic Trails, Roads, Etc.	X		
3. Sites for Early Pioneer Settlements		X	
D. Open Space for Health, Welfare and Well-Being			
1. Land to Protect the Quality of Groundwater	X		
2. Open Space for Disposal			X
3. Areas for Parks	X		
4. Areas for Recreational Travel			
a. Walks and trails for hiking, riding and bicycling	X		
b. Snowmobile trails		X	
c. Scenic highway views			X
5. Areas to Provide Visual Amenities			
a. Natural features which provide contrast to the architectural character of the urban area	X		
b. Other open space of any kind close to communities to provide variety and orientation	X		
6. Areas to Shape and Guide Urban Development			
a. Open space that provides neighborhood and community identity	X		
b. Open space which buffers conflicting land uses	X		
7. Open Space for Public Safety			
a. Flood control reservoirs, flood plains and drainage channels	X		
b. Unstable soil areas (steep slope or poor soil)	X		

The size, location, special topographic condition, natural woods and distribution of water make the site an excellent candidate for a community-wide park and recreational area. Steep slopes, wetlands and potentially high construction costs limit the possible locations for intensive non-residential development on the site.

TRAFFIC CONSIDERATIONS

Existing Traffic Volumes

Due to the long, narrow, north-south orientation of the Pequonnock River Valley, there are only two access points: (1) near the intersection of Route 127 and Daniels Farm Road at the southern end and (2) along Whitney Avenue about 2,000 feet west of the Route 25 overpass.

The intersection of Route 127 and Daniels Farm Road is comprised of four approach legs: Route 127 northbound and southbound, Daniels Farm Road westbound and an access driveway to the Brismade office building. A fifth leg (Tait's Mill Road) is offset to the north along Route 127 about 50 feet.

The GBRPA collects traffic volumes as part of its overall transportation planning program. The latest available count data for this intersection are for 1986. Estimates to reflect 1988 conditions were derived. Estimated 1988 average daily traffic volumes for locations near the site are:

- 1) Route 127 north of Tait Road = 18,900 vehicles per day (vpd);
- 2) Route 127 north of Reservoir Avenue = 18,500 vpd;
- 3) Route 127 south of Reservoir Avenue = 17,200 vpd; and
- 4) Daniels Farm Road east of Route 127 = 11,600 vpd.

No traffic data are available for Tait's Mill Road, however volumes are low because this street serves only a few residences and cannot accommodate through traffic.

The south end of the site is near two interchanges with the Route 25 Expressway. Interchange 8 (Route 127) provides partial access to Route 25, while Interchange 9 (Daniels Farm Road), is a full directional interchange. 1988 average daily ramp volumes are:

- 1) Route 25 NB to Route 127 = 3,300 vpd;
- 2) Route 25 SB from Route 127 = 3,000 vpd;
- 3) Route 25 NB to Daniels Farm Road = 4,700 vpd;
- 4) Route 25 NB from Daniels Farm Road = 1,100 vpd;
- 5) Route 25 SB to Park Street = 4,600 vpd; and
- 6) Route 25 SB from Park Street = 1,100 vpd.

The 1988 mainline volume on Route 25 between these two interchanges is estimated at 34,700 vpd.

The north end of the site is bounded by Whitney Avenue. This roadway provides a connection between Route 111 to the west and Daniels Farm Road to the east. The estimated 1988 average daily traffic volume is 3,000 vpd.

Access

Access to the site is limited to two points. Access to the east is constrained by the Route 25 Expressway, while steep slopes prevent access from the west. Therefore, any development occurring on the site, must channel traffic into the site from either Route 127 or Whitney Avenue. Both options result in problems which are discussed below.

Route 127 Access: The access to the site from Route 127 is via Tait's Mill Road and Tait Road. Tait's Mill Road intersects Route 127 near its intersection with Daniels Farm Road. Tait Road is located about 400 feet north of the Route 127 - Daniels Farm Road intersection. Tait's Mill Road merges with Tait Road 0.15 miles north of Route 127. Both roads are relatively narrow local roads serving only those residences located on each street.

