Soil Properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed *(12)*. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classification, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given.

Engineering Index Properties

Table 14 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given for each soil series under the heading "Soil Series and Their Morphology."

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages, by weight, of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is as much as 15 percent, by volume, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system *(2)* and the system adopted by the American Association of State Highway and Transportation Officials *(1)*.

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, SP-SM.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

Rock fragments greater than 3 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and

in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

Physical and Chemical Properties

Table 15 shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Clay as a soil separate, or component, consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated content of clay in each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence the shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3-bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In this table, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability refers to the ability of a soil to transmit water or air. The estimates indicate the rate of movement of water through the soil when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage in each major soil layer is stated in inches of water per inch of soil. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time. It is the difference between the amount of soil water at field moisture capacity and the amount at wilting point.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Shrink-swell potential is the potential for volume change in a soil with a loss or gain in moisture. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soil and on measurements of similar soils.

If the shrink-swell potential is rated moderate to very high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed.

The shrink-swell potential classes are based on the change in length of an unconfined clod as moisture content is increased from air-dry to field capacity. The classes are *low*, a change of less than 3 percent; *moderate*, 3 to 6 percent; and *high*, more than 6 percent. *Very high*, more than 9 percent, is sometimes used.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) to predict the average annual rate of soil loss by sheet and rill erosion. Losses are expressed in tons per acre per year. These estimates are based primarily on percentage of silt, sand, and organic matter (up to 4 percent) and on soil structure and permeability. Values of K range from 0.02 to 0.69. The higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur over a sustained period without affecting crop productivity. The rate is expressed in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their resistance to soil blowing in cultivated areas. The groups indicate the susceptibility to soil blowing. Soils are grouped according to the following distinctions:

1. Coarse sands, sands, fine sands, and very fine sands. These soils are generally not suitable for crops. They are extremely erodible, and vegetation is difficult to establish.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, and sapric soil material. These soils are very highly erodible. Crops can be grown if intensive measures to control soil blowing are used.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams. These soils are highly erodible. Crops can be grown if intensive measures to control soil blowing are used.

4L. Calcareous loams, silt loams, clay loams, and silty clay loams. These soils are erodible. Crops can be grown if intensive measures to control soil blowing are used.

4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay. These soils are moderately erodible. Crops can be grown if measures to control soil blowing are used.
5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material. These soils are slightly erodible. Crops can be grown if measures to control soil blowing are used.
6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay. These soils are very slightly erodible. Crops can be grown if ordinary measures to control soil blowing are used.
7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material. These soils are very slightly erodible. Crops can be grown if ordinary measures to control soil blowing are used.
8. Soils that are not subject to soil blowing because of coarse fragments on the surface or because of surface wetness.

Organic matter is the well decomposed plant and animal residue in the soil. In table 15, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Soil and Water Features

Table 16 gives estimates of various soil and water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are used to estimate runoff from precipitation. Soils are assigned to one of four groups. They are grouped according to the infiltration of water when the soils are thoroughly wet and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep or very deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep to very deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a permanent high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil listed in table 16 is assigned to two hydrologic groups, the first letter is for drained areas and the second is for undrained areas.

Flooding, the temporary covering of the surface by flowing water, is caused by overflowing streams, by runoff from adjacent slopes, or by inflow from high tides. Shallow water standing or flowing for short periods after rainfall or snowmelt is not considered flooding. Standing water in swamps and marshes or in a closed depression is considered ponding.

Table 16 gives the frequency and duration of flooding and the time of year when flooding is most likely.

Frequency, duration, and probable dates of occurrence are estimated. Frequency generally is expressed as *none, rare, occasional,* or *frequent. None* means that flooding is not probable. *Rare* means that flooding is unlikely but possible under unusual weather conditions (the chance of flooding is nearly 0 percent to 5 percent in any year). *Occasional* means that flooding

occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year). *Frequent* means that flooding occurs often under normal weather conditions (the chance of flooding is more than 50 percent in any year). Duration is expressed as *very brief* (less than 2 days), *brief* (2 to 7 days), *long* (7 days to 1 month), and *very long* (more than 1 month). The time of year that floods are most likely to occur is expressed in months. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information on flooding is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered is local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

High water table (seasonal) is the highest level of a saturated zone in the soil in most years. The estimates are based mainly on the evidence of a saturated zone, namely grayish colors or mottles in the soil. Indicated in table 16 are the depth to the seasonal high water table; the kind of water table, that is, *perched* or *apparent;* and the months of the year that the water table commonly is highest. A water table that is seasonally high for less than 1 month is not indicated in table 16.

An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Two numbers in the column showing depth to the water table indicate the normal range in depth to a saturated zone. Depth is given to the nearest half foot. The first numeral in the range indicates the highest water level. A plus sign preceding the range in depth indicates that the water table is above the surface of the soil. "More than 6.0" indicates that the water table is below a depth of 6 feet or that it is within a depth of 6 feet for less than a month.

Depth to bedrock is given if bedrock is within a depth of 5 feet. The depth is based on many soil borings and on observations during soil mapping. The rock is specified as either soft or hard. If the rock is soft or fractured, excavations can be made with trenching machines, backhoes, or small rippers. If the rock is hard or massive, blasting or special equipment generally is needed for excavation.

Potential frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than steel in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and the amount of sulfates in the saturation extract.

Formation of the Soils

This section describes the factors of soil formation and relates them to the soils in the survey area.

Factors of Soil Formation

Soils are formed by processes of the environment acting upon geologic materials. In Clay County, the predominant geologic parent materials are high-grade metamorphic rocks, metasedimentary rocks, and colluvium and alluvium derived from those rocks. The characteristics of a soil are determined by the combined influence of climate, plant and animal life, relief, and time. These five factors are responsible for the profile development and chemical properties of the different soils *(4)*.

Parent Material

Parent material is the geologic material in which a soil forms. The character of this material affects the kind of profile that develops and the degree of development. In Clay County, the parent material is a major factor in determining what kind of soil forms. The general soil map can be used as an approximate guide to the geology of the county.

The soils in the Hayesville-Tate, Evard-Cowee, Edneyville-Plott-Chestnut-Cullasaja, Chestnut-Rock outcrop-Cleveland, and Fannin-Tate general soil map units formed from materials weathered from high-grade metamorphic rocks, such as mica gneiss and mica schist. The soils in the Junaluska-Brasstown-Lonon, Junaluska-Tsali-Spivey, Soco-Stecoah-Cheoah-Spivey, and Sylco-Cataska-Spivey general soil map units formed from materials weathered from metasedimentary rocks, such as metasandstone, phyllite, and slate. The soils in the Rosman-Reddies-Arkaqua-French and Braddock-Tate general soil map units formed from alluvium or colluvium.

None of these parent materials contains carbonate. These materials have a very low content of phosphorous, calcium, and magnesium. Upon weathering, they contribute only limited amounts of plant-essential nutrients and thus the soils that form are naturally infertile.

Climate

Climate, particularly precipitation and temperature, affects the physical, chemical, and biological relationships in soil. Water percolating from the topsoil to the subsoil carries clay, which thus accumulates and forms the clayey Bt or argillic horizon. Water also helps to weather iron-bearing minerals; and iron is thus released as an oxide that coats subsoil particles and causes them to appear red or yellow. The effects of climate also control the kinds of plants and animals living in and on the soil. Temperature influences the rate of growth of organisms and the speed of chemical and physical reactions in the soil.

In Clay County, climate varies greatly according to differences in elevation and landscape position. Localized microclimates are important in the soil-forming processes in the county. The climate in any specific place is influenced by elevation, aspect, and the moisture-rich winds from the Gulf of Mexico. For example, annual rainfall varies from 63 inches at Hayesville to 85 inches at Standing Indian Mountain.

In areas of high mountains that have higher amounts of rainfall and cooler temperatures, the soils are brown, are medium textured, and have a surface layer with a high content of organic matter. In areas of low mountains and low rolling hills that have warmer temperatures, the soils are redder than the soils of high mountains and contain more clay in the subsoil. Soils on south- and west-facing slopes receive more radiation than those on shaded or north- and east-facing slopes and thus have higher surface temperatures and a lower content of organic matter.

Plant and Animal Life

Plants and animals influence the formation and differentiation of soil horizons. The type and number of organisms in and on the soil are determined partly by climate and partly by the nature of the soil material, relief, and the age of the soil. Bacteria, fungi, and other micro-organisms aid in the weathering of rocks and in the decomposition of organic matter. The plants growing on a soil combine plant-essential elements in

the soil with carbon from the air and form organic-rich, dark material when they shed their leaves. Insects and animals mix organic material with the mineral material in the topsoil.

Trees are important for the soils in Clay County because they gather plant-essential nutrients through the entire root system in parent material that is naturally low in fertility and concentrate these nutrients in the topsoil.

As organic material decomposes, the plant-essential elements which it contains are released for the uptake of growing plants. This cycle can assure continued plant growth unless plants are removed from the soil, as in the harvest of crops or timber.

Because the soils in Clay County formed in rock materials having poor fertility, applications of fertilizer are needed to compensate for the nutrients removed during harvest. If fertilizer is not added, plant growth is retarded because of an insufficient supply of nutrients.

Relief

Relief causes differences in drainage, surface runoff, soil temperature, and the extent of geologic erosion. In Clay County, relief varies greatly. Slopes in the county range from 0 to 95 percent.

Soils on alluvial flood plains and terraces and in colluvial areas in coves are commonly less sloping and receive runoff from the surrounding uplands. Examples are Dellwood and Tate soils. Because runoff contains topsoil and plant litter from the surrounding slopes, these soils have a higher content of organic matter and are commonly more fertile than the upland soils.

Soil creep is an important factor in soil formation on mountainous terrain. Generally, the upper part of most soils on side slopes formed in material that crept downslope from higher areas. Soils that formed on ridgetops and shoulder slopes are much less affected by soil creep and may be the only completely residual soils. Generally, soil depth increases as distance down the slope increases, especially in concave areas. Maximum soil thickness occurs in colluvial areas in coves and along toe slopes.

Time

The length of time that soil material has been exposed to the soil-forming processes accounts for some differences between soils. The geologic stability of a given landscape determines the length of time that a soil has been developing. Old soils generally have more clay accumulation in their subsoil than young soils. In Clay County, the effects of time are apparent in the older soils, such as Braddock soils, which are on the broader, more stable parts of high stream terraces. Young soils that have little development of the B horizon occur on flood plains that receive sediments during each flood event. Examples are Rosman and Reddies soils, which formed in recent alluvium. Other young soils are on strongly sloping to very steep landscapes where they lose surface material to geologic erosion. Only weakly expressed Bw (cambic) horizons form in these soils because unweathered parent materials are continually being exposed. Examples are Chestnut, Cheoah, Edneyville, Soco, and Stecoah soils.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories *(11, 14)*. Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or on laboratory measurements. Table 17 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Eleven soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Inceptisol.

SUBORDER. Each order is divided into suborders, primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Umbrept (*Umbr*, meaning shade, plus *ept*, from Inceptisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Haplumbrepts (*Hapl*, meaning minimal horizon development, plus *umbrept*, the suborder of the Inceptisols that occurs in humid climates).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Haplumbrepts.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, temperature regime, depth of the root zone, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is coarse-loamy, mixed, mesic Typic Haplumbrepts.

SERIES. The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. There can be some variation in the texture of the surface layer or of the underlying material within a series. The Plott series is an example of coarse-loamy, mixed, mesic Typic Haplumbrepts in the county.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. The descriptions are arranged in alphabetic order.

Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The location of the typical pedon is described, and coordinates are identified by the State plane grid system or by longitude and latitude. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" *(13)*. Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" *(11, 14)*. Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units of each soil series are described in the section "Detailed Soil Map Units."

Arkaqua Series

The Arkaqua series consists of very deep, somewhat poorly drained, moderately permeable soils on flood plains. These soils formed in recent alluvium. They are rarely flooded or frequently flooded. Elevation generally ranges from 1,600 to 2,500 feet. Slope ranges from 0 to 2 percent. The soils are fine-loamy, mixed, mesic Fluvaquentic Dystrochrepts.

Arkaqua soils are commonly adjacent to Rosman and Toxaway soils. Rosman soils are moderately well drained or well drained and are coarse-loamy. Toxaway soils are poorly drained or very poorly drained. Rosman soils are along stream channels in slightly elevated areas. Toxaway soils are further from stream channels in depressions.

Typical pedon of Arkaqua loam, 0 to 2 percent slopes, rarely flooded; about 0.6 mile north of Hayesville on Secondary Road 1307, about 200 feet from north side of the bridge on the Hiwassee River on Secondary Road 1307, about 1,350 feet northwest in a field (State plane coordinates 511,200 feet N., 558,700 feet E.):

Ap—0 to 11 inches; very dark grayish brown (10YR 3/2) loam; weak medium granular structure; very friable; few fine flakes of mica; common fine roots; strongly acid; abrupt smooth boundary.

Bw1—11 to 20 inches; brown (10YR 5/3) loam; weak medium subangular blocky structure; friable; few fine distinct brownish yellow (10YR 6/6) soft masses of iron accumulation; few fine flakes of mica; few fine roots; very strongly acid; gradual wavy boundary.

Bw2—20 to 28 inches; brown (10YR 5/3) loam; weak medium subangular blocky structure; friable; few fine distinct brownish yellow (10YR 6/6) soft masses of iron accumulation and grayish brown (10YR 5/2) iron depletions; few fine flakes of mica; few fine roots; very strongly acid; gradual wavy boundary.

Bw3—28 to 40 inches; about 50 percent yellowish brown (10YR 5/6) and 50 percent grayish brown (10YR 5/2) loam; weak medium subangular blocky structure; friable; yellowish brown areas have iron accumulation and grayish brown areas are iron depletions; few fine flakes of mica; very strongly acid; gradual wavy boundary.

Bg—40 to 51 inches; grayish brown (10YR 5/2) clay loam; moderate medium subangular blocky structure; firm; few medium prominent brownish yellow (10YR 6/8) soft masses of iron accumulation; few fine flakes of mica; very strongly acid; clear wavy boundary.

C—51 to 60 inches; about 50 percent brownish yellow (10YR 6/6) and 50 percent grayish brown (10YR 5/2) loam; massive; friable; brownish yellow areas have iron accumulation and grayish brown areas are iron depletions; many fine flakes of mica; very strongly acid.

The thickness of the solum ranges from 37 inches to 60 inches. The depth to bedrock is greater than 60 inches. The soils are very strongly acid to moderately acid unless limed. Where the soils are limed, reaction in the A horizon and the upper part of the Bw horizon may range to neutral. Flakes of mica range from few to many.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 2 to 4.

The Bw horizon has hue of 10YR, value of 3 to 6, and chroma of 3 to 8. Iron depletions with chroma of 1 or 2 are within a depth of 24 inches. The texture is sandy loam, fine sandy loam, loam, or clay loam.

The Bg horizon has hue of 10YR, value of 3 to 5, and chroma of 1 or 2. The colors having low chroma result from iron depletion caused by wetness. Most pedons have iron accumulations associated with colors having higher chroma. The texture is sandy loam, fine sandy loam, loam, or clay loam.

The C horizon or Cg horizon has hue of 7.5YR to 2.5Y, value of 2 to 6, and chroma of 1 to 6. The pattern of colors having high and low chroma is a result of iron depletion and accumulation. The texture is sandy loam, fine sandy loam, loam, or clay loam.

Arkaqua soils in Clay County are taxadjuncts to the Arkaqua series because they have an umbric epipedon. These soils have a dark surface layer that is slightly thicker than allowed for the series. This difference, however, does not significantly affect the use, management, or behavior of these soils.

Braddock Series

The Braddock series consists of very deep, well drained, moderately permeable soils on high stream terraces. These soils formed in old alluvium. Elevation generally ranges from 1,600 to 2,500 feet. Slope ranges from 2 to 15 percent. The soils are clayey, mixed, mesic Typic Hapludults.

Braddock soils are commonly adjacent to Brasstown, Hayesville, Junaluska, Lonon, and Tate soils. Brasstown, Hayesville, and Junaluska soils formed in residuum. Lonon and Tate soils formed in colluvium and are fine-loamy. They are in drainageways and depressions. Brasstown, Hayesville, and Junaluska soils are in areas where the landscape breaks sharply.

Typical pedon of Braddock clay loam, 8 to 15 percent slopes, eroded; north of Hayesville on Secondary Road 1307 to Secondary Road 1300, about 0.5 mile on

Secondary Road 1300, about 200 feet southwest of the road in a field (State plane coordinates 513,500 feet N., 557,500 feet E.):

Ap—0 to 6 inches; yellowish red (5YR 5/8) clay loam; moderate medium granular structure; friable; few fine roots; common fine flakes of mica; about 5 percent gravel, by volume; moderately acid; abrupt smooth boundary.

Bt1—6 to 36 inches; red (2.5YR 4/6) clay; moderate fine and medium subangular blocky structure; firm, sticky, slightly plastic; few fine roots; few fine flakes of mica; strongly acid; gradual wavy boundary.

Bt2—36 to 60 inches; red (2.5YR 4/6) clay loam; moderate medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine flakes of mica; very strongly acid.

The thickness of the solum ranges from 40 to more than 60 inches. The soils are extremely acid to strongly acid unless limed. Reaction in the A horizon and the upper part of the Bt horizon may range to neutral because of past liming. Flakes of mica are few or common. The content of water-rounded gravel and cobbles ranges from 0 to 35 percent, by volume, in the A and B horizons and is as much as 60 percent in the BC and C horizons. The size and amount rock fragments vary greatly.

The Ap horizon has hue of 5YR to 10YR, value of 3 to 5, and chroma of 3 to 6.

The Bt horizon has hue of 10R or 2.5YR, value of 3 to 5, and chroma of 6 to 8. Some pedons have subhorizons with hue of 5YR. The number of mottles in shades of yellow or brown ranges from none to common. This horizon is clay loam or clay in the fine-earth fraction.

The BC horizon, if it occurs, is similar in color to the Bt horizon and in many pedons is mottled or streaked in shades of red, yellow, or brown. It is sandy clay loam or clay loam in the fine-earth fraction.

The C horizon, if it occurs, is similar in color to the Bt horizon or is multicolored. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

Brasstown Series

The Brasstown series consists of deep, well drained, moderately permeable soils on low rolling hills. These soils formed in material weathered from metasedimentary rock, such as phyllite and metasandstone. Elevation generally ranges from 1,700 to 3,500 feet. Slope ranges from 8 to 50 percent. The soils are fine-loamy, mixed, mesic Typic Hapludults.

Brasstown soils are commonly adjacent to Junaluska, Lonon, Santeetlah, and Spivey soils. Junaluska soils are moderately deep. Lonon, Santeetlah, and Spivey soils formed in colluvium. Santeetlah and Spivey soils have an umbric epipedon. Spivey soils are loamy-skeletal. Junaluska soils are on the upper part of side slopes or in areas where the landscape breaks sharply. Lonon, Santeetlah, and Spivey soils are in coves, in drainageways, and on toe slopes.

Typical pedon of Brasstown fine sandy loam in an area of Brasstown-Junaluska complex, 8 to 15 percent slopes; in the Pinelog Community, south from Brasstown on Secondary Road 1100 to Secondary Road 1101, southwest on Secondary Road 1101 to the intersection of Secondary Roads 1101 and 1104, about 0.9 mile west on Secondary Road 1101, about 100 feet north of the road in a wooded area (State plane coordinates 490,600 feet N., 509,100 feet E.):

A—0 to 5 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium granular structure; friable; few fine flakes of mica; common fine to coarse roots; about 5 percent channers, by volume; strongly acid; abrupt smooth boundary.

BA—5 to 12 inches; strong brown (7.5YR 5/6) loam; moderate medium subangular blocky structure; friable; few fine flakes of mica; common medium and coarse roots; about 5 percent channers, by volume; strongly acid; gradual wavy boundary.

Bt—12 to 27 inches; yellowish red (5YR 5/8) clay loam; moderate fine and medium subangular blocky structure; firm; few fine flakes of mica; few discontinuous clay films on faces of peds; common medium and coarse roots; about 5 percent channers, by volume; strongly acid; gradual wavy boundary.

BC—27 to 38 inches; red (2.5YR 4/8) loam; weak fine and medium subangular blocky structure; friable; few fine flakes of mica; few medium and coarse roots; about 10 percent milky quartz fragments, by volume; strongly acid; gradual wavy boundary.

C—38 to 54 inches; multicolored saprolite that has sandy loam texture; massive; very friable; few fine flakes of mica; about 10 percent channers, by volume; strongly acid; gradual wavy boundary.

Cr—54 to 60 inches; multicolored, soft weathered, highly fractured metasandstone; partially consolidated but can be dug with difficulty with a spade; few thin seams of yellowish red (5YR 5/6) sandy clay loam in rock fractures.

The thickness of the solum ranges from 26 to 59 inches. The depth to soft weathered bedrock is 40 to 60 inches. Reaction is extremely acid to moderately acid. Flakes of mica are few or common. The content of rock fragments is as much as 35 percent, by volume. The fragments are dominantly channers.

The A horizon has hue of 5YR to 10YR, value of 4 or 5, and chroma of 3 to 6.

The BA horizon is similar in color to the Bt horizon. It is fine sandy loam, loam, silt loam, or sandy clay loam in the fine-earth fraction.

The Bt horizon has hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 4 to 8. At least part of the Bt horizon has hue of 2.5YR or 5YR. The horizon is loam, sandy clay loam, or clay loam in the fine-earth fraction.

The BC horizon is similar in color to the Bt horizon. It is fine sandy loam or loam in the fine-earth fraction.

The C horizon is multicolored or has hue of 5YR or 7.5YR, value of 4 or 5, and chroma of 4 to 8. It is sandy loam, fine sandy loam, loam, or silt loam in the fine-earth-fraction.

The Cr horizon is multicolored, soft weathered, partially consolidated metasedimentary rock, such as phyllite, slate, or metasandstone. It can be dug with difficulty with a spade.

Burton Series

The Burton series consists of moderately deep, well drained, moderately rapidly permeable soils on high mountains (fig. 16). These soils formed in material weathered from high-grade metamorphic rock, such as mica gneiss and hornblende gneiss. Elevation is generally above 4,800 feet. Slope ranges from 15 to 95 percent. The soils are coarse-loamy, mixed, frigid Typic Haplumbrepts.

Burton soils are commonly adjacent to Craggey and Cullasaja soils. Craggey soils are shallow, and Cullasaja soils are very deep. Cullasaja soils are loamy-skeletal. Craggey soils are near areas of small rock outcrops. Cullasaja soils are at the head of drainageways.

Typical pedon of Burton sandy loam in an area of Burton-Craggey-Rock outcrop complex, windswept, 15 to 30 percent slopes, stony; from Hayesville east on U.S. Highway 64 to U.S. Forest Service Road 71, south on U.S. Forest Service Road 71 to the end at Deep Gap, east on the Appalachian Trail to the top of Standing Indian Mountain (State plane coordinates 499,900 feet N., 641,000 feet E.):

A1—0 to 7 inches; very dark brown (10YR 2/2) sandy loam; weak fine and medium granular structure; very friable; many fine to coarse roots; about 5 percent gravel, 5 percent cobbles, and 10 percent stones, by volume; few fine flakes of mica; very strongly acid; clear smooth boundary.

A2—7 to 17 inches; dark brown (10YR 3/3) sandy loam; moderate fine and medium granular structure; very friable; common fine and few medium to coarse roots; about 5 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; clear smooth boundary.

Bw—17 to 25 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine and medium subangular blocky structure; very friable; few medium and coarse roots; about 5 percent cobbles and 5 percent stones, by volume; common fine flakes of mica; strongly acid; gradual wavy boundary.

BC—25 to 38 inches; yellowish brown (10YR 5/6) sandy loam; weak fine and medium subangular blocky structure; very friable; few medium and coarse roots; about 5 percent gravel, 5 percent cobbles, and 10 percent stones, by volume; common fine and medium flakes of mica; strongly acid; clear wavy boundary.

R—38 inches; hard unweathered gneiss.

The thickness of the solum ranges from 20 to 39 inches. The depth to hard unweathered bedrock ranges from 20 to 40 inches. Reaction is extremely acid to moderately acid. Flakes of mica are few or common. The content of rock fragments is as much as 35 percent, by volume.

The A horizon has hue of 10YR or 2.5Y, value of 2 or 3, and chroma of 1 to 3, or it is neutral in hue and has value of 2 or 3.

The AB horizon, if it occurs, has hue of 10YR, value of 3 or 4, and chroma of 2 or 3.

The Bw horizon has hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 4 to 8. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The BC horizon is similar in color to the Bw horizon or is multicolored. It is also similar in texture to the Bw horizon.

The C horizon, if it occurs, is similar in color to the Bw horizon or is multicolored. It is loamy sand or sandy loam in the fine-earth fraction.

Some pedons have a thin Cr horizon. This horizon is multicolored, soft weathered, partially consolidated bedrock.

The R horizon is hard unweathered, high-grade metamorphic rock, such as mica gneiss and hornblende gneiss.

Cataska Series

The Cataska series consists of shallow, excessively drained, moderately rapidly permeable soils on low and intermediate mountains. These soils formed in material weathered from metasedimentary rock, such as slate, phyllite, and metasandstone (fig. 17). Elevation generally ranges from 2,000 to 4,500 feet. Slope ranges from 15 to 95 percent. The soils are loamy-skeletal, mixed, mesic, shallow Typic Dystrochrepts.

Cataska soils are commonly adjacent to Santeetlah,

Spivey, and Sylco soils. Santeetlah and Spivey soils have an umbric epipedon, are very deep, and formed in colluvium. Sylco soils are moderately deep. Santeetlah and Spivey soils are in drainageways. Sylco soils are intermingled with the Cataska soils on the landscape.

Typical pedon of Cataska channery loam in an area of Sylco-Cataska complex, 50 to 95 percent slopes; in Fires Creek, north from Hayesville on Secondary Road 1307 to Secondary Road 1300, west on Secondary Road 1300 to Secondary Road 1344, north on Secondary Road 1344 to U.S. Forest Service Road 340, on U.S. Forest Service Road 340 to 340C, on U.S. Forest Service Road 340C to 427, on U.S. Forest Service Road 427 to 427A, on U.S. Forest Service Road 427A for 1.6 miles, 50 feet upslope of the road (State plane coordinates 538,500 feet N., 565,500 feet E.):

A—0 to 5 inches; dark brown (10YR 3/3) channery loam; moderate fine granular structure; very friable; many fine to coarse roots; about 20 percent channers and 5 percent flagstones, by volume; very strongly acid; gradual wavy boundary.

Bw—5 to 14 inches; dark yellowish brown (10YR 4/4) very channery loam; weak fine subangular blocky structure; very friable; common fine to coarse roots; about 25 percent channers and 15 percent flagstones, by volume; strongly acid; gradual irregular boundary.

Cr—14 to 21 inches; soft weathered, fractured slate; partially consolidated but can be dug with difficulty with a spade; few thin seams of dark yellowish brown (10YR 3/4) loam in rock fractures.

R—21 inches; hard unweathered, fractured slate.

The thickness of the solum ranges from 10 to 19 inches. The depth to soft weathered bedrock ranges from 10 to 20 inches. The depth to hard unweathered bedrock ranges from 20 to 40 inches. Reaction is extremely acid to strongly acid. The content of rock fragments ranges from 15 to 45 percent, by volume, in the A horizon and from 35 to 80 percent in other horizons. The rock fragments are dominantly channers and flagstones.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 2 to 4. Where it has value of 3, the horizon is less than 7 inches thick.

The Bw horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8. It is loam or silt loam in the fine-earth fraction.

The Cr horizon is soft weathered, partially consolidated rock that has small amounts of fine-earth in fractures. It can be dug with difficulty with a spade.

The R horizon is hard unweathered metasedimentary rock, such as slate, phyllite, and metasandstone.

Cheoah Series

The Cheoah series consists of deep, well drained, moderately rapidly permeable soils on low and intermediate mountains. These soils formed in material weathered from metasedimentary rock, such as phyllite, slate, and metasandstone. Elevation generally ranges from 2,000 to 4,800 feet. Slope ranges from 30 to 95 percent. The soils are coarse-loamy, mixed, mesic Typic Haplumbrepts.

