

GLACIAL ICE-LAID DEPOSITS

t Thin Till

tt Thick Till

ts End moraine deposits

GLACIAL AND POSTGLACIAL DEPOSITS

Fine Deposits

f Finest (very fine sand, silt, and clay)

Coarse Deposits

g Gravel

sg Sand and Gravel

s Sand

Stacked Coarse Deposits

g/sg Gravel overlying Sand and Gravel

g/s Gravel overlying Sand

sg/s Sand and Gravel overlying Sand

sg/s/sg Sand and Gravel overlying Sand overlying Sand and Gravel

s/g Sand overlying Gravel

s/s/g Sand overlying Sand and Gravel

Stacked Coarse Deposits Overlying Fine Deposits

g/sf Gravel overlying Sand overlying Fines

g/f Gravel overlying Fines

sg/s/f Sand and Gravel overlying Sand overlying Fines

sg/f Sand and Gravel overlying Fines

s/f Sand overlying Fines

Stacked Fine Deposits Overlying Coarse Deposits

f/sg Fines overlying Sand and Gravel

f/s Fines overlying Sand

POSTGLACIAL DEPOSITS

a Floodplain Alluvium

a/sg * Alluvium overlying undifferentiated Coarse deposits (g, sg, s)

a/s Alluvium overlying Sand

a/f Alluvium overlying Fines

a/s/f * Alluvium overlying undifferentiated Coarse deposits overlying Fine deposits

a/f/g * Alluvium overlying undifferentiated Fine deposits overlying Coarse deposits

sw Swamp deposits

sw/s Swamp deposits overlying Sand

sw/f Swamp deposits overlying Fines

sw/s/f Swamp deposits overlying Sand overlying Fines

sw/f/s Swamp deposits overlying Fines overlying Sand

sm Salt-Marsh and Tidal-Marsh deposits

sm/sf Salt-Marsh and Tidal-Marsh deposits overlying Sand

sm/f Salt-Marsh and Tidal-Marsh deposits overlying Fines

ta Talus

ab Beach deposits

a Artificial Fill

w Water

* Alluvium may be overlying any of the Coarse deposits (g, sg, s)

PARTICLE DIAMETER													
	10	2.5	16	8	4	2	1	0.5	0.25	0.075	0.025	0.0075	in
	256	64	4	2	1	0.5	0.25	0.125	0.063	0.032	0.016	0.008	mm
Boulders													
Cobbles													
Pebbles													
Granules													
Very Coarse Sand													
Coarse Sand													
Medium Sand													
Fine Sand													
Very Fine Sand													
Silt													
Clay													

GRAVEL PARTICLES

SAND PARTICLES

FINE PARTICLES

Grain-size classification (modified from Wentworth, 1922)

Unconsolidated glacial and postglacial deposits, that range from a few feet to several hundred feet in thickness, overlie the bedrock surface of Connecticut (see Block Diagram). This map portrays the real extent and subsurface grain-size (textural) distributions of these surficial materials. The map legend is designed to highlight the relationship between the depositional origins and the distribution and character of the materials portrayed. Most of Connecticut's surficial material is glacially derived, and can be divided into two broad depositional categories: Glacial Ice-Laid deposits (tills and moraine) which are generally exposed in the uplands, and are the most widespread surficial deposit in Connecticut; and Glacial Meltwater deposits (stratified deposits) which are most commonly concentrated in valleys and lowlands. A mapping emphasis is placed on stratified meltwater deposits because their distribution and character have historically influenced development patterns throughout the state.

Glacial Ice-Laid deposits (tills and moraine) were derived directly from the ice and consist of nonsorted, generally nonstratified mixtures of grain-sizes ranging from clay to large boulders. The matrix of tills is predominantly sand and silt and boulders can be sparse to abundant. Some tills contain lenses of sorted sand and gravel and occasionally masses of laminated fine-grained sediment. The lack of sorting and stratification typical of ice-laid deposits often makes them poorly drained, difficult to dig in or to construct foundations in, and unsuitable for separate engineering systems. Till blankets the bedrock surface in variable thicknesses and commonly underlies stratified meltwater deposits (see Block Diagram). End moraine deposits (primarily ablation till) occur principally in southeastern Connecticut.