The intersection of Route 127 and Daniels Farm Road was recently (September, 1987) modified to accommodate increased traffic volumes expected from office development in the Trumbull Center area. The modifications included:

- 1) The northbound approach of Route 127 was widened to provide one through and left-turn lane, one through lane and one right-turn lane.
- 2) Signal timing was changed to provide more balance of green time.
- 3) Tait's Mill Road was changed from two-way traffic flow to one-way northbound operation. Vehicles can no longer access the intersection from Tait's Mill Road. This change was instituted to mitigate awkward turning maneuvers common with five-legged intersections.

The GBRPA has previously analyzed the operation of this intersection. Prior to reconstruction, the intersection experienced a high degree of peak hour congestion. It was common for northbound traffic to back-up past the Trumbull Center shopping area. Field surveys revealed average delay per vehicle travelling northbound along Route 127 was almost 39 seconds. The calculated evening peak hour operating level of service (LOS) was "F" which is the worst condition possible and is used to define forced or breakdown traffic flow.

The modifications completed during 1987 improved traffic flow and reduced delay. However, at existing volumes, the intersection continues to operate at LOS "D," which represents high density, but stable flow, during the afternoon peak hour. In addition, the northbound approach operates at LOS "E" which represents operating conditions at or near capacity level of the roadway. For transportation planning purposes, LOS "C" is generally recognized as a goal, although an LOS of "D" is acceptable during peak hour.

The development of the site for either residential or light industrial uses will generate traffic to and from the site. Although the level of trip generation cannot be calculated at this time, additional traffic would require modifying the Route 127 - Daniels Farm Road intersection as well as widening either Tait Road or Tait's Mill Road. The result would be a deterioration of traffic flow through the Route 127 - Daniels Farm Road intersection.

Whitney Avenue Access: Whitney Avenue could provide access to the northern section of the site. Whitney Avenue is an east-west collector street 1.47 miles long with termini at Route 111 and Daniels Farm Road. Traffic generated by development on the site would be channelled along Whitney Avenue to either Route 111 or Daniels Farm Road. At present, there is no immediate access to the Route 25 Expressway.

Whitney Avenue is characterized by several reverse curves, steep slopes and narrow road width. This is especially true for the section of roadway between the Pequonnock River westerly to Route 111. The grade along this section is greater than 11 percent, and a left-turn, right-turn maneuver is required to access the intersection with Route 111. This section of Whitney Avenue in the vicinity of the Route 25 Expressway overpass was realigned as part of the construction of the highway. The alignment was straightened and the roadway was reconstructed to a 40-foot curb-to-curb width. This section was reconstructed to accommodate a partial interchange between Route 25 and Whitney Avenue.

East of the Route 25 overpass the roadway continues with a steep upgrade (about 8 percent). Road alignment shifts to a north-south orientation for about 400 feet before turning back to an east-west alignment.

Proposed Whitney Avenue Ramps: During the initial planning of the Route 25 Expressway through Trumbull, it was envisioned that a partial interchange connecting Whitney Avenue and Route 25 would be needed for proper traffic circulation and accessibility. A part of this initial proposal was the reconstruction and realignment of Whitney Avenue from about 1,400 feet east of Route 25 to Route 111. Local opposition and other factors led to the cancellation of this proposal.

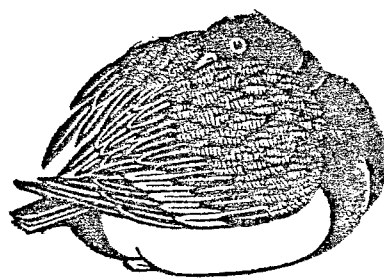
Areas of Concern

The assessment of traffic and transportation impacts due to the possible development in the Pequonnock River Valley has identified a number of concerns:

- 1) Due to the location and orientation of the site, access is limited to two locations. The distance between the two points is about 2.7 miles. These factors create safety concerns regarding access of necessary fire, police and medical equipment in the event of an emergency. A practical location for an emergency entrance may not be readily available.
- 2) The probable access point onto Whitney Avenue would be located near where the old railroad grade crosses Whitney Avenue. At this point, Whitney Avenue is narrow and steep with several curves. An access roadway at this location accommodating a large volume of traffic would be dangerous, because available sightlines are insufficient.
- 3) The probable access point onto Tait Road or Tait's Mill Road would change an existing, low volume local road into a major access driveway. Also, the intersection with Route 127 would create safety and traffic problems. The use of Tait's Mill Road as the access point would create a five-legged intersection with Route 127 and Daniels Farm Road. This would necessitate modification of existing signalization and alignment. The intersection already operates at a poor level of service. The addition of a fifth major leg and the change in signal timing to accommodate traffic from the new leg would reduce intersection capacity and deteriorate operations below an acceptable level. If the access point is Tait Road, an undesirable situation still exists. The intersection of Tait Road and Route 127 is located about 400 feet north of Daniels Farm Road. The grade of Route 127 at this point is about 10 percent. The installation of traffic signal equipment would not be practical at this location due to the steep slope and proximity to the Daniels Farm Road intersection.