Cheoah soils are commonly adjacent to Santeetlah, Soco, Spivey, and Stecoah soils. Santeetlah and Spivey soils formed in colluvium and are very deep. Spivey soils are loamy-skeletal. Soco and Stecoah soils have an ochric epipedon. Soco soils are moderately deep. Santeetlah and Spivey soils are in coves, in drainageways, and on toe slopes. Soco and Stecoah soils are on south- to west-facing slopes.

Typical pedon of Cheoah channery loam, 50 to 95 percent slopes; 0.2 mile south from Tuni Gap on U.S. Forest Service Road 440, west on U.S. Forest Service Road 6190 to Big Tuni Creek, 200 feet west up hiking trail on south side of the creek, 200 feet south of the trail on a side slope (State plane coordinates 542,500 feet N., 594,000 feet E.):

A1—0 to 4 inches; very dark grayish brown (10YR 3/2) channery loam; moderate medium granular structure; very friable; many fine to coarse roots; about 15 percent channers and 5 percent flagstones, by volume; few fine flakes of mica; very strongly acid; abrupt smooth boundary.

A2—4 to 13 inches; dark brown (10YR 3/3) channery loam; moderate fine and medium granular structure; very friable; common medium and coarse roots; about 10 percent channers and 5 percent flagstones, by volume; few fine flakes of mica; strongly acid; clear wavy boundary.

Bw—13 to 28 inches; yellowish brown (10YR 5/8) loam; weak medium subangular blocky structure; very friable; few medium and coarse roots; about 10 percent channers, by volume; common fine flakes of mica; strongly acid; clear wavy boundary.

BC—28 to 34 inches; yellowish brown (10YR 5/4) channery sandy loam; weak medium subangular blocky structure; very friable; few medium roots; about 10 percent channers and 5 percent flagstones, by volume; common fine flakes of mica; strongly acid; gradual wavy boundary.

C—34 to 47 inches; multicolored saprolite that has flaggy sandy loam texture; massive; very friable; about 10 percent channers and 10 percent flagstones, by volume; common fine flakes of mica; strongly acid; clear wavy boundary.

Cr—47 to 54 inches; multicolored, soft weathered, interbedded metasandstone and phyllite; partially consolidated but can be dug with difficulty with a spade; few thin seams of yellowish brown (10YR 5/8) fine sandy loam in rock fractures.

The thickness of the solum ranges from 30 to 59 inches. The depth to soft weathered bedrock ranges from 40 to 60 inches. Reaction is extremely acid to moderately acid in the A horizon and very strongly acid to moderately acid in other horizons. Flakes of mica are few or common. The content of rock fragments is as much as 35 percent, by volume. The rock fragments are dominantly channers and flagstones.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 to 3.

The AB horizon, if it occurs, has hue of 10YR and value and chroma of 3 or 4.

The Bw horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 8. It is fine sandy loam or loam in the fine-earth fraction.

The BC horizon is similar in color to the Bw horizon. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction. This horizon typically contains more rock fragments than the Bw horizon.

The C horizon is similar in color to the Bw horizon or is multicolored. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The Cr horizon is multicolored, soft weathered, partially consolidated metasedimentary rock, such as metasandstone, phyllite, and slate. It can be dug with difficulty with a spade.

Chestnut Series

The Chestnut series consists of moderately deep, well drained, moderately rapidly permeable soils on intermediate mountains. These soils formed in material weathered from high-grade metamorphic rock, such as mica gneiss and hornblende gneiss (fig. 18). Elevation generally ranges from 3,500 to 4,800 feet. Slope ranges from 15 to 95 percent. The soils are coarse-loamy, mixed, mesic Typic Dystrochrepts.

Chestnut soils are commonly adjacent to Cullasaja, Edneyville, Plott, and Tuckasegee soils. These adjacent soils are very deep. Cullasaja, Plott, and Tuckasegee soils have an umbric epipedon. Cullasaja soils are loamy-skeletal. Cullasaja and Tuckasegee soils are in coves, in drainageways, and on toe slopes. Edneyville soils are on the lower part of side slopes or in areas where the landscape is smoother. Plott soils are on north- to east-facing slopes.

Typical pedon of Chestnut fine sandy loam in an area of Edneyville-Chestnut complex, 15 to 30 percent slopes, stony; near Park Gap, from Hayesville east on U.S. Highway 64 to U.S. Forest Service Road 71, south on U.S. Forest Service Road 71 to Park Gap, 200 feet east of the gap (State plane coordinates 509,200 feet N., 634,400 feet E.):

A—0 to 4 inches; very dark grayish brown (10YR 3/2) fine sandy loam; moderate fine and medium granular structure; very friable; many fine to coarse roots; about 5 percent gravel, 5 percent cobbles, and 5 percent stones, by volume; few fine flakes of mica; moderately acid; abrupt smooth boundary.

Bw1—4 to 16 inches; dark yellowish brown (10YR 4/6) cobbly fine sandy loam; weak medium subangular blocky structure; very friable; common medium and coarse roots; about 5 percent gravel, 10 percent cobbles, and 5 percent stones, by volume; common fine flakes of mica; strongly acid; clear wavy boundary.

Bw2—16 to 32 inches; yellowish brown (10YR 5/6) cobbly sandy loam; weak medium subangular blocky structure; very friable; few medium and coarse roots; about 5 percent gravel, 15 percent cobbles, and 15 percent stones, by volume; common fine flakes of mica; very strongly acid; clear wavy boundary.

Cr—32 to 40 inches; multicolored, soft weathered, fractured gneiss; partially consolidated but can be dug with difficulty with a spade; few thin seams of yellowish brown (10YR 5/6) sandy loam in rock fractures.

The thickness of the solum ranges from 15 to 39 inches. The depth to soft weathered bedrock ranges from 20 to 40 inches. The depth to hard unweathered bedrock is more than 40 inches. Reaction is very strongly acid to moderately acid. Flakes of mica are few or common. The content of rock fragments is as much as 35 percent, by volume. The rock fragments are dominantly gravel and cobbles and in some pedons include stones.

The A horizon and the AB horizon, if it occurs, have hue of 7.5YR or 10YR, value of 2 to 6, and chroma of 1 to 6. Where they have value of 2 or 3 and chroma of 1 to 3, the horizons are less than 7 inches thick.

The Bw horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The C horizon is similar in color to the Bw horizon or is multicolored. It is loamy sand, sandy loam, or fine sandy loam in the fine-earth fraction.

The Cr horizon is multicolored, soft weathered, high-grade metamorphic rock, such as mica gneiss and hornblende gneiss. It is partially consolidated but can be dug with difficulty with a spade.

The R horizon, if it occurs, is hard unweathered rock.

Cleveland Series

The Cleveland series consists of shallow, somewhat excessively drained, moderately rapidly permeable soils on intermediate mountains. These soils formed in material weathered from high-grade metamorphic rock, such as mica gneiss and hornblende gneiss (fig. 19). Elevation generally ranges from 3,000 to 4,800 feet. Slope ranges from 30 to 95 percent. The soils are loamy, mixed, mesic Lithic Dystrochrepts.

Cleveland soils are commonly adjacent to Chestnut, Cullasaja, and Plott soils. Chestnut soils are moderately deep. Cullasaja and Plott soils have an umbric epipedon. Cullasaja soils are loamy-skeletal. Chestnut soils are on the lower part of side slopes or in areas where the landscape is smoother. Cullasaja soils are in coves, in drainageways, and on toe slopes. Plott soils are on north- to east-facing slopes.

Typical pedon of Cleveland gravelly fine sandy loam in an area of Chestnut-Cleveland-Rock outcrop complex, windswept, 30 to 50 percent slopes, stony; on Chunky Gal Mountain, from Hayesville east on U.S. Highway 64 to U.S. Forest Service Road 6247, about 1.7 miles west on U.S. Forest Service Road 6247, about 500 feet northwest on logging trail (State plane coordinates 510,200 feet N., 612,100 feet E.):

A—0 to 8 inches; dark brown (10YR 4/3) gravelly fine sandy loam; weak fine and medium granular structure; very friable; many fine to coarse roots; about 10 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; clear wavy boundary.

Bw—8 to 15 inches; yellowish brown (10YR 5/4) gravelly fine sandy loam; weak medium subangular blocky structure; very friable; common medium and coarse roots; about 10 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; clear wavy boundary.

Cr—15 to 19 inches; multicolored, soft weathered, fractured gneiss; partially consolidated but can be dug with difficulty with a spade; few thin seams of yellowish brown (10YR 5/4) sandy loam in rock fractures; clear wavy boundary.

R—19 inches; hard unweathered gneiss.

The thickness of the solum ranges from 10 to 19 inches. The depth to hard unweathered bedrock ranges from 10 to 20 inches. Reaction ranges from very strongly acid to moderately acid. Flakes of mica are few or common. The content of rock fragments is as much as 35 percent, by volume. The rock fragments are dominantly gravel and cobbles.

The A horizon has hue of 10YR, value of 2 to 4, and chroma of 1 to 3. Where it has value of 2 or 3 and chroma of 1 to 3, the horizon is less than 7 inches thick.

The Bw horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 or 4. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The Cr horizon is multicolored, soft weathered, partially consolidated bedrock. It can be dug with difficulty with a spade.

The R horizon is hard unweathered, high-grade metamorphic rock, such as mica gneiss and hornblende gneiss.

Cowee Series

The Cowee series consists of moderately deep, well drained, moderately permeable soils on low mountains. These soils formed in material weathered from high-grade metamorphic rock, such as mica gneiss and hornblende gneiss. Elevation generally ranges from 2,000 to 3,500 feet. Slope ranges from 2 to 95 percent. The soils are fine-loamy, mixed, mesic Typic Hapludults.

Cowee soils are commonly adjacent to Evard, Tate, and Trimont soils. These adjacent soils are very deep. Tate soils formed in colluvium. Trimont soils have an epipedon that classifies them as humic. Evard soils are on the lower part of side slopes or in areas where the landscape is smoother. Tate soils are in coves, in drainageways, and on toe slopes. Trimont soils are on north- to east-facing slopes.

Typical pedon of Cowee gravelly loam in an area of Evard-Cowee complex, 15 to 30 percent slopes; east of Hayesville on U.S. Highway 64 to Secondary Road 1330, north on Secondary Road 1330 to U.S. Forest Service Road 351, about 0.7 mile east on U.S. Forest Service Road 351 to 351A, about 0.5 mile south on U.S. Forest Service Road 351A, about 100 feet east of the road (State plane coordinates 512,400 feet N., 591,400 feet E.):

A—0 to 6 inches; yellowish red (5YR 4/6) gravelly loam; moderate medium granular structure; very friable; many fine to coarse roots; about 15 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; clear wavy boundary.

Bt1—6 to 15 inches; yellowish red (5YR 5/8) gravelly clay loam; moderate fine and medium subangular blocky structure; firm; few discontinuous clay films on faces of peds; common medium and coarse roots; about 15 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; gradual wavy boundary.

Bt2—15 to 20 inches; yellowish red (5YR 5/8) gravelly loam; moderate fine and medium subangular blocky

structure; friable; few discontinuous clay films on faces of peds; few medium and common coarse roots; about 15 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; clear wavy boundary.

C—20 to 34 inches; multicolored saprolite that has fine sandy loam texture; massive; friable; few medium and coarse roots; about 10 percent gravel and 5 percent cobbles, by volume; common fine flakes of mica; strongly acid; gradual wavy boundary.

Cr—34 to 45 inches; multicolored, soft weathered, fractured gneiss; partially consolidated but can be dug with difficulty with a spade; few thin seams of yellowish red (5YR 5/8) loam in rock fractures.

The thickness of the solum ranges from 15 to 39 inches. The depth to soft weathered bedrock ranges from 20 to 40 inches. The depth to hard unweathered bedrock is more than 40 inches. Reaction is very strongly acid to moderately acid. Flakes of mica are few or common. The content of rock fragments is as much as 35 percent, by volume. The rock fragments are dominantly gravel and cobbles.

The A horizon has hue of 5YR to 10YR, value of 3 to 5, and chroma of 3 to 8. Where it has value and chroma of 3, the horizon is less than 7 inches thick.

The BA horizon, if it occurs, is similar in color to the Bt horizon. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The Bt horizon has hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 4 to 8. It is loam, sandy clay loam, or clay loam in the fine-earth fraction.

The BC horizon, if it occurs, is similar in color to the Bt horizon. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The C horizon is similar in color to the Bt horizon or is multicolored. It is sandy loam or fine sandy loam in the fine-earth fraction.

The Cr horizon is multicolored, soft weathered, high-grade metamorphic rock. It is partially consolidated but can be dug with difficulty with a spade.

The R horizon, if it occurs, is hard unweathered rock, such as mica gneiss and hornblende gneiss.

Craggey Series

The Craggey series consists of shallow, somewhat excessively drained, moderately rapidly permeable soils on high mountains (fig. 20). These soils formed in material weathered from high-grade metamorphic rock, such as mica gneiss and hornblende gneiss. Elevation is generally above 4,800 feet. Slope ranges from 15 to 95 percent. The soils are loamy, mixed, frigid Lithic Haplumbrepts.

Craggey soils are commonly adjacent to Burton and Cullasaja soils. Burton soils are moderately deep. Cullasaja soils are loamy-skeletal and are very deep. Burton soils are at the center of ridgetops and away from rock outcrops. Cullasaja soils are at the head of drainageways.

Typical pedon of Craggey sandy loam in an area of Burton-Craggey-Rock outcrop complex, windswept, 15 to 30 percent slopes, stony; from Hayesville east on U.S. Highway 64 to U.S. Forest Service Road 71, south on U.S. Forest Service Road 71 to the end at Deep Gap, east on the Appalachian Trail to the top of Standing Indian Mountain (State plane coordinates 499,900 feet N., 641,000 feet E.):

A1—0 to 7 inches; very dark brown (10YR 2/2) sandy loam; moderate fine and medium granular structure; very friable; many fine to coarse roots; about 5 percent gravel, 5 percent cobbles, and 10 percent stones, by volume; few fine flakes of mica; very strongly acid; clear smooth boundary.

A2—7 to 15 inches; very dark grayish brown (10YR 3/2) fine sandy loam; moderate fine and medium granular structure; very friable; common fine to coarse roots; about 5 percent gravel, 5 percent cobbles, and 10 percent stones, by volume; few fine flakes of mica; very strongly acid; clear wavy boundary.

Bw—15 to 18 inches; dark yellowish brown (10YR 4/6) fine sandy loam; weak fine and medium subangular blocky structure; very friable; few medium and coarse roots; about 5 percent gravel, 5 percent cobbles, and 10 percent stones, by volume; few fine flakes of mica; very strongly acid; clear wavy boundary.

R—18 inches; hard unweathered gneiss.

The thickness of the solum ranges from 10 to 19 inches. The depth to hard unweathered bedrock ranges from 10 to 20 inches. Reaction ranges from extremely acid to moderately acid. Flakes of mica are few or common. The content of rock fragments ranges from 5 to 35 percent, by volume.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 to 3.

The Bw horizon has hue of 10YR, value of 3 to 6, and chroma of 4 to 6. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

Some pedons have a thin Cr horizon. This horizon is multicolored, soft weathered, partially consolidated bedrock.

The R horizon is hard unweathered, high-grade metamorphic rock, such as mica gneiss and hornblende gneiss.

Cullasaja Series

The Cullasaja series consists of very deep, well drained, moderately rapidly permeable soils. These soils formed in colluvium weathered from high-grade metamorphic rock, such as mica gneiss and hornblende gneiss. Elevation generally ranges from 3,500 to 5,000 feet. Slope ranges from 8 to 95 percent. The soils are loamy-skeletal, mixed, mesic Typic Haplumbrepts.

Cullasaja soils are commonly adjacent to Chestnut, Edneyville, Plott, and Tuckasegee soils. Chestnut, Edneyville, and Plott soils are coarse-loamy. Tuckasegee soils are fine-loamy. Chestnut and Edneyville soils have an ochric epipedon. Chestnut soils are moderately deep. Chestnut, Edneyville, and Plott soils are on adjacent uplands. Tuckasegee soils are intermingled with the Cullasaja soils in coves, in drainageways, and on toe slopes.

Typical pedon of Cullasaja cobbly fine sandy loam in an area of Cullasaja-Tuckasegee complex, 15 to 30 percent slopes, stony; from Hayesville east on U.S. Highway 64 to U.S. Forest Service Road 71, about 2 miles southeast on U.S. Forest Service Road 71, about 200 feet north of the road (State plane coordinates 508,000 feet N., 629,000 feet E.):

A1—0 to 12 inches; very dark brown (10YR 2/2) cobbly fine sandy loam; moderate fine and medium granular structure; very friable; many fine and medium and common coarse roots; about 5 percent gravel, 10 percent cobbles, and 5 percent stones, by volume; few fine flakes of mica; very strongly acid; clear wavy boundary.

A2—12 to 17 inches; dark brown (10YR 3/3) cobbly fine sandy loam; moderate fine and medium granular structure; very friable; common fine to coarse roots; about 5 percent gravel, 10 percent cobbles, and 5 percent stones, by volume; few fine flakes of mica; very strongly acid; clear wavy boundary.

Bw1—17 to 23 inches; dark yellowish brown (10YR 4/4) cobbly fine sandy loam; weak fine and medium subangular blocky structure; very friable; common medium to coarse roots; about 5 percent gravel, 10 percent cobbles, and 10 percent stones, by volume; few fine flakes of mica; strongly acid; clear wavy boundary.

Bw2—23 to 60 inches; dark yellowish brown (10YR 4/4) cobbly sandy loam; weak fine and medium subangular blocky structure; very friable; few medium to coarse roots; about 10 percent gravel, 15 percent cobbles, and 20 percent stones, by volume; few fine flakes of mica; strongly acid.

The thickness of the solum ranges from 30 to more than 60 inches. The depth to bedrock is greater than 72 inches. Reaction ranges from very strongly acid to moderately acid. Flakes of mica are few or common. The content of rock fragments ranges from 15 to 45 percent, by volume, in the A horizon and the upper part of the Bw horizon. It averages from 35 to 80 percent, by volume, in the control section.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 to 3.

The Bw horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 8. It is sandy loam, fine sandy loam, loam, or sandy clay loam in the fine-earth fraction.

The BC horizon, if it occurs, has hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 4 to 8. It is loamy sand or sandy loam in the fine-earth fraction.

The C horizon, if it occurs, is similar in color to the BC horizon or is multicolored. It is loamy sand or sandy loam in the fine-earth fraction.

Dellwood Series

The Dellwood series consists of moderately well drained soils that are moderately rapidly permeable in the surface layer and very rapidly permeable in the lower layers. These soils are shallow to beds of sand, gravel, and cobbles and very deep to bedrock. They formed in recent alluvium on flood plains along small streams (fig. 21). Elevation generally ranges from 1,700 to 3,000 feet. Slope ranges from 0 to 5 percent. The soils are sandy-skeletal, mixed, mesic Fluventic Haplumbrepts.

Dellwood soils are commonly adjacent to French, Nikwasi, and Reddies soils. These adjacent soils are moderately deep to strata of sand, gravel, and cobbles. French soils are moderately well drained to somewhat poorly drained. Nikwasi soils are poorly drained or very poorly drained. French and Nikwasi soils are in depressions. Reddies soils are in slightly elevated areas.

Typical pedon of Dellwood gravelly fine sandy loam, 0 to 5 percent slopes, frequently flooded; on Fires Creek, west from Hayesville on U.S. Highway 64 to Secondary Road 1302, north on Secondary Road 1302 to 1300, east on Secondary Road 1300 to 1344, north on Secondary Road 1344 to U.S. Forest Service Road 340, east on U.S. Forest Service Road 340 to Bristal campsite, 150 feet northeast in a field (State plane coordinates 528,800 feet N., 561,700 feet E.):

A1—0 to 4 inches; very dark grayish brown (10YR 3/2) gravelly fine sandy loam; moderate medium and coarse granular structure; very friable; many fine and medium roots; about 15 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; abrupt smooth boundary.

A2—4 to 14 inches; dark brown (10YR 3/3) cobbly fine sandy loam; weak fine and medium granular structure; very friable; many fine and medium roots; about 10 percent gravel and 20 percent cobbles, by volume; few fine flakes of mica; very strongly acid; clear wavy boundary.

C—14 to 60 inches; multicolored very cobbly loamy sand; massive; loose; about 15 percent gravel, 35 percent cobbles, and 5 percent stones, by volume; few fine and medium flakes of mica; very strongly acid.

The loamy sediments range from 8 to 20 inches in thickness over strata of sand, gravel, cobbles, and stones. The depth to hard unweathered bedrock is greater than 60 inches. Reaction ranges from very strongly acid to neutral. Flakes of mica are few or common. The content of rock fragments is as much as 35 percent, by volume, in the upper part of the profile and greater 35 percent in the lower part. It averages more than 35 percent, by volume, in the control section.

The A horizon has hue of 10YR, value of 3, and chroma of 2 or 3.

The Bw horizon, if it occurs, has hue of 7.5YR or 10YR and value and chroma of 4 to 6. It is sandy loam or fine sandy loam in the fine-earth fraction.

The C horizon has hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 4 to 6 or is multicolored. It is sand or loamy sand in the fine-earth fraction.

Dillard Series

The Dillard series consists of very deep, moderately well drained, moderately slowly permeable soils on low stream terraces. These soils formed in alluvium. Elevation generally ranges from 1,900 to 2,500 feet. Slope ranges from 1 to 6 percent. The soils are fine-loamy, mixed, mesic Aquic Hapludults.

Dillard soils are commonly adjacent to Hemphill and Statler soils. Hemphill soils are very poorly drained and are clayey. Statler soils are well drained. Hemphill soils are in depressions. Statler soils are in slightly elevated areas.

Typical pedon of Dillard loam, 1 to 6 percent slopes, rarely flooded; 0.2 mile east of Hayesville on Secondary Road 1140, about 600 feet northeast of the road in a field (State plane coordinates 505,800 feet N., 560,300 feet E.):

Ap—0 to 8 inches; dark brown (10YR 3/3) loam; moderate medium granular structure; friable; common fine roots; few fine flakes of mica; moderately acid; abrupt smooth boundary.

Bt1—8 to 21 inches; brownish yellow (10YR 6/6) clay loam; moderate medium subangular blocky structure; firm; few discontinuous clay films on faces of peds; few fine roots; common fine flakes of mica; moderately acid; clear wavy boundary.

Bt2—21 to 28 inches; about 50 percent light yellowish brown (10YR 6/4) and 50 percent strong brown (7.5YR 5/8) clay loam; moderate medium subangular blocky structure; firm; few discontinuous clay films on faces of peds; few fine roots; few fine prominent pinkish gray (7.5YR 6/2) iron depletions; common fine flakes of mica; moderately acid; clear wavy boundary.

Btg—28 to 45 inches; light gray (10YR 7/1) clay loam; weak medium subangular blocky structure; firm; few fine prominent brownish yellow (10YR 6/8) soft masses of iron accumulation; many fine flakes of mica; moderately acid; gradual wavy boundary.

Cg—45 to 60 inches; light gray (10YR 7/1) sand; single grain; very friable; common medium and coarse flakes of mica; moderately acid.

The thickness of the solum ranges from 30 to more than 60 inches. Unless limed, the soils are strongly acid to moderately acid in the A horizon and very strongly acid to moderately acid in the B and C horizons. Reaction in the A horizon and the upper part of the Bt horizon may range to neutral because of past liming. Flakes of mica are few or common.

The A horizon has hue of 10YR, value of 3 to 5, and chroma of 2 to 4. Where it has value of 3, the horizon is 10 inches or less thick.

The Bt horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8. Iron depletions with chroma of 2 or less are within 24 inches of the upper boundary of the Bt horizon. The texture is sandy clay loam or clay loam.

The Btg horizon has hue of 10YR, value of 5 to 7, and chroma of 1 or 2. Iron accumulations with greater chroma occur in most pedons. The texture is sandy clay loam or clay loam.

The Cg horizon and the C horizon, if it occurs, have colors similar to those of the Btg and Bt horizons, respectively. They are sand, loamy sand, sandy loam, loam, sandy clay loam, or clay loam in the fine-earth fraction.

Edneyville Series

The Edneyville series consists of very deep, well drained, moderately rapidly permeable soils on intermediate mountains. These soils formed in material weathered from high-grade metamorphic rock, such as mica gneiss and hornblende gneiss. Elevation generally ranges from 3,500 to 4,800 feet. Slope ranges from 15 to 95 percent. The soils are coarse-loamy, mixed, mesic Typic Dystrochrepts.

Edneyville soils are commonly adjacent to Chestnut, Cullasaja, Plott, and Tuckasegee soils. Chestnut soils are moderately deep. Cullasaja, Plott, and Tuckasegee soils have an umbric epipedon. Cullasaja soils are loamy-skeletal. Chestnut soils are on the upper part of side slopes or in areas where the landscape breaks sharply. Cullasaja and Tuckasegee soils formed in colluvium in coves, in drainageways, and on toe slopes. Plott soils are on north- to east-facing slopes.

Typical pedon of Edneyville fine sandy loam in an area of Edneyville-Chestnut complex, 15 to 30 percent slopes, stony; near Park Gap, east from Hayesville on U.S. Highway 64 to U.S. Forest Service Road 71, south on U.S. Forest Service Road 71 to Park Gap, 200 feet northeast of the gap (State plane coordinates 509,300 feet N., 634,300 feet E.):

A—0 to 4 inches; dark brown (10YR 3/3) fine sandy loam; moderate medium granular structure; very friable; many fine to coarse roots; about 5 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; abrupt smooth boundary.

AB—4 to 8 inches; dark yellowish brown (10YR 4/4) loam; moderate medium granular structure; very friable; common fine to coarse roots; about 10 percent gravel, by volume; few fine flakes of mica; very strongly acid; clear smooth boundary.

Bw1—8 to 31 inches; strong brown (7.5YR 5/6) loam; moderate medium and coarse subangular blocky structure; friable; few medium and coarse roots; about 10 percent gravel, by volume; few fine flakes of mica; very strongly acid; gradual wavy boundary.

Bw2—31 to 39 inches; strong brown (7.5YR 5/6) fine sandy loam; weak medium subangular blocky structure; friable; few medium and coarse roots; about 5 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; very strongly acid; gradual wavy boundary.

BC—39 to 50 inches; strong brown (7.5YR 4/6) cobbly fine sandy loam; weak medium subangular blocky structure; friable; few coarse roots; about 10 percent gravel and 10 percent cobbles, by volume; few fine flakes of mica; very strongly acid; gradual wavy boundary.

C—50 to 60 inches; multicolored saprolite that has cobbly sandy loam texture; massive; very friable; few medium roots; about 10 percent gravel and 15 percent cobbles, by volume; common fine flakes of mica; very strongly acid.

The thickness of the solum ranges from 20 to 55 inches. The depth to bedrock is more than 60 inches. Unless limed, the soils are very strongly acid to moderately acid. Flakes of mica are few or common. The content of rock fragments is as much as 35 percent, by volume. The rock fragments are dominantly gravel and cobbles and include some stones.

The A and AB horizons have hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 4. Where they have value of 3, the horizons are less than 7 inches thick.

The Bw horizon has hue of 7.5YR or 10YR, value of 4 to 7, and chroma of 3 to 8. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The BC horizon is similar in color to the Bw horizon or is mottled in shades of brown and yellow. It is sandy loam or fine sandy loam in the fine-earth fraction.

The C horizon is similar in color to the Bw horizon or is multicolored. It is loamy sand, sandy loam, or fine sandy loam in the fine-earth fraction.

Eutrochrepts

Eutrochrepts consists of shallow to deep, well drained, moderately permeable soils on side slopes in the intermediate mountains. These soils formed in material weathered from old mine spoil of ultramafic crystalline rock. Slopes range from 30 to 50 percent.

