

ENVIRONMENTAL REVIEW TEAM REPORT
ON
MEADOWBROOK SUBDIVISION
SALEM, CONNECTICUT
MAY, 1977

Project CPA-CT-01-00-1045

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EASTERN CONNECTICUT RESOURCE CONSERVATION AND DEVELOPMENT PROJECT
Environmental Review Team
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INTRODUCTION

This report is an outgrowth of a request from the Salem Inland Wetlands and Watercourses Commission, with permission 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) Area Executive Committee for their consideration and approval as a project measure. The request was approved and the measure reviewed by a member of the Eastern Connecticut Environmental Review Team (ERT).

The soils of the site were mapped by Steve Elmer, a soil scientist of the United States Department of Agriculture (USDA), Soil Conservation Service (SCS). He field-checked the site on Friday, April 15, 1977. His report and detailed soil map were sent to Linda Simkanin, ERT Coordinator for inclusion in this ERT report on the Meadowbrook Subdivision.

At the time of the ERT review, the landowner's site plan showed 33 lots comprising approximately 50 acres. The site is presently undeveloped and forested, with open fields prevailing. Several intermittent streams drain portions of the property. As there is no public water supply or sewerage system to serve the site, water retrieval and sewage disposal will have to be developed on-site.

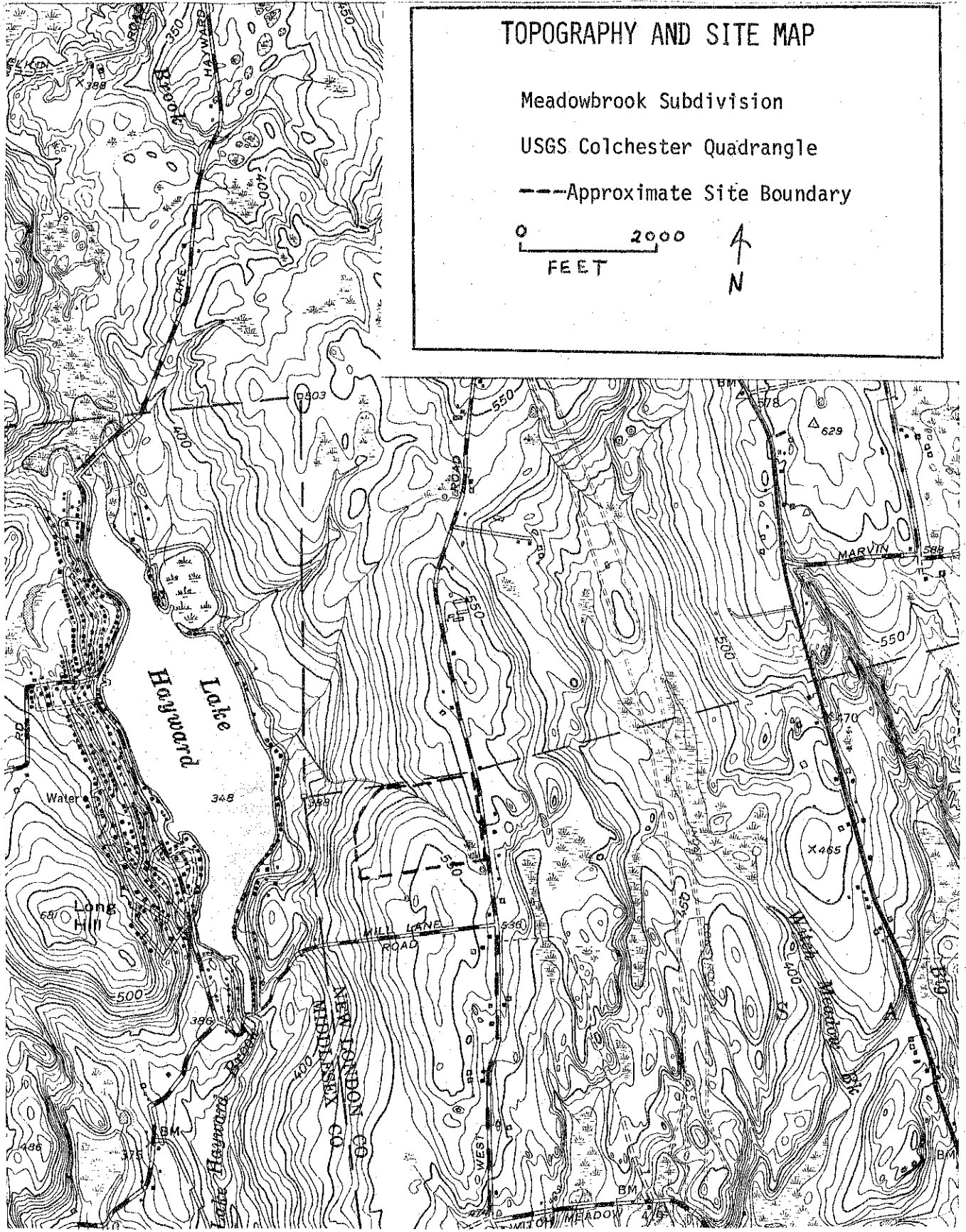
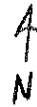
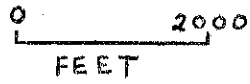
Both the landowner and the Town requested a more detailed soil mapping than formerly existed for the site. It was also requested that careful attention be given to delineation of inland wetland soils which are regulated under Public Act 155. This report provides the more detailed mapping as well as a detailed explanation of these soils relative to the proposal development. Comments or recommendations made within the report are presented for consideration by the developer and the Town in the preparation and review of the development plans, and should not be construed as mandatory or regulatory in nature.

TOPOGRAPHY AND SITE MAP

Meadowbrook Subdivision

USGS Colchester Quadrangle

--- Approximate Site Boundary



Colchester
Salem

SOILS

A detailed soil map of the site is provided here. The soil boundary lines should not be taken as absolute boundaries but rather as guidelines to the distribution of soil types on the property. In general, this detailed soil map provides Town officials and the developer with significant information concerning the potential opportunities as well as the limitations for development of the proposed Meadowbrook Subdivision. The percolation and deep hole tests provide information on the actual lot by lot conditions which will contribute to the ultimate decision-making regarding the approval or disapproval of individual lots. Such on-site tests performed in the spring (or wettest time of the year) are most valuable as they will usually indicate the worst conditions around which to plan land use.

A chart listing the soils of the site is also included here. The principal limiting features of each soil are outlined. Limiting features which are especially significant in terms of a specific land use (as sewage disposal, basements, etc.) are also indicated in the chart.

In general, the greatest limiting factor to the proposed subdivision appears to be the high water table which can be considered seasonal in some of the moderately well drained Woodbridge soils, (31A, 31B, 31XB) and fairly year-round in the poorly drained Ridgebury soils (43M and 98, which are also inland wetland soils regulated under Public Act 155). Approximately 75% of the total site acreage is composed of soils exhibiting some high groundwater condition. This is considered to a severe limitation to the operation of a subsurface sewage disposal system.

Regarding the inland wetland soils on-site, 43M is a Ridgebury/Whitman/Leicester complex meaning that the soils occur in an intricate and complex pattern and separation of each of the three individual soils is not practical on the scale surveyed. In general, 43M is an extremely stony unit made up of poorly and very poorly drained soils. These soils are characterized by a relatively thin, dark-colored surface horizon over a gray mottled subsurface horizon. They occupy low-lying to gently sloping areas exhibiting an extremely stony or completely stone-covered surface. As these soils have developed in very firm glacial till, a hardpan at about two feet in depth is not uncommon. The groundwater table is on or near the surface from late fall through early spring, but may drop below six feet in late summer and fall. Poorly drained Ridgebury soil 98 has a hardpan at about two feet in depth. Like the 43M, the subsurface horizon is mottled, and the 98 soil unit also occupies low-lying to gently sloping areas where the water table is near the surface from late fall through early spring but may drop below six feet in late summer and fall.

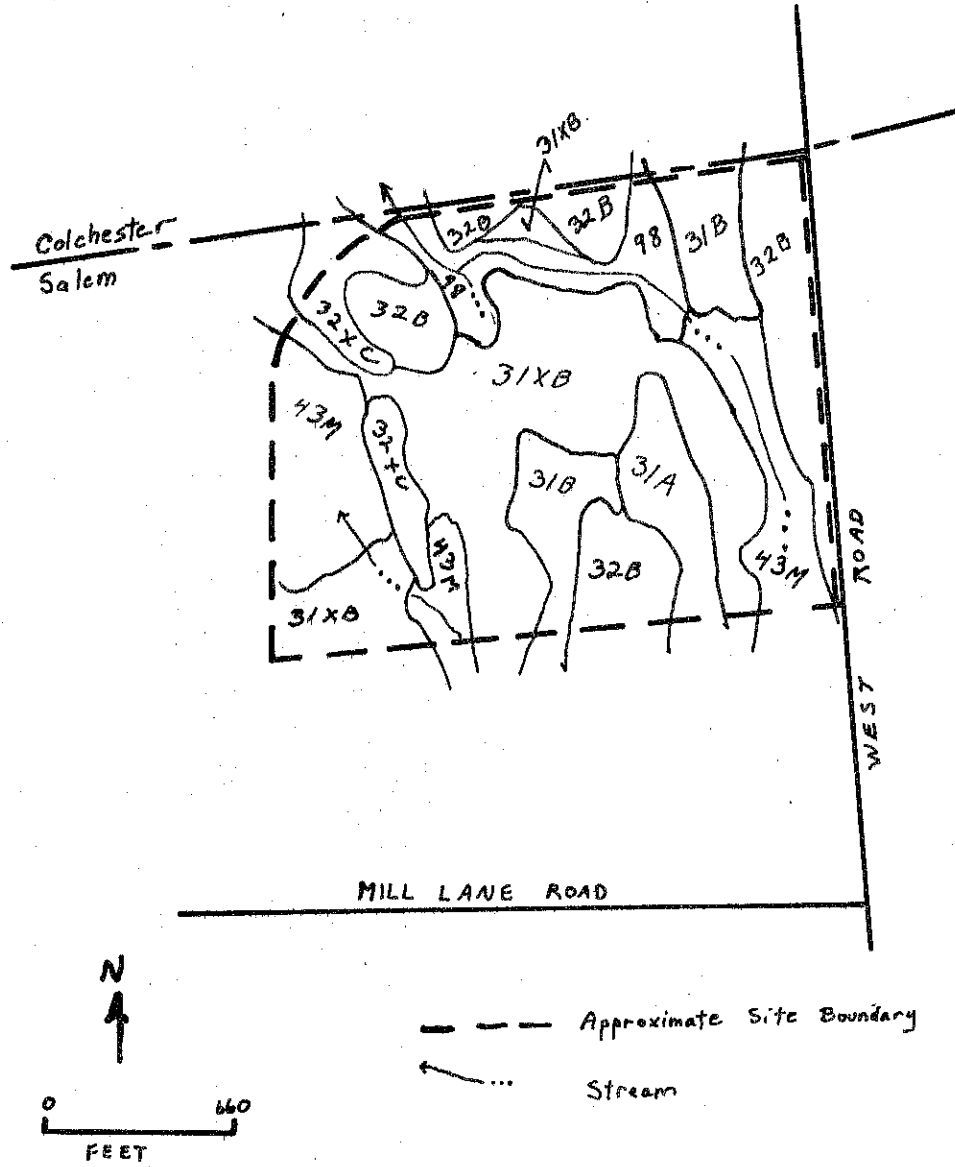
Regarding the other soils on-site exhibiting a seasonal high water table, the Woodbridge soil units (31A, 31B, and 31XB) are moderately well drained soils with a slowly to very slowly permeable hardpan at about two feet in depth. The lower subsoil is mottled, indicating a waterlogged condition from late fall until early spring and after heavy rains in the summer. As these soils are only moderately permeable above the hardpan, water will move laterally down-slope over the pan in wet seasons. This can be a serious limiting factor in the operation of a subsurface sewage disposal system. Surface stoniness varies from essentially stone-free on areas where stones have been removed to extremely stony.

The remaining quarter of the site is made up of Charlton soils (32B and 32XC)

SOIL MAP

MEADOWBROOK SUBDIVISION

SALEM, CONNECTICUT



Prepared by: UNITED STATES DEPARTMENT OF AGRICULTURE, Soil Conservation Service.

Advance Copy, Subject to Change.

MEADOWBROOK SUBDIVISION: SALEM
 PROPORTIONAL EXTENT OF SOILS AND THEIR LIMITATIONS FOR CERTAIN LAND USES

Soil Series	Natural Soil Group	Soil Symbol	Approx. Acres	Percent of Acres	Principal Limiting Factor	Urban Use Limitations*			
						On-Site Sewage	Buildings with Basements	Streets & Parking	Land-Scaping
Woodbridge		31A	5.3	10.7	Seasonal high Hardpan water table	3	2	2	2
Woodbridge		31B	2.4	4.8	Seasonal high Hardpan water table	3	2	Slope 2	2
Woodbridge		31XB	19	38.2	Seasonal high Hardpan water table	3	2	Slope 2	2
Charlton		32B	9.2	18.6	-	1	1	Slope 2	1
Charlton		32XC	2.8	5.6	-	Slope 2	1	Slope 3	Slope 2
Ridgebury/Leicester/Whitman complex		43M**	8.3	16.7	High water table	3	3	3	3
Ridgebury		98**	2.7	5.4	High water table	3	3	3	3
TOTAL:			49.7	100%					

* Urban Use Limitations: 1 = slight; 2 = moderate; 3 = severe (refer to the last page of this report for a further explanation of limitation classifications.)

** Inland Wetland soils as defined by Public Act 155, as amended.

which are well drained upland soils. Surface and subsoil textures to a depth of 24 to 30 inches are normally very friable (crumbly) fine sandy loams with varying amounts of gravel size angular rock fragments. These soils are normally moderately permeable throughout, and are naturally stony and boundary. Stones are present in varying amounts below the surface and will be encountered in excavations.

Of all the soil areas examined on-site, the Charlton soils will present the fewest limitations to the development. Lots fronting on West Road generally fall within the Charlton soil type.

EROSION AND SEDIMENTATION CONTROL

Provisions should be made to prevent excessive erosion and sedimentation during development. It would be desirable for the Town to require the developer to prepare a plan for erosion and sedimentation control prior to breaking land. The plan should show the construction timetable, the proposed handling of disturbed areas, and the provisions for surface water control. Components of effective erosion and sedimentation control can include both mechanical and vegetative measures.

Mechanical measures include: land grading of only those areas going into immediate construction; diversions to intercept and divert rainfall runoff without causing harmful effects on land users within a watershed's downstream area; storm drains to dispose of runoff from streets, parking lots, and buildings; catch basins; channels; drop structures to safely carry water to protected outlets; and the installation of permanent roads as early as possible.

Vegetative measures include: keeping much of the area under existing vegetative cover and keeping areas devoid of cover exposed for the shortest practical period of time; temporary seeding of cover crops plus mulching to stabilize areas during construction; and establishment of permanent vegetative cover after construction.

Connecticut's Erosion and Sediment Control Handbook published by the Soil Conservation Service will aid both the developer and the Town in preparing and approving an adequate erosion and sediment control plan. Standards and specifications for both mechanical and vegetative practices listed within the Handbook are available at the New London County Soil Conservation Service office, 562 New London Turnpike, Norwich, Connecticut. Should the Town wish to adopt erosion and sedimentation regulations, the SCS is available to assist in the development, technical review, and implementation of such regulations.

SOIL INTERPRETATIONS FOR URBAN USES

The ratings of the soils for elements of community and recreational development uses consist of three degrees of "limitations:" slight or no limitations; moderate limitations; and severe limitations. In the interpretive scheme various physical properties are weighed before judging their relative severity of limitations.

The user is cautioned that the suitability ratings, degree of limitations and other interpretations are based on the typical soil in each mapping unit. At any given point the actual conditions may differ from the information presented here because of the inclusion of other soils which were impractical to map separately at the scale of mapping used. On-site investigations are suggested where the proposed soil use involves heavy loads, deep excavations, or high cost. Limitations, even though severe, do not always preclude the use of land for development. If economics permit greater expenditures for land development and the intended land use is consistent with the objectives of local or regional development, many soils and sites with difficult problems can be used.

Slight Limitations

Areas rated as slight have relatively few limitations in terms of soil suitability for a particular use. The degree of suitability is such that a minimum of time or cost would be needed to overcome relatively minor soil limitations.

Moderate Limitations

In areas rated moderate, it is relatively more difficult and more costly to correct the natural limitations of the soil for certain uses than for soils rated as having slight limitations.

Severe Limitations

Areas designated as having severe limitations would require more extensive and more costly measures than soils rated with moderate limitations in order to overcome natural soil limitations. The soil may have more than one limiting characteristic causing it to be rated severe.