The conclusions of the traffic impact assessment suggest that development within the Pequonnock River Valley will increase traffic volumes on Route 127, Daniels Farm Road and Whitney Avenue. It may also degrade traffic flow through Trumbull Center and through the Route 127 and Daniels Farm Road intersection, require reconstruction of Whitney Avenue if access is provided from Whitney Avenue, require modification of the Route 127 and Daniels Farm Road intersection, increase accident potential at access points due to poor vertical and horizontal alignments and poor sightlines, change the character of several low volume local streets and have only limited vehicular and emergency access.

APPENDICES



Appendix A: Soils Limitations Chart

Soil Name and Symbol	Camp Areas	Picnic Areas	Playgrounds	Paths and Trails	Golf Fairways
AFB - Agawam	Slight	Slight	Moderate: slope	Slight	Slight
CrC - Charlton	Moderate: slope, large stones	Moderate: slope	Severe: slope	Moderate: large stones	Moderate: slope, large stones
CrE - Charlton	Severe: slope	Severe: slope	Severe: slope	Severe: slope	Severe: slope
HcB - Haven	Slight	Slight	Moderate: slope	Slight	Slight
HkD - Hinckley	Severe: slope	Severe: slope	Severe: slope, small stones	Moderate: too sandy, small stones	Severe: slope
HpC - Hollis	Moderate: slope, large stones	Moderate: slope	Severe: slope, depth to rock	Moderate: large stones	Severe: depth to rock
HrE - Hollis	Severe: slope	Severe: slope	Severe: slope, depth to rock	Severe: slope	Severe: slope, depth to rock
Nn - Ninigret	Slight	Slight	Moderate: wetness	Slight	Slight
Rb - Raypol	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
Ro - Rippowam	Severe: floods, wetness	Severe: wetness	Severe: wetness, floods	Severe: wetness	Severe: floods, wetness
Rn - Ridgebruy	Severe: wetness, large stones	Severe: wetness	Severe: large stones, wetness	Severe: wetness, large stones	Severe: large stones, wetness
SwB - Sutton	Moderate: large stones	Slight	Moderate: slope, large stones, wetness	Moderate: large stones	Moderate: large stones

NOTES

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, soil scientists, foresters, climatologists, landscape architects, recreational 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 83 town area serving western Connecticut.

As a public service activity, the Team is available to serve towns and/or developers within the King's Mark RC & D Area - free of charge.

PURPOSE OF THE ENVIRONMENTAL REVIEW TEAM

The Environmental Review Team is available to assist towns and/or developers in the review of sites proposed for major land use activities. For example, the ERT has been involved in the review of a wide range of significant land use activities including subdivisions, sanitary landfills, commercial and industrial developments, and recreational/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 site, and highlighting opportunities and limitations for the proposed land use.

REQUESTING AN ENVIRONMENTAL REVIEW

Environmental Reviews may be requested by the chief elected official of a municipality, or the chairman of an administrative agency such as planning and zoning, conservation, or inland wetlands. Environmental Review Request Forms are available at your local Soil and Water Conservation District, and the King's Mark ERT Coordinator. This request form 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 investigate. When this request is approved by the local Soil and Water Conservation District and King's Mark RC & D Executive Committee, the Team will undertake the review. At present, the ERT can undertake two (2) reviews per month.

For additional information regarding the Environmental Review Team, please contact your local Soil and Water Conservation District or Nancy Ferlow, ERT Coordinator, King's Mark Environmental Review Team, King's Mark Resource Conservation and Development Area, 322 North Main Street, Wallingford, Connecticut 06492. King's Mark ERT phone number is 265-6695.