In Clay County, Eutrochrepts occur in two mapped areas, which make up 90 acres in the Buck Creek Watershed. Because of the variability of these soils, a typical pedon is not described. The depth to bedrock is more than 20 inches. Reaction is moderately acid to neutral. Magnesium is the primary cation in soil solution. Calcium is deficient. The content of gravel, cobbles, and stones is as much as 35 percent, by soil volume, in the upper 40 inches of the profile. The content of organic matter in the surface layer ranges from 1 to 5 percent.

The A horizon has hue of 7.5YR or 10YR and value and chroma of 3 or 4. It ranges from sandy loam to loam in the fine-earth fraction. Where it has value and chroma 3, the horizon is less than 10 inches thick.

The Bw horizon, if it occurs, has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 4 to 8. It ranges from fine sandy loam to clay loam in the fine-earth fraction.

The C horizon, if it occurs, is similar in color to the Bw horizon or is multicolored. It ranges from loamy sand to fine sandy loam in the fine-earth fraction.

The Cr horizon is soft weathered, ultramafic crystalline rock, such as dunite, serpentine, soapstone, and hornblende gneiss. It is partially consolidated but can be dug with difficulty with a spade.

Evard Series

The Evard series consists of very deep, well drained, moderately permeable soils on low mountains. These soils formed in material weathered from high-grade

metamorphic rock, such as mica gneiss and hornblende gneiss. Elevation generally ranges from 2,000 to 3,500 feet. Slope ranges from 2 to 95 percent. The soils are fine-loamy, oxidic, mesic Typic Hapludults.

Evard soils are commonly adjacent to Cowee, Tate, and Trimont soils. Cowee soils are moderately deep. Tate soils formed in colluvium. Trimont soils have an epipedon that classifies them as humic. Cowee soils are on the upper part of side slopes or in areas where the landscape breaks sharply. Tate soils are in coves, in drainageways, and on toe slopes. Trimont soils are on north- to east-facing slopes.

Typical pedon of Evard gravelly loam in an area of Evard-Cowee complex, 15 to 30 percent slopes; east of Hayesville on U.S. Highway 64 to Secondary Road 1330, north on Secondary Road 1330 to U.S. Forest Service Road 351, about 0.7 mile east on U.S. Forest Service Road 351 to 351A, about 0.5 mile south on U.S. Forest Service Road 351A, about 100 feet east of the road (State plane coordinates 512,300 feet N., 591,400 feet E.):

A—0 to 7 inches; yellowish red (5YR 4/6) gravelly loam; moderate medium granular structure; very friable; many fine to coarse roots; about 15 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; clear smooth boundary.

Bt1—7 to 21 inches; red (2.5YR 4/8) clay loam; moderate medium subangular blocky structure; firm; few discontinuous clay films on faces of peds; common medium and coarse roots; about 10 percent gravel, by volume; few fine flakes of mica; strongly acid; gradual wavy boundary.

Bt2—21 to 36 inches; red (2.5YR 4/6) clay loam; moderate medium subangular blocky structure; firm; few discontinuous clay films on faces of peds; few medium and coarse roots; about 8 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; gradual wavy boundary.

BC—36 to 49 inches; red (2.5YR 4/6) gravelly loam; weak medium subangular blocky structure; friable; few medium and coarse roots; about 15 percent gravel and 5 percent cobbles, by volume; common fine flakes of mica; strongly acid; gradual wavy boundary.

C—49 to 60 inches; multicolored saprolite that has fine sandy loam texture; massive; friable; few coarse roots; about 5 percent gravel and 5 percent cobbles, by volume; common fine and medium flakes of mica; strongly acid; gradual irregular boundary.

The thickness of the solum ranges from 20 to more than 40 inches. The depth to bedrock is greater than 60 inches. Unless limed, the soils are very strongly acid to moderately acid. Flakes of mica are few or common. The content of rock fragments is as much as 35 percent, by volume, in the A and C horizons and as much as 15 percent in the B horizon. The rock fragments are dominantly gravel and include some cobbles and stones.

The A horizon has hue of 5YR to 10YR, value of 3 to 5, and chroma of 3 to 6. Where it has value and chroma of 3, the horizon is less than 7 inches thick.

The BA horizon, if it occurs, has hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 4 to 8. It is fine sandy loam or loam in the fine-earth fraction.

The Bt horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 4 to 8. It is loam, sandy clay loam, or clay loam in the fine-earth fraction.

The BC horizon has hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 6 to 8. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The C horizon is multicolored. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

Fannin Series

The Fannin series consists of very deep, well drained, moderately permeable soils on low rolling hills. These soils formed in material weathered from mica-rich rock, such as mica gneiss and mica schist (fig. 22). Elevation generally ranges from 2,000 to 3,500 feet. Slope ranges from 2 to 50 percent. The soils are fine-loamy, micaceous, mesic Typic Hapludults.

Fannin soils are commonly adjacent to Cowee, Evard, and Tate soils. These adjacent soils have mixed mineralogy. Tate soils are in coves, in drainageways, and on toe slopes.

Typical pedon of Fannin fine sandy loam, 8 to 15 percent slopes; west of Hayesville on U.S. Highway 64 to Secondary Road 1100, about 1.3 miles southwest on Secondary Road 1100, about 50 feet south of the road in a field (State plane coordinates 498,400 feet N., 547,600 feet E.):

Ap—0 to 6 inches; yellowish red (5YR 4/6) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; about 5 percent gravel, by volume; many fine and medium flakes of mica; moderately acid; abrupt smooth boundary.

Bt—6 to 22 inches; red (2.5YR 5/8) clay loam; moderate medium subangular blocky structure; firm; few discontinuous clay films on faces of peds; common medium roots; about 5 percent gravel, by volume; many fine and medium flakes of mica; strongly acid; gradual wavy boundary.

BC—22 to 32 inches; red (2.5YR 5/8) loam; weak fine and medium subangular blocky structure; friable; few medium roots; about 5 percent gravel, by

volume; many fine and medium flakes of mica; strongly acid; gradual wavy boundary.
C1—32 to 40 inches; red (2.5YR 4/8) sandy loam; massive; very friable; about 5 percent gravel, by volume; many fine and medium flakes of mica; moderately acid; gradual wavy boundary.
C2—40 to 60 inches; multicolored saprolite that has sandy loam texture; massive; friable; about 5 percent gravel and 5 percent cobbles, by volume; many fine and medium flakes of mica; moderately acid.

The thickness of the solum ranges from 20 to 45 inches. The depth to bedrock is greater than 72 inches. Unless limed, the soils are very strongly acid to moderately acid. Flakes of mica are common or many in the A horizon and the upper part of the B horizon and are many in the lower part of the B horizon and the C horizon. The content of rock fragments is as much as 35 percent in the A and C horizons and as much as 25 percent in the B horizon. The rock fragments are dominantly gravel and include some cobbles and stones.

The A or Ap horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 4. Where it has value and chroma of 3 or less, the horizon is less than 7 inches thick.

The BA horizon, if it occurs, has hue of 5YR, value of 4 or 5, and chroma of 4 to 6. It is fine sandy loam or loam in the fine-earth fraction.

The Bt horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 4 to 8. It is loam, sandy clay loam, or clay loam in the fine-earth fraction.

The BC horizon is similar in color to the Bt horizon. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The C horizon is similar in color to the Bt horizon or is multicolored. It is sandy loam or fine sandy loam in the fine-earth fraction.

French Series

The French series consists of moderately well drained to somewhat poorly drained soils that are moderately rapidly permeable in the A and B horizons and rapidly permeable in the C horizon. These soils are moderately deep to beds of sand, gravel, and cobbles and are very deep to bedrock. They formed in recent alluvium on narrow flood plains along small streams. Elevation generally ranges from 1,700 to 3,000 feet. Slope ranges from 0 to 3 percent. The soils are fine-loamy over sandy or sandy-skeletal, mixed, mesic Fluvaquentic Dystrochrepts.

French soils are commonly adjacent to Dellwood, Nikwasi, and Reddies soils. Dellwood soils are sandy-skeletal. Nikwasi soils are poorly drained or very poorly drained. Reddies soils are coarse-loamy over sandy or sandy-skeletal. Dellwood soils are along stream channels. Nikwasi soils are in depressions. Reddies soils are in slightly elevated areas.

Typical pedon of French fine sandy loam, 0 to 3 percent slopes, frequently flooded; on Crawford Creek, west from Hayesville on U.S. Highway 64 to Secondary Road 1100, southwest on Secondary Road 1100 to the intersection of Secondary Roads 1100 and 1125, about 600 feet southeast of the intersection on a flood plain (State plane coordinates 491,400 feet N., 539,800 feet E.):

Ap—0 to 8 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium granular structure; very friable; many fine and medium roots; about 5 percent gravel, by volume; few fine flakes of mica; slightly acid; abrupt smooth boundary.
Bw—8 to 16 inches; dark yellowish brown (10YR 4/4) loam; weak medium subangular blocky structure; very friable; common medium distinct grayish brown (10YR 5/2) iron depletions; about 5 percent gravel, by volume; few fine flakes of mica; moderately acid; gradual wavy boundary.
BCg—16 to 24 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak medium subangular blocky structure; very friable; about 5 percent gravel, by volume; few fine flakes of mica; moderately acid; clear wavy boundary.
Cg—24 to 32 inches; dark gray (10YR 4/1) sandy loam; massive; friable; about 5 percent gravel and 5 percent cobbles, by volume; many fine and medium flakes of mica; strongly acid; clear wavy boundary.
C—32 to 60 inches; multicolored very cobbly loamy sand; single grain; about 10 percent gravel, 25 percent cobbles, and 10 percent stones, by volume; few medium flakes of mica; strongly acid.

The solum is 20 to 40 inches deep over sand, gravel, and cobbles. The depth to bedrock is greater than 60 inches. Unless limed, the soils are strongly acid to slightly acid. Flakes of mica are few or common. The content of coarse fragments is as much as 15 percent in the upper part of the profile and ranges from 35 to 60 percent in the lower part.

The A horizon has hue of 10YR, value of 3 to 5, and chroma of 2 to 4.

The Bw horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 4 to 8. Iron depletions with chroma of 2 or less are within a depth of 24 inches. The texture is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The BCg horizon has hue of 10YR, value of 4 to 6, and chroma of 1 or 2. The colors having low chroma

result from iron depletion caused by wetness. The texture is fine sandy loam or sandy loam in the fine-earth fraction.

The Cg horizon has hue of 10YR, value of 4 to 6, and chroma of 1 or 2. The C horizon is multicolored. The texture is sandy loam or loamy sand in the fine-earth fraction.

Hayesville Series

The Hayesville series consists of very deep, well drained, moderately permeable soils on low rolling hills. These soils formed in material weathered from high-grade metamorphic rock, such as mica gneiss and hornblende gneiss. Elevation generally ranges from 2,000 to 2,500 feet. Slope ranges from 2 to 30 percent. The soils are clayey, kaolinitic, mesic Typic Kanhapludults.

Hayesville soils are commonly adjacent to Braddock, Cowee, Evard, and Tate soils. Braddock soils formed in old alluvium. Cowee, Evard, and Tate soils are fine-loamy. Braddock soils are on the tops of broarder ridges in areas where the landscape is less sloping. Cowee and Evard soils are in areas where the landscape breaks sharply. Tate soils are in drainageways.

Typical pedon of Hayesville clay loam, 8 to 15 percent slopes, eroded; south from Hayesville on North Carolina Highway 69 to Secondary Road 1115, about 0.6 mile east on Secondary Road 1115, about 300 feet south of the road in a pasture (State plane coordinates 489,000 feet N., 560,500 feet E.):

Ap—0 to 7 inches; strong brown (7.5YR 4/6) clay loam; weak medium granular structure; friable; many fine and medium roots; few fine flakes of mica; about 10 percent gravel, by volume; moderately acid; abrupt smooth boundary.

Bt1—7 to 23 inches; red (2.5YR 4/6) clay; moderate medium and coarse subangular blocky structure; firm; continuous clay films on faces of peds; few or common soft fragments of rock; sticky, slightly plastic; few medium roots; few fine flakes of mica; strongly acid; gradual smooth boundary.

Bt2—23 to 31 inches; red (2.5YR 4/6) clay loam; moderate medium subangular blocky structure; firm; few discontinuous clay films on faces of peds; common coarse fragments of soft and hard rock; few partially weathered feldspars and dark minerals; slightly sticky, slightly plastic; few fine flakes of mica; slightly acid; gradual irregular boundary.

BC—31 to 60 inches; mottled yellowish red (5YR 5/6) and red (2.5YR 4/6) loam; weak medium subangular blocky structure; friable; many black, grayish, and whitish streaks of soft gneiss; amount of C material increases as depth increases; common fine flakes of mica; few hard fragments of gneiss; strongly acid; gradual wavy boundary.

The thickness of the solum ranges from 30 to 60 inches. The depth to bedrock is greater than 60 inches. Unless limed, the soils are very strongly acid to moderately acid. Reaction in the A horizon and the upper part of the Bt horizon may range to neutral because of past liming. Flakes of mica are few or common. The content of rock fragments is as much as 35 percent, by volume, in A horizon and as much as 15 percent in other horizons. The rock fragments are dominantly gravel and include some cobbles.

The A or Ap horizon has hue of 5YR to 10YR and value and chroma of 3 to 6. Where it has value of 3, the horizon is less than 7 inches thick.

The BA horizon, if it occurs, has hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8. It is loam, sandy clay loam, or clay loam in the fine-earth fraction.

The Bt horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 to 8. It is clay loam or clay in the fine-earth fraction.

The BC horizon is similar in color to the Bt horizon. It is loam, sandy clay loam, or clay loam in the fine-earth fraction.

The C horizon, if it occurs, has hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8 or is multicolored. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

Hemphill Series

The Hemphill series consists of very deep, very poorly drained, slowly permeable soils on low stream terraces. These soils formed in alluvium. Elevation generally ranges from 1,600 to 2,500 feet. Slope ranges from 0 to 3 percent. The soils are fine, mixed, mesic Typic Umbraqualfs.

Hemphill soils are commonly adjacent to Dillard and Statler soils. These adjacent soils are fine-loamy. Dillard soils are moderately well drained. Statler soils are well drained. Dillard and Statler soils are in slightly elevated areas.

Typical pedon of Hemphill loam, 0 to 3 percent slopes, rarely flooded; 0.2 mile east of Hayesville on Secondary Road 1140, about 400 feet northeast of the road in a field (State plane coordinates 505,700 feet N., 560,200 feet E.):

Ap—0 to 12 inches; dark brown (10YR 3/3) loam; weak fine granular structure; very friable; many fine roots; few fine flakes of mica; moderately acid; clear wavy boundary.

Btg1—12 to 23 inches; grayish brown (10YR 5/2) clay

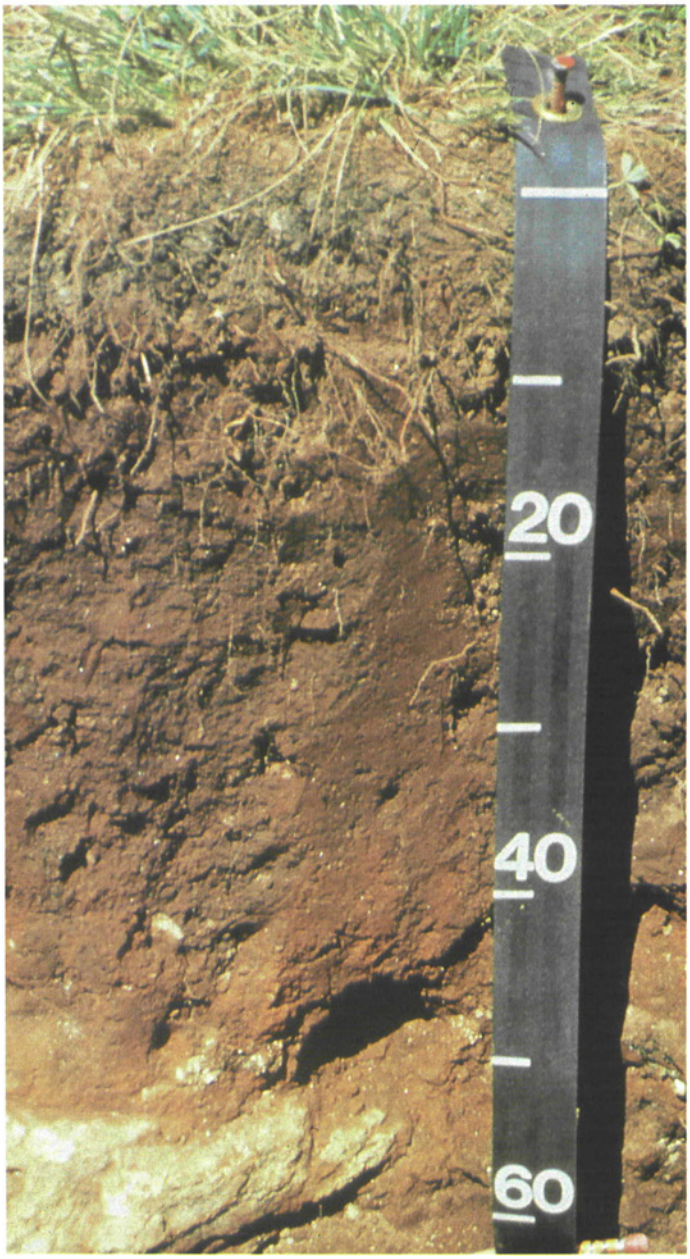

Figure 16.—Moderately deep, well drained Burton soils are on high mountains at elevations generally above 4,800 feet.

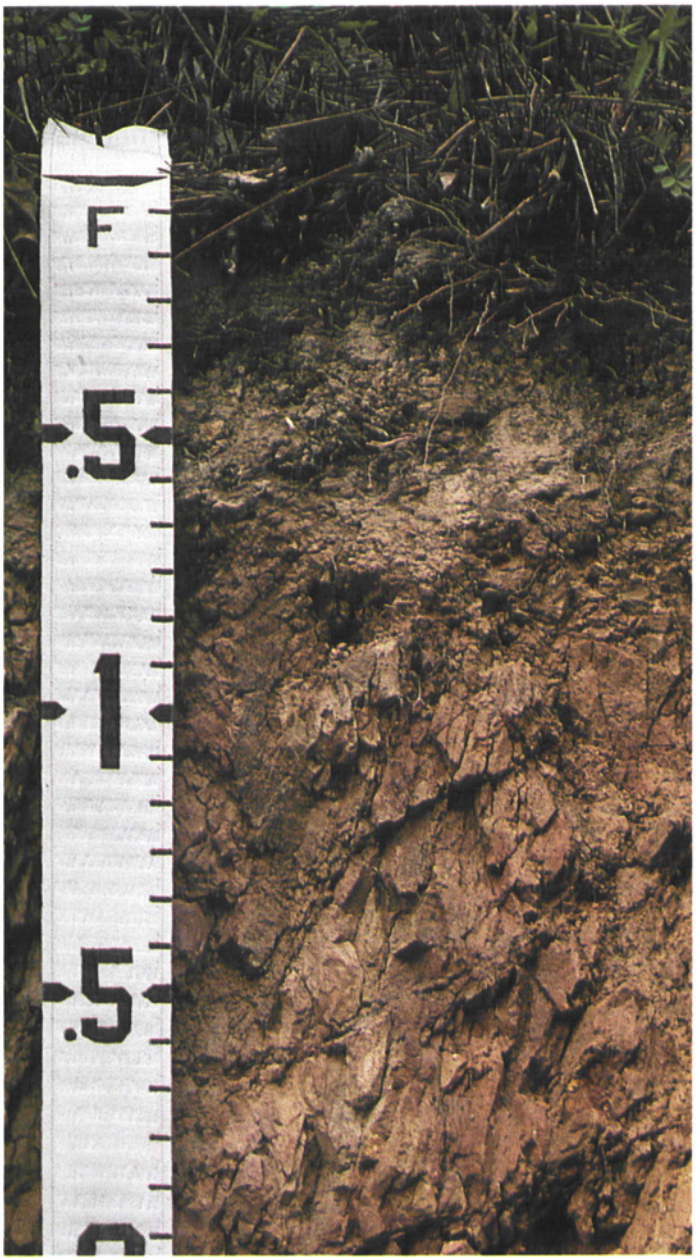

Figure 17.—Cataska soils are shallow to soft slate bedrock that increases in hardness as depth increases.

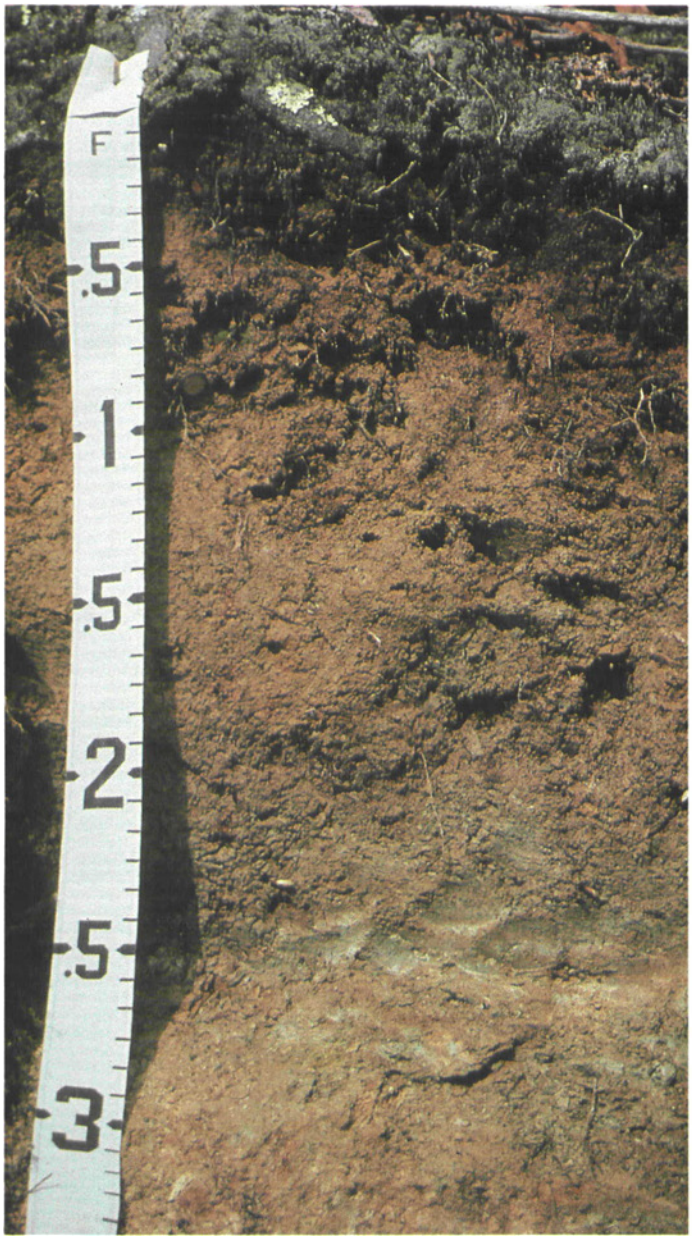

Figure 18.—Chestnut soils are underlain by soft weathered, highly metamorphosed rock, such as mica gneiss and hornblende gneiss, at a depth of 20 to 40 inches.

Figure 19.—Shallow, somewhat excessively drained Cleveland soils are underlain by hard bedrock within a depth of 20 inches.

Figure 20.—Shallow Craggey soils have a high content of organic matter and are at elevations generally above 4,800 feet. These soils are mapped in a complex with Burton soils.

Figure 21.—Moderately well drained Dellwood soils are shallow to beds of sand, gravel, and cobbles. These soils formed in recent alluvium on flood plains of small streams.

Figure 22.—Very deep, well drained Fannin soils formed from mica-rich rock. These soils are on low rolling hills at elevations that generally range from 2,000 to 3,500 feet.

Figure 23.—Moderately deep, well drained Sylco soils are on low and intermediate mountains. These soils are underlain by weathered metasedimentary rock, such as slate, phyllite, or metasandstone that increases in hardness as depth increases.

loam; moderate medium subangular blocky structure; firm; few discontinuous clay films on faces of peds; common fine roots; few fine prominent yellowish brown (10YR 5/8) soft masses of iron accumulation; few fine flakes of mica; strongly acid; gradual wavy boundary.

Btg2—23 to 30 inches; gray (10YR 5/1) silty clay loam; moderate medium subangular blocky structure; firm; few discontinuous clay films on faces of peds; few fine roots; common fine prominent yellowish brown (10YR 5/8) soft masses of iron accumulation and common medium faint light gray (10YR 7/2) iron depletions; few fine flakes of mica; strongly acid; gradual wavy boundary.

BCg—30 to 44 inches; gray (10YR 5/1) sandy clay loam; weak medium subangular blocky structure; firm; few fine prominent strong brown (7.5YR 5/6) soft masses of iron accumulation; few thin sand lenses in the lower part; common fine flakes of mica; very strongly acid; gradual wavy boundary.

Cg—44 to 60 inches; light brownish gray (10YR 6/2) sandy loam; massive; friable; few thin sand lenses in the lower part; common fine flakes of mica; very strongly acid.

The thickness of the solum ranges from 40 to more than 60 inches. Reaction is very strongly acid to neutral. Flakes of mica are few or common. The content of rock fragments is as much as 15 percent, by volume, in the A and B horizons and as much as 60 percent in the C horizon.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 to 3.

The Btg horizon is neutral in hue or has hue of 10YR or 2.5Y, has value of 4 to 6, and has chroma of 0 to 2. Iron accumulations with greater chroma occur in most pedons. The texture is clay loam, silty clay loam, or clay in the fine-earth fraction.

The BCg horizon is similar in color to the Btg horizon. It is loam, sandy clay loam, or clay loam in the fine-earth fraction.

The Cg horizon is similar in color to the Btg horizon. It is sand, loamy sand, sandy loam, loam, sandy clay loam, or clay loam in the fine-earth fraction.

Junaluska Series

The Junaluska series consists of moderately deep, well drained, moderately permeable soils on low mountains. These soils formed in material weathered from metasedimentary rock, such as phyllite, slate, and metasandstone. Elevation generally ranges from 1,700 to 3,500 feet. Slope ranges from 8 to 95 percent. The soils are fine-loamy, mixed, mesic Typic Hapludults.

Junaluska soils are commonly adjacent to Brasstown, Lonon, Santeetlah, Spivey, and Tsali soils. Brasstown soils are deep. Lonon soils are very deep. Lonon, Santeetlah, and Spivey soils formed in colluvium. Santeetlah soils are coarse-loamy. Spivey soils are loamy-skeletal. Tsali soils are shallow. Brasstown soils are on the lower part of side slopes or in areas where the landscape is smoother. Lonon, Santeetlah, and Spivey soils are in coves, in drainageways, and on toe slopes. Tsali soils are on the upper part of side slopes or in areas where the landscape breaks sharply.

Typical pedon of Junaluska channery fine sandy loam in an area of Junaluska-Brasstown complex, 30 to 50 percent slopes; south from Brasstown on Secondary Road 1100 to 1101, south on Secondary Road 1101 to 1182, east on Secondary Road 1182 to the end of the road, 0.3 mile east on a logging road to a ridgetop (State plane coordinates 495,500 feet N., 520,500 feet E.):

A—0 to 3 inches; strong brown (7.5YR 4/6) channery fine sandy loam; weak medium granular structure; very friable; many fine to coarse roots; about 15 percent channers, by volume; few fine flakes of mica; strongly acid; clear smooth boundary.

Bt1—3 to 20 inches; strong brown (7.5YR 4/6) loam; moderate medium subangular blocky structure; friable; few discontinuous clay films on faces of peds; common fine and medium roots; about 10 percent channers, by volume; few fine flakes of mica; strongly acid; gradual wavy boundary.

Bt2—20 to 27 inches; yellowish red (5YR 5/8) clay loam; moderate medium subangular blocky structure; friable; few discontinuous clay films on faces of peds; common fine and medium roots; about 10 percent channers, by volume; few fine flakes of mica; strongly acid; clear wavy boundary.

BC—27 to 30 inches; yellowish red (5YR 5/8) channery loam; weak medium subangular blocky structure; very friable; about 10 percent channers and 10 percent flagstones, by volume; few fine flakes of mica; strongly acid; gradual wavy boundary.

