ENVIRONMENTAL REVIEW TEAM REPORT

ON THE
MILL HILL INDUSTRIAL PARK
COLCHESTER, CONNECTICUT

FEBRUARY, 1975

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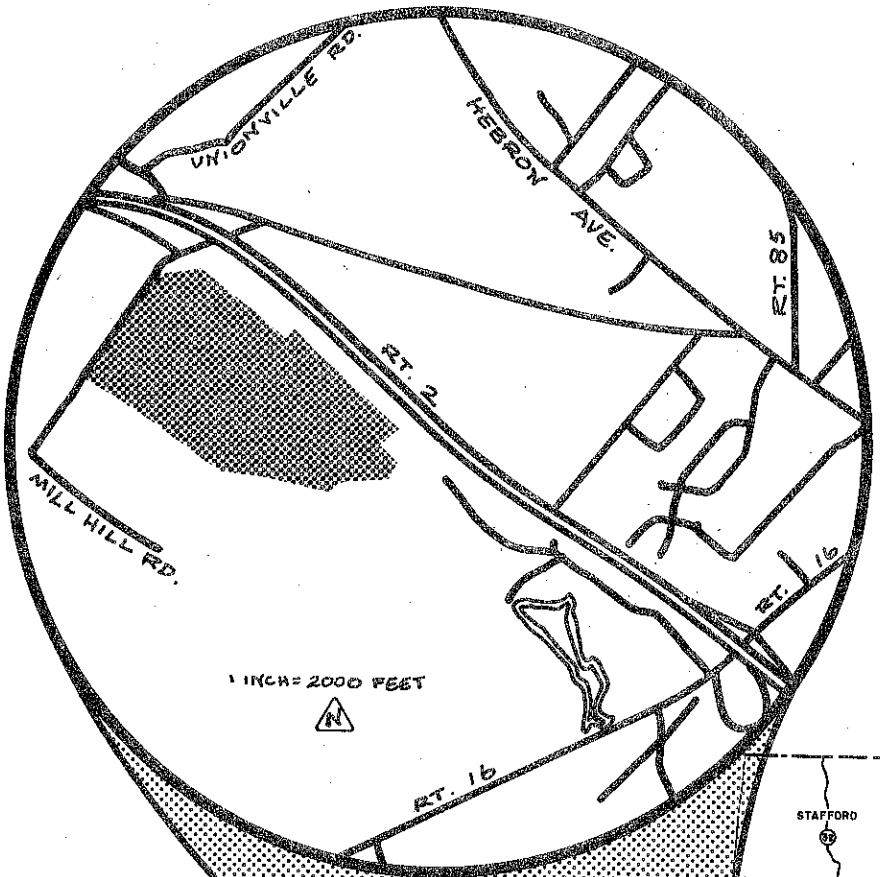
EASTERN CONNECTICUT RESOURCE CONSERVATION
AND DEVELOPMENT PROJECT
Environmental Review Team
139 Boswell Avenue
Norwich, Connecticut 06360

LOCATION OF STUDY SITE



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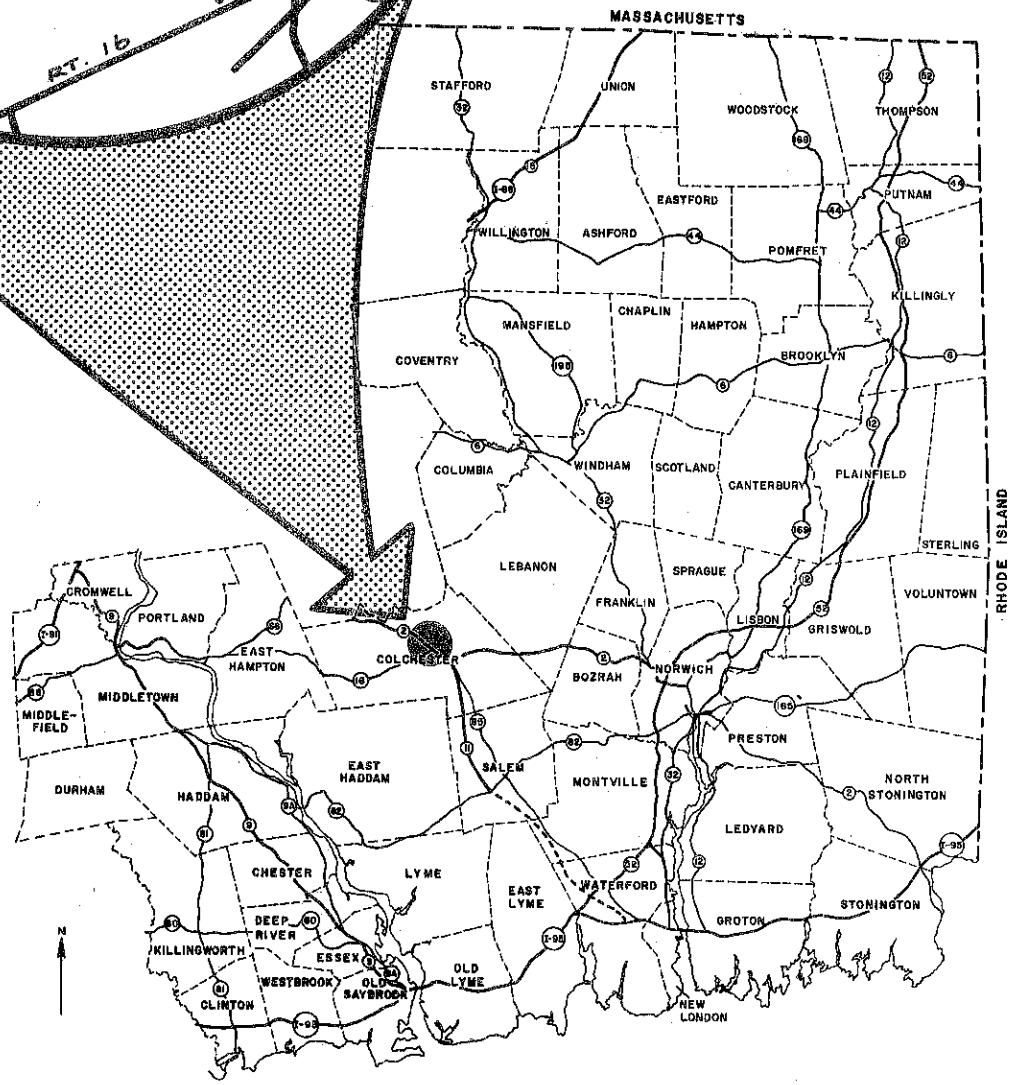


