

ENVIRONMENTAL REVIEW TEAM REPORT  
ON THE  
KING PROPERTY  
COLCHESTER, CONNECTICUT

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This report is an outgrowth of a request from the Colchester Housing Authority 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) 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 site consisted of the following personnel: Sherman C. Chase, District Conservationist, Soil Conservation Service; Thomas H. 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 May 13, 1974. Reports from each Team member were sent to the Team Coordinator for review and summarization.

This report is not meant to compete with private consultants by supplying site designs or detailed solutions to development problems. This report identifies the existing resource base and evaluates its significance to the proposed development and also suggests considerations that should be of concern to the Town of Colchester. 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.

## INTRODUCTION

The Environmental Review Team was requested by the Colchester Housing Authority to review a proposed site for thirty elderly housing units. The parcel of land consists of approximately seven acres of land located on the east side of State Route 149, approximately one and a half miles north of the intersection with State Route 16.

The following report will describe the soils and topography on the site and evaluate them with respect to the proposed development. Also included is an evaluation of the site from a land use planning viewpoint.

## EVALUATION

The proposed site is located on the easterly side of a drumlin, characterized by hardpan soils. Slopes range from 3 to 25 percent, with the less steep slopes occurring on the upper, or southerly, portion of the site.

The soils map for the site is shown on the next page with a chart showing the probable limitations of the soils for on-site sewage disposal, basements, landscaping, and streets and parking. 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.

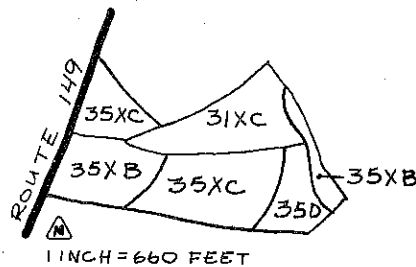
All of the soils on the site fall within Natural Soil Group C, upland soils over compact glacial till. These soils have a hardpan 16 to 36 inches below the soil surface, which drastically reduces percolation rates. Soils 35XB, 35XC, and 35D, all Paxton soils, are well-drained. During wet seasons, excess water in the soils moves downslope over the hardpan. Soil 31XC, a Woodbridge soil, is moderately well drained. During wet seasons, this soil exhibits a high water table within 15 to 20 inches of the surface. This condition seldom persists beyond late spring.

Because of the hardpan condition, the soils have severe limitations for the development of on-site sewage systems. The areas with slopes over 8 percent add to these difficulties. Design of a properly functioning system will be difficult and costly due to the probable need for curtain drains, surface drainage, and filling. In addition, this system will be serving a fairly substantial number of persons.

Surface water from above the proposed development could cause problems both during and after development. A diversion could be installed above the development to intercept the water. If this is done, care should be taken to find a safe outlet for the diversion.

Subsurface water can also present problems. Where banks are cut, water can flow out of the bank above the hardpan and cause problems with bank stabilization. Installation of toe drains would minimize this problem. The area with the high seasonal water table would also face problems with basements, foundations, and roads, which would require special drainage measures.

SOILS MAP  
KING PROPERTY, ROUTE 149  
COLCHESTER, CONNECTICUT



Prepared by: UNITED STATES DEPARTMENT OF AGRICULTURE  
Soil Conservation Service

ADVANCE COPY, SUBJECT TO CHANGE

APRIL, 1974

SOILS LIMITATIONS CHART

Natural Soil Group*	Mapping Symbol	Limitations for:**				Principal Limiting Factors
		On-Site Sewage	Base-ments	Land-scaping	Streets and Parking	
C-1a	35XB	3	1	1	2	Hardpan, slope 3-8%.
C-1b	35XC	3	2	2	3	Hardpan, slope 8-15%.
C-1d	35D	3	2	3	3	Hardpan; slope over 15%.
C-2a	31XC	3	2	2	3	High seasonal water table, slope 3-15%.

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

\*\* Limitations: 1-slight; 2-moderate; 3-severe; 4-very severe. Limitations even though very severe, do not preclude the use of the land for development. If economics permit greater expenditures for land development and the intended objective is consistent with the objectives of local and regional development, many soils and sites with difficult problems can be used.

The steep slopes on the site present problems for all aspects of development. As discussed on the site, plans are to place the roads and buildings on the southerly, less steep, portion of the site. However, this will necessitate placement of the septic leaching fields downslope on the steeper portions of the site.

With both the drainage and slope problems on the site, a plan for erosion and sedimentation control should be developed prior to construction. The diversion for surface drainage mentioned above would help by reducing runoff from the site. Other measures could include a minimum of site disturbance, use of temporary and permanent seedings, mulching, and the layout of roads and buildings across the slope. Technical assistance in developing such a plan can be obtained from the New London County Soil and Water Conservation District.

Existing land uses surrounding the proposed site are single-family residential and undeveloped. Some multi-family housing is located north of the site along Route 149 in Westchester. On a land use basis elderly housing would be compatible with these uses. However, there are no nearby shopping or medical facilities, which would mean that elderly persons would have to have cars or bus service available to them.

Since the soils present severe to very severe limitations for septic systems, it is necessary to conduct percolation tests to determine if the site can handle the leaching systems necessary for the proposed project. If they cannot, then the site should be left undeveloped or built with very low density single-family homes.

#### ADDITIONAL COMMENTS AND RECOMMENDATIONS

Looking at the site as proposed for elderly housing, most of the potential difficulties are related to the conditions created by the hardpan soils. With the exception of the sewage disposal system, most of the problems can be minimized with the use of surface and subsurface drainage measures. The limitations for the on-site sewage disposal system are severe to very severe, due both to the hardpan soils and the steep slopes. Serious consideration should be given to the feasibility of developing a functioning system that will not present continual problems for the Housing Authority in the future. The feasibility for the on-site sewage disposal system should be the determining factor in deciding whether or not to purchase this property.

If it is decided to abandon this site for the elderly housing project, a new site will have to be found. Though detailed soils information is not available for Colchester, the general soils map would indicate those areas most likely to be suitable for on-site sewage systems (Soil Groups A and B). If possible, it would also be desirable to locate the elderly housing within walking distance of shopping facilities.