Cr—30 to 45 inches; multicolored, soft weathered, highly fractured metasandstone; partially consolidated but can be dug with difficulty with a spade; few thin seams of yellowish red (5YR 5/8) loam in rock fractures.

The thickness of the solum ranges from 15 to 39 inches. The depth to soft weathered bedrock ranges from 20 to 40 inches. The depth to hard unweathered bedrock is more than 40 inches. Reaction is extremely acid to moderately acid. Flakes of mica are few or common. The content of coarse fragments is as much

as 35 percent. The rock fragments are dominantly channers and flagstones.

The A horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 3 to 8. Where it has value and chroma of 3, the horizon is less than 7 inches thick.

The Bt horizon has hue of 7.5YR to 2.5YR, value of 4 to 6, and chroma of 4 to 8. At least part of the horizon has hue of 2.5YR or 5YR. The texture is loam or clay loam in the fine-earth fraction.

The BC horizon is similar in color to the Bt horizon. It is fine sandy loam or loam in the fine-earth fraction.

The C horizon, if it occurs, is multicolored. It is sandy loam or fine sandy loam in the fine-earth fraction.

The Cr horizon is multicolored, soft weathered metasedimentary rock, such as phyllite, slate, and metasandstone. It is partially consolidated but can be dug with difficulty with a spade.

Lonon Series

The Lonon series consists of very deep, well drained, moderately permeable soils. These soils formed in colluvium derived from metasedimentary rock, such as phyllite and metasandstone. Elevation generally ranges from 1,700 to 3,500 feet. Slope ranges from 2 to 30 percent. The soils are fine-loamy, mixed, mesic Typic Hapludults.

Lonon soils are commonly adjacent to Brasstown, French, Junaluska, and Tsali soils. Brasstown, Junaluska, and Tsali soils formed in residuum. Brasstown soils are deep. French soils are fine-loamy over sandy or sandy-skeletal. Junaluska soils are moderately deep. Tsali soils are shallow. Brasstown, Junaluska, and Tsali soils are on the adjacent uplands. French soils are on flood plains.

Typical pedon of Lonon loam, 2 to 8 percent slopes; in the Pinelog Community, south from Brasstown on Secondary Road 1100 to 1101, southwest on Secondary Road 1101 to the intersection of Secondary Roads 1101 and 1104, about 0.9 mile west on Secondary Road 1101, about 1,000 feet south on a farm road to a field of crops, first power pole east of the farm road, 5 paces north of the power pole (State plane coordinates 490,300 feet N., 509,100 feet E.):

A—0 to 9 inches; dark brown (7.5YR 4/4) loam; weak medium granular structure; very friable; common fine and medium roots; about 5 percent channers, by volume; moderately acid; abrupt smooth boundary.

Bt1—9 to 17 inches; yellowish red (5YR 5/8) clay loam; moderate medium subangular blocky structure; friable; few discontinuous clay films on faces of peds; few medium roots; about 5 percent channers, by volume; strongly acid; gradual wavy boundary.

Bt2—17 to 36 inches; yellowish red (5YR 5/6) clay loam; moderate medium subangular blocky structure; friable; few discontinuous clay films on faces of peds; about 5 percent channers, by volume; strongly acid; gradual wavy boundary.

Bt3—36 to 53 inches; yellowish red (5YR 5/6) clay loam; few fine prominent strong brown (7.5YR 5/8) mottles; moderate medium subangular blocky structure; friable; about 5 percent channers, by volume; very strongly acid; gradual wavy boundary.

BC—53 to 60 inches; strong brown (7.5YR 5/8) loam; common medium distinct brownish yellow (10YR 6/8) mottles and few medium prominent very pale brown (10YR 7/3) mottles; moderate medium subangular blocky structure; very friable; about 5 percent channers, by volume; very strongly acid.

The thickness of the solum ranges from 40 to more than 60 inches. The depth to bedrock is greater than 80 inches. Unless limed, the soils are extremely acid to moderately acid. The content of rock fragments is as much as 35 percent, by volume, in the A and Bt horizons and as much as 60 percent in the BC and C horizons. The rock fragments are dominantly channers in the A and Bt horizons and dominantly cobbles in the BC and C horizons.

The A horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 3 or 4. Where it has value and chroma of 3, the horizon is less than 7 inches thick.

The BA horizon, if it occurs, has hue of 5YR or 7.5YR, value of 4 to 6, and chroma of 4 to 8. It is fine sandy loam or loam in the fine-earth fraction.

The Bt horizon has hue of 2.5YR or 5YR, value of 4 to 6, and chroma of 4 to 8. It is loam, sandy clay loam, or clay loam in the fine-earth fraction.

The BC horizon has hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8. It is fine sandy loam or loam in the fine-earth fraction.

The C horizon is multicolored colluvium. It is sandy loam or fine sandy loam in the fine-earth fraction.

Nikwasi Series

The Nikwasi series consists of poorly drained or very poorly drained soils that are moderately rapidly permeable in the A horizon and rapidly permeable in the C horizon. These soils are moderately deep to beds of sand, gravel, and cobbles and very deep to bedrock. They formed in recent alluvium on flood plains. Elevation generally ranges from 1,700 to 3,000 feet. Slope ranges from 0 to 2 percent. The soils are coarse-loamy over sandy or sandy-skeletal, mixed, nonacid, mesic Cumulic Humaquepts.

Nikwasi soils are commonly adjacent to Dellwood,

French, and Reddies soils. Dellwood and Reddies soils are moderately well drained. Dellwood soils are sandy-skeletal. French soils are somewhat poorly drained. Dellwood soils are along existing or former stream channels. French and Reddies soils are in slightly elevated areas.

Typical pedon of Nikwasi fine sandy loam, 0 to 2 percent slopes, frequently flooded; at Buck Creek, west from Hayesville on U.S. Highway 64 to U.S. Forest Service Road 340, north on U.S. Forest Service Road 340 to Barnards Creek, south of the creek and 100 feet west of the road (State plane coordinates 521,200 feet N., 617,800 feet E.):

A1—0 to 9 inches; black (10YR 2/1) fine sandy loam; weak medium granular structure; very friable; many fine to coarse roots; about 5 percent gravel, by volume; many fine and medium flakes of mica; very strongly acid; clear wavy boundary.

A2—9 to 17 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak medium granular structure; very friable; common fine to coarse roots; about 5 percent gravel, by volume; many fine and medium flakes of mica; very strongly acid; clear wavy boundary.

AC—17 to 29 inches; very dark grayish brown (10YR 3/2) loamy sand; massive; very friable; about 5 percent gravel and 5 percent cobbles, by volume; many fine and medium flakes of mica; strongly acid; clear wavy boundary.

Cg—29 to 60 inches; dark grayish brown (10YR 4/2) very cobbly sand; single grain; loose; about 15 percent gravel, 30 percent cobbles, and 5 percent stones, by volume; many medium and coarse flakes of mica; moderately acid.

The depth to a sandy C horizon having more than 35 percent, by volume, gravel or cobbles, or both, ranges from 24 to 40 inches. The depth to bedrock is greater than 60 inches. Unless limed, the soils are very strongly acid to slightly acid. Flakes of mica range from few to many. The content of rock fragments is as much as 35 percent in the horizons above the skeletal alluvium. The rock fragments are dominantly gravel and cobbles.

The A horizon has hue of 10YR or 2.5Y, value of 2 or 3, and chroma of 1 to 3.

The AC horizon is similar in color to the A horizon. It is loamy sand or loamy fine sand in the fine-earth fraction.

The Cg horizon has hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2. The colors having low chroma result from iron depletion caused by wetness. The texture is coarse sand, sand, loamy coarse sand, or loamy sand in the fine-earth fraction.

Oconaluftee Series

The Oconaluftee series consists of very deep, well drained, moderately rapidly permeable soils on high mountains. These soils formed in material weathered from metasedimentary rock, such as phyllite, slate, and metasandstone. Elevation is generally above 4,500 feet. Slope ranges from 30 to 95 percent. The soils are coarse-loamy, mixed, frigid Typic Haplumbrepts.

Oconaluftee soils are commonly adjacent to Cataska, Sylco, and Spivey soils. Cataska soils are shallow. Sylco soils are moderately deep. Spivey soils are loamy-skeletal. Cataska and Sylco soils are in areas at the edge of small rock outcrops. Spivey soils formed in colluvium at the head of drainageways.

Typical pedon of Oconaluftee channery loam, windswept, 30 to 50 percent slopes; at the corner of Clay, Cherokee, and Macon Counties, east from Hayesville on U.S. Highway 64 to Secondary Road 1330, north on Secondary Road 1330 to 1307, east on Secondary Road 1307 to 1311, north on Secondary Road 1311 to Tuni Gap, north in Macon County on U.S. Forest Service Road 440 to Big Choga Creek, west on U.S. Forest Service Road 440 to Old Road Gap, 2.1 miles south on U.S. Forest Service trail to top of the mountain (State plane coordinates 545,900 feet N., 584,500 feet E.):

A1—0 to 8 inches; black (10YR 2/1) channery loam; weak fine and medium granular structure; very friable; many fine to coarse roots; about 15 percent channers and 5 percent flagstones, by volume; few fine flakes of mica; strongly acid; clear smooth boundary.

A2—8 to 12 inches; very dark brown (10YR 2/2) channery loam; weak fine and medium granular structure; very friable; many fine to coarse roots; about 15 percent channers and 5 percent flagstones, by volume; few fine flakes of mica; strongly acid; clear smooth boundary.

Bw—12 to 44 inches; dark brown (10YR 4/3) channery loam; weak fine and medium subangular blocky structure; friable; few medium and coarse roots; about 15 percent channers and 5 percent flagstones, by volume; few fine flakes of mica; strongly acid; clear wavy boundary.

C—44 to 60 inches; multicolored saprolite that has flaggy fine sandy loam texture; massive; very friable; about 5 percent channers, 15 percent flagstones, and 10 percent stones, by volume; few fine and medium flakes of mica; strongly acid.

The thickness of the solum ranges from 30 to 50 inches. The depth to bedrock is greater than 60 inches. Reaction is extremely acid to strongly acid in the A

horizon and ranges from extremely acid to moderately acid in other horizons. Flakes of mica are few or common. The content of rock fragments ranges from 0 to 35 percent, by volume. The rock fragments are dominantly channers and flagstones and include some stones.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 to 3.

The Bw horizon and the BC horizon, if it occurs, have hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 8. They are fine sandy loam or loam in the fine-earth fraction. The content of rock fragments typically is greater in the BC horizon.

The C horizon is multicolored. It is sandy loam, loam, or fine sandy loam in the fine-earth fraction.

Plott Series

The Plott series consists of very deep, well drained, moderately rapidly permeable soils on intermediate mountains. These soils formed in material weathered from high-grade metamorphic rock, such as mica gneiss and hornblende gneiss. Elevation generally ranges from 3,500 to 4,800 feet. Slope ranges from 30 to 95 percent. The soils are coarse-loamy, mixed, mesic Typic Haplumbrepts.

Plott soils are commonly adjacent to Chestnut, Cullasaja, Edneyville, and Tuckasegee soils. Chestnut soils are moderately deep. Chestnut and Edneyville soils have an ochric epipedon. Cullasaja soils are loamy-skeletal. Tuckasegee soils are fine-loamy. Chestnut and Edneyville soils are on south- to west-facing slopes. Cullasaja and Tuckasegee soils formed in colluvium. They are in coves, in drainageways, and on toe slopes.

Typical pedon of Plott fine sandy loam, 50 to 95 percent slopes, stony; east from Hayesville on U.S. Highway 64 to U.S. Forest Service Road 71, about 2.3 miles southeast on U.S. Forest Service Road 71 to a small pond on the south side of the road, south across a small dam, 300 feet southwest of the pond on a side slope (State plane coordinates 507,300 feet N., 631,200 feet E.):

A1—0 to 13 inches; very dark brown (10YR 2/2) fine sandy loam; moderate medium granular structure; very friable; many fine to coarse roots; about 5 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; very strongly acid; gradual wavy boundary.

A2—13 to 16 inches; dark brown (10YR 3/3) fine sandy loam; moderate medium granular structure; very friable; common fine to coarse roots; about 5 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; very strongly acid; clear wavy boundary.

Bw1—16 to 30 inches; dark brown (10YR 4/3) fine sandy loam; weak medium subangular blocky structure; very friable; common medium and coarse roots; about 5 percent gravel and 10 percent cobbles, by volume; few fine flakes of mica; very strongly acid; diffuse irregular boundary.

Bw2—30 to 42 inches; dark yellowish brown (10YR 4/4) cobbly fine sandy loam; weak medium subangular blocky structure; very friable; few medium and coarse roots; about 10 percent gravel and 10 percent cobbles, by volume; few fine flakes of mica; very strongly acid; gradual irregular boundary.

C—42 to 61 inches; multicolored saprolite that has cobbly sandy loam texture; massive; very friable; about 10 percent gravel and 10 percent cobbles, by volume; common fine flakes of mica; very strongly acid.

The thickness of the solum ranges from 30 to more than 60 inches. The depth to bedrock is greater than 60 inches. Reaction ranges from extremely acid to moderately acid. Flakes of mica are few or common. The content of rock fragments is as much as 35 percent, by volume. The rock fragments are dominantly gravel and cobbles and include some stones.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 to 3.

The Bw horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 4 to 8. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The BC horizon, if it occurs, has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The C horizon is multicolored. It is loamy sand, sandy loam, or fine sandy loam in the fine-earth fraction.

Reddies Series

The Reddies series consists of moderately well drained soils that are moderately rapidly permeable in the A and B horizons and rapidly permeable in the C horizon. These soils are moderately deep to strata of sand, gravel, and cobbles and very deep to bedrock. They formed in recent alluvium on flood plains. Elevation generally ranges from 1,700 to 3,000 feet. Slope ranges from 0 to 3 percent. The soils are coarse-loamy over sandy or sandy-skeletal, mixed, mesic Fluventic Haplumbrepts.

Reddies soils are commonly adjacent to Dellwood, French, Nikwasi, and Rosman soils. Dellwood soils are sandy-skeletal. French soils are somewhat poorly

drained. Nikwasi soils are poorly drained or very poorly drained. Rosman soils are deep to strata of sand, gravel, and cobbles. Dellwood soils are along stream channels. French and Nikwasi soils are in depressions. Rosman soils are in slightly elevated areas.

Typical pedon of Reddies loam, 0 to 3 percent slopes, frequently flooded; along Tusquitee Creek, 1.8 miles north from Hayesville on Secondary Road 1307, about 1,600 feet north of the road on a flood plain (State plane coordinates 516,800 feet N., 563,300 feet E.):

Ap—0 to 11 inches; very dark brown (10YR 2/2) loam; weak medium granular structure; very friable; many fine and medium roots; about 5 percent gravel, by volume; few fine flakes of mica; slightly acid; abrupt smooth boundary.

Bw1—11 to 17 inches; yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; very friable; few medium distinct (10YR 5/8) soft masses of iron accumulation; about 5 percent gravel, by volume; few fine flakes of mica; slightly acid; gradual wavy boundary.

Bw2—17 to 29 inches; yellowish brown (10YR 5/4) gravelly sandy loam; weak medium subangular blocky structure; very friable; about 10 percent gravel and 5 percent cobbles, by volume; few fine and medium flakes of mica; moderately acid; clear wavy boundary.

C—29 to 60 inches; multicolored very cobbly loamy sand; massive; loose; about 15 percent gravel, 35 percent cobbles, and 5 percent stones, by volume; few medium flakes of mica; moderately acid.

The thickness of the solum ranges from 20 to 39 inches. Within depths of 20 to 40 inches, the soils are underlain by horizons having more than 35 percent gravel or cobbles, or both. The depth to bedrock is greater than 60 inches. Reaction ranges from very strongly acid to neutral. Flakes of mica are few or common. The content of rock fragments is as much as 35 percent, by volume, in the horizons above the skeletal alluvium. The rock fragments are dominantly gravel above the layer of sandy-skeletal alluvium and are gravel and cobbles within that layer.

The A horizon has hue of 10YR and value and chroma of 2 or 3.

The Bw horizon has hue of 10YR, value of 4 to 6, and chroma of 4 to 8. Few to many iron depletions with chroma of 2 or less occur below a depth of 20 inches in some pedons. Iron accumulations with greater chroma occur in some pedons. The texture is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The C horizon is multicolored or has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 to 6. The color pattern occurs from the mixture of iron accumulations and depletions and the rock fragments of uncoated sand. The texture is loamy sand or sand in the fine-earth fraction.

Rosman Series

The Rosman series consists of very deep, well drained or moderately well drained, rarely flooded or frequently flooded, moderately rapidly permeable soils on flood plains. These soils formed in recent alluvium. Elevation generally ranges from 1,600 to 2,500 feet. Slope ranges from 0 to 2 percent. The soils are coarse-loamy, mixed, mesic Fluventic Haplumbrepts.

Rosman soils are commonly adjacent to Arkaqua and Toxaway soils. These adjacent soils are fine-loamy. Arkaqua soils are somewhat poorly drained. Toxaway soils are poorly drained or very poorly drained. Arkaqua and Toxaway soils are in depressions.

Typical pedon of Rosman fine sandy loam, 0 to 2 percent slopes, rarely flooded; about 0.4 mile east of Hayesville on Secondary Road 1140, about 1,600 feet east of the road in a field (State plane coordinates 507,900 feet N., 562,000 feet E.):

Ap—0 to 11 inches; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; very friable; common fine roots; few fine flakes of mica; moderately acid; abrupt smooth boundary.

Bw—11 to 60 inches; dark yellowish brown (10YR 4/6) fine sandy loam; weak medium subangular blocky structure; very friable; few fine roots; few fine flakes of mica; strongly acid.

The thickness of the solum ranges from 35 to more than 60 inches. The depth to bedrock is greater than 60 inches. Unless limed, the soils are strongly acid to slightly acid. Flakes of mica are few or common. The content of rock fragments is as much as 15 percent, by volume, within a depth of 40 inches and as much as 50 percent below that depth. The rock fragments are dominantly gravel within a depth of 40 inches and gravel and cobbles below that depth.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 to 3.

The Bw horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 8. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The C horizon, if it occurs, has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 3 to 8. Iron depletions with chroma of 2 or less occur below a depth of 24 inches in some pedons. The texture is loamy sand, sandy loam, or fine sandy loam in the fine-earth fraction.

Santeetlah Series

The Santeetlah series consists of very deep, well drained, moderately rapidly permeable soils. These soils formed in colluvium weathered from metasedimentary rock, such as phyllite, slate, and metasandstone. Elevation generally ranges from 1,800 to 4,500 feet. Slope ranges from 8 to 95 percent. The soils are coarse-loamy, mixed, mesic Typic Haplumbrepts.

Santeetlah soils are commonly adjacent to Cheoah, Soco, Spivey, and Stecoah soils. Cheoah, Soco, and Stecoah soils formed in residuum. Cheoah and Stecoah soils are deep. Soco and Stecoah soils have an ochric epipedon. Soco soils are moderately deep. Spivey soils are loamy-skeletal. Cheoah, Soco, and Stecoah soils are on adjacent uplands. Spivey soils are in coves, in drainageways, and on toe slopes.

Typical pedon of Santeetlah loam in an area of Spivey-Santeetlah complex, 15 to 30 percent slopes, stony; 0.2 mile south from Tuni Gap on U.S. Forest Service Road 440, west on U.S. Forest Service Road 6190 to Big Tuni Creek, 300 feet west up a hiking trail on south side of the creek, 50 feet south of the trail in a cove (State plane coordinates 542,600 feet N., 593,900 feet E.):

A1—0 to 6 inches; very dark brown (10YR 2/2) loam; moderate fine and medium granular structure; very friable; many fine to coarse roots; about 10 percent channers, by volume; common fine flakes of mica; very strongly acid; clear wavy boundary.

A2—6 to 17 inches; dark brown (10YR 3/3) loam; moderate medium granular structure; very friable; common fine to coarse roots; about 10 percent channers, by volume; common fine flakes of mica; strongly acid; clear wavy boundary.

Bw—17 to 39 inches; dark yellowish brown (10YR 4/4) loam; weak medium subangular blocky structure; very friable; common medium and coarse roots; about 10 percent channers, by volume; common fine flakes of mica; strongly acid; gradual wavy boundary.

C1—39 to 49 inches; dark yellowish brown (10YR 4/6) channery loam; massive; very friable; about 25 percent channers, by volume; common fine flakes of mica; very strongly acid; gradual wavy boundary.

C2—49 to 65 inches; mottled dark yellowish brown (10YR 4/6), dark brown (10YR 3/3), and yellowish brown (10YR 5/6) very channery loam; massive; very friable; about 25 percent channers and 15 percent flagstones, by volume; common fine flakes of mica; very strongly acid.

The thickness of the solum ranges from 30 to more than 60 inches. The depth to bedrock is greater than 60 inches. Unless limed, the soils are extremely acid to moderately acid in the A horizon and very strongly acid to moderately acid in the other horizons. Flakes of mica are few or common. The content of rock fragments is as much as 35 percent, by volume, within a depth of 40 inches and as much as 60 percent below that depth. The rock fragments are dominantly channers and flagstones within a depth of 40 inches and channers, flagstones, stones, and boulders below that depth.

The A horizon has hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 1 to 3.

The Bw horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8. It is fine sandy loam or loam in the fine-earth fraction.

The BC horizon, if it occurs, is similar in color and texture to the Bw horizon. The content of rock fragments typically is greater in the BC horizon.

The C horizon is similar in color to the Bw horizon or is multicolored. It is loamy sand, sandy loam, fine sandy loam, or loam in the fine-earth fraction.

Soco Series

The Soco series consists of moderately deep, well drained, moderately rapidly permeable soils on low and intermediate mountains. These soils formed in material weathered from metasedimentary rock, such as phyllite, slate, and metasandstone. Elevation generally ranges from 2,000 to 4,800 feet. Slope ranges from 15 to 95 percent. The soils are coarse-loamy, mixed, mesic Typic Dystrochrepts.

Soco soils are commonly adjacent to Cheoah, Santeetlah, Spivey, and Stecoah soils. Cheoah, Santeetlah, and Spivey soils have an umbric epipedon. Spivey soils are loamy-skeletal. Stecoah soils are deep. Cheoah soils are on north- to east-facing slopes. Santeetlah and Spivey soils are in coves, in drainageways, and on toe slopes. Stecoah soils are on the lower part of side slopes or in areas where the landscape is smoother.

Typical pedon of Soco channery loam in an area of Soco-Stecoah complex, 30 to 50 percent slopes; 0.2 mile south from Tuni Gap on U.S. Forest Service Road 440, about 1.7 miles west on U.S. Forest Service Road 6190 to a ridge between Big Tuni Creek and Chestnut Branch, 100 feet north of the road (State plane coordinates 541,700 feet N., 595,000 feet E.):

A—0 to 3 inches; dark yellowish brown (10YR 3/4) channery loam; weak fine and medium granular structure; very friable; many fine to coarse roots; about 15 percent channers and 5 percent flagstones, by volume; few fine flakes of mica; extremely acid; clear smooth boundary.

Bw—3 to 23 inches; brownish yellow (10YR 6/8) channery sandy loam; weak fine and medium subangular blocky structure; very friable; common fine to coarse roots; about 15 percent channers and 5 percent flagstones, by volume; few fine flakes of mica; very strongly acid; gradual irregular boundary.

Cr—23 to 35 inches; multicolored, soft weathered, interbedded metasandstone and phyllite; partially consolidated but can be dug with difficulty with a spade; few thin seams of brownish yellow (10YR 6/8) fine sandy loam in rock fractures.

The thickness of the solum ranges from 15 to 39 inches. The depth to soft weathered bedrock ranges from 20 to 40 inches. The depth to hard unweathered bedrock is more than 40 inches. Unless limed, the soils are extremely acid to strongly acid. Flakes of mica are few or common. The content of rock fragments is as much as 35 percent, by volume. The rock fragments are dominantly channers and flagstones.

The A horizon has hue of 10YR, value of 3 to 5, and chroma of 3 to 6. Where it has value and chroma of 3, the horizon is less than 7 inches thick.

The Bw horizon and the BC horizon, if it occurs, have hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8. They are sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The C horizon, if it occurs, is multicolored. It is sandy loam or fine sandy loam in the fine-earth fraction.

The Cr horizon is multicolored, soft weathered metasedimentary rock. It is partially consolidated but can be dug with difficulty with a spade.

Spivey Series

The Spivey series consists of very deep, well drained, moderately rapidly permeable soils. These soils formed in colluvium weathered from metasedimentary rock, such as phyllite, slate, and metasandstone. Elevation generally ranges from 2,000 to 4,500 feet. Slope ranges from 8 to 95 percent. The soils are loamy-skeletal, mixed, mesic Typic Haplumbrepts.

Spivey soils are commonly adjacent to Cheoah, Oconaluftee, Santeetlah, Soco, and Stecoah soils. These adjacent soils are coarse-loamy. Soco and Stecoah soils have an ochric epipedon. Soco soils are moderately deep. Oconaluftee soils are frigid. Cheoah, Soco, and Stecoah soils are on adjacent uplands. Santeetlah soils are intermingled with Spivey soils in coves, in drainageways, and on toe slopes. Oconaluftee soils are on head slopes and ridges at elevations above 4,500 feet.

Typical pedon of Spivey flaggy loam in an area of Spivey-Santeetlah complex, 15 to 30 percent slopes, stony; in the Fires Creek Watershed, west from Hayesville on U.S. Highway 64 to Secondary Road 1302, north on Secondary Road 1302 to 1300, east on Secondary Road 1300 to 1344, north on Secondary Road 1344 to U.S. Forest Service Road 340, east on U.S. Forest Service Road 340 to 340C, northeast on U.S. Forest Service Road 340C to end of the road, 500 feet upstream on Short Branch (State plane coordinates 542,000 feet N., 576,500 feet E.):

A1—0 to 10 inches; black (10YR 2/1) flaggy loam; moderate fine and medium granular structure; very friable; many fine and medium and common coarse roots; about 15 percent channers, 15 percent flagstones, and 10 percent stones, by volume; few fine flakes of mica; very strongly acid; gradual wavy boundary.

A2—10 to 16 inches; very dark brown (10YR 2/2) flaggy loam; moderate fine and medium granular structure; very friable; common fine to coarse roots; about 15 percent channers, 15 percent flagstones, and 10 percent stones, by volume; few fine flakes of mica; very strongly acid; gradual wavy boundary.

Bw1—16 to 21 inches; dark brown (10YR 4/3) flaggy fine sandy loam; weak fine and medium subangular blocky structure; very friable; common medium to coarse roots; about 15 percent channers, 20 percent flagstones, and 15 percent stones, by volume; few fine flakes of mica; strongly acid; clear wavy boundary.

Bw2—21 to 60 inches; dark brown (10YR 4/3) flaggy sandy loam; weak fine and medium subangular blocky structure; very friable; few medium to coarse roots; about 10 percent channers, 20 percent flagstones, and 25 percent stones, by volume; few fine flakes of mica; strongly acid.

The thickness of the solum ranges from 30 to more than 60 inches. The depth to bedrock is greater than 60 inches. Unless limed, the soils are extremely acid to moderately acid. The quantity of flakes of mica ranges from none to common. The content of rock fragments ranges from 40 to 60 percent, by volume. The rock fragments are channers, flagstones, stones, and boulders.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 to 3.

The Bw horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 to 8. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction. Some pedons have thin horizons that are sandy clay loam in the fine-earth fraction.

The C horizon, if it occurs, is similar in color to the Bw horizon or is multicolored. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

Statler Series

The Statler series consists of very deep, well drained, moderately permeable soils on low stream terraces. These soils formed in alluvium. Elevation generally ranges from 1,600 to 2,500 feet. Slope ranges from 1 to 5 percent. The soils are fine-loamy, mixed, mesic Humic Hapludults.

Statler soils are commonly adjacent to Dillard and Hemphill soils. Dillard soils are moderately well drained. Hemphill soils are poorly drained and are clayey. Dillard and Hemphill soils are in depressions.