EASTERN CONNECTICUT
RESOURCE CONSERVATION AND DEVELOPMENT PROJECT

ENVIRONMENTAL REVIEW TEAM REPORT

ON

MILL HILL INDUSTRIAL PARK
COLCHESTER, CONNECTICUT

This report is an outgrowth of a request from the Colchester Zoning and Planning Commission, with the approval of the landowners, to the New London County Soil and Water Conservation District (S&WCD). The S&WCD referred this request to the Eastern Connecticut Resource Conservation and Development (RC&D) Project Executive Council for their consideration and approval as a project measure. The request has been approved and the measure reviewed by the Environmental Review Team.

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

The Team that reviewed the proposed development consisted of the following personnel: William Lucas, Soil Conservationist, Soil Conservation Service (SCS); Dwight Southwick, Engineering Specialist, SCS; Philip A. Renn, Hydrologist, SCS; Timothy N. Dodge, Biologist, SCS; Richard Hyde, Geologist, Natural Resource Center, State of Connecticut Department of Environmental Protection (DEP); Charles Phillips, Inland Fishery Biologist, DEP; Donald Capellaro, Principal Sanitarian, State of Connecticut Department of Health; David Miller, Climatologist, Connecticut Cooperative Extension Service; Thomas Seidel, Planner, Southeastern Connecticut Regional Planning Agency; Barbara A. Hermann, Team Coordinator, Eastern Connecticut RC&D Project.

The Team met and reviewed the site on January 3, 1975. Reports from each Team member were sent to the Team Coordinator for review and summarization.

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

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

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

INTRODUCTION

Schuster Realty Company owns approximately 80 acres of land along Mill Hill Road in Colchester just south of Route 2. At the present time there are several buildings on the property which house an auto repair shop and a terminal for the Schuster Trucking Company. The main features of the undeveloped property are Meadow Brook and the fairly extensive adjoining wetlands. The property rises to the north towards Route 2 and to the south towards adjoining properties on Mill Hill. Approximately three-fourths of the site can be classified as inland wetland soils as defined by Public Act 155.

About 7 or 8 years ago, this site was proposed to be made available to the town for an industrial park. A grant was obtained from the Department of Community Affairs to conduct a feasibility study. A report and plan was prepared by Cahn Engineers in 1971. The proposal included relocation of Meadow Brook to the northeast side of the site in a 32 foot wide and 6 foot deep channel; excavation of peat and replacement with suitable fill in proposed building, road, and utility locations; and construction of a major road from Mill Hill Road to Linwood Cemetery Road. The proposal was not pursued at the time.

Recently, a building lot along Mill Hill Road was approved and filled for construction of an auto body repair shop. At that time, the Cahn proposal was again discussed. The owners have since asked the town to make recommendations on possible development of the area other than the Cahn proposal.

The prime concern with any development of the site is with the wetlands, since any significant amount of development would necessitate further filling. The Town has basically asked the Environmental Review Team to define the relative importance of the functional roles of the wetlands on the site and to what extent development could be allowed without an undue loss of these functions. It is not possible for us to define the roles of the wetlands on a quantitative basis; however, we will point out and describe what appear to be the wetlands' roles and how they might best be protected when the site is developed.

The report will begin with a description of the existing natural resources on the site, followed by an evaluation of industrial development on the site and a summary of what we see as the prime considerations and questions facing the Town and developers in any future decisions. It should be noted, however, that recommendations or comments made within this report are presented for consideration by all parties in the preparation and reveiw of plans and should not be viewed as mandatory or regulatory in nature.

EVALUATION

SITE DESCRIPTION

Drainage. The proposed industrial site lies within the valley of Meadow Brook. This valley exhibits the characteristic features of a well established drainage system, namely a broad, flat, and low-lying land area on each side of the main water course. Periods of heavy rain and runoff cause the stream to overflow its banks, flooding the adjacent lowland, where sediments carried by the fast moving water settle out and build up floodplain soils. The area appears to be flooded quite often. On the field review it was noted that the brook meanders throughout the wetlands, even though there is a defined stream channel.

