Orange County Soil & Water Conservation District

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We are a little late for World Soil Day 2025 (December 5th), but better late than never.

This year's theme is 'Healthy Soils for Healthy Cities'.

Here's what the Food and Agriculture Organization of the United Nations (FAO), which has facilitated World Soil Day since 2014, had to say about this year's theme:

The theme promotes the fundamental role of urban soil. Beneath asphalt, buildings, and streets lies soil that, if permeable and vegetated, helps absorb rainwater, regulate temperature, store carbon, and improve air quality. However, when soil is sealed with cement, it loses these functions, making cities more vulnerable to flooding, overheating, and pollution.

Here in Orange County, NY, soils played into urban development issues in the ways described above, but also in a less well-known way. Thanks to forward-thinking urban planners in Orange County some 50 years ago, local development regulations in most Orange County municipalities became directly tied to soil types even before the Orange County Soil Survey was formally published by USDA. Using a preliminary Orange County Soils Report that was prepared using field work collected by a team of Soil Scientists in the 1970's, a scheme was developed that determined allowable lots sizes based on soil properties on land that was not serviced by central sewer systems. Soils with better drainage properties could support smaller lot sizes. Poorer draining soils required larger lot sizes. Some soil types with severe limitations could not be built on. Known as 'Soils-Based Zoning', the system was quite progressive and innovative for its time. There was even an 'appeals process' whereby a developer who questioned the Soil Survey information could request a field check. And while these requests were not uncommon, the degree of accuracy of the field data was surprisingly good. Soil Surveys are done at varying degrees of 'precision' depending on several factors. For the Orange County Survey, it was understood that areas of an acre or so in size within any given mapping unit could have significantly different properties than the listed mapping unit. Despite these 'precision' qualifications, the Orange County Soil Survey has been and continues to be a very useful tool not only for agricultural planning but for various aspects of urban planning.

While Soils-Based Zoning has been largely abandoned in favor of different site plan/urban planning review procedures, it can be argued that it helped to avoid exceeding the 'carrying capacity' of the land and, perhaps, reduced the incidence of failing septic systems during a period of rapid urban development in Orange County. The skill of those USDA Soil Scientists to describe different soil types and discern their boundaries in the field using little more than a soil auger, a shovel and black and white aerial photos (no GPS, no computer) is quite noteworthy.

More recently, we concern ourselves with the properties of urban soils in terms of how they can support various 'Green Infrastructure/Runoff Reduction' practices. But we're going to save that topic for World Soil Day 2026, since the appetite for soil topics has likely been satiated already for most readers.

5.1.4.1 Soil Factors and Lot Size Information:

Group	Soil Types	Environmental Factor	Minimum Lot Size (in acres)
I	1A, 1B, 1C, 2A, 2B, 2C 9A, 9B, 9C, 10A, 10B, 10C, 13A, 13B, 13C	2.0	.5

II	78A, 78B, 79A, 79B	1.35	.75
III	38C, 39A, 39B, 63B, 63C	1.0	1.0
IV	5A, 5B, 20B, 20C, 35A, 35B, 35C, 40B, 40C, 41B, 41C, 64B, 64C	.71	1.4
V	80A, 80B, 84B	.67	1.5
VI	22AC, 65AC, 77B, 77C 020BC	.67	1.5
VII	4A, 4B, 7, 25A, 42A, 42B 81, 85A, 85B, 025B	.33	3.0**
VIII	3A, 3B, 3C, 48B, 75AB, 070BC, 48C, 071BC, 073AC, 074AC, 077AC, 080AB	.33	3.0**
IX	8, 26, 43, 82, 83, 86, 87 97, 98, 026	.17	No septic systems allowed
X	88, 89, 91, 92, 93, 99, 100, 101, 193, 293	.1	No septic systems allowed
XI	78C, 79C, 84C	.17	5.8*
XII	1D, 9D, 13D, 20D, 22DE, 38D, 39D, 40D, 64D, 65DE, 77D, 020DE, 070DE, 071DE, 074DE, 075DE, 076DE, 077DE	.33	No septic systems allowed
XIII	01E, 20E, 22F, 40E, 65F, 84D, 020F, 071F, 074F, 076F, 077F	.17	" "
XIV	94, 96, 194, 197, 294, 295	.1	" "
XV	103	.1	" "

* See Article IV, Section 8, for a further explanation of these soil groups (TOWN OF WALLKILL SUBDIVISION REGULATIONS).