Typical pedon of Statler loam, 1 to 5 percent slopes, rarely flooded; 1,600 feet northeast of the Clay County Community Services Building in Hayesville, 600 feet west of where Town Creek flows into the Hiwassee River, in a field of crops (State plane coordinates 507,500 feet N., 560,800 feet E.):

Ap—0 to 10 inches; dark brown (10YR 3/3) loam; weak fine and medium granular structure; very friable; many fine and medium roots; few fine flakes of mica; slightly acid; abrupt smooth boundary.

Bt1—10 to 21 inches; dark yellowish brown (10YR 4/6) clay loam; moderate medium subangular blocky structure; friable; few discontinuous clay films on faces of peds; few medium roots; few fine flakes of mica; slightly acid; clear wavy boundary.

Bt2—21 to 49 inches; brownish yellow (10YR 6/6) loam; weak medium subangular blocky structure; friable; few medium roots; common fine flakes of mica; moderately acid; gradual wavy boundary.

BC—49 to 60 inches; light yellowish brown (10YR 6/4) fine sandy loam; few medium distinct brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; very friable; common fine flakes of mica; moderately acid.

The thickness of the solum ranges from 40 to more than 60 inches. Reaction is strongly acid or moderately acid. Because of past liming, reaction in the A horizon and the upper part of the Bt horizon may range to neutral. Flakes of mica are few or common. The content of rock fragments is as much as 15 percent, by volume, in the A and B horizons and as much as 30 percent in the C horizon. The rock fragments are dominantly gravel in the A and B horizons and dominantly cobbles in the C horizon.

The A horizon has hue of 10YR, value of 3, and chroma of 2 to 4. However, it does not have a combination of value, chroma, and thickness that qualifies the horizon for an umbric epipedon.

The Bt horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8. It is loam, sandy clay loam, or clay loam in the fine-earth fraction.

The BC horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8. It is fine sandy loam, loam, or sandy clay loam in the fine-earth fraction.

The C horizon, if it occurs, is similar in color to the BC horizon or is multicolored. It is fine sandy loam or loam in the fine-earth fraction.

Stecoah Series

The Stecoah series consists of deep, well drained, moderately rapidly permeable soils on low and intermediate mountains. These soils formed in material weathered from metasedimentary rock, such as phyllite, slate, and metasandstone. Elevation generally ranges from 2,000 to 4,800 feet. Slope ranges from 15 to 95 percent. The soils are coarse-loamy, mixed, mesic Typic Dystrochrepts.

Stecoah soils are commonly adjacent to Cheoah, Santeetlah, Soco, and Spivey soils. Cheoah, Santeetlah, and Spivey soils have an umbric epipedon. Spivey soils are loamy-skeletal. Soco soils are moderately deep. Cheoah soils are on north- to east-facing slopes. Santeetlah and Spivey soils are in coves, in drainageways, and on toe slopes. Soco soils are on the upper part of side slopes or in areas where the landscape breaks sharply.

Typical pedon of Stecoah fine sandy loam in an area of Soco-Stecoah complex, 30 to 50 percent slopes; 0.2 mile south from Tuni Gap on U.S. Forest Service Road 440, about 1.7 miles west on U.S. Forest Service Road 6190 to a ridge between Big Tuni Creek and Chestnut Branch, 100 feet north of the road (State plane coordinates 541,700 feet N., 594,700 feet E.):

A—0 to 5 inches; dark yellowish brown (10YR 3/4) fine sandy loam; moderate fine and medium granular structure; very friable; many fine to coarse roots; about 5 percent channers and 5 percent flagstones, by volume; few fine flakes of mica; strongly acid; clear smooth boundary.

Bw—5 to 31 inches; yellowish brown (10YR 5/6) loam; moderate medium subangular blocky structure; friable; common medium and coarse roots; about 10 percent channers, by volume; common fine flakes of mica; very strongly acid; clear irregular boundary.

BC—31 to 36 inches; light yellowish brown (10YR 6/4) channery loam; weak medium subangular blocky structure; friable; common coarse roots; about 15 percent channers and 5 percent flagstones, by volume; few fine flakes of mica; very strongly acid; gradual wavy boundary.

C—36 to 52 inches; multicolored saprolite that has channery fine sandy loam texture; massive; very friable; about 15 percent channers and 10 percent

flagstones, by volume; common fine flakes of mica; strongly acid; gradual wavy boundary.

Cr—52 to 60 inches; multicolored, soft weathered, interbedded metasandstone and phyllite; partially consolidated but can be dug with difficulty with a spade; few thin seams of yellowish brown (10YR 5/8) fine sandy loam in rock fractures.

The thickness of the solum ranges from 24 to 50 inches. The depth to soft weathered bedrock ranges from 40 to 60 inches. Unless limed, the soils are extremely acid to strongly acid. Flakes of mica are few or common. The content of rock fragments is as much as 35 percent, by volume. The rock fragments are dominantly channers and flagstones.

The A horizon has hue of 10YR, value of 3 to 5, and chroma of 3 to 6. Where it has value and chroma of 3, the horizon is less than 7 inches thick.

The Bw horizon and the BC horizon, if it occurs, have hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8. They are fine sandy loam or loam in the fine-earth fraction.

The C horizon is multicolored. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The Cr horizon is multicolored, soft weathered metasedimentary rock. It is partially consolidated but can be dug with difficulty with a spade.

Sylco Series

The Sylco series consists of moderately deep, well drained, moderately permeable soils on low and intermediate mountains. These soils formed in material weathered from metasedimentary rock, such as slate, phyllite, and metasandstone (fig. 23). Elevation generally ranges from 2,000 to 4,500 feet. Slope ranges from 15 to 95 percent. The soils are loamy-skeletal, mixed, mesic Typic Dystrochrepts.

Sylco soils are commonly adjacent to Cataska, Santeetlah, and Spivey soils. Cataska soils are shallow. Santeetlah and Spivey soils have an umbric epipedon and formed in colluvium. Santeetlah and Spivey soils are in drainageways.

Typical pedon of Sylco channery loam in an area of Sylco-Cataska complex, 50 to 95 percent slopes; in the Fires Creek Watershed, north from Hayesville on Secondary Road 1307 to 1300, west on Secondary Road 1300 to 1344, north on Secondary Road 1344 to U.S. Forest Service Road 340, on U.S. Forest Service Road 340 to 340C, on U.S. Forest Service Road 340C to 427, on U.S. Forest Service Road 427 to 427A, about 1.6 miles along U.S. Forest Service Road 427A, about 50 feet upslope of the road (State plane coordinates 538,500 feet N., 565,500 feet E.):

A1—0 to 3 inches; dark brown (10YR 3/3) channery loam; moderate fine granular structure; very friable; many fine to coarse roots; about 20 percent channers and 5 percent flagstones, by volume; very strongly acid; clear wavy boundary.

A2—3 to 6 inches; dark yellowish brown (10YR 4/4) channery loam; weak fine and medium granular structure; very friable; many fine to coarse roots; about 20 percent channers and 5 percent flagstones, by volume; very strongly acid; clear wavy boundary.

Bw1—6 to 18 inches; strong brown (7.5YR 5/6) very channery loam; weak medium subangular blocky structure; very friable; common fine to coarse roots; about 25 percent channers and 10 percent flagstones, by volume; strongly acid; gradual irregular boundary.

Bw2—18 to 29 inches; strong brown (7.5YR 5/6) very channery loam; weak medium subangular blocky structure; very friable; common fine to coarse roots; about 25 percent channers and 20 percent flagstones, by volume; strongly acid; gradual irregular boundary.

Cr—29 to 36 inches; soft weathered, highly fractured slate; thin seams of brown (7.5YR 4/4) loam in rock fractures.

R—36 inches; hard unweathered, fractured slate.

The thickness of the solum ranges from 17 to 39 inches. The depth to soft weathered bedrock and hard unweathered bedrock ranges from 20 to 40 inches. Reaction is extremely acid to strongly acid. The content of rock fragments ranges from 15 to 45 percent, by volume, in the A and B horizons and is greater than 40 percent in the C horizon.

The A1 horizon has hue of 10YR, value of 3 or 4, and chroma of 2 to 4. Where it has value of 3 and chroma of 2 or 3, the horizon is less than 7 inches thick.

The A2 horizon has hue of 10YR, value of 4 or 5, and chroma of 3 or 4.

The Bw horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 3 to 8. It is loam or silt loam in the fine-earth fraction.

The Cr horizon is soft weathered metasedimentary rock. It is partially consolidated but can be dug with difficulty with a spade.

The R horizon is hard unweathered slate, phyllite, or metasandstone.

Tate Series

The Tate series consists of very deep, well drained, moderately permeable soils. These soils formed in colluvium weathered from high-grade metamorphic rock,

such as mica gneiss and hornblende gneiss. Elevation generally ranges from 1,800 to 3,500 feet. Slope ranges from 2 to 50 percent. The soils are fine-loamy, mixed, mesic Typic Hapludults.

Tate soils are commonly adjacent to Cowee, Evard, Fannin, and Hayesville soils. These adjacent soils are on uplands. They formed in residuum. Cowee soils are moderately deep. Hayesville soils are clayey.

Typical pedon of Tate loam, 8 to 15 percent slopes; along Chairmaker Branch, east from Hayesville on U.S. Highway 64 to Secondary Road 1330, north on Secondary Road 1330 to U.S. Forest Service Road 351, about 1.2 miles east on U.S. Forest Service Road 351, about 100 feet north of the road (State plane coordinates 514,100 feet N., 493,600 feet E.):

A1—0 to 4 inches; dark brown (10YR 3/3) loam; weak medium granular structure; very friable; many fine to coarse roots; about 5 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; abrupt smooth boundary.

A2—4 to 9 inches; dark yellowish brown (10YR 4/4) loam; weak medium granular structure; very friable; many fine to coarse roots; about 5 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; abrupt smooth boundary.

BA—9 to 13 inches; dark yellowish brown (10YR 4/6) loam; weak medium subangular blocky structure; very friable; many fine to coarse roots; about 5 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; abrupt smooth boundary.

Bt1—13 to 22 inches; yellowish brown (10YR 5/6) clay loam; moderate medium subangular blocky structure; friable; few discontinuous clay films on faces of peds; common medium and coarse roots; about 5 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; gradual wavy boundary.

Bt2—22 to 38 inches; strong brown (7.5YR 5/6) clay loam; moderate medium subangular blocky structure; friable; few discontinuous clay films on faces of peds; common coarse roots; about 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; gradual wavy boundary.

BC—38 to 54 inches; strong brown (7.5YR 5/6) gravelly loam; weak medium subangular blocky structure; friable; few coarse roots; about 15 percent gravel, 10 percent cobbles, and 5 percent stones, by volume; common fine flakes of mica; strongly acid; gradual wavy boundary.

C—54 to 60 inches; strong brown (7.5YR 5/6) cobbly fine sandy loam; massive; friable; about 15 percent gravel, 20 percent cobbles, and 10 percent stones, by volume; common fine flakes of mica; strongly acid.

The thickness of the solum ranges from 40 to more than 60 inches. The depth to bedrock is greater than 60 inches. Unless limed, the soils are very strongly acid to slightly acid. Because of past liming, reaction in the A horizon and the upper part of the Bt horizon may range to neutral. Flakes of mica are few or common. The content of rock fragments is as much as 35 percent, by volume, in the A and Bt horizons and as much as 60 percent in the BC and C horizons. The rock fragments are dominantly gravel in the A and Bt horizons.

The A horizon has hue of 10YR, value of 3 to 6, and chroma of 2 to 4. Where it has value and chroma of 3 or less, the horizon is less than 7 inches thick.

The BA horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 to 6. It is loam, sandy clay loam, or clay loam in the fine-earth fraction.

The Bt horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8. It is loam, sandy clay loam, or clay loam in the fine-earth fraction.

The BC horizon is similar in color to the Bt horizon. It is fine sandy loam, loam, or sandy clay loam in the fine-earth fraction.

The C horizon is similar in color to the Bt horizon or is multicolored. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

Toxaway Series

The Toxaway series consists of frequently flooded, very deep, very poorly drained or poorly drained, moderately permeable soils on flood plains. These soils formed in recent alluvium. Elevation generally ranges from 1,900 to 2,500 feet. Slope ranges from 0 to 2 percent. The soils are fine-loamy, mixed, nonacid, mesic Cumulic Humaquepts.

Toxaway soils are commonly adjacent to Arkaqua and Rosman soils. Arkaqua soils are somewhat poorly drained. Rosman soils are well drained. Rosman soils are coarse-loamy. Arkaqua and Rosman soils are in slightly elevated areas nearer to the stream channels than the Toxaway soils.

Typical pedon of Toxaway loam, 0 to 2 percent slopes, frequently flooded; north of Hayesville on Secondary Road 1307 to 1314, about 0.5 mile east on Secondary Road 1314, about 300 feet south of the road in a field (State plane coordinates 509,300 feet N., 560,600 feet E.):

A—0 to 26 inches; very dark brown (10YR 2/2) loam; weak medium granular structure; very friable; many fine and medium roots; few fine flakes of mica; moderately acid; abrupt smooth boundary.

Cg1—26 to 38 inches; dark grayish brown (10YR 4/2) clay loam; massive; firm; few fine prominent yellowish brown (10YR 5/6) soft masses of iron accumulation; few fine flakes of mica; moderately acid; clear wavy boundary.
Cg2—38 to 50 inches; very dark grayish brown (10YR 3/2) clay loam; massive; firm; few fine flakes of mica; strongly acid; clear wavy boundary.
Cg3—50 to 60 inches; dark grayish brown (10YR 4/2) sandy loam; massive; friable; many fine flakes of mica; strongly acid.

The thickness of loamy layers ranges from 40 to more than 60 inches. Unless limed, the soils are strongly acid to slightly acid. Flakes of mica range from few to many.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 to 3.

The Cg horizon is neutral in hue or has hue of 10YR or 2.5Y, has value of 3 to 6, and has chroma of 0 to 2. The colors having low chroma result from iron depletion caused by wetness. Iron accumulations with greater chroma occur in some pedons. The horizon is sandy loam, fine sandy loam, loam, silty clay loam, or clay loam.

Trimont Series

The Trimont series consists of very deep, well drained, moderately permeable soils on low mountains. These soils formed in material weathered from high-grade metamorphic rock, such as mica gneiss and hornblende gneiss. Elevation generally ranges from 2,000 to 3,500 feet. Slope ranges from 30 to 95 percent. The soils are fine-loamy, mixed, mesic Humic Hapludults.

Trimont soils are commonly adjacent to Cowee, Cullasaja, Evard, Plott, and Tuckasegee soils. Cowee and Evard soils have an epipedon that classifies them as typic. Cowee soils are moderately deep. Cullasaja soils are loamy-skeletal. Cullasaja, Plott, and Tuckasegee soils have an umbric epipedon. Cowee and Evard soils are on south- to west-facing slopes. Cullasaja and Tuckasegee soils are in drainageways. Plott soils are on the lower part of side slopes.

Typical pedon of Trimont gravelly loam, 30 to 50 percent slopes, stony; east from Hayesville on U.S. Highway 64 to Secondary Road 1330, north on Secondary Road 1330 to U.S. Forest Service Road 351, about 2.5 miles east on U.S. Forest Service Road 351, about 100 feet north of the road (State plane coordinates 514,100 feet N., 493,600 feet E.):

A—0 to 9 inches; dark brown (7.5YR 3/2) gravelly loam; moderate fine to coarse granular structure; very friable; many fine to common coarse roots; about 10 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; clear smooth boundary.
Bt1—9 to 23 inches; reddish brown (5YR 4/4) sandy clay loam; moderate fine to medium subangular blocky structure; friable; few faint clay films on faces of peds; common fine to coarse roots; about 5 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; gradual wavy boundary.
Bt2—23 to 34 inches; yellowish red (5YR 4/6) sandy clay loam; moderate fine to coarse subangular blocky structure; friable; few faint clay films on faces of peds; common fine to coarse roots; about 5 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; gradual wavy boundary.
Bt3—34 to 45 inches; yellowish red (5YR 4/6) fine sandy loam; weak fine to coarse subangular blocky structure; friable; few faint clay films on faces of peds; few fine roots; about 5 percent cobbles, by volume; few fine flakes of mica; common fine prominent black (10YR 2/1) manganese stains; moderately acid; gradual wavy boundary.
C—45 to 60 inches; multicolored saprolite that has fine sandy loam texture; massive; very friable; common fine flakes of mica; moderately acid; gradual irregular boundary.

The thickness of the solum ranges from 27 to 60 inches. The depth to bedrock is greater than 60 inches. Unless limed, the soils are very strongly acid to moderately acid. Flakes of mica are few or common. The content of rock fragments is as much as 35 percent, by volume. The rock fragments are dominantly gravel and cobbles.

The A horizon and the AB horizon, if it occurs, have hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 2 to 4. However, they do not have a combination of value, chroma, and thickness that qualifies the horizons for umbric epipedons.

The Bt horizon has hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 4 to 8. It is loam, sandy clay loam, or clay loam in the fine-earth fraction.

The BC horizon is similar in color to the Bt horizon. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The C horizon is multicolored. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

Tsali Series

The Tsali series consists of shallow, well drained, moderately permeable soils on low mountains. These

soils formed in material weathered from metasedimentary rock, such as phyllite and metasandstone. Elevation generally ranges from 1,900 to 3,500 feet. Slope ranges from 15 to 95 percent. The soils are loamy, mixed, mesic, shallow Typic Hapludults.

Tsali soils are commonly adjacent to Junaluska, Santeetlah, and Spivey soils. Junaluska soils are moderately deep. Santeetlah and Spivey soils formed in colluvium and have an umbric epipedon. Santeetlah soils are coarse-loamy, and Spivey soils are loamy-skeletal. Junaluska soils are on the lower part of side slopes or in areas where the landscape is smoother. Santeetlah and Spivey soils are in coves, in drainageways, and on toe slopes.

Typical pedon of Tsali channery fine sandy loam in an area of Junaluska-Tsali complex, 15 to 30 percent slopes; from Hayesville on Secondary Road 1307 to 1300, west on Secondary Road 1300 to Carver Creek, 0.2 mile west of the creek on Secondary Road 1300 to U.S. Forest Service Road 6167, about 0.3 mile north on U.S. Forest Service Road 6167, about 100 feet southeast of the road (State plane coordinates 520,000 feet N., 551,000 feet E.):

A—0 to 10 inches; strong brown (7.5YR 4/6) channery fine sandy loam; weak fine and medium granular structure; very friable; many fine to coarse roots; about 20 percent channers, by volume; few fine flakes of mica; very strongly acid; clear wavy boundary.

Bt—10 to 16 inches; yellowish red (5YR 5/6) channery loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; common medium to coarse roots; about 25 percent channers, by volume; few fine flakes of mica; strongly acid; clear wavy boundary.

Cr—16 to 30 inches; multicolored, soft weathered, highly fractured metasandstone; partially consolidated but can be dug with difficulty with a spade; few thin seams of yellowish red (5YR 5/8) loam in rock fractures.

The thickness of the solum ranges from 10 to 19 inches. The depth to soft weathered bedrock ranges from 10 to 20 inches. The depth to hard unweathered bedrock is more than 30 inches. Reaction is extremely acid or very strongly acid. The quantity of flakes of mica ranges from none to common. The content of coarse fragments is as much as 35 percent. The rock fragments are dominantly channers and flagstones.

The A horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 3 to 8. Where it has value and chroma of 3, the horizon is less than 7 inches thick.

The BA horizon, if it occurs, has hue of 7.5YR, value of 4 or 5, and chroma of 4 to 8. It is fine sandy loam or loam in the fine-earth fraction.

The Bt horizon has hue of 10YR to 2.5YR, value of 4 to 6, and chroma of 4 to 8. It is loam or clay loam in the fine-earth fraction.

The BC horizon, if it occurs, is similar in color to the Bt horizon. It is fine sandy loam or loam in the fine-earth fraction.

The Cr horizon is multicolored, soft weathered metasedimentary rock, such as phyllite, slate, and metasandstone. It is partially consolidated but can be dug with difficulty with a spade.

Tuckasegee Series

The Tuckasegee series consists of very deep, well drained, moderately rapidly permeable soils. These soils formed in colluvium derived from high-grade metamorphic rock, such as mica gneiss and hornblende gneiss. Elevation generally ranges from 3,500 to 5,000 feet. Slope ranges from 8 to 95 percent. The soils are fine-loamy, mixed, mesic Typic Haplumbrepts.

Tuckasegee soils are commonly adjacent to Chestnut, Cullasaja, Edneyville, and Plott soils. Chestnut, Edneyville, and Plott soils formed in residuum. Chestnut and Edneyville soils have an ochric epipedon. Chestnut soils are moderately deep. Cullasaja soils are loamy-skeletal. Chestnut, Edneyville, and Plott soils are on adjacent uplands. Cullasaja soils are in areas mixed with the Tuckasegee soils in coves, in drainageways, and on toe slopes.

Typical pedon of Tuckasegee loam in an area of Tuckasegee-Cullasaja complex, 8 to 15 percent slopes, stony; from Hayesville east on U.S. Highway 64 to U.S. Forest Service Road 71, about 2 miles southeast on U.S. Forest Service Road 71, about 200 feet north of the road (State plane coordinates 508,000 feet N., 629,000 feet E.):

A1—0 to 7 inches; very dark brown (10YR 2/2) loam; moderate fine and medium granular structure; very friable; many fine and common medium and coarse roots; about 5 percent gravel, by volume; few fine flakes of mica; very strongly acid; clear wavy boundary.

A2—7 to 12 inches; dark brown (10YR 3/3) loam; moderate fine and medium granular structure; very friable; common fine to coarse roots; about 5 percent gravel, by volume; few fine flakes of mica; strongly acid; clear wavy boundary.

Bw1—12 to 30 inches; dark yellowish brown (10YR 4/4) loam; weak medium subangular blocky structure; friable; common medium and coarse roots; about 5 percent gravel and 5 percent cobbles, by volume;

few fine flakes of mica; strongly acid; gradual wavy boundary.

Bw2—30 to 47 inches; yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable; few coarse roots; about 5 percent gravel and 5 percent cobbles, by volume; few fine flakes of mica; strongly acid; gradual wavy boundary.

Bw3—47 to 62 inches; yellowish brown (10YR 5/6) cobbly fine sandy loam; weak medium subangular blocky structure; friable; few coarse roots; about 10 percent gravel, 10 percent cobbles, and 10 percent stones, by volume; few fine flakes of mica; strongly acid.

The thickness of the solum ranges from 40 to more than 60 inches. The depth to bedrock is greater than 72 inches. Unless limed, the soils are very strongly acid to slightly acid. Flakes of mica are few or common. The content of coarse fragments is as much as 35 percent within a depth of 40 inches but may be more than 35 percent below that depth.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 to 3.

The AB horizon has hue of 7.5YR or 10YR and value and chroma of 3 or 4. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The Bw horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 8. It is sandy loam, fine sandy loam, loam, or sandy clay loam in the fine-earth fraction.

The BC horizon, if it occurs, has hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 4 to 8. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

The C horizon, if it occurs, is similar in color to the BC horizon or is multicolored. It is sandy loam, fine sandy loam, or loam in the fine-earth fraction.

Udorthents

Udorthents consist of areas where the natural soil layers have been destroyed by excavation or covered by earthy fill material. Such operations as scraping, backfilling, trenching, and excavating have completely altered the characteristics of the soil, and the original series can no longer be identified. These areas are well drained or moderately well drained. Udorthents commonly occur along major roads, such as U.S. Highway 64 and North Carolina Highway 69. The foundations of highways are large areas of cut and fill. Other areas of cut and fill include golf courses, commercial building sites, landfills, and mines.

Because of the variability of Udorthents, a typical pedon is not described. The depth to bedrock ranges from 6 feet to more than 20 feet in filled areas. Areas of cuts commonly have little soil material remaining over bedrock. Vertical faces of bedrock are common.

Udorthents have colors in shades of red, yellow, and brown. The texture varies and includes sandy loam, loam, and clay loam. Reaction ranges from extremely acid to neutral.

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Glossary

Access road. A road constructed to facilitate the use and management of the land. Access roads are designed for limited traffic and typically consist of a cut slope, a roadbed, and a fill outslope.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Aquifer. A water-bearing bed or stratum of permeable rock, sand, or gravel capable of yielding considerable quantities of water to wells or springs.

Area reclaim (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Aspect. The direction in which a slope faces. Generally, cool aspects are north- to east-facing and warm aspects are south- to west-facing.

Atterberg limits. Atterberg limits are measured for soil materials passing the No. 40 sieve. They include the liquid limit (LL), which is the moisture content at which the soil passes from a plastic to a liquid state, and the plasticity index (PI), which is the water content corresponding to an arbitrary limit between the plastic and semisolid states of consistency of a soil.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Ball and burlap harvest. A method of harvesting nursery plants in which burlap is wrapped around a ball of soil that is attached to the root system.

Bare-root harvest. A method of harvesting in which nursery plants are removed from the soil with their roots bare and are packed in moist shipping material.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Biotite. A common rock-forming mineral consisting primarily of ferromagnesian silicate minerals. Color ranges from dark brown to green in thin section. Biotite is commonly referred to as "black mica" because of the natural black color.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Broad-based dips. Short sections of access road having a reverse grade to intercept storm water. The dips are spaced about 200 feet apart and are designed to divert water away from stream crossings or steep grades.

Cable yarding. A method of moving felled trees to a nearby central area for transport to a processing facility. Most systems involve a drum, pole, and wire cables using the same principle as that of a rod and reel for fishing. Generally, felled trees are yarded or reeled in with one end lifted or completely suspended to reduce friction and soil disturbance.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Channel flow. Storm waters flowing from roads, roofs, parking lots, and other impervious surfaces into intermittent drainageways during and after heavy rainfall.

Channery soil material. Soil material that is, by volume, more than 15 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches along the longest axis. A single piece is called a fragment.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clayey. A general textural term that includes sandy clay, silty clay, and clay. According to family level criteria in the soil taxonomic system, a specific textural name referring to fine-earth (particles less than 2 millimeters in size) containing 35 percent or more clay, by weight, within the control section. The content of rock fragments is less than 35 percent, by volume.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Climax vegetation. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse fragments. If round, mineral or rock particles 2 millimeters to 25 centimeters (10 inches) in diameter; if flat, mineral or rock particles (flagstone) 15 to 38 centimeters (6 to 15 inches) long.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Colluvial fan. A fan-shaped area of soils deposited by mass-wasting (direct gravitational action) and local unconcentrated runoff at the base of steep side slopes.

Colluvium. Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils are somewhat similar in all areas.

Concretions. Grains, pellets, or nodules of various sizes, shapes, and colors consisting of concentrated compounds or cemented soil grains. The composition of most concretions is unlike that of the surrounding soil. Calcium carbonate and iron oxide are common compounds in concretions.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are:

Loose.—Noncoherent when dry or moist; does not hold together in a mass.

Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.

Sticky.—When wet, adheres to other material and tends to stretch somewhat and pull apart rather than to pull free from other material.

Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft.—When dry, breaks into powder or individual grains under very slight pressure.

Cemented.—Hard; little affected by moistening.

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies

among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Controlled burning. A selected area is burned to force a new succession of vegetation that can provide good wildlife habitat.

Cove. The steep or very steep, concave colluvial areas at the head of drainageways in Piedmont and mountainous areas. These areas commonly have higher tree site indexes than surrounding slopes.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Crop residue management. Use of that portion of the plant or crop left in the field after harvest for protection or improvement of the soil.

Crust. A thin, hard layer of soil material that forms on the surface in cultivated areas as the result of fine soil material settling during ponding.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Dbh (diameter at breast height). The diameter of a tree at 4.5 feet above the ground level on the uphill side.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delineation. The process of drawing or plotting features on a map with lines and symbols.

Denitrification. The biochemical reduction of nitrate or nitrite to gaseous nitrogen either as molecular nitrogen or as an oxide of nitrogen.