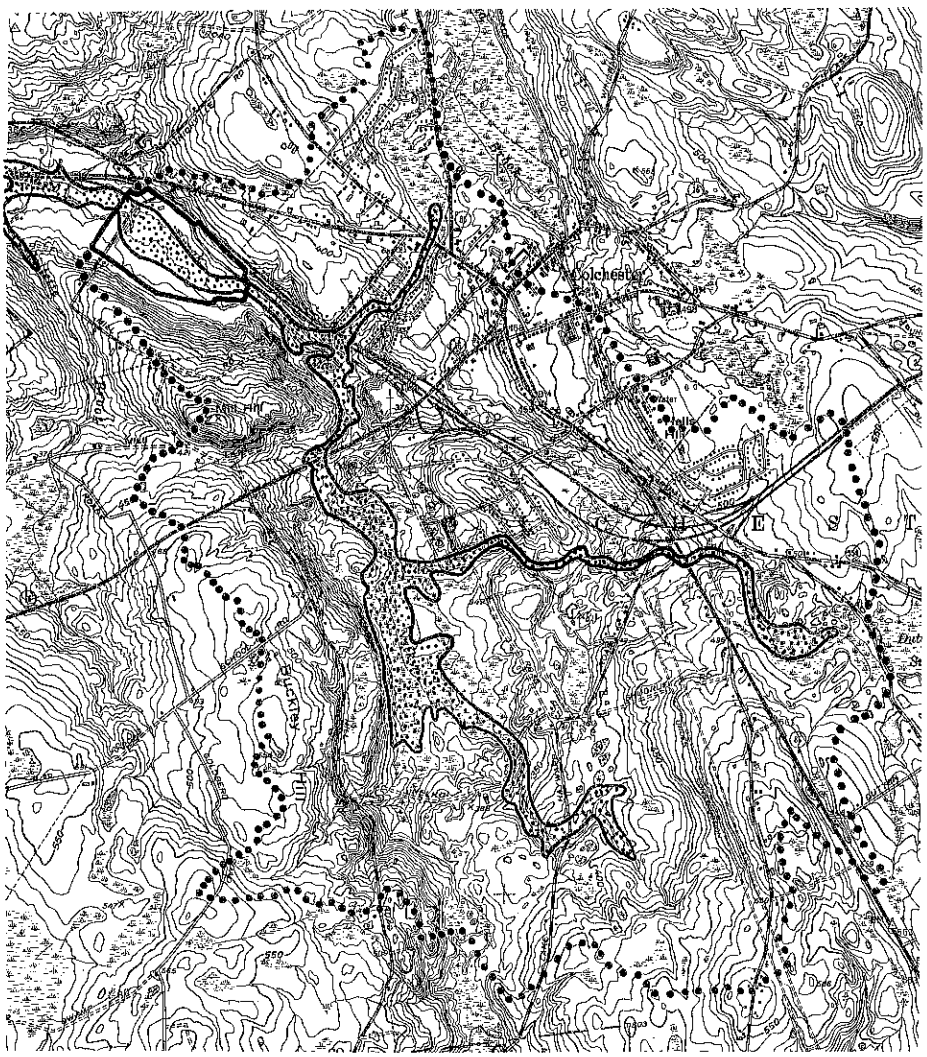
The total land area drained by Meadow Brook is 11.3 square miles. From the point where Meadow Brook passes under Mill Hill Road the immediate drainage area is approximately 6.8 square miles (see Topography and Drainage map on the opposite page). All the surface water runoff within this area eventually exists at the Mill Hill Road bridge. Under topographic conditions, excluding any alterations to the natural drainage patterns by existing road networks, the areas presently prone to flooding for the 1 in 100 year flood are as outlined on the map (taken from the USGS Floodprone Areas Map).

Surficial Geology. Before the most recent glacial times, the Meadow Brook drainage system probably formed on top of the bedrock. The stream cut and wore away the less resistant rock materials, possibly along a line of faulting or fracturing or on the contact between two different rock types. During the glaciation of Connecticut, the valley was deepened and widened by the moving ice but as climatic conditions began to moderate the ice stagnated and began to melt. (Stagnation means more ice and snow melted in summer than accumulated in winter.) Fast moving meltwater streams radiated from the ice mass carrying away huge amounts of debris downstream to areas of less turbulent water. The velocity of the water in conjunction with the shape, size, and weight of the particles being transported determined just how far and where they were finally deposited. As water velocities decreased, whether because of a change in the climate or the distance from the melting ice, the heavier particles settled to the bottom first with the lighter materials being carried farther on to an even less turbulent place.

As a result, these deposits, known as stratified drift or sand and gravel, always exhibit layering, with different size ranges of particles occupying any one layer. As the amount of melting increased, stream velocity also increased, thus allowing for particles to be carried greater distances. Consequently, the deposits at any one point will represent the daily and seasonal fluctuations of the melting process.* It is therefore possible to develop an historical interpretation of the sequence of events which created the deposits of this valley by looking at the logs of drilled test holes.

* This is a simplified description of the formation of stratified drift deposits and does not take into account the possible reworking of deposits by the meandering of water courses or changes in a stream's grade.

TOPOGRAPHY AND DRAINAGE



DRAINAGE AREA

FLOODPRONE AREAS FOR 1 IN 100 YEAR FREQUENCY STORM

PROPERTY LINE

1 INCH = 4000 FEET

The U.S. Geological Survey drilled a test hole on Mill Hill Road just south of the bridge crossing Meadow Brook. The driller's log is given below. (The location of the test hole and the extent of the stratified drift deposits are shown on the Surficial Geology map on page 9.)