[illegible]

SURFICIAL MATERIALS DATA – Surficial Materials shown on this map are from the Surficial Material Poly dataset which contains polygon data intended to be used at 1:24,000 scale. Based on Connecticut Surficial Materials digital data published in 1995 by the Connecticut Department of Environmental Protection, in cooperation with the U.S. Geological Survey. These data were digitized from the 1:24,000-scale compilation sheets prepared for the statewide Surficial Materials Map of Connecticut, (Stone, J.R., Schafer, J.P., London, E.H. and Thompson, W.B., 1992, U.S. Geological Survey special map, 2 sheets, scale 1:125,000).

RELATED INFORMATION
This map is intended to be printed at its original dimensions in order to maintain the 1:24,000 scale (1 inch = 2000 feet).

Meltwater deposits are depicted using four basic texturally-based map units: gravel, sand and gravel, sand, and fines. To the extent that it is known or can be inferred, the subsurface textural composition of meltwater deposits is shown for their entire vertical thickness. In many places similar conditions persisted for the entire time that a meltwater deposit was being laid down, and a single map unit (e.g. s-sand) is sufficient to describe the entire meltwater section. Areal and vertical textural variability can occur within the meltwater deposits because the amount of energy available to carry sediment varies with each meltwater setting (stream, delta, lake, etc.), and settings can change over time. High-energy depositional environments near glacial margins (proximal) tend to favor deposition of coarse material but as time passes, and the glacial margins melt back, less energy is available and finer grained distal deposits can become predominant. Where more complex stratigraphic relationships existed because of changing conditions during deposition, "stacked" map units are used to characterize the subsurface (e.g. sg/sf-sand and gravel overlying sand overlying fines). Where postglacial deposits overlie meltwater deposits, this relationship is also shown (e.g. a/s - alluvium overlying sand).

This is a detailed topographic map of the Westford area in Massachusetts. The Merrimack River flows through the center of the map, with several tributaries like the Andover River and the Nashua River. The map shows the towns of Westford, Ashford, Mansfield, and Chappin. Key features include the Natchaug State Forest to the north and the Fish and Wildlife State Forest to the east. The map also depicts various ponds, lakes, and hills, such as the Rattlesnake Hill and the Tower Hill. The Merrimack River is shown in a light blue color, and the surrounding land is in shades of green and brown. The map includes a grid of latitude and longitude lines, and a scale bar is located in the bottom right corner. The title 'Westford' is printed at the top center of the map.

MAPS AND DIGITAL DATA - Go to the CT ECO website for this map and a variety of others. Go to the CT DEP website for the digital spatial data shown on this map.

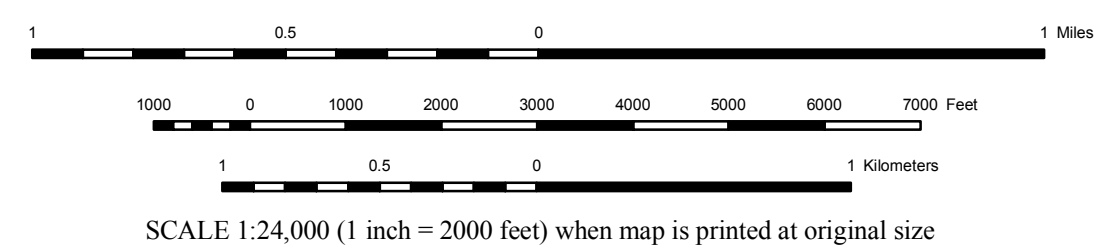
 STATE OF CONNECTICUT
DEPARTMENT OF
ENVIRONMENTAL PROTECTION
79 Elm Street
Hartford, CT 06106-5127

Map created by CT DEP
August 2009
Map is not colorfast
Protect from light and moisture



MAP LOCATION

State Plane Coordinate System of 1983, Zone 352
Lambert Conformal Conic Projection
North American Datum of 1983



SPRING HILL, CONNECTICUT
CT DEP Quadrangle 41