Depth class. Refers to the depth to a root-restricting layer. Unless otherwise stated, this layer is understood to be consolidated bedrock. The depth classes in this survey are:

Very shallow	less than 10 inches
Shallow	10 to 20 inches
Moderately deep	20 to 40 inches
Deep	40 to 60 inches
Very deep	more than 60 inches

Depth to bedrock (in tables). Bedrock is too near the surface for the specified use.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of periods of saturation or partial saturation during soil formation, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven classes of natural soil drainage are recognized:

Excessively drained.—Water is removed from the soil very rapidly. Excessively drained soils are commonly very coarse textured, rocky, or shallow. Some are steep. All are free of the mottling related to wetness.

Somewhat excessively drained.—Water is removed from the soil rapidly. Many somewhat excessively drained soils are sandy and rapidly pervious. Some are shallow. Some are so steep that much of the water they receive is lost as runoff. All are free of the mottling related to wetness.

Well drained.—Water is removed from the soil readily, but not rapidly. It is available to plants throughout most of the growing season, and wetness does not inhibit growth of roots for significant periods during most growing seasons. Well drained soils are commonly medium textured. They are mainly free of mottling.

Moderately well drained.—Water is removed from the soil somewhat slowly during some periods. Moderately well drained soils are wet for only a short time during the growing season, but periodically they are wet long enough that most mesophytic crops are affected. They commonly have a slowly pervious layer within or directly below the solum or periodically receive high rainfall, or both.

Somewhat poorly drained.—Water is removed slowly enough that the soil is wet for significant periods during the growing season. Wetness markedly restricts the growth of mesophytic crops unless artificial drainage is provided. Somewhat poorly drained soils commonly have a slowly pervious layer, a high water table, additional water from seepage, or a combination of these.

Poorly drained.—Water is removed so slowly that the soil is saturated periodically during the growing season or remains wet for long periods. Free water is commonly at or near the surface for long enough during the growing season that most mesophytic crops cannot be grown unless the soil is artificially drained. The soil is not continuously saturated in layers directly below plow depth. Poor drainage results from a high water table, a slowly pervious layer within the profile, seepage, or a combination of these.

Very poorly drained.—Water is removed from the soil so slowly that free water remains at or on the surface during most of the growing season. Unless the soil is artificially drained, most mesophytic crops cannot be grown. Very poorly drained soils are commonly level or depressed and are frequently ponded. Yet, where rainfall is high and

nearly continuous, they can have moderate or high slope gradients.

Drainage, surface. Runoff, or surface flow of water, from an area.

Drainageway. A narrow, gently sloping to very steep, concave colluvial area along an intermittent or perennial stream.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Eroded (soil phase). Because of erosion, these soils have lost an average of 25 to 75 percent of the original A horizon or the uppermost 2 to 6 inches (if the original A horizon was less than 8 inches thick).

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as fire, that exposes the surface.

Erosion classes. Classes based on estimates of past erosion. The classes are as follows:

Class 1.—Soils that have lost some of the original A horizon but on the average less than 25 percent of the original A horizon or of the uppermost 8 inches (if the original A horizon was less than 8 inches thick). Throughout most of the area, the thickness of the surface layer is within the normal range of variability of the uneroded soil. Class 1 erosion typically is not designated in the name of the map unit or in the map symbol.

Class 2.—Soils that have lost an average of 25 to 75 percent of the original A horizon or of the uppermost 8 inches (if the original A horizon was less than 8 inches thick). Throughout most cultivated areas of class 2 erosion, the surface layer consists of a mixture of the original A horizon and material from below. Some areas may have intricate patterns ranging from uneroded spots to spots where all of the original A horizon has been removed.

Class 3.—Soils that have lost an average of 75 percent or more of the original A horizon or of the uppermost 8 inches (if the original A horizon was less than 8 inches thick). In most cultivated areas of class 3 erosion, material that was below the original A horizon is exposed. The plow layer consists entirely or largely of this material.

Class 4.—Soils that have lost all of the original A horizon or of the uppermost 8 inches (if the original A horizon was less than 8 inches thick) plus some or all of the deeper horizons throughout most of the area. The original soil can be identified only in spots. Some areas may be smooth, but most have an intricate pattern of gullies.

Erosion hazard. Terms describing the potential for future erosion, inherent in the soil itself, in inadequately protected areas. The following definitions are based on estimated annual soil loss in metric tons per hectare (values determined by the Universal Soil Loss Equation assuming bare soil conditions and using rainfall and climate factors for North Carolina):

0 tons per hectare	none
Less than 2.5 tons per hectare	slight
2.5 to 10 tons per hectare	moderate
10 to 25 tons per hectare	severe
More than 25 tons per hectare	very severe

Evapotranspiration. The combined loss of water from a given area through surface evaporation and through transpiration by plants during a specified period.

Excess fines (in tables). Excess silt and clay in the soil. The soil is not a source of gravel or sand for construction purposes.

Felsic rock. A general term for light-colored igneous rock and some metamorphic crystalline rock that have an abundance of quartz, feldspars, feldspathoids, and muscovite mica.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Field border. A strip of perennial vegetation (trees, shrubs, or herbaceous plants) established on the edge of a field to control erosion, provide travel lanes for farm machinery, control competition from adjacent woodland, or provide food and cover for wildlife.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water had drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity.*

Fill slope. A sloping surface made by excavating soil

material from the road cut. Usually on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 37.5 centimeters) long.

Flash flood. A sudden, violent flood.

Flooding. The temporary covering of the surface by flowing water from any source, such as overflowing streams, runoff from adjacent or surrounding slopes, and inflow from high tides. The frequency of flooding generally is expressed as none, rare, occasional, or frequent. *None* means that flooding is not probable. *Rare* means that flooding is unlikely but possible under unusual weather conditions (the chance of flooding is nearly 0 percent to 5 percent in any year). *Occasional* means that flooding occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year). *Frequent* means that flooding occurs often under normal weather conditions (the chance of flooding is more than 50 percent in any year). The duration of flooding is expressed as *very brief* (less than 2 days), *brief* (2 to 7 days), *long* (7 days to 1 month), and *very long* (more than 1 month).

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Foot slope. The inclined surface at the base of a hill.

Forest type. A classification of forest land based on the species forming the majority of live-tree stocking.

Fragile (in tables). The soil is easily damaged by use or disturbance.

Frost action (in tables). Freezing and thawing of soil moisture can damage roads, buildings and other structures, and plant roots.

Gap. A concave, lower area between ridge crests that generally has lesser slope.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors and mottles.

Gneiss. A coarse grained metamorphic rock in which bands rich in granular minerals alternate with bands in which schistose minerals predominate. It is commonly formed by the metamorphism of granite.

Granite. A coarse grained igneous rock dominated by light-colored minerals, consisting of about 50 percent orthoclase and 25 percent quartz with the balance being plagioclase feldspars and ferromagnesian silicates. Granites and granodiorites comprise 95 percent of all intrusive rocks.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that is 15 to 50 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water (geology). Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

High-grade metamorphic rocks. Highly metamorphosed rocks, such as gneiss and schist.

High-grading. A poor forest management practice in which only the best trees are harvested. Subsequently, seedlings for future harvests are of inferior genetic stock and poor woodland productivity results.

High mountains. The part of the landscape that is above an elevation of about 4,600 feet. It is dominated by frigid soil temperatures.

High stream terrace. A terrace, commonly 20 feet or higher in elevation than the adjacent flood plain, that is no longer subject to flooding.

High sulfur-bearing rock. Any rock rich in pyrite (iron disulfide).

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions

of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue at the surface of a mineral soil.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an O, A, or E horizon. The B horizon is, in part, a layer of transition from the overlying horizon to the underlying C horizon. The B horizon also has distinctive characteristics, such as accumulation of clay, sesquioxides, humus, or a combination of these; prismatic or blocky structure; redder or browner colors than those in the A horizon; or a combination of these. The combined A and B horizons are generally called the solum, or true soil. If a soil does not have a B horizon, the A horizon alone is the solum.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the A or B horizon. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, the Arabic numeral 2 precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated rock (unweathered bedrock) beneath the soil. The bedrock commonly underlies a C horizon but can be directly below an A or a B horizon.

Hornblende. A rock-forming ferromagnesian silicate mineral of the amphibole group.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff-producing characteristics. The chief consideration is the inherent capacity of soil bare of vegetation to permit infiltration. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff. Soils are assigned to four groups. In group A are soils having a high infiltration rate when thoroughly wet and having a low runoff potential. They are mainly deep, well drained, and sandy or gravelly. In group D, at the other extreme, are soils having a very slow infiltration rate and thus a high runoff potential. They have a claypan or clay layer at or near the surface, have a permanent high water table, or are shallow over nearly impervious bedrock or other material. A soil is assigned to two hydrologic groups if part of the acreage is artificially drained and part is undrained.

Hydroseeding. Applying seed, fertilizer, and mulch to steep areas by spraying a mixture of those ingredients and water under pressure from a truck.

Igneous rock. Rock formed by solidification of molten rock, generally crystalline in nature.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Infiltration. The downward entry of water into the immediate surface of soil or other material. This contrasts with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Intermediate mountains. The part of the landscape that ranges from about 3,000 to 4,800 feet in elevation. It is dominated by mesic soil temperatures.

Intermediate rock. Igneous or metamorphic crystalline rock that is intermediate in composition between mafic and felsic rock.

Intermountain hills. Low-lying hills that are in valleys between mountain ranges. The soils in these areas predominantly have mesic soil temperatures.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of

chemical reduction and removal but having a content of clay similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:
Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.
Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.
Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.
Sprinkler.—Water is sprayed over the surface through pipes or nozzles from a pressure system.

Knoll. A small, low, rounded hill rising above adjacent landforms.

Landform. The description of a given terrain based on position and configuration. Examples are flood plain, stream terrace, fan, mountain slope, and ridge.

Landform position. A particular place within a landform. Examples are summit of a ridge, shoulder of a ridge, nose slope, side slope, back slope, and foot slope.

Landscape. A collection of related, natural landforms; generally, the land surface that can be seen in a single view.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loamy. A general textural term that includes coarse sandy loam, sandy loam, fine sandy loam, very fine sandy loam, loam, silt loam, silt, clay loam, sandy clay loam, and silty clay loam. According to family level criteria in the soil taxonomic system, a specific textural name referring to fine-earth (particles less than 2 millimeters in size) of loamy very fine sand or finer textured material that contains less than 35 percent clay, by weight, within the control section. The content of rock fragments is less than 35 percent, by volume.

Low mountains. The part of the landscape that ranges from about 2,500 to 3,500 feet in elevation. It is dominated by mesic soil temperatures.

Low rolling hills. The part of the landscape that ranges from about 1,900 to 2,500 feet in elevation. It is dominated by mesic soils. This landscape has broad ridges and short side slopes.

Low stream terrace. A terrace in an area that floods, commonly 3 to 10 feet higher in elevation than the adjacent flood plain.

Low strength. The soil is not strong enough to support loads.

Mafic rock. A dark rock composed predominantly of magnesium silicates. It contains little quartz, feldspar, or muscovite mica.

Mean annual increment. The average yearly volume of a stand of trees from the year of origin to the age under consideration.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Metasedimentary rock. Metamorphosed sedimentary rocks, such as phyllite, metasandstone, and conglomerate. The grade of metamorphism of these rocks in Clay County is generally low.

Micas. A group of silicate minerals characterized by sheet or scale cleavage. Biotite is the ferromagnesian black mica. Muscovite is the potassic white mica.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Mottling generally

indicates poor aeration and impeded drainage. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent.* The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Native pasture. Pasture that has seeded naturally in native grasses. It is on slopes too steep to manage with modern machinery.

Neutral soil. A soil having a pH value between 6.6 and 7.3. (See Reaction, soil.)

No-till planting. A method of planting crops in which there is virtually no seedbed preparation. A thin slice of the soil is opened, and the seed is planted at the desired depth.

Nose slope. The downward-sloping convex end of a main ridge or spur ridge.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue, including humus, in the soil in various stages of decomposition.

Organic residue. Undecomposed or partially decomposed organic particles larger than 2 millimeters and pieces of leaves, stems, and roots.

Outsloped roads. Roads that have a slightly tilted roadbed, which diverts waterflow off the downhill side.

Overstory. The portion of the trees in a forest stand forming the upper crown cover.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affects the specified use.

Permeability. The quality of the soil that enables water to move downward through the profile. Permeability is measured as the number of inches per hour that water moves through the saturated soil. Terms describing permeability are:

Very slow	less than 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management. For example, slope, stoniness, and thickness.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Subsurface tunnels or pipelike cavities are formed by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range in moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poor filter (in tables). Because of rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Reaction, soil. A measure of acidity or alkalinity of a soil expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Mildly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. They indicate chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. They indicate chemical reduction of iron resulting from saturation.

Reforestation. The process in which tree seedlings are planted or become naturally established in an area that was once forested.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Ridge. A long narrow elevation of the land surface, usually having a sharp crest and steep sides.

Ridge nose. The downward-sloping convex terminal point of a main ridge or a spur ridge.

Rill. A steep-sided channel resulting from accelerated erosion. A rill is generally a few inches deep and not wide enough to be an obstacle to farm machinery.

Rippable. Rippable bedrock or hardpan can be excavated using a single-tooth ripping attachment mounted on a tractor with a 200-300 drawbar horsepower rating.

Road cut. A sloping surface made by mechanical means during road construction. It is generally on the uphill section of a road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Runoff class (surface). Refers to the rate at which water flows away from the soil over the surface without infiltrating. Six classes of rate of runoff are recognized:

Ponded.—Little of the precipitation and water that runs onto the soil escapes as runoff, and free water stands on the surface for significant periods. The amount of water that is removed from ponded areas by movement through the soil, by plants, or by evaporation is usually greater than the total rainfall. Ponding normally occurs on level and nearly level soils in depressions. The water depth may fluctuate greatly.

Very slow.—Surface water flows away slowly, and free water stands on the surface for long periods or immediately enters the soil. Most of the water passes through the soil, is used by plants, or evaporates. The soils are commonly level or nearly level or are very porous.

Slow.—Surface water flows away so slowly that free water stands on the surface for moderate periods or enters the soil rapidly. Most of the water passes through the soil, is used by plants, or evaporates. The soils are nearly level or very gently sloping, or they are steeper but absorb precipitation very rapidly.

Medium.—Surface water flows away so rapidly that free water stands on the surface for only short periods. Part of the precipitation enters the soil and is used by plants, is lost by evaporation, or moves into underground channels. The soils are nearly level or gently sloping and absorb precipitation at a moderate rate, or they are steeper but absorb water rapidly.

Rapid.—Surface water flows away so rapidly that the period of concentration is brief and free water does not stand on the surface. Only a small part of the water enters the soil. The soils generally are moderately steep or steep and have moderate or slow rates of absorption.

Very rapid.—Surface water flows away so rapidly that the period of concentration is very brief and free water does not stand on the surface. Only a small part of the water enters the soil. The soils are mainly steep or very steep and absorb precipitation slowly.

Saddle. A localized concave dip in a main ridge where intermittent drainage starts to form on the adjacent side slope.

Sand. As a soil separate, individual rock or mineral fragments ranging from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist

of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandy. A general textural term that includes coarse sand, sand, fine sand, very fine sand, loamy coarse sand, loamy sand, loamy fine sand, and loamy very fine sand. According to family level criteria in the soil taxonomic system, a specific textural name referring to fine-earth (particles less than 2 millimeters in size) of sand or loamy sand that contains less than 50 percent, by weight, very fine sand within the control section. The content of rock fragments is less than 35 percent, by volume.

Saprolite (soil science). Unconsolidated, residual material underlying the soil and grading to hard bedrock below.

Schist. A metamorphic rock dominated by fibrous or platy minerals. It has schistose cleavage and is a product of regional metamorphism.

Seep. A small area where water oozing through the soil causes the surface to remain wet, but water does not flow on the surface.

Seepage (in tables). The movement of water through the soil adversely affects the specified use.

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer or of the underlying material. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder slope. The landscape position, parallel to the summit, that is directly below the ridgetop and directly above the side slope.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope. The landscape position that is directly below the shoulder and directly above the toe slope. It makes up most of the mountainside or hillside.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75 feet.

Skid trails. The paths left from skidding logs and the bulldozer or tractor used to pull them.

Skidding. A method of moving felled trees to a nearby central area for transport to a processing facility. Most systems involve pulling the trees with wire cables attached to a bulldozer or rubber-tired tractor. Generally, felled trees are skidded or pulled with one end lifted to reduce friction and soil disturbance.

Slate. A fine grained metamorphic rock with well developed slaty cleavage. Formed by the low-grade regional metamorphism of shale.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 vertical feet in 100 feet of horizontal distance. In this survey area slope classes are as follows:

Nearly level	0 to 3 percent
Gently sloping	1 to 8 percent
Strongly sloping	8 to 15 percent
Moderately steep	15 to 30 percent
Steep	30 to 50 percent
Very steep	50 to 95 percent

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Small stones (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of the soil.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil compaction. An alteration of soil structure that ultimately can affect the biological and chemical properties of the soil. Compaction decreases the extent of voids and increases bulk density.

Soil creep. The slow mass movement of soil and soil materials downslope, primarily under the influence

of gravity, facilitated by water saturation and by alternating freezing and thawing.

Soil map unit. A kind of soil or miscellaneous area or a combination of two or more soils or one or more soils and one or more miscellaneous areas that can be shown at the scale of mapping for the defined purposes and objectives of the soil survey. They are generally designed to reflect significant differences in use and management.

Soil puddling. This condition occurs in certain soils when they are driven over while they are wet. Exertion of mechanical force destroys the soil structure by compressing and shearing and results in the rearrangement of the soil particles to a massive or nonstructural state.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Soil strength. Load-supporting capacity of a soil at specific moisture and density conditions.

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the underlying material. The living roots and plant and animal activities are largely confined to the solum.

Spring. A small area on the landscape where water moves through the surface and flows on the surface.

Spur ridge. A landscape position that is a sharply convex portion of a mountain side slope extending from the main ridge to some point of lower elevation.

Stand density. The degree to which an area is covered with living trees. It is usually expressed in units of basal area per acre, number of trees per acre, or the percentage of ground covered by the tree canopy as viewed from above.

Stone line. A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, thickness of the line can be one fragment or more. It generally overlies material that weathered in place, and it is overlain by recent sediments or soil creep material of variable thickness.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stripcropping. Growing crops in a systematic arrangement of strips or bands which provide vegetative barriers to soil blowing and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular. Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from soil blowing and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsurface layer. Technically, the E horizon. Generally refers to a leached horizon lighter in color and lower in content of organic matter than the overlying surface layer.

Suitability ratings. Ratings for the degree of suitability of soils for pasture, crops, woodland, and engineering uses. The ratings and the general criteria used for their selection are as follows:

Well suited.—The intended use may be initiated and maintained by using only the standard materials and methods typically required for that use. Good results can be expected.

Moderately suited.—The limitations affecting the intended use make special planning, design, or maintenance necessary.

Poorly suited.—The intended use is difficult or costly to initiate and maintain because of certain soil properties, such as steep slopes, a high hazard of erosion, a high water table, low fertility, or a hazard of flooding. Major soil reclamation, special design, or intensive management practices are needed.

Very poorly suited, not suited, or unsuited.—The intended use is very difficult or costly to initiate

and maintain, and thus it generally should not be undertaken.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior.

Terrace. An embankment, or ridge, constructed on the contour or at a slight angle to the contour across sloping soils. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay.* The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine." The textural classes are defined as follows:

Sands (coarse sand, sand, fine sand, and very fine sand).—Soil material in which the content of sand is 85 percent or more and the percentage of silt plus 1½ times the percentage of clay does not exceed 15.

Loamy sands (loamy coarse sand, loamy sand, loamy fine sand, and loamy very fine sand).—Soil material in which, at the upper limit, the content of sand is 85 to 90 percent and the percentage of silt plus 1½ times the percentage of clay is not less than 15 and, at the lower limit, the content of sand is 70 to 85 percent and the percentage of silt plus twice the percentage of clay does not exceed 30.

Sandy loams (coarse sandy loam, sandy loam, fine sandy loam, and very fine sandy loam).—Soil material in which the content of clay is 20 percent or less, the percentage of silt plus twice the percentage of clay exceeds 30, and the content of sand is 52 percent or more or soil material in which the content of clay is less than 7 percent, the content of silt is less than 50 percent, and the content of sand is 43 to 52 percent.

Loam.—Soil material that contains 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand.

Silt loam.—Soil material that contains 50 percent or more silt and 12 to 27 percent clay or 50 to 80 percent silt and less than 12 percent clay.

Silt.—Soil material that contains 80 percent or more silt and less than 12 percent clay.

Sandy clay loam.—Soil material that contains 20 to 35 percent clay, less than 28 percent silt, and 45 percent or more sand.

Clay loam.—Soil material that contains 27 to 40 percent clay and 20 to 45 percent sand.

Silty clay loam.—Soil material that contains 27 to 40 percent clay and less than 20 percent sand.

Sandy clay.—Soil material that contains 35 percent or more clay and 45 percent or more sand.

Silty clay.—Soil material that contains 40 percent or more clay and 40 percent or more silt.

Clay.—Soil material that contains 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Thin layer (in tables). An otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toe slope. The outermost inclined surface at the base of a hill; part of a foot slope.

Topography. The relative positions and elevations of the natural or manmade features of an area that describe the configuration of its surface.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, such as zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Underlying material. Technically the C horizon; the part of the soil below the biologically altered A and B horizons.

Understory. The trees and other woody species growing under a more or less continuous cover of branches and foliage formed collectively by the upper portions of adjacent trees and other woody growth.

Universal Soil Loss Equation. An equation used to design systems for controlling water erosion. The equation is A=RKLSPC wherein A is the average annual soil loss in tons per acre per year, R is the rainfall factor, K is the soil erodibility factor, L is the length of slope, S is the steepness of slope, P

is the conservation practice factor, and C is the cropping and management factor.

Water table (apparent). A thick zone of free water in the soil. The apparent water table is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil.

Water table (perched). A saturated zone of water in the soil standing above an unsaturated zone.

Water table (seasonal high). The highest level of a saturated zone in the soil (the apparent or perched water table) over a continuous period of more than 2 weeks in most years, but not a permanent water table.

Weathering. All physical and chemical changes produced by atmospheric agents in rocks or other deposits at or near the earth's surface. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wetness. A general term applied to soils that hold water at or near the surface long enough to be a common management problem.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The process of uprooting trees by the wind.

Windswept. A phase of a soil map unit where hardwoods have been stunted, twisted, and gnarled because of exposure to high winter winds and frequent ice storms.

Yarding paths. The paths left from cable-yarded logs as they are pulled uphill or downhill to a nearby central area.

Yield (forest land). The volume of wood fiber from harvested trees taken from a certain unit of area. Yield is usually measured in board feet or cubic feet per acre.

Tables

TABLE 1.--TEMPERATURE AND PRECIPITATION

(Recorded in the period 1959-76 at Hayesville, North Carolina)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January	48.8	23.1	36.0	70	-4	14	6.29	4.00	8.35	9	1.5
February	51.0	24.7	37.9	71	1	14	5.96	3.47	8.17	9	2.9
March	58.3	31.3	44.8	79	11	76	6.66	4.29	8.81	10	1.6
April	68.7	40.8	54.8	85	23	168	5.20	3.23	6.97	8	.0
May	75.4	47.9	61.7	87	28	370	5.07	2.91	6.99	8	.0
June	80.4	55.0	67.7	90	40	531	4.89	2.73	6.80	10	.0
July	83.5	58.2	70.9	92	48	648	6.10	3.71	8.23	10	.0
August	83.6	57.8	70.7	91	45	642	5.21	3.21	6.99	9	.0
September	79.5	52.7	66.1	90	35	483	3.77	2.62	4.82	7	.0
October	71.5	40.6	56.1	84	22	213	3.72	1.20	5.79	5	.0
November	60.5	31.6	46.1	76	11	19	4.53	3.65	5.36	7	.8
December	50.8	25.3	38.1	72	0	32	5.32	2.74	7.57	9	.7
Yearly:											
Average	67.7	40.8	52.2	---	---	---	---	---	---	---	---
Extreme	---	---	---	94	-6	---	---	---	---	---	---
Total	---	---	---	---	---	3,210	62.72	55.09	69.91	101	8.0

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

TABLE 2.--FREEZE DATES IN SPRING AND FALL

(Recorded in the period 1959-76 at Hayesville, North Carolina)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 12	May 1	May 25
2 years in 10 later than--	Apr. 8	Apr. 26	May 18
5 years in 10 later than--	Mar. 30	Apr. 16	May 5
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 18	Oct. 4	Oct. 1
2 years in 10 earlier than--	Oct. 23	Oct. 10	Oct. 4
5 years in 10 earlier than--	Nov. 3	Oct. 20	Oct. 11

TABLE 3.--GROWING SEASON

(Recorded in the period 1959-76 at Hayesville, North Carolina)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	196	161	137
8 years in 10	203	169	145
5 years in 10	217	185	159
2 years in 10	231	201	172
1 year in 10	238	210	180

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Acres	Percent
AkA	Arkaqua loam, 0 to 2 percent slopes, rarely flooded	167	0.1
ArA	Arkaqua loam, 0 to 2 percent slopes, frequently flooded	718	0.5
BdB	Braddock loam, 2 to 8 percent slopes	638	0.5
BdC	Braddock loam, 8 to 15 percent slopes	176	0.1
BkB2	Braddock clay loam, 2 to 8 percent slopes, eroded	351	0.2
BkC2	Braddock clay loam, 8 to 15 percent slopes, eroded	755	0.5
BrC	Braddock-Urban land complex, 2 to 15 percent slopes	100	*
BsC	Brasstown-Junaluska complex, 8 to 15 percent slopes	1,470	1.0
BuD	Burton-Craggey-Rock outcrop complex, windswept, 15 to 30 percent slopes, stony	205	0.1
BuF	Burton-Craggey-Rock outcrop complex, windswept, 30 to 95 percent slopes, stony	110	*
CbF	Cataska-Rock outcrop complex, 30 to 95 percent slopes	299	0.2
ChE	Cheoah channery loam, 30 to 50 percent slopes	483	0.3
ChF	Cheoah channery loam, 50 to 95 percent slopes	3,341	2.4
CmD	Chestnut-Cleveland-Rock outcrop complex, windswept, 15 to 30 percent slopes, stony	173	0.1
CmE	Chestnut-Cleveland-Rock outcrop complex, windswept, 30 to 50 percent slopes, stony	361	0.3
CmF	Chestnut-Cleveland-Rock outcrop complex, windswept, 50 to 95 percent slopes, stony	3,332	2.4
CnD	Chestnut-Edneyville complex, windswept, 15 to 30 percent slopes, stony	339	0.2
CnE	Chestnut-Edneyville complex, windswept, 30 to 50 percent slopes, stony	506	0.4
CnF	Chestnut-Edneyville complex, windswept, 50 to 95 percent slopes, stony	539	0.4
CuD	Cullasaja-Tuckasegee complex, 15 to 30 percent slopes, stony	3,577	2.5
CuE	Cullasaja-Tuckasegee complex, 30 to 50 percent slopes, stony	7,505	5.3
CuF	Cullasaja-Tuckasegee complex, 50 to 95 percent slopes, stony	503	0.4
DgB	Dellwood gravelly fine sandy loam, 0 to 5 percent slopes, frequently flooded	839	0.6
DrB	Dillard loam, 1 to 6 percent slopes, rarely flooded	344	0.2
EdD	Edneyville-Chestnut complex, 15 to 30 percent slopes, stony	724	0.5
EdE	Edneyville-Chestnut complex, 30 to 50 percent slopes, stony	5,338	3.8
EdF	Edneyville-Chestnut complex, 50 to 95 percent slopes, stony	8,940	6.3
EtE	Eutrochrepts, mined, 30 to 50 percent slopes, very stony	90	*
EvB	Evard-Cowee complex, 2 to 8 percent slopes	94	*
EvC	Evard-Cowee complex, 8 to 15 percent slopes	2,548	1.8
EvD	Evard-Cowee complex, 15 to 30 percent slopes	8,414	6.0
EvE	Evard-Cowee complex, 30 to 50 percent slopes	11,138	7.9
EvF	Evard-Cowee complex, 50 to 95 percent slopes	1,949	1.4
FaC	Fannin fine sandy loam, 8 to 15 percent slopes	277	0.2
FaD	Fannin fine sandy loam, 15 to 30 percent slopes	406	0.3
FmC	Fannin-Urban land complex, 2 to 15 percent slopes	120	*
FrA	French fine sandy loam, 0 to 3 percent slopes, frequently flooded	939	0.7
HaB	Hayesville loam, 2 to 8 percent slopes	105	*
HaC	Hayesville loam, 8 to 15 percent slopes	149	0.1
HaD	Hayesville loam, 15 to 30 percent slopes	90	*
HbB2	Hayesville clay loam, 2 to 8 percent slopes, eroded	470	0.3
HbC2	Hayesville clay loam, 8 to 15 percent slopes, eroded	1,557	1.1
HbD2	Hayesville clay loam, 15 to 30 percent slopes, eroded	1,035	0.7
HmA	Hemphill loam, 0 to 3 percent slopes, rarely flooded	132	*
JbD	Junaluska-Brasstown complex, 15 to 30 percent slopes	4,098	2.9
JbE	Junaluska-Brasstown complex, 30 to 50 percent slopes	4,887	3.5
JtC	Junaluska-Tsali complex, 8 to 15 percent slopes	135	*
JtD	Junaluska-Tsali complex, 15 to 30 percent slopes	2,653	1.9
JtE	Junaluska-Tsali complex, 30 to 50 percent slopes	4,946	3.5
JtF	Junaluska-Tsali complex, 50 to 95 percent slopes	2,717	1.9
LoB	Lonon loam, 2 to 8 percent slopes	250	0.2
LoC	Lonon loam, 8 to 15 percent slopes	685	0.5
LoD	Lonon loam, 15 to 30 percent slopes	567	0.4
NkA	Nikwasi fine sandy loam, 0 to 2 percent slopes, frequently flooded	273	0.2
OwD	Oconaluftee channery loam, windswept, 15 to 30 percent slopes	129	*
OwE	Oconaluftee channery loam, windswept, 30 to 50 percent slopes	253	0.2
PwD	Plott fine sandy loam, 15 to 30 percent slopes, stony	125	*
PwE	Plott fine sandy loam, 30 to 50 percent slopes, stony	2,206	1.6
PwF	Plott fine sandy loam, 50 to 95 percent slopes, stony	5,230	3.7
RhA	Reddies loam, 0 to 3 percent slopes, frequently flooded	928	0.7
RkF	Rock outcrop-Cleveland complex, windswept, 30 to 95 percent slopes	320	0.2