	Description	Feet Below Land Surface
A.	Gravel, silty; some very fine to very coarse sand.	0 - 16
B.	Clay, varved* blue-gray; trace very fine to medium sand; trace silt; occasional pebble.	16 - 48
C.	Sand, very fine to very coarse and silt; trace varied clay.	48 - 68
D.	Rock.	68

As it can be seen, the bedrock is 68 feet below the land surface. On top of this bedrock are three distinct units which in themselves consist of many layers.

Unit C consists of numerous layers of very fine, fine, medium, coarse, and very coarse sand, and silt, or some combination of these with a small percentage of clay layers interspersed between these other layers. Each layer indicates the condition of the meltwater streams when it was formed. As it can be seen the velocities must have varied quite dramatically from one level to another and back again to form a deposit with such a wide range in particle sizes.

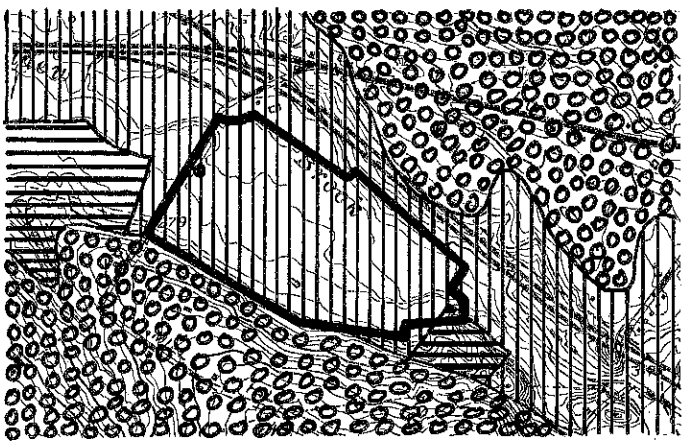
The 32 feet of clay within unit B indicates an extended period of time when a lake existed within the valley. For some reason the drainage system was blocked, possibly by a chunk of ice wedged in the narrow downstream section of the valley. The clay is varved*which represents the accumulation during different portions of a year. Summer layers are light in color and thicker, 1-3 inches, while the winter accumulation is dark in color and thin, 1/4-3/4 of an inch.

The final unit, A, is the upper 16 feet consisting of stratified layers of coarse materials, predominantly gravel in size, which lie on top of the lake sediments. These were possibly formed at a period of increased ice melting in combination with the unblocking of the stream valley.

The Surficial Geology map also shows till on the southern boundary of the site. Till is the material carried on or within the glacier that remained where the glacier stopped. It is a fairly compact heterogeneous mixture of varying quantities of boulders, gravel, silt, and clay, with little or no sorting or stratification of the constituents by grain size.

* A varve is a pair of contrasting layers representing seasonal sedimentation as summer (light) and winter (dark) within a single year. Varved clay exhibits these alternating layers for the period during which it was deposited. They usually form in quiet undisturbed lake waters.

SURFICIAL GEOLOGY



TILL

PROPERTY LINE

LOCATION OF U.S.G.S. TEST HOLE

STRATIFIED DRIFT

POTENTIAL SAND & GRAVEL SOURCE ABOVE WATER TABLE

LITTLE OR NO POTENTIAL SAND & GRAVEL ABOVE WATER TABLE

1 INCH = 2000 FEET

Soils. A detailed soils map of the site is given in the Appendix to this report along with a soils limitations chart. Due to the original scale at which the soils are mapped (1"=1,320') the lines shown on the soils map should not be viewed as precise boundaries, but rather as guidelines to the distribution of soil types on the property. The soils limitations chart indicates the probable limitations for each of the soils for on-site sewage disposal, basements, landscaping, and streets and parking. However, limitations even though severe, do not always preclude the use of the land for development. If economics permit greater expenditures for land development and the intended use is consistent with the objectives of local and regional development, many soils and sites with difficult problems can be used.

As can be seen on the soils map, the majority (76.7%) of the site is composed of inland wetland soils. These include soils 91 and 825. Both of these soils are characterized by high water tables. Use of this area will require a permit from the local inland wetlands agency.

The area mapped as ML2 has been scraped very close to the water table. The Schuster truck terminal is located on the portion closest to Mill Hill Road. A narrow strip along Mill Hill Road has also been filled (car body repair shop), but would still classify as wetlands.

On the northeastern side of the property, there are approximately 9 acres of undisturbed, excessively drained soils (20BC). This is the only portion of the site that can be considered readily suitable for development. However, its location minimizes its potential.

Vegetation and Wildlife. The site is basically wooded and provides a good lowland wildlife habitat. The area is dominated by red maple; however, oak, birches, white and pitch pine are scattered throughout. The understory is composed of a shrubby growth including alder, blueberry, and lesser wild herbaceous growth. Where water stands much of the year, grass covered hummocks are common.

The area provides habitat for birdlife including songbirds and gamebirds, such as ruffed grouse and woodcock. Whitetail deer may use this area as part of their daily range. Other game and nongame animals including opposum, skunk, raccoon, gray squirrel, and cottontail rabbits frequent this type of habitat. Furbearers including muskrat and beaver are currently using the area as evidenced by burrows and cuttings.

The State Department of Environmental Protection stocks Meadow Brook yearly with brook trout. Meadow Brook is considered a Class A stream by the State Water Resources Commission. As such, it is important to protect the water quality of this stream. In addition, Meadow Brook drains directly into the Salmon River in the northwest part of Colchester. A salmon restoration program is currently being undertaken in the Salmon River. Class A streams, such as Meadow Brook, are important to this program, as they provide possible natural spawning streams. At the site location, the drainage area of Meadow Brook is approximately 7 square miles. This increases the stream's importance in this area, in that adequate flows to accommodate spawning activities will probably occur. Additional investigations should be made to determine the suitability of this stream to salmon spawning.

Other Wetland Functions. In addition to its values for fish and wildlife, this wetland has a natural function or role which includes the breakdown of organic material and recycling of nutrients into the stream system. Generally, wetlands absorb nutrients and add humic acids to the water. Both of these functions reduce the algae in streams and ponds.

Seasonal flood water storage, water purification, and sediment control through settling are additional functions. The extent of these functions is difficult to quantify and attach dollar values to. However, these values appear to increase when a perennial stream the size of Meadow Brook passes through a wetland. These items should be considered when development decisions are made.

The Colchester Streambelt Report, which urges preservation and wise use of streambelts, shows the entire wetland area on this site as part of the Meadow Brook streambelt. The conclusions of that report summarizes the purposes of streambelt protection, many of which apply to this site. That section of the report is included as a whole in the Appendix to this report.

Land Use. Surrounding land uses are basically undeveloped on the southwest side of Route 2 with some single family homes along Linwood Cemetery Road. Northeast of the site across Route 2 commercial and governmental uses are located along Old Hartford Road. At the present time there is only a half interchange at Mill Hill Road and Route 2. Thus, traffic traveling to or from an easterly direction from the proposed industrial site would have to travel through the center of the Borough.

WATER SUPPLY

At the present time the water supplies for the existing concerns on the site are derived from private wells. It was indicated that the quality of the water was not particularly good, primarily due to a high iron content which is characteristic of many of the water supplies in Colchester. With proper treatment of the water, more than sufficient quantities of water could be developed with gravel packed wells. Both driller's logs and previous exploratory drilling by the town have indicated this. The Meadow Brook valley has also been shown as a potential aquifer on the Southeastern Connecticut Water Supply Plan.

It was pointed out, however, that the municipal supply of the Borough of Colchester could be extended to the property. This would lessen maintenance problems, ensure an adequate supply of potable water, and eliminate the need for separating distances between a well and potential sources of contamination. From an administrative viewpoint, the municipal supply would probably be preferable if a substantial water supply is required.

WASTE DISPOSAL

Based on visual observations, consideration of the terrain and soil survey mapping data which indicates more than 75% of the site has inland wetland soils, it must be concluded that the property in general is unsuitable or poorly suited for on-site subsurface sewage disposal. It is evident that a considerable portion of the land surrounding Meadow Brook is low and subject to periodic flooding. No subsurface sewage disposal system is to be laid out in areas where high ground water or surface flooding will interfere with its effective operation.

Although it was indicated that a sewer line can go to this site when sewerage facilities for the town are constructed, it is not known when such facilities, which have been in the planning, design, and review stages for a number of years, will be approved and implemented. Until such time, it would be necessary to rely on private subsurface sewage disposal systems, such as those that presently serve the existing operations. It is apparent that considerable site improvement work is necessary before it is possible to construct a subsurface sewage system. Obviously the septic or waste water disposal requirements for a manufacturing industry will be much greater than a warehouse but in either case the State Health Codes must be met.

The code requires all leaching systems to be at least 18 inches above maximum ground water level and at least four feet above ledge rock for a simple domestic type system. It would appear very few areas of this site have problems in terms of bedrock close to the land surface but a high water table is the general condition throughout the site. For this reason alone most of this site is classified as inland wetland and therefore is regulated through the local Inland Wetland Agency under Public Act 155. As a result of this high water table in most areas, the placement of temporary septic leaching systems will require filling to a minimum of four (4) feet to meet existing health code regulations in addition to obtaining a permit from the Inland Wetlands Agency. Outside of those areas designated as inland wetlands (20BC on Soil Map), little or no filling probably would be required. In addition permits would be required from the Water Compliance Unit of DEP for any type of discharge by an industry.

Because of the adverse site conditions and possible ramifications, it would be desirable for any further industrial development to be limited to a low density and of the type which would have a minimum volume of sewage, waste water, and other wastes to be disposed.

FOUNDATION DEVELOPMENT AND GRADED CONDITIONS

As stated in the report prepared by Cahn Engineers in 1971, 57 acres are underlain by one to six feet of organic material. This would correspond closely with the areas mapped as inland wetland soils (91,825). The material is unsuitable for building foundations, roads, and parking lots. Therefore, it would need to be excavated and replaced with suitable fill material prior to any construction. Additional filling may be required to prevent flooding of the structures and to provide for suitable locations of septic disposal systems. Proper compaction is important in any of the areas which may be filled to avoid later problems with differential settlement.

Runoff from the slopes adjacent to the property should be controlled before any development takes place. During construction, care should be taken to control erosion. The soil contains fine silts and sands which are erosive in nature. Possible erosion control practices include diversions, waterways, baled hay, erosion checks, and sediment basins. Standards and specifications can be found in the Erosion and Sediment Control Handbook for Connecticut (available from the county office of the USDA Soil Conservation Service).

ROADS AND UTILITIES

Limitations for construction of new roads are severe over most of the site due to the high water and organic materials. As described above, both excavation of organic material and replacement with suitable fill material would be necessary.

Existing access to Route 2 presents a potential traffic problem. With only a half interchange on Mill Hill Road, traffic desiring to travel east on Route 2 or south on Route 11 would have to travel through the Borough of Colchester to gain access to these roads. This could be alleviated by constructing a two-way frontage road connecting Mill Hill Road to Linwood Cemetery Road.

POTENTIAL HAZARDS

Climate. The area is a frost pocket, and the temperature extremes will be 5 to 10 degrees more severe (colder at night and warmer in day) in this area than the standard weather statistics will show. This may be of concern with frost heaving of fill material and heating demands in the buildings.

Air Quality. Frequent temperature inversions in the valley area will make this site more susceptible than normal to air stagnation and pollution. This may be of concern if the industries located here have hydrocarbon emissions.

Water Quality. The Salmon River and its tributary system, which includes Meadow Brook, is presently classified as an Inland Waters Class A water quality network. The Department of Environmental Protection, in accordance with Connecticut's Water Quality Standards, regulates all activities affecting water quality throughout the state. These standards require high quality throughout the

state. These standards require high quality water "will not be lowered in quality unless and until it has been affirmatively demonstrated to the Commissioner that such change is justifiable as a result of necessary economic or social development and will not interfere with or become injurious to any assigned uses made of, or presently possible in, such waters." An example of an assigned use is the trout stocking program described previously. Meadow Brook is classified as a "good small stream trout fishing" area in the 1974-75 "Connecticut Hunting, Trapping and Sport Fishing" pamphlet.

Stream channeling could increase the volume and velocity of the brook and cause problems downstream. The valley floor, as it now exists, regulates the flow of the brook affording a place for storage and filtration. This would be lost if the area were filled.

Alterations to stream water quality and flow are definite possibilities in localities where industrial wastes are directly and/or indirectly discharged into water courses, where the site development process of adjacent lands are undertaken without adequate protection from erosion during construction, and where the incremental development of any drainage basin reaches the point where the natural quality and flow patterns of overland runoff are disrupted by land use.

As shown on the Topography and Drainage map on page 7 , the drainage area of Meadow Brook at Mill Hill Road is approximately 6.8 square miles. Development of Colchester is presently fairly low within this drainage basin and consequently its affect on Meadow Brook is negligible. However, as Colchester grows and greater percentages of this basin are taken out of the natural condition, significant changes in stream flow patterns and water quality will result.

The typical changes to water quality include a rise in water temperature, the presence of fertilizers from lawns, increases of organic phosphates and nitrates from on-site septic systems, and the accumulation of sediments and suspended particles from road sanding and construction activities. The normal stream flow pattern is also disrupted by land development although there are certain measures that can help to minimize its effect. As the amount of development increases within a drainage basin precipitation normally infiltrating into the ground decreases for two reasons: first, paved surfaces and roof tops prevent infiltration, and second, they serve to accumulate water and direct its flow rapidly to storm drainage systems which usually carry the water directly to or near a stream. Such conditions result in more water reaching the stream over a shorter period of time, causing peak flows to be higher, and increasing the areas prone to flooding. Conversely such conditions cause normal low flows to be even lower with some streams even drying up during extended rainless periods.

By the protection of existing wetlands and not permitting the direct discharge of storm sewers into Meadow Brook, the extreme conditions previously discussed concerning water quality and flow patterns will be minimized. The town of Colchester should consider the amount and location of future development and in this way it will be able to assess its impact upon the stream and its wetlands. But more importantly the town should realize what it is trading off if it decides to allow the filling in of the wetlands and the channelization of Meadow Brook. By utilizing this property for this purpose, it is in effect eliminating the natural flood dissipating capability of the wetlands today and eliminating possible future use of this property as a temporary flood water holding area. These lowlands could serve, if a properly constructed dam with a releasing mechanism were installed where Meadow Brook passes under Mill Hill Road,

to moderate the downstream flooding effects created by the runoff of a developed Colchester.

Flooding. The existing floodprone areas for the 1 in 100 year storm are shown on the Topography and Drainage map. The elevations of floodwaters on the site are controlled by the bridge on Mill Hill Road. Construction of a new bridge could reduce the flood stages in the proposed industrial area. However, this would also tend to increase peak flows downstream of the site, the effects of which should be determined prior to any such construction.

AESTHETICS AND PRESERVATION

From a water quality and fish and wildlife viewpoint, development should be considered that would not require channelization or rerouting of Meadow Brook. It was felt by all Team personnel that a buffer area around the existing stream course would help protect the quality of the water and maintain stream values to fish and aquatic life. However, there is no absolute number which can be applied in a situation such as this which will guarantee preservation of the water quality and the functions of the wetlands. Suggestions included a minimum distance of 150 to 300 feet from the stream channel plus all areas designated as "subject to flooding" on Drawing No.2 of the Cahn Engineers report.

Wildlife values will be reduced as food and cover plants are removed. This usually results in a shift from large game and nongame animals to smaller animals such as songbirds that adapt well to man's activities. The trees in the wetland are an integral part of the wetland ecosystem. If any of the wetland is to be saved, care should be taken during construction not to raise or lower the water table or the trees that are left will die.

SERVICES TO SUPPORT DEVELOPMENT

Electricity is available at the site and water could be extended there. Sewers are not yet available, though the interceptor will pass through the site when constructed. Other municipal services, such as police and fire protection, are available. Upgrading of Mill Hill Road and the bridge at Meadow Brook may become necessary with any substantial increase in industrial development.

COMPATIBILITY WITH SURROUNDING LAND USES

On a land use basis, industrial use of this site would be compatible with surrounding land uses. There is adequate space to buffer residential areas.

Route 2 would afford good expressway visibility of the site. Construction of a frontage road to Route 16 via Linwood Cemetery Road would reduce the problems of truck traffic through the Borough, though it could create new problems with existing residential uses on Linwood Cemetery Road.

ALTERNATIVE LAND USES FOR THE AREA

Because of the wet conditon of the site there appear to be few alternatives other than open space without extensive site preparation. There is at best only

a small area remaining on the site with any potential for sand and gravel excavation above the water table. It is unknown what potential may exist below the water table. There is a potential for using the site as a flood storage area if needed in the future.

ADDITIONAL COMMENTS AND SUMMARY

The issues facing the Town of Colchester regarding the proposed Mill Hill Industrial Park are complex. Decisions will have to be made regarding how much development will be permitted and the safeguards to be instituted during and after construction.

The salmon restoration program and trout stocking could both be affected by activities on the site. Obviously, as land is developed, other lowland wildlife will decrease in numbers and variety. In addition to its value for fish and wildlife, the wetland also contributes to the high water quality of Meadow Brook, provides a natural flood storage and sedimentation area, overlies a potential aquifer, and helps to minimize the effects of urbanization in the Borough of Colchester on downstream areas.

It appears that the values inherent in this particular wetland warrant serious consideration prior to any construction. An undisturbed buffer area of substantial width surrounding the stream channel and including the floodprone areas would appear to adequately protect the stream's water quality and allow for retention of the major flood storage area. Erosion control, carefully designed, installed, and maintained septic systems, runoff control, and proper site preparation should all be included as part of any proposal.

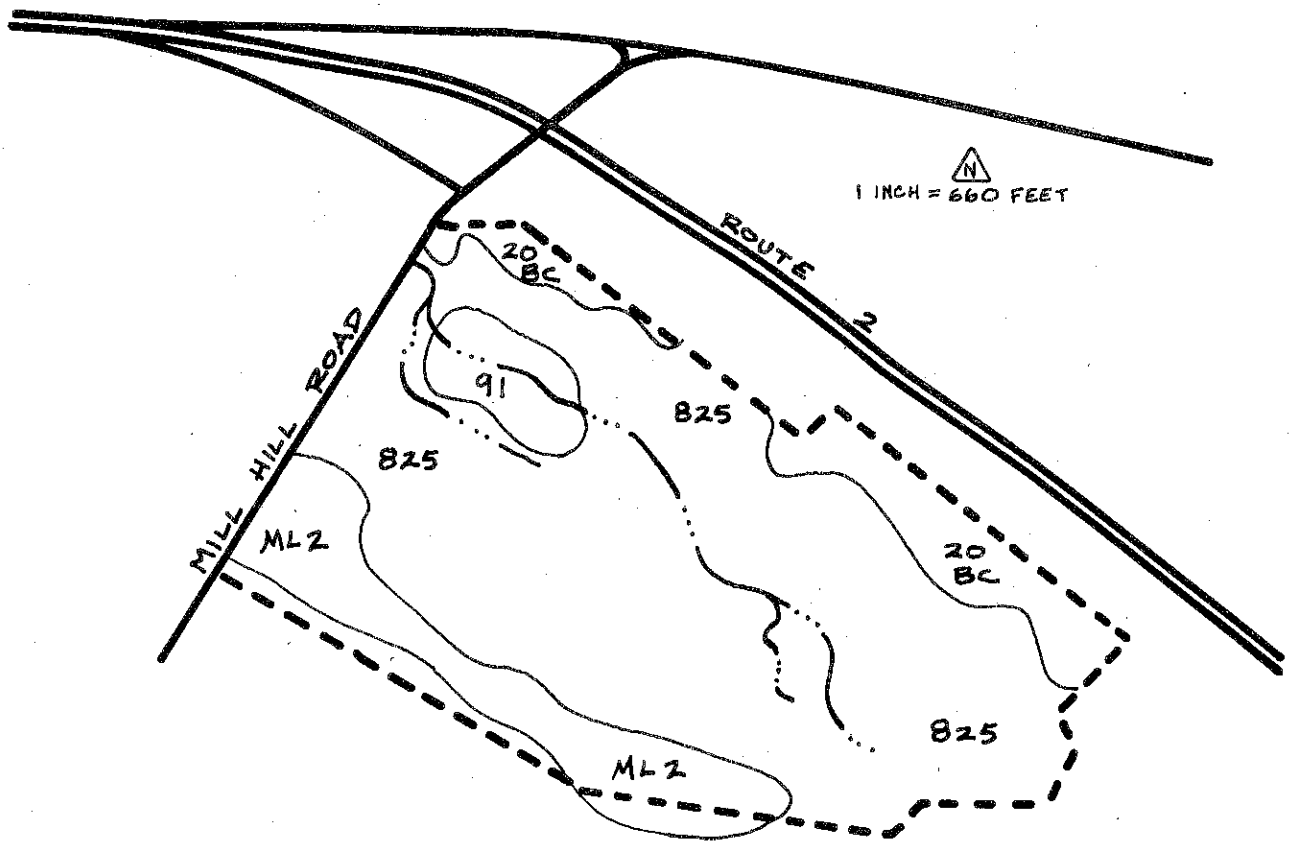
Because of the natural limitations on this site, development may be costly for the developer. The Town may also assume costs in road improvements, water supply, and/or other aspects of the project. These factors should be weighed against anticipated revenues by the industrial firms and by the Town (in the form of taxes) to help determine the desired course of action on this site.

