Appendix D:
Livingston County Soil Types

HYDROLOGIC SOIL GROUPS FOR LIVINGSTON COUNTY

Soil properties influence the process of generation of runoff from rainfall and must be considered in methods of runoff estimation. When runoff from individual storms is the major concern, the properties can be represented by a hydrologic parameter which reflects the minimum rate of infiltration obtained for a bare soil after prolonged wetting. The influences of both the surface and the horizons of a soil are therefore included.

Four hydrologic groups are used. The soils are classified on the basis of water intake at the end of the long-duration storms occurring after prior wetting and after an opportunity for swelling, and without the protective effects of vegetation. In the definitions to follow, the infiltration rate is the rate at which water enters the soil at the surface and which is controlled by surface conditions, and the transmission rate is the rate at which the water moves in the soil and which is controlled by the horizons. The hydrologic soil groups, as defined by the SCS soil scientists, are:

A. (Low runoff potential) Soils having high infiltration rates even when thoroughly wetted and consisting chiefly of deep, well to excessively drained sands or gravels. These soils have a high rate of water transmission.

B. Soils having moderate infiltration rates when thoroughly wetted and consisting chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission.

C. Soils having slow infiltration rates when thoroughly wetted and consisting chiefly of soils with a layer that impedes downward movement of water, or soils with moderately fine to fine texture. These soils have a slow rate of water transmission.

D. (High runoff potential) Soils having very slow infiltration rates when thoroughly wetted and consisting chiefly of clay soils with a high swelling potential, soils with a permanent high-water table, soils with a clay-pan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission.

The following table gives the hydrologic soil group for each soil series and, in some instances, gives several possible hydrologic soil group classifications for a series. In using this table, the first group shown (capital letter) is the native or natural group that the soil series is usually classified under when its water intake characteristics have not been significantly changed by artificial drainage, land use, or other factors. The second group shown is the probable maximum improvement that can be made through artificial drainage and the maintenance or improvement of soil structure. Generally speaking, those series having several possible classifications are soils with relatively high-water tables so that artificial drainage measurably improves their ability to absorb rainfall and thus reduce runoff.

HYDROLOGIC SOIL GROUPS FOR LIVINGSTON COUNTY

Soil Series	Hydrologic Group
Arkpoa	B
Barry	B/D*
Berville	B/D
Boger	B
Breckenridge	B/D
Bronson	B
Brookston	B/D
Carlisle	B
Colwood	B/D
Conover	C
Edwards	B/D
Fox	B
Gilford	B/D
Hillsdale	B
Houghton	A/D
Lamson	B/D
Linwood	A/D
Soil Series	Hydrologic Group
Locke	B
Metamora	B
Metea	B
Miami	B
Minoa	C
Oakville	A
Oshtemo	B
Ottokee	A
Owosso	B
Pewamo	C/D
Rifle	A/D
Sebewa	B/D
Spinks	A
Tawas	A/D
Thettard	A
Warners	C
Wasepi	B
Washtenaw	C

* Two soil groups, such as B/D, indicates the undrained/drained situation.
Source: USDA Soil Conservation Service, March 1990.