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Acres	Percent
RnA	Rosman fine sandy loam, 0 to 2 percent slopes, rarely flooded	401	0.3
RsA	Rosman fine sandy loam, 0 to 2 percent slopes, frequently flooded	693	0.5
SoD	Soco-Stecoah complex, 15 to 30 percent slopes	271	0.2
SoE	Soco-Stecoah complex, 30 to 50 percent slopes	2,271	1.6
SoF	Soco-Stecoah complex, 50 to 95 percent slopes	9,797	6.9
SpE	Soco-Stecoah complex, windswept, 30 to 50 percent slopes	717	0.5
SrC	Spivey-Santeetlah complex, 8 to 15 percent slopes, stony	421	0.3
SrD	Spivey-Santeetlah complex, 15 to 30 percent slopes, stony	1,781	1.3
SrE	Spivey-Santeetlah complex, 30 to 50 percent slopes, stony	3,841	2.7
SrF	Spivey-Santeetlah complex, 50 to 95 percent slopes, stony	2,917	2.1
SvB	Statler loam, 1 to 5 percent slopes, rarely flooded	533	0.4
SxD	Sylco-Cataska complex, 15 to 30 percent slopes	101	*
SxE	Sylco-Cataska complex, 30 to 50 percent slopes	1,034	0.7
SxF	Sylco-Cataska complex, 50 to 95 percent slopes	3,299	2.3
TgC	Tate gravelly loam, 8 to 15 percent slopes, stony	313	0.2
TgD	Tate gravelly loam, 15 to 30 percent slopes, stony	654	0.5
ThB	Tate loam, 2 to 8 percent slopes	727	0.5
ThC	Tate loam, 8 to 15 percent slopes	1,588	1.1
ThD	Tate loam, 15 to 30 percent slopes	458	0.3
ToA	Toxaway loam, 0 to 2 percent slopes, frequently flooded	165	0.1
TrE	Trimont gravelly loam, 30 to 50 percent slopes, stony	705	0.5
TrF	Trimont gravelly loam, 50 to 95 percent slopes, stony	826	0.6
TsC	Tuckasegee-Cullasaja complex, 8 to 15 percent slopes, stony	871	0.6
Ud	Udorthents, loamy	725	0.5
	Water	4,269	3.0
	Total	141,126	100.0

* Less than 0.1 percent.

TABLE 5.--PRIME FARMLAND

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Soil name
AkA	Arkaqua loam, 0 to 2 percent slopes, rarely flooded (where drained)
ArA	Arkaqua loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
BdB	Braddock loam, 2 to 8 percent slopes
BkB2	Braddock clay loam, 2 to 8 percent slopes, eroded
DrB	Dillard loam, 1 to 6 percent slopes, rarely flooded
FrA	French fine sandy loam, 0 to 3 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
HaB	Hayesville loam, 2 to 8 percent slopes
HbB2	Hayesville clay loam, 2 to 8 percent slopes, eroded
LoB	Lonon loam, 2 to 8 percent slopes
RhA	Reddies loam, 0 to 3 percent slopes, frequently flooded (where either protected from flooding or not frequently flooded during the growing season)
RnA	Rosman fine sandy loam, 0 to 2 percent slopes, rarely flooded
RsA	Rosman fine sandy loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
SvB	Statler loam, 1 to 5 percent slopes, rarely flooded
ThB	Tate loam, 2 to 8 percent slopes
ToA	Toxaway loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)

TABLE 6.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE

(Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Soil name and map symbol	Land capability	Corn	Corn silage	Tobacco	Cool-season grass	Alfalfa hay	Tomatoes
		Bu	Tons	Lbs	AUM*	Tons	Tons
AkA, ArA-------- Arkaqua	IIIw**	135	25	---	8.5	3.5	26
BdB------------- Braddock	IIe	120	23	2,600	8.5	6.5	26
BdC------------- Braddock	IIIe	115	23	---	8.0	6.0	---
BkB2------------ Braddock	IIIe	100	19	2,400	7.5	6.0	18
BkC2------------ Braddock	IVe	85	16	---	7.0	5.5	---
BrC***:							
Braddock------- Urban land----- BsC:	IVe VIIIs	--- ---	--- ---	--- ---	--- ---	--- ---	--- ---
Brasstown------ Junaluska------ BuD***:	IVe IVe	--- ---	--- ---	--- ---	6.0 5.0	--- ---	--- ---
Burton--------- Craggey-------- Rock outcrop--- BuF***:	VIe VIIs VIIIs	--- --- ---	--- --- ---	--- --- ---	--- --- ---	--- --- ---	--- --- ---
Burton--------- Craggey-------- Rock outcrop--- CbF***:	VIIe VIIs VIIIs	--- --- ---	--- --- ---	--- --- ---	--- --- ---	--- --- ---	--- --- ---
Cataska-------- Rock outcrop--- ChE, ChF-------- Cheoah	VIIs VIIIs VIIe	--- --- ---	--- --- ---	--- --- ---	--- --- ---	--- --- ---	--- --- ---
CmD***:							
Chestnut------- Cleveland------ Rock outcrop---	VIe VIIe VIIIs	--- --- ---	--- --- ---	--- --- ---	--- --- ---	--- --- ---	--- --- ---

See footnotes at end of table.

TABLE 6.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability	Corn	Corn silage	Tobacco	Cool-season grass	Alfalfa hay	Tomatoes
		Bu	Tons	Lbs	AUM*	Tons	Tons
CmE***, CmF***:							
Chestnut	VIIe	---	---	---	---	---	---
Cleveland	VIIe	---	---	---	---	---	---
Rock outcrop	VIIIs	---	---	---	---	---	---
CnD:							
Chestnut	VIe	---	---	---	5.0	---	---
Edneyville	VIe	---	---	---	6.0	---	---
CnE, CnF:							
Chestnut	VIIe	---	---	---	---	---	---
Edneyville	VIIe	---	---	---	---	---	---
CuD:							
Cullasaja	VIIs	---	---	---	---	---	---
Tuckasegee	VIe	---	---	---	8.0	---	---
CuE, CuF:							
Cullasaja	VIIs	---	---	---	---	---	---
Tuckasegee	VIIe	---	---	---	---	---	---
DgB---Dellwood	Vw	100	19	2,400	7.0	---	22
DrB---Dillard	IIw	135	25	2,800	8.5	4.5	28
EdD:							
Edneyville	VIe	---	---	---	6.5	---	---
Chestnut	VIe	---	---	---	5.5	---	---
EdE, EdF:							
Edneyville	VIIe	---	---	---	---	---	---
Chestnut	VIIe	---	---	---	---	---	---
EtE---Eutrochrepts	VIIe	---	---	---	---	---	---
EvB:							
Evard	IIe	---	19	---	7.0	6.0	---
Cowee	IIIe	---	16	---	6.0	5.0	---
EvC, EvD:							
Evard	IVe	---	---	---	6.5	---	---
Cowee	IVe	---	---	---	5.5	---	---
EvE, EvF:							
Evard	VIIe	---	---	---	---	---	---
Cowee	VIIe	---	---	---	---	---	---

See footnotes at end of table.

TABLE 6.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability	Corn	Corn silage	Tobacco	Cool-season grass	Alfalfa hay	Tomatoes
		Bu	Tons	Lbs	AUM*	Tons	Tons
FaC---------- Fannin	VIe	---	---	---	7.0	5.0	---
FaD---------- Fannin	VIIe	---	---	---	6.0	---	---
FmC***:							
Fannin----------	IVe	---	---	---	---	---	---
Urban land-----	VIIIs	---	---	---	---	---	---
FrA---------- French	IIIw	130	24	2,400	8.0	---	2.6
HaB---------- Hayesville	IIe	110	22	2,600	8.5	6.5	---
HaC---------- Hayesville	IVe	---	---	2,200	8.0	6.0	---
HaD---------- Hayesville	VIe	---	---	---	6.5	---	---
HbB2---------- Hayesville	IVe	100	19	2,400	7.5	6.0	---
HbC2---------- Hayesville	VIe	---	---	---	7.0	5.5	26
HbD2---------- Hayesville	VIIe	---	---	---	5.5	---	---
HmA---------- Hemphill	IVw**	120	23	---	7.0	---	---
JbD:							
Junaluska------	VIe	---	---	---	4.5	---	---
Brasstown------	VIe	---	---	---	5.5	---	---
JbE:							
Junaluska------	VIIe	---	---	---	---	---	---
Brasstown------	VIIe	---	---	---	---	---	---
JtC:							
Junaluska------	IVe	---	---	---	5.0	---	---
Tsali----------	VIe	---	---	---	3.5	---	---
JtD:							
Junaluska------	VIe	---	---	---	4.5	---	---
Tsali----------	VIe	---	---	---	3.0	---	---
JtE, JtF:							
Junaluska------	VIIe	---	---	---	---	---	---
Tsali----------	VIIe	---	---	---	---	---	---

See footnotes at end of table.

TABLE 6.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability	Corn	Corn silage	Tobacco	Cool-season grass	Alfalfa hay	Tomatoes
		Bu	Tons	Lbs	AUM*	Tons	Tons
LoB---------- Lonon	IIe	110	19	2,600	7.5	6.0	26
LoC---------- Lonon	IVe	85	16	2,300	6.0	5.5	---
LoD---------- Lonon	VIe	---	---	---	5.5	---	---
NkA---------- Nikwasi	VIw	---	---	---	5.0	---	---
OwD---------- Oconaluftee	VIe	---	---	---	---	---	---
OwE---------- Oconaluftee	VIIe	---	---	---	---	---	---
PwD---------- Plott	VIe	---	---	---	7.0	---	---
PwE, PwF-------- Plott	VIIe	---	---	---	---	---	---
RhA---------- Reddies	IIIw	120	23	2,800	8.0	4.5	28
RkF***:							
Rock outcrop---	VIIIs	---	---	---	---	---	---
Cleveland------	VIIe	---	---	---	---	---	---
RnA---------- Rosman	IIw	135	25	3,000	8.5	4.5	30
RsA---------- Rosman	IIIw	120	23	2,800	8.5	4.5	28
SoD:							
Soco----------	VIe	---	---	---	4.5	---	---
Stecoah--------	VIe	---	---	---	5.5	---	---
SoE, SoF, SpE:							
Soco----------	VIIe	---	---	---	---	---	---
Stecoah--------	VIIe	---	---	---	---	---	---
SrC:							
Spivey---------	VIIs	---	---	---	---	---	---
Santeetlah-----	IVe	---	---	---	8.0	---	---
SrD:							
Spivey---------	VIIs	---	---	---	---	---	---
Santeetlah-----	VIe	---	---	---	6.0	---	---

See footnotes at end of table.

TABLE 6.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Land capability	Corn	Corn silage	Tobacco	Cool-season grass	Alfalfa hay	Tomatoes
		Bu	Tons	Lbs	AUM*	Tons	Tons
SrE, SrF:							
Spivey	VIIs	---	---	---	---	---	---
Santeetlah	VIIe	---	---	---	---	---	---
SvB--Statler	IIe	135	25	3,000	8.5	6.5	30
SxD, SxE, SxF:							
Sylco	VIIe	---	---	---	---	---	---
Cataska	VIIs	---	---	---	---	---	---
TgC--Tate	IVe	80	16	2,200	6.0	---	---
TgD--Tate	VIe	---	---	---	5.5	---	---
ThB--Tate	IIe	110	19	2,600	7.5	6.0	26
ThC--Tate	IVe	85	16	2,300	6.0	5.5	---
ThD--Tate	VIe	---	---	---	5.5	---	---
ToA--Toxaway	IIIw**	120	23	---	8.5	---	---
TrE, TrF--Trimont	VIIe	---	---	---	---	---	---
TsC:							
Tuckasegee	IIIe	---	---	2,600	8.5	---	---
Cullasaja	VIIs	---	---	---	---	---	---
Ud***--Udorthents	VIIe	---	---	---	---	---	---

* Animal unit month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

** Where the soil is drained.

*** See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY

(Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available)

Soil name and map symbol	Ordination symbol[1]	Management concerns				Potential productivity			Trees to plant[5]
		Erosion hazard	Equipment limitation[2]	Windthrow hazard	Plant competition	Common trees	Site index[3]	Volume[4]	
AkA, ArA-------- Arkaqua	12W	Slight	Moderate	Slight	Severe	Eastern white pine-- Black walnut-------- Yellow-poplar-------- Shortleaf pine------- Virginia pine--------	90 --- 100 75 80	166 --- 107 120 122	Eastern white pine.
BdB, BdC-------- Braddock	4A	Slight	Moderate	Slight	Moderate	Northern red oak---- Yellow-poplar-------- Eastern white pine--	80 90 95	62 90 176	Yellow-poplar, eastern white pine.
BkB2, BkC2------ Braddock	4C	Slight	Moderate	Slight	Moderate	Northern red oak---- Yellow-poplar-------- Eastern white pine--	80 90 95	62 90 176	Yellow-poplar, eastern white pine.
BsC[6]:									
Brasstown------	4A	Slight	Slight	Slight	Moderate	Scarlet oak--------- White oak----------- Eastern white pine-- Shortleaf pine------- Virginia pine-------- Black oak----------- Chestnut oak--------- Hickory-------------	80 80 96 71 74 --- --- ---	62 62 178 112 114 --- --- ---	Eastern white pine, shortleaf pine.
Junaluska------	3D	Slight	Slight	Moderate	Moderate	Scarlet oak--------- Chestnut oak--------- White oak----------- Shortleaf pine------- Virginia pine-------- Eastern white pine-- Black oak----------- Hickory------------- Red maple-----------	67 65 61 69 74 86 --- --- ---	49 48 44 108 114 157 --- --- ---	Eastern white pine, shortleaf pine.
BuD[6]:									
Burton---------	2R	Moderate	Moderate	Moderate	Slight	Northern red oak---- Red spruce---------- Fraser fir----------	40 --- ---	26 --- ---	
Craggey--------	2D	Moderate	Moderate	Severe	Slight	Northern red oak---- Red spruce---------- Fraser fir----------	40 --- ---	26 --- ---	
Rock outcrop.									
BuF[6]:									
Burton---------	2R	Severe	Severe	Moderate	Slight	Northern red oak---- Red spruce---------- Fraser fir----------	40 --- ---	26 --- ---	
Craggey--------	2R	Severe	Severe	Severe	Slight	Northern red oak---- Red spruce---------- Fraser fir----------	40 --- ---	26 --- ---	
Rock outcrop.									