This site by itself seems to offer only limited expansion for industrial use while still maintaining a viable wetland system along Meadow Brook. If the Town of Colchester is interested in developing a major industrial area at the present time, other sites depicted on the town plan and zoning map for industrial use should be investigated to see if they are better suited to extensive industrial development.

APPENDIX

SOIL MAP

SCHUSTER REALTY
MILL HILL ROAD
COLCHESTER, CONNECTICUT



Prepared by: UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service

ADVANCE COPY, SUBJECT TO CHANGE *DECEMBER, 1974*

SCHUSTER REALTY COMPANY

MILL HILL ROAD, COLCHESTER

Soils Legend

20BC Hinckley-Agawam complex. These are well to excessively drained soils overlying water deposited beds of sand and gravel.

91 Muck, sandy subsoil variant. This is composed of thin organic deposits of muck less than 36 inches deep generally over coarse textured materials.

825 Birdsall silt loam, sandy subsoil variant. This is a complex of poorly, somewhat poorly, and very poorly drained soils.

ML2 Cut and fill land. This area was probably 20BC (Hinckley-Agawam complex). It has now been scraped very close to the water table.

Note: A narrow strip along Mill Hill Road and south of the brook has been filled (car body shop and parking area), but would still classify as wetlands.

Soils Distribution and Limitations

Natural Soil Group*	Mapping Symbol	Acres	% of Total	Limitations for Urban Uses** (Sewage disposal, streets and parking, basements, landscaping)	Principal Limiting Factors
A-1b	20BC	9.0	11.0	Slight to Moderate.	Slope 3-15%, droughtiness.
A-3b	91	4.0	4.9	Severe.	High water table, organic material.
A-3b	825	58.5	71.8	Severe.	Flood hazard, high water table.
Not Classified	ML2	10.0	12.3	Not Classified.	
		81.5	100.0		

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

** Soil limitations are classified as slight, moderate, or severe. Soils with severe limitations are generally not feasible for the specific use or the limitations would require extensive and costly measures to be overcome.

Exerpt from the Colchester Streambelt Report, Prepared for the Town of Colchester in cooperation with the New London County Soil and Water Conservation District by the USDA, Soil Conservation Service, September, 1971, pp.3-4.

CONCLUSIONS

The quality of the environment for the people of Colchester is to a great degree linked to the streams and associated lands. These streambelts are environmental corridors of land and water and contain many features with an important bearing on the water-related, esthetic, recreational, wildlife, historic, and land use aspects of the towns.

The waters and lands of the streambelts are among our most important natural resources. Streams and their tributaries extend beyond man-made town boundaries. The retention of these streambelts or environmental corridors are of public concern and warrants deliberate action by local units of government.

While streambelt encroachment in Colchester is not serious there is evidence of destruction of this ecologically vital resource. The current population growth and resulting urbanization will greatly increase the hazards of uncontrolled forms of development. The town has a unique opportunity to act NOW to preserve and develop wisely the natural resources of the streambelt.

Along with the urgent need to forestall careless and uncontrolled forms of development in streambelts is the need for actions to conserve their special values. As a prerequisite to such actions, a town's comprehensive land use plan should reflect its objectives for the preservation and wise use of it's streambelts.

Streambelts are in the public interest and when they are made an integral part of a land use plan the specific intent is then to:

1. Prevent such developments or land uses that would have probable adverse environmental effects.

2. Maintain natural drainage courses sufficiant to carry normal flows of storm water. In addition the flood plain and floodprone areas should be retained in open space. These actions would prevent the need for excessive public expenditures for water disposal and flood prevention measures.

3. Maintain a framework of environmental corridors of high quality with close proximity to neighborhood and population centers.

4. Help stabilize stream flows.

5. Protect water quality and help preserve high yielding groundwater areas that are important to water supply.

6. Retain potential impoundment sites for beneficial water uses such as flood control, water supply, wildlife habitat and recreation.

7. Protect areas of vital importance in the preservation of significant ecological systems.

8. Maintain and encourage the improvement of environmental qualities including beauty, recreational, plant and animal life, scenic, and other natural values.

9. Preserve areas of unique and scientific or historic interest for scientific study, ecological research, and conservation or nature education.

10. Promote the health, safety, and welfare of all people and property owners near streams and in areas subject to flooding, and to prevent further occupancy in flood prone areas.

11. Protect and/or improve fish and wildlife habitats.

Along with the urgent need to forestall careless and uncontrolled forms of development in streambelts is the need for actions to conserve their special values. Examples of ways and means for local governments to achieve streambelt goals include:

1. Community wide informational and educational programs to promote wise land use and natural resource development.

2. Development of conservation plans on private and public lands through services and facilities provided landowners by the New London County Soil and Water Conservation District.

3. Acquisition by private land trusts.

4. Conservation easements.

5. Regulations of the State relating to health and sanitation, water pollution, stream channel encroachment, etc.

6. Utilization of town zoning authority to establish streambelt zones with land use regulations to protect their special environmental values.

7. Dedication of wetlands to "Open Space" with resultant lower property tax rate.

8. Public acquisition.