

D. Soils

Soils vary for a variety of reasons. Parental material, climate, topography, biology and time all play a part in shaping the character of soils. Soils are broken down into a multitude of classifications, each having their own unique qualities based upon county soil surveys. Understanding soils is a gateway to understanding the limitations or opportunities they present for land use and development.

Wise land use decisions can only be made through proper awareness of the types of soils existing in an area, and their specific, unique qualities. The Natural Resources Conservation Service provides extensive information about soils and offers help to landowners. The soils in Raymond have developed over time from complex interactions of climate, topography, and surficial materials. Since the surface materials of Raymond are primarily made up of glacial till, many of the soils tend to be moist and/or stony with areas of high water table, shallow ledge or ledge outcroppings. In areas where there is stratified drift, the soils tend to have more sand and gravel and better drained

The majority of soil information gathered for this master plan is drawn from the United States Department of Agriculture's Soil Conservation Service which conducted a Soil Survey of Rockingham County in 1985. The Rockingham County Soil Survey is the major source of soils and geologic information pertaining to planning within the region and was used to conduct research for the previous Master Plan of the Town of Raymond completed in 2002.

Soil Potential Ratings

In 1987, the Rockingham County Conservation District, working with local, regional and state officials developed soil potential ratings indicating the relative ranking of a given soil for development. The overall potential is based on the suitability rating for three uses: septic system absorption fields; dwellings with basements; and local roads and streets. This soil potential rating information is shown on Map 18. Many communities use this map as a guide in the review of development proposals to regulate the placement of septic systems, dwellings and roads on slopes generally exceeding 15 percent.

The "Soils Potential for Development" handbook lists detailed development potential estimates for each type of soil found in Rockingham County.⁷³ A total of five soil potential categories are identified on Raymond's Soil Potential for Development Map. These categories range from very high to very low based on a number of factors. These factors include depth to bedrock, depth to water table, flooding potential, permeability of the septic system absorption field, slope, and stone content of the surface.

⁷³ Soil Potential for Development, Rockingham County, New Hampshire, US Department of Agriculture, Soil Conservation Service, May, 1987.

Very-high potential means site conditions and soil properties are favorable. Installation or management costs are low, there are few or no soil limitations, soil properties are similar to those in reference soil.

High-potential means site conditions and soil properties less favorable than reference soil. Costs to overcome soil limitations are slightly higher than for very-high potential.

Medium-potential means site conditions and soil properties are below the reference soil, the very-high potential soil, and the high potential soil. Costs of measures to overcome soil limitations are significant.

Low-potential means site conditions and soil properties are significantly worse than those of the reference soil. Costs of measures to overcome soil limitations are very high.

Very-low potential means there are severe soil limitations. The costs of measures to overcome the limitations are extremely high or prohibitive

The reference soil for a septic system absorption field is on a five percent slope. The depth to high-water table and bedrock is more than 10 feet. Stones and boulders make up less than three percent of the surface. Percolation rate is 12 to 15 minutes an inch. The area is not subject to flooding.

The reference soil for a dwelling with basement is well-drained; that is, the water table is more than six feet below the surface, and is not subject to flooding. Bedrock is deeper than six feet. Stones and boulders make up less than three percent of the surface. Slopes are less than eight percent.

The reference soil for a local road or street is on a two percent slope. Depths to bedrock and the water table are greater than six feet, rocks and stones make up less than three percent of the surface. The area does not flood.

