DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH THE
NEW YORK STATE DEPARTMENT OF HEALTH

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(SHEET 2 OF 6)

WATER-INFILTRATION POTENTIAL OF SOIL ZONE

By

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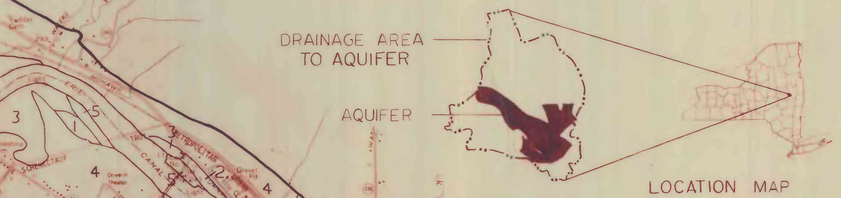
74°05′ 2′30″ 74°00′ 57′30″ 73°55′

42°52′30″ 50′ 42°47′30″



EXPLANATION

WATER-INFILTRATION POTENTIAL OF SOIL ZONE

Map Units	Classification
1	VERY LOW--soils having very low infiltration rates when thoroughly wetted: includes mainly clayey soils, soils with a high water table, and soils that are shallow over nearly impervious material.
2	LOW--soils having low infiltration rates when thoroughly wetted; includes mainly silty soils, and soils having a moderately high water table.
3	MODERATE--soils having moderate infiltration rates when thoroughly wetted; includes mainly deep soils with silty and sandy textures.
4	HIGH--soils having high infiltation rates even when thoroughly wetted; includes mainly deep, well-drained sand or gravel.
5	Too variable to estimate.

NOTE

Classifications for water-infiltration potential are given for those soils which overlie and directly recharge the aquifer. Soils with high infiltration potential provide greater recharge to the aquifer than soils with low potential. Hillsides adjacent to the aquifer are typically underlain by till and bedrock (see Surficial Geology, sheet 1) and have a predominantly low or very low infiltration potential. This means that adjacent hillsides have a high potential for runoff, hence overland flow occurs and reaches the area overlying the aquifer where infiltration and recharge to the aquifer may occur.

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 (fragipan), the intensity and duration of rainfall and other meteorological factors. Classification for water-infiltration potential are based on estimates by the Soil Conservation Service (1978). 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 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 creates a soil with low-infiltration potential overlying a very permeable geologic unit. Also, a permeable sand and gravel unit may have a high water table and thus a low-infiltration potential. In areas where a high water table is the major criterion for classifying a soil, lowering of the water table by well-pumpage will result in a greater infiltration potential and thus areas previously of a low or very low potential may develop a high infiltation potential.

TILL HILL--surrounded by aquifer

BOUNDARY OF UNITS OF WATER-INFILTRATION POTENTIAL--approximately located

AQUIFER BOUNDARY--dashed where full extent of aquifer is not shown. Areas not shown are small, not hydrologically significant, and do not have community wells

BOUNDARY BETWEEN MAJOR AND MINOR AQUIFERS--minor aquifers in sand and silt are in upland areas in northeast corner and along southern edge of mapped area, are less permeable than major sand and gravel aquifer in Mohawk River Valley

01247000 COMMUNITY WATER SYSTEM WELL OR WELL FIELD--numbered by New York State Department of Health

REFERENCE CITED

Davis, L. B., and Landry, R. J., 1978, Soil survey of Montgomery and Schenectady Counties, New York: Washington, U.S. Soil Conservation Service, 167 p.

BASE FROM NEW YORK STATE DEPARTMENT OF TRANSPORTATION
PATTERSONVILLE, N.Y., 1974; ROTTERDAM JUNCTION, N.Y., 1974; SCHENECTADY, N.Y., 1974. 1:24,000

SOIL BOUNDARIES MODIFIED BY R.B. MOORE 1981
FROM L.B. DAVIS AND R.J. LANDRY (1978)

GEOHYDROLOGY OF THE VALLEY-FILL AQUIFER IN THE SCHENECTADY AREA, SCHENECTADY COUNTY, NEW YORK

1981