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol[1]	Management concerns				Potential productivity			Trees to plant[5]
		Erosion hazard	Equipment limitation[2]	Windthrow hazard	Plant competition	Common trees	Site index[3]	Volume[4]	
CbF[6]:									
Cataska	2R	Moderate	Severe	Severe	Moderate	Chestnut oak	40	26	Virginia pine.
						Scarlet oak	40	26	
						Pitch pine	---	---	
Rock outcrop.									
ChE, ChF	5R	Severe	Severe	Slight	Moderate	Northern red oak	84	66	Fraser fir,
Cheoah						Yellow-poplar	100	117	northern red
						American beech	---	---	oak, yellow-
						Black cherry	---	---	poplar.
						Eastern hemlock	---	---	
						Black oak	---	---	
						Yellow birch	---	---	
						Sugar maple	---	---	
						Red maple	---	---	
						Yellow buckeye	---	---	
CmD[6]:									
Chestnut	2R	Moderate	Moderate	Moderate	Slight	Northern red oak	45	30	
						Scarlet oak	---	---	
						Eastern white pine	---	---	
Cleveland	2D	Moderate	Moderate	Severe	Slight	Northern red oak	40	26	
						Chestnut oak	40	26	
						Scarlet oak	---	---	
						Eastern white pine	---	---	
Rock outcrop.									
CmE[6], CmF[6]:									
Chestnut	2R	Severe	Severe	Moderate	Slight	Northern red oak	45	30	
						Scarlet oak	---	---	
						Eastern white pine	---	---	
Cleveland	2R	Severe	Severe	Severe	Slight	Northern red oak	40	26	
						Chestnut oak	40	26	
						Scarlet oak	---	---	
						Eastern white pine	---	---	
Rock outcrop.									
CnD[6]:									
Chestnut	2R	Moderate	Moderate	Moderate	Slight	Northern red oak	45	30	
						Scarlet oak	---	---	
						Eastern white pine	---	---	
Edneyville	2R	Moderate	Moderate	Slight	Slight	Northern red oak	45	30	
						Scarlet oak	---	---	
						Eastern white pine	---	---	
CnE[6], CnF[6]:									
Chestnut	2R	Severe	Severe	Moderate	Slight	Northern red oak	45	30	
						Scarlet oak	---	---	
						Eastern white pine	---	---	
Edneyville	2R	Severe	Severe	Slight	Slight	Northern red oak	45	30	
						Scarlet oak	---	---	
						Eastern white pine	---	---	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol[1]	Management concerns				Potential productivity			Trees to plant[5]
		Erosion hazard	Equipment limitation[2]	Windthrow hazard	Plant competition	Common trees	Site index[3]	Volume[4]	
CuD[6]:									
Cullasaja	8R	Moderate	Moderate	Slight	Severe	Yellow-poplar	109	122	Fraser fir, yellow-poplar, northern red oak.
						Black cherry	---	---	
						Northern red oak	92	74	
						Sweet birch	---	---	
Tuckasegee	8R	Moderate	Moderate	Slight	Severe	Yellow-poplar	109	122	Yellow-poplar, eastern white pine, northern red oak, black cherry, Fraser fir.
						Eastern white pine	98	182	
						Northern red oak	92	74	
						Black cherry	---	---	
						Eastern hemlock	---	---	
						White oak	---	---	
						Sweet birch	---	---	
CuE[6], CuF[6]:									
Cullasaja	8R	Severe	Severe	Slight	Severe	Yellow-poplar	109	122	Fraser fir, yellow-poplar, northern red oak.
						Black cherry	---	---	
						Northern red oak	92	74	
						Sweet birch	---	---	
Tuckasegee	8R	Severe	Severe	Slight	Severe	Yellow-poplar	109	122	Yellow-poplar, eastern white pine, northern red oak, black cherry, Fraser fir.
						Eastern white pine	98	166	
						Northern red oak	92	74	
						Black cherry	---	---	
						Eastern hemlock	---	---	
						White oak	---	---	
						Sweet birch	---	---	
DgB	8F	Slight	Slight	Slight	Moderate	Yellow-poplar	100	107	Yellow-poplar, eastern white pine.
Dellwood						Eastern white pine	91	168	
						Red maple	---	---	
						Sweet birch	---	---	
						Black cherry	---	---	
						Eastern hemlock	---	---	
DrB	12A	Slight	Slight	Slight	Moderate	Eastern white pine	90	166	Eastern white pine, black walnut, yellow-poplar.
Dillard						Shortleaf pine	75	120	
						Virginia pine	80	122	
						Yellow-poplar	95	98	
						American beech	---	---	
						River birch	---	---	
EdD[6]:									
Edneyville	12R	Moderate	Moderate	Slight	Moderate	Eastern white pine	90	166	Eastern white pine, yellow-poplar, shortleaf pine, Fraser fir, northern red oak.
						Northern red oak	83	65	
						Shortleaf pine	64	97	
						Virginia pine	75	115	
						Yellow-poplar	98	104	
						Chestnut oak	---	---	
						Scarlet oak	---	---	
						Black oak	---	---	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol[1]	Management concerns				Potential productivity			Trees to plant[5]
		Erosion hazard	Equipment limitation[2]	Windthrow hazard	Plant competition	Common trees	Site index[3]	Volume[4]	
EdD[6]:									
Chestnut	10R	Moderate	Moderate	Moderate	Moderate	Eastern white pine	78	139	Eastern white pine, yellow-poplar, Fraser fir, shortleaf pine.
						Northern red oak	80	62	
						Yellow-poplar	97	102	
						Scarlet oak	68	50	
						White oak	70	52	
						Black oak	71	53	
						Chestnut oak	69	51	
						Shortleaf pine	---	---	
						Pitch pine	---	---	
EdE[6], EdF[6]:									
Edneyville	12R	Severe	Severe	Slight	Moderate	Eastern white pine	90	166	Eastern white pine, yellow-poplar, shortleaf pine, Fraser fir, northern red oak.
						Northern red oak	83	65	
						Shortleaf pine	64	97	
						Virginia pine	75	115	
						Yellow-poplar	98	104	
						Chestnut oak	---	---	
						Scarlet oak	---	---	
						Black oak	---	---	
Chestnut	10R	Severe	Severe	Moderate	Moderate	Eastern white pine	78	139	Eastern white pine, yellow-poplar, Fraser fir, shortleaf pine.
						Northern red oak	80	62	
						Yellow-poplar	97	102	
						Scarlet oak	68	50	
						White oak	70	52	
						Black oak	71	53	
						Chestnut oak	69	51	
						Shortleaf pine	---	---	
						Pitch pine	---	---	
EvB[6], EvC[6], EvD[6]:									
Evard	4A	Slight	Slight	Slight	Moderate	Chestnut oak	83	65	Shortleaf pine, eastern white pine, yellow-poplar.
						Shortleaf pine	73	110	
						Virginia pine	69	109	
						Eastern white pine	93	144	
						Yellow-poplar	95	90	
						White oak	75	57	
						Southern red oak	75	57	
						Northern red oak	---	---	
						Hickory	---	---	
Cowee	3D	Slight	Slight	Moderate	Moderate	Chestnut oak	55	38	Eastern white pine, shortleaf pine.
						Virginia pine	63	96	
						Scarlet oak	54	38	
						Shortleaf pine	---	---	
						Eastern white pine	78	139	
						Yellow-poplar	80	71	
						Northern red oak	---	---	
						Black oak	---	---	
						White oak	---	---	
						Hickory	---	---	
						Red maple	---	---	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol[1]	Management concerns				Potential productivity			Trees to plant[5]
		Erosion hazard	Equipment limitation[2]	Windthrow hazard	Plant competition	Common trees	Site index[3]	Volume[4]	
EvE[6], EvF[6]:									
Evard	4R	Severe	Severe	Slight	Moderate	Chestnut oak	83	65	Shortleaf pine, eastern white pine, yellow-poplar.
						Shortleaf pine	70	110	
						Virginia pine	70	109	
						Eastern white pine	80	144	
						Yellow-poplar	90	90	
						White oak	75	57	
						Southern red oak	75	57	
						Northern red oak	---	---	
						Hickory	---	---	
Cowee	3R	Severe	Severe	Moderate	Moderate	Chestnut oak	55	38	Eastern white pine, shortleaf pine.
						Virginia pine	63	96	
						Scarlet oak	54	38	
						Shortleaf pine	78	126	
						Eastern white pine	78	139	
						Yellow-poplar	80	71	
						Northern red oak	---	---	
						Black oak	---	---	
						White oak	---	---	
						Hickory	---	---	
						Red maple	---	---	
FaC Fannin	7A	Slight	Slight	Slight	Moderate	Yellow-poplar	96	100	Eastern white pine, shortleaf pine, yellow-poplar, Fraser fir.
						Northern red oak	84	66	
						Eastern white pine	94	174	
						Shortleaf pine	---	---	
						Virginia pine	---	---	
						Scarlet oak	---	---	
						Chestnut oak	---	---	
						Hickory	---	---	
FaD Fannin	7R	Moderate	Moderate	Slight	Moderate	Yellow-poplar	96	100	Eastern white pine, shortleaf pine, yellow-poplar, Fraser fir.
						Northern red oak	84	66	
						Eastern white pine	94	174	
						Shortleaf pine	---	---	
						Virginia pine	---	---	
						Scarlet oak	---	---	
						Chestnut oak	---	---	
						Hickory	---	---	
FrA French	9W	Slight	Moderate	Slight	Severe	Yellow-poplar	110	124	Yellow-poplar, eastern white pine, black walnut, white ash.
						Eastern white pine	110	206	
						Northern red oak	---	---	
						American sycamore	---	---	
						Eastern hemlock	---	---	
						Black cherry	---	---	
						Red maple	---	---	
HaB, HaC Hayesville	7A	Slight	Slight	Slight	Moderate	Yellow-poplar	93	95	Eastern white pine, shortleaf pine, Fraser fir.
						Eastern white pine	84	153	
						Black oak	---	---	
						Scarlet oak	---	---	
						Shortleaf pine	70	110	
						Virginia pine	74	114	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol[1]	Management concerns				Potential productivity			Trees to plant[5]
		Erosion hazard	Equipment limitation[2]	Windthrow hazard	Plant competition	Common trees	Site index[3]	Volume[4]	
HaD---------- Hayesville	7R	Moderate	Moderate	Slight	Moderate	Yellow-poplar	93	95	Eastern white pine, shortleaf pine, Fraser fir.
						Eastern white pine	84	153	
						Black oak	---	---	
						Scarlet oak	---	---	
						Shortleaf pine	70	110	
						Virginia pine	74	114	
HbB2, HbC2----- Hayesville	6C	Slight	Moderate	Slight	Moderate	Yellow-poplar	85	81	Eastern white pine, shortleaf pine, Fraser fir.
						Eastern white pine	77	137	
						Black oak	---	---	
						Scarlet oak	---	---	
						Shortleaf pine	68	106	
						Virginia pine	70	109	
						Northern red oak	---	---	
HbD2---------- Hayesville	6R	Moderate	Moderate	Slight	Moderate	Yellow-poplar	85	81	Eastern white pine, shortleaf pine, Fraser fir.
						Eastern white pine	77	137	
						Black oak	---	---	
						Scarlet oak	---	---	
						Shortleaf pine	68	106	
						Virginia pine	70	109	
						Northern red oak	---	---	
HmA---------- Hemphill	6W	Slight	Severe	Slight	Severe	Yellow-poplar	88	86	Eastern white pine.
						Red maple	---	---	
						Eastern hemlock	---	---	
						Eastern white pine	---	---	
JbD**:									
Junaluska-----	3R	Moderate	Moderate	Moderate	Moderate	Scarlet oak	67	49	Eastern white pine, shortleaf pine.
						Chestnut oak	65	48	
						White oak	61	44	
						Shortleaf pine	69	108	
						Virginia pine	74	114	
						Eastern white pine	86	157	
						Black oak	---	---	
						Hickory	---	---	
						Red maple	---	---	
Brasstown-----	4R	Moderate	Moderate	Slight	Moderate	Scarlet oak	80	62	Eastern white pine, shortleaf pine.
						White oak	80	62	
						Eastern white pine	96	178	
						Shortleaf pine	71	112	
						Virginia pine	74	114	
						Black oak	---	---	
						Chestnut oak	---	---	
						Hickory	---	---	
JbE[6]:									
Junaluska-----	3R	Severe	Severe	Moderate	Moderate	Scarlet oak	67	49	Eastern white pine, shortleaf pine.
						Chestnut oak	65	48	
						White oak	61	44	
						Shortleaf pine	69	108	
						Virginia pine	74	114	
						Eastern white pine	86	157	
						Black oak	---	---	
						Hickory	---	---	
						Red maple	---	---	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol[1]	Management concerns				Potential productivity			Trees to plant[5]
		Erosion hazard	Equipment limitation[2]	Windthrow hazard	Plant competition	Common trees	Site index[3]	Volume[4]	
JbE[6]:									
Brasstown	4R	Severe	Severe	Slight	Moderate	Scarlet oak	80	62	Eastern white pine, shortleaf pine.
						White oak	80	62	
						Eastern white pine	96	178	
						Shortleaf pine	71	112	
						Virginia pine	74	114	
						Black oak	---	---	
						Chestnut oak	---	---	
						Hickory	---	---	
JtC[6]:									
Junaluska	3D	Slight	Slight	Moderate	Moderate	Scarlet oak	67	49	Eastern white pine, shortleaf pine.
						Chestnut oak	65	48	
						White oak	61	44	
						Shortleaf pine	69	108	
						Virginia pine	74	114	
						Eastern white pine	86	157	
						Pitch pine	---	---	
						Northern red oak	---	---	
						Black oak	---	---	
						Hickory	---	---	
						Red maple	---	---	
						Blackgum	---	---	
Tsali	3D	Slight	Severe	Severe	Slight	Scarlet oak	64	47	Shortleaf pine, Virginia pine.
						Shortleaf pine	60	88	
						Virginia pine	66	102	
						Southern red oak	---	---	
						Chestnut oak	---	---	
						Black oak	---	---	
						Hickory	---	---	
						Pitch pine	---	---	
JtD[6]:									
Junaluska	3R	Moderate	Moderate	Moderate	Moderate	Scarlet oak	67	49	Eastern white pine, shortleaf pine.
						Chestnut oak	65	48	
						Shortleaf pine	69	108	
						Virginia pine	74	114	
						Eastern white pine	86	157	
						Black oak	---	---	
						Hickory	---	---	
						Red maple	---	---	
Tsali	3D	Moderate	Severe	Severe	Slight	Scarlet oak	64	47	Shortleaf pine, Virginia pine.
						Shortleaf pine	60	88	
						Virginia pine	66	102	
						Southern red oak	58	41	
						Chestnut oak	---	---	
						Black oak	---	---	
						Hickory	---	---	
						Pitch pine	---	---	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol[1]	Management concerns				Potential productivity			Trees to plant[5]
		Erosion hazard	Equipment limitation[2]	Windthrow hazard	Plant competition	Common trees	Site index[3]	Volume[4]	
JtE[6], JtF[6]:									
Junaluska	3R	Severe	Severe	Moderate	Moderate	Scarlet oak	67	49	Eastern white pine, shortleaf pine.
						Chestnut oak	65	48	
						Shortleaf pine	69	108	
						Virginia pine	74	114	
						Eastern white pine	86	157	
						Northern red oak	---	---	
						Black oak	---	---	
						Hickory	---	---	
						Red maple	---	---	
Tsali	3R	Severe	Severe	Severe	Slight	Scarlet oak	64	47	Shortleaf pine, Virginia pine.
						Shortleaf pine	60	88	
						Virginia pine	66	102	
						Southern red oak	58	41	
						Chestnut oak	---	---	
						Black oak	---	---	
						Hickory	---	---	
LoB, LoC	11A	Slight	Slight	Slight	Moderate	Eastern white pine	86	157	Eastern white pine.
Lonon						Yellow-poplar	74	61	
						White oak	---	---	
						Northern red oak	---	---	
						Black cherry	---	---	
						Red maple	---	---	
						Hickory	---	---	
LoD	11R	Moderate	Moderate	Slight	Moderate	Eastern white pine	86	157	Eastern white pine.
Lonon						Yellow-poplar	74	61	
						White oak	---	---	
						Northern red oak	---	---	
						Black cherry	---	---	
						Red maple	---	---	
						Hickory	---	---	
NkA	6W	Slight	Severe	Slight	Severe	Yellow-poplar	88	86	Eastern white pine.
Nikwasi						Eastern white pine	86	157	
						Red maple	---	---	
						Sweet birch	---	---	
						Eastern hemlock	---	---	
OwD	2R	Moderate	Moderate	Slight	Slight	Northern red oak	40	26	
Oconaluftee						Red spruce	---	---	
						Fraser fir	---	---	
OwE	2R	Severe	Severe	Slight	Slight	Northern red oak	40	26	
Oconaluftee						Red spruce	---	---	
						Fraser fir	---	---	
PwD	5R	Moderate	Moderate	Slight	Moderate	Northern red oak	85	67	Fraser fir, northern red oak, yellow-poplar, black cherry.
Plott						Yellow-poplar	113	128	
						Black cherry	---	---	
						American beech	---	---	
						Sugar maple	---	---	
						Eastern hemlock	---	---	
						Black oak	---	---	
						Yellow birch	---	---	
						Black locust	---	---	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol[1]	Management concerns				Potential productivity			Trees to plant[5]
		Erosion hazard	Equipment limitation[2]	Windthrow hazard	Plant competition	Common trees	Site index[3]	Volume[4]	
PwE, PwF----- Plott	5R	Severe	Severe	Slight	Moderate	Northern red oak----	85	67	Fraser fir, northern red oak, yellow-poplar, black cherry.
						Yellow-poplar-------	113	128	
						Black cherry--------	---	---	
						American beech------	---	---	
						Sugar maple---------	---	---	
						Eastern hemlock-----	---	---	
						Black oak-----------	---	---	
						Yellow birch--------	---	---	
						Black locust--------	---	---	
RhA---------- Reddies	8A	Slight	Slight	Moderate	Severe	Yellow-poplar-------	105	115	Yellow-poplar, eastern white pine.
						American sycamore---	---	---	
						Red maple-----------	---	---	
						Eastern white pine--	---	---	
						River birch---------	---	---	
RkF[6]: Rock outcrop.									
Cleveland-----	2R	Severe	Severe	Severe	Slight	Chestnut oak--------	40	26	
						Scarlet oak---------	---	---	
						Northern red oak----	---	---	
						Eastern white pine--	---	---	
RnA, RsA------- Rosman	8A	Slight	Slight	Slight	Severe	Yellow-poplar-------	105	115	Yellow-poplar, eastern white pine, black walnut.
						Eastern white pine--	100	186	
						Black cherry--------	---	---	
						American sycamore---	---	---	
						Black walnut--------	---	---	
						Red maple-----------	---	---	
						River birch---------	---	---	
SoD[6]: Soco----------	11R	Moderate	Moderate	Moderate	Moderate	Eastern white pine--	85	155	Eastern white pine, shortleaf pine.
						Shortleaf pine------	61	90	
						Pitch pine----------	---	---	
						Virginia pine-------	---	---	
						Chestnut oak--------	68	50	
						Scarlet oak---------	76	58	
						Northern red oak----	---	---	
						White oak-----------	---	---	
						Black oak-----------	---	---	
Stecoah-------	12R	Moderate	Moderate	Slight	Moderate	Eastern white pine--	93	172	Eastern white pine, shortleaf pine.
						Shortleaf pine------	69	---	
						Scarlet oak---------	---	---	
						White oak-----------	78	60	
						Chestnut oak--------	---	---	
						Virginia pine-------	---	---	
						Hickory-------------	---	---	
						Black oak-----------	---	---	
						Northern red oak----	81	63	
SoE[6], SoF[6]: Soco----------	11R	Severe	Severe	Moderate	Moderate	Eastern white pine--	85	155	Eastern white pine, shortleaf pine.
						Shortleaf pine------	61	90	
						Pitch pine----------	---	---	
						Virginia pine-------	---	---	
						Chestnut oak--------	68	50	
						Scarlet oak---------	76	58	
						Northern red oak----	---	---	
						White oak-----------	---	---	
						Black oak-----------	---	---	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol[1]	Management concerns				Potential productivity			Trees to plant[5]
		Erosion hazard	Equipment limitation[2]	Windthrow hazard	Plant competition	Common trees	Site index[3]	Volume[4]	
SoE[6], SoF[6]:									
Stecoah	12R	Severe	Severe	Slight	Moderate	Eastern white pine	93	172	Eastern white pine, shortleaf pine.
						Shortleaf pine	69	---	
						Scarlet oak	---	---	
						White oak	78	60	
						Chestnut oak	---	---	
						Virginia pine	---	---	
						Hickory	---	---	
						Black oak	---	---	
						Northern red oak	84	63	
SpE[6]:									
Soco	2R	Severe	Severe	Moderate	Slight	Northern red oak	45	30	
						Chestnut oak	---	---	
						Scarlet oak	---	---	
Stecoah	2R	Severe	Severe	Slight	Slight	Northern red oak	45	30	
						Chestnut oak	---	---	
						Scarlet oak	---	---	
SrC[6]:									
Spivey	8F	Slight	Slight	Slight	Severe	Yellow-poplar	100	107	Yellow-poplar, eastern white pine, Fraser fir.
						Northern red oak	80	62	
						Eastern white pine	90	166	
						Eastern hemlock	---	---	
						Sugar maple	---	---	
						White oak	---	---	
						Yellow birch	---	---	
Santeetlah	8A	Slight	Slight	Slight	Severe	Yellow-poplar	106	117	Northern red oak, black cherry, sugar maple, Fraser fir, yellow-poplar.
						Black cherry	---	---	
						Sugar maple	---	---	
						Eastern hemlock	---	---	
						Yellow buckeye	---	---	
						Yellow birch	---	---	
						Northern red oak	92	74	
						Black oak	---	---	
						White oak	---	---	
SrD[6]:									
Spivey	8R	Moderate	Moderate	Slight	Severe	Yellow-poplar	100	107	Yellow-poplar, eastern white pine, Fraser fir.
						Northern red oak	80	62	
						Eastern white pine	90	166	
						Eastern hemlock	---	---	
						Sugar maple	---	---	
						White oak	---	---	
						Yellow birch	---	---	
Santeetlah	8R	Moderate	Moderate	Slight	Severe	Yellow-poplar	106	117	Northern red oak, black cherry, sugar maple, Fraser fir, yellow-poplar.
						Black cherry	---	---	
						Sugar maple	---	---	
						Eastern hemlock	---	---	
						Yellow buckeye	---	---	
						Yellow birch	---	---	
						Northern red oak	92	74	
						Black oak	---	---	
						White oak	---	---	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol[1]	Management concerns				Potential productivity			Trees to plant[5]
		Erosion hazard	Equipment limitation[2]	Windthrow hazard	Plant competition	Common trees	Site index[3]	Volume[4]	
SrE[6], SrF[6]:									
Spivey	8R	Severe	Severe	Slight	Severe	Yellow-poplar	100	107	Yellow-poplar, eastern white pine, Fraser fir.
						Northern red oak	80	62	
						Eastern white pine	90	166	
						Eastern hemlock	---	---	
						Sugar maple	---	---	
						White oak	---	---	
						Yellow birch	---	---	
Santeetlah	8R	Severe	Severe	Slight	Severe	Yellow-poplar	106	117	Northern red oak, black cherry, sugar maple, Fraser fir, yellow-poplar.
						Black cherry	---	---	
						Sugar maple	---	---	
						Eastern hemlock	---	---	
						Yellow buckeye	---	---	
						Yellow birch	---	---	
						Northern red oak	92	74	
						Black oak	---	---	
						White oak	---	---	
SvB	8A	Slight	Slight	Slight	Severe	Yellow-poplar	100	107	Yellow-poplar, black walnut, eastern white pine.
Statler						White oak	80	62	
						Eastern white pine	90	166	
						Black cherry	---	---	
						American beech	---	---	
						Black locust	---	---	
SxD[6]:									
Sylco	5X	Slight	Severe	Moderate	Moderate	Shortleaf pine	50	68	Shortleaf pine, Virginia pine.
						Virginia pine	50	68	
Cataska	2R	Slight	Moderate	Severe	Moderate	Chestnut oak	40	26	Virginia pine.
						Scarlet oak	40	26	
						Pitch pine	40	---	
SxE[6], SxF[6]:									
Sylco	5R	Moderate	Severe	Moderate	Moderate	Shortleaf pine	50	68	Shortleaf pine, Virginia pine.
						Virginia pine	50	68	
Cataska	2R	Moderate	Severe	Severe	Moderate	Chestnut oak	40	26	Virginia pine.
						Scarlet oak	40	26	
						Pitch pine	40	---	
TgC	6A	Slight	Slight	Slight	Moderate	Yellow-poplar	92	93	Eastern white pine, yellow-poplar.
Tate						Eastern white pine	89	164	
						Shortleaf pine	---	---	
						Northern red oak	---	---	
						Black locust	---	---	
						Eastern hemlock	---	---	
TgD	6R	Moderate	Moderate	Slight	Moderate	Yellow-poplar	92	93	Eastern white pine, yellow-poplar.
Tate						Eastern white pine	89	164	
						Black locust	---	---	
						Eastern hemlock	---	---	
						Northern red oak	---	---	
ThB, ThC	6A	Slight	Slight	Slight	Moderate	Yellow-poplar	92	93	Eastern white pine, yellow-poplar.
Tate						Eastern white pine	89	164	
						Black cherry	---	---	
						Black locust	---	---	
						Northern red oak	---	---	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol[1]	Management concerns				Potential productivity			Trees to plant[5]
		Erosion hazard	Equipment limitation[2]	Windthrow hazard	Plant competition	Common trees	Site index[3]	Volume[4]	
ThD---------- Tate	6R	Moderate	Moderate	Slight	Moderate	Yellow-poplar-------	92	93	Eastern white pine, yellow-poplar.
						Eastern white pine--	89	164	
						Black cherry--------	---	---	
						Black locust--------	---	---	
						Northern red oak----	---	---	
ToA---------- Toxaway	7W	Slight	Severe	Slight	Severe	Eastern white pine--	93	172	Yellow-poplar, eastern white pine.
						Yellow-poplar-------	93	95	
						American sycamore---	93	75	
						Red maple-----------	---	---	
						River birch---------	---	---	
TrE, TrF------- Trimont	8R	Severe	Severe	Slight	Moderate	Yellow-poplar-------	102	110	Yellow-poplar, northern red oak, black oak, white oak.
						Northern red oak----	96	78	
						Black oak-----------	---	---	
						White oak-----------	---	---	
						American beech------	---	---	
						Black locust--------	---	---	
						Black cherry--------	---	---	
TsC[6]: Tuckasegee----	8A	Slight	Slight	Slight	Severe	Yellow-poplar-------	109	122	Yellow-poplar, eastern white pine, northern red oak, black cherry, Fraser fir.
						Eastern white pine--	98	182	
						Northern red oak----	92	74	
						Black cherry--------	---	---	
						Eastern hemlock-----	---	---	
						White oak-----------	---	---	
						Sweet birch---------	---	---	
Cullasaja-----	8A	Slight	Slight	Slight	Severe	Yellow-poplar-------	109	122	Fraser fir, yellow-poplar, northern red oak.
						Black cherry--------	---	---	
						Northern red oak----	92	74	
						Sweet birch---------	---	---	

[1] The number in the ordination symbol denotes potential productivity, in cubic meters per hectare per year, for a group or range of site indices for the indicator species (first tree listed under "Common trees"). One cubic meter per hectare per year equals 14.3 cubic feet per acre per year.

[2] Some soils are subject to mass movement (landslides). Roads should not be constructed in areas of these soils.

[3] Site indices were assigned using available plot data and comparison curves. If sufficient plot data was available, the site index was assigned based on data from soils with similar properties. The site index may vary considerably among sites with the same soil (especially in the mountains) because of the influence of climate, relief, landform position, aspect, drainage, and elevation.

[4] Volume is the yield in cubic feet per acre per year calculated at the age of culmination of mean annual increment for fully stocked natural stands. Cubic feet can be converted to board feet by multiplying by about 5.

[5] If hardwoods are desired on a forest site, the natural reproduction (seeds and sprouts) of acceptable species should be used. Special site preparation techniques may be needed. Planting hardwoods on a specific site should be based on the recommendations of a forester. Fraser fir is planted for Christmas trees only.

[6] See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 8.--RECREATIONAL DEVELOPMENT

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated)

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
AkA Arkaqua	Severe: flooding.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.
ArA Arkaqua	Severe: flooding.	Moderate: flooding, wetness.	Severe: flooding.	Moderate: wetness, flooding.	Severe: flooding.
BdB Braddock	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
BdC Braddock	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
BkB2 Braddock	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
BkC2 Braddock	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
BrC*: Braddock	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
Urban land.					
BsC*: Brasstown	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
Junaluska	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope, depth to rock.
BuD*: Burton	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Craggey	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: fragile.	Severe: slope, depth to rock.
Rock outcrop.					
BuF*: Burton	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Craggey	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: slope, fragile.	Severe: slope, depth to rock.
Rock outcrop.					

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
CbF*:					
Cataska	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
Rock outcrop.					
ChE, ChF	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
Cheoah					
CmD*:					
Chestnut	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Cleveland	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, small stones, depth to rock.	Moderate: slope.	Severe: slope, depth to rock.
Rock outcrop.					
CmE*, CmF*:					
Chestnut	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Cleveland	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, small stones, depth to rock.	Severe: slope.	Severe: slope, depth to rock.
Rock outcrop.					
CnD*:					
Chestnut	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Edneyville	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
CnE*, CnF*:					
Chestnut	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Edneyville	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
CuD*:					
Cullasaja	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Moderate: large stones, slope.	Severe: large stones, slope.
Tuckasegee	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
CuE*, CuF*:					
Cullasaja	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: large stones, slope.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
CuE*, CuF*:					
Tuckasegee	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
DgB	Severe: flooding.	Moderate: flooding, wetness.	Severe: small stones, flooding.	Moderate: flooding.	Severe: droughty, flooding.
DrB	Severe: flooding.	Slight	Moderate: slope, wetness, percs slowly.	Slight	Slight.
EdD*:					
Edneyville	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Chestnut	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
EdE*, EdF*:					
Edneyville	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Chestnut	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
EtE*. Eutrochrepts					
EvB*:					
Evard	Moderate: small stones.	Moderate: small stones.	Severe: small stones.	Slight	Moderate: small stones, large stones.
Cowee	Moderate: small stones.	Moderate: small stones.	Severe: small stones.	Slight	Moderate: small stones, depth to rock.
EvC*, EvD*:					
Evard	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope, small stones.	Slight	Moderate: small stones, large stones.
Cowee	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope, small stones.	Slight	Moderate: small stones, slope, depth to rock.
EvE*, EvF*:					
Evard	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
Cowee	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
FaC	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: small stones, slope.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
FaD Fannin	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
FmC*: Fannin	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: small stones, slope.
Urban land.					
FrA French	Severe: flooding, wetness.	Moderate: flooding, wetness.	Severe: wetness, flooding.	Moderate: wetness, flooding.	Severe: flooding.
HaB Hayesville	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
HaC Hayesville	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
HaD Hayesville	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
HbB2 Hayesville	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
HbC2 Hayesville	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
HbD2 Hayesville	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
HmA Hemphill	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
JbD*: Junaluska	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
Brasstown	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
JbE*: Junaluska	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
Brasstown	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
JtC*: Junaluska	Moderate: slope.	Moderate: slope.	Severe: slope, small stones.	Slight	Moderate: small stones, slope, depth to rock.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
JtC*:					
Tsali	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, small stones, depth to rock.	Slight	Severe: depth to rock.
JtD*:					
Junaluska	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
Tsali	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, small stones, depth to rock.	Moderate: slope.	Severe: slope, depth to rock.
JtE*, JtF*:					
Junaluska	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
Tsali	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, small stones, depth to rock.	Severe: slope.	Severe: slope, depth to rock.
LoB Lonon	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
LoC Lonon	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
LoD Lonon	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
NkA Nikwasi	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
OwD Oconaluftee	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
OwE Oconaluftee	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
PwD Plott	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
PwE, PwF Plott	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
RhA Reddies	Severe: flooding.	Moderate: flooding, wetness.	Severe: flooding.	Moderate: flooding.	Severe: flooding.
RkF*: Rock outcrop.					

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
RkF*:					
Cleveland	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, small stones, depth to rock.	Severe: slope.	Severe: slope, depth to rock.
RnA	Severe: flooding.	Slight	Slight	Slight	Slight.
Rosman					
RsA	Severe: flooding.	Moderate: flooding.	Severe: flooding.	Moderate: flooding.	Severe: flooding.
Rosman					
SoD*:					
Soco	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
Stecoah	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
SoE*, SoF*, SpE*:					
Soco	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
Stecoah	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
SrC*:					
Spivey	Severe: small stones.	Severe: small stones.	Severe: large stones, slope, small stones.	Moderate: large stones.	Severe: large stones.
Santeetlah	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
SrD*:					
Spivey	Severe: slope, small stones.	Severe: slope, small stones.	Severe: large stones, slope, small stones.	Moderate: large stones, slope.	Severe: large stones, slope.
Santeetlah	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
SrE*, SrF*:					
Spivey	Severe: slope, small stones.	Severe: slope, small stones.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: large stones, slope.
Santeetlah	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
SvB	Severe: flooding.	Slight	Moderate: slope, small stones.	Slight	Slight.
Statler					

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
SxD*:					
Sylco	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
Cataska	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
SxE*, SxF*:					
Sylco	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
Cataska	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
TgC	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope, small stones.	Slight	Moderate: small stones, large stones, slope.
TgD	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
ThB	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
ThC	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
ThD	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
ToA	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
TrE, TrF	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
TsC*:					
Tuckasegee	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: large stones, slope.
Cullasaja	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: large stones, slope, small stones.	Moderate: large stones.	Severe: large stones.
Ud*. Udorthents					

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 9.--WILDLIFE HABITAT

(See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated)

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
AkA, ArA---------- Arkaqua	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
BdB---------- Braddock	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
BdC---------- Braddock	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BkB2---------- Braddock	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
BkC2---------- Braddock	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BrC*:										
Braddock----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Urban land.										
BsC*:										
Brasstown----------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Junaluska----------	Fair	Good	Good	Fair	Fair	Very poor.	Very poor.	Good	Fair	Very poor.
BuD*:										
Burton----------	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Craggey----------	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Fair	Very poor.
Rock outcrop.										
BuF*:										
Burton----------	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Craggey----------	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Fair	Very poor.
Rock outcrop.										
CbF*:										
Cataska----------	Very poor.	Poor	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.
Rock outcrop.										
ChE, ChF---------- Cheoah	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.

See footnote at end of table.

TABLE 9.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
CmD*:										
Chestnut	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Cleveland	Very poor.	Very poor.	Poor	Fair	Fair	Very poor.	Very poor.	Very poor.	Poor	Very poor.
Rock outcrop.										
CmE*, CmF*:										
Chestnut	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Cleveland	Very poor.	Very poor.	Poor	Fair	Fair	Very poor.	Very poor.	Very poor.	Poor	Very poor.
Rock outcrop.										
CnD*:										
Chestnut	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Edneyville	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
CnE*, CnF*:										
Chestnut	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Edneyville	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
CuD*:										
Cullasaja	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Tuckasegee	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
CuE*, CuF*:										
Cullasaja	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Tuckasegee	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
DgB	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Dellwood										
DrB	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Dillard										
EdD*:										
Edneyville	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Chestnut	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.

See footnote at end of table.

TABLE 9.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
EdE*, EdF*:										
Edneyville	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Chestnut	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
EtE*.										
Eutrochrepts										
EvB*, EvC*, EvD*:										
Evard	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Cowee	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
EvE*, EvF*:										
Evard	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Cowee	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
FaC	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Fannin										
FaD	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Fannin										
FmC*:										
Fannin	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Urban land.										
FrA	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor.
French										
HaB	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Hayesville										
HaC	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Hayesville										
HaD	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Hayesville										
HbB2	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Hayesville										
HbC2	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Hayesville										
HbD2	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Hayesville										
HmA	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
Hemphill										

See footnote at end of table.

TABLE 9.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
JbD*:										
Junaluska	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Brasstown	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
JbE*:										
Junaluska	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Brasstown	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
JtC*:										
Junaluska	Fair	Good	Good	Fair	Fair	Very poor.	Very poor.	Good	Fair	Very poor.
Tsali	Very poor.	Poor	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Poor	Very poor.
JtD*:										
Junaluska	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Tsali	Very poor.	Poor	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Poor	Very poor.
JtE*, JtF*:										
Junaluska	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Tsali	Very poor.	Poor	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Poor	Very poor.
LoB Lonon	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
LoC Lonon	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
LoD Lonon	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Fair	Very poor.
NkA Nikwasi	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
OwD Oconaluftee	Poor	Fair	Good	Very poor.	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.
OwE Oconaluftee	Very poor.	Poor	Good	Very poor.	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
PwD Plott	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
PwE, PwF Plott	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.

See footnote at end of table.

TABLE 9.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
RhA---------- Reddies	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor.
RkF*: Rock outcrop.										
Cleveland---------	Very poor.	Very poor.	Poor	Fair	Fair	Very poor.	Very poor.	Very poor.	Poor	Very poor.
RnA, RsA---------- Rosman	Good	Good	Good	Good	Good	Fair	Very poor.	Good	Good	Very poor.
SoD*: Soco----------	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Stecoah----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
SoE*, SoF*, SpE*: Soco----------	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Stecoah----------	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
SrC*: Spivey----------	Very poor.	Very poor.	Fair	Good	Poor	Very poor.	Very poor.	Poor	Fair	Very poor.
Santeetlah--------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
SrD*: Spivey----------	Very poor.	Very poor.	Fair	Good	Poor	Very poor.	Very poor.	Poor	Fair	Very poor.
Santeetlah--------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Fair	Very poor.
SrE*, SrF*: Spivey----------	Very poor.	Very poor.	Fair	Good	Poor	Very poor.	Very poor.	Poor	Fair	Very poor.
Santeetlah--------	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
SvB---------- Statler	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
SxD*: Sylco----------	Very poor.	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Cataska----------	Very poor.	Poor	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.

See footnote at end of table.

TABLE 9.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
SxE*, SxF*:										
Sylco	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Cataska	Very poor.	Poor	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.
TgC---------- Tate	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
TgD---------- Tate	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
ThB---------- Tate	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
ThC---------- Tate	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
ThD---------- Tate	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
ToA---------- Toxaway	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
TrE, TrF---------- Trimont	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
TsC*:										
Tuckasegee	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Cullasaja	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Ud*. Udorthents										

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 10.--BUILDING SITE DEVELOPMENT

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
AkA Arkaqua	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: low strength.	Moderate: wetness.
ArA Arkaqua	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: low strength, flooding.	Severe: flooding.
BdB Braddock	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Slight.
BdC Braddock	Moderate: too clayey, slope.	Moderate: shrink-swell, slope.	Moderate: shrink-swell, slope.	Severe: slope.	Severe: low strength.	Moderate: slope.
BkB2 Braddock	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Slight.
BkC2 Braddock	Moderate: too clayey, slope.	Moderate: shrink-swell, slope.	Moderