

77° 35' 00"

32' 30"

30' 00"

27' 30"

77° 25' 00"

43° 15' 00"

12' 30"

10' 00"

07' 30"

43° 05' 00"

WATER-INFILTRATION POTENTIAL OF SOIL ZONE

By
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SCALE 1:24,000

EXPLANATION WATER-INFILTRATION POTENTIAL OF SOIL ZONE

Map Units	Classification
1	VERY LOW—soils derived from till or lake clays, having very low infiltration rates when thoroughly wetted; includes mainly clayey and silty soils, soils with a high water table, soils that are shallow over nearly impervious material; and soils with a water impeding layer
2	LOW—soils derived from lake silts and very fine sand, low infiltration rates when thoroughly wetted; includes mainly deep, well drained sand or gravel. Urban areas included herein may have lower classification because original soil characteristics have been extensively altered by man
3	MODERATE—soils derived from lake sand or wave-worked till, having moderate infiltration rates when thoroughly wetted; includes mainly deep, well drained sand or gravel
4	HIGH—soils derived from wave-worked till or coarse sand or gravel having high infiltration rates when thoroughly wetted; includes deep, well drained, sand or gravel

BOUNDARY OF UNITS—approximately located

00397000 COMMUNITY WATER SYSTEM WELL OR WELL FIELD—numbered by New York State Department of Health

NOTE

Classifications for water-infiltration potential are given for those soils which overlie and can allow recharge to the aquifer. Soils with high infiltration potential provide greater recharge to the aquifer than soils with low potential. Areas underlain by high-permeability material typically have a soil zone with a moderate or high infiltration rate and indirectly provide significant recharge to the aquifer. The northwestern portion of the area has significant urbanization resulting in alteration of the natural soil profiles. Urban runoff to other areas of more permeable soil zones needs to be considered. In the northern part of the area soils of low to moderate permeability are derived from glacio-lacustrine silt and very fine sand. Moderate to high infiltration units are related to glacial deposits of sand or gravel and to till plains where lacustrine wave action has winnowed the fines out. Much of the southern area has soil units of high infiltration rates related to kames, kame terraces, and outwash. Throughout much of the area, the till plain has low to moderate infiltration rates.

Rates of infiltration depend upon such factors as soil moisture and temperature, density of vegetation, slope, soil porosity, grain-size distribution and cohesion, depth to seasonal high-water table, presence or absence of a water-impeding layer, the intensity and duration of rainfall and other meteorological factors. Classification for water-infiltration potential is based on Heffner and Goodman (1973). Their estimates are based on the above factors (excluding density of vegetation) and on soil-percolation tests.

The boundaries of the units of water-infiltration potential are modified from Sweet and others (1938) and do not necessarily coincide with the geologic units (sheet 1). For example, very permeable sand and gravel may have a thin cover of windblown silt or pond deposit (not shown on sheet 1) which forms a soil with low-infiltration potential overlying a very permeable geologic unit. Also, a permeable sand and gravel unit (alluvium) may have a high water table and thus a low-drainage potential.

REFERENCES CITED

Heffner, R. L., and Goodman, S. D., 1973, Soil survey of Monroe County: U.S. Department of Agriculture, Soil Conservation Service, 172 p.

Sweet, A. T., and others, 1938, Soil survey of Monroe County, New York: U.S. Department of Agriculture, Bureau of Chemistry and Soils, ser. 1933, no. 17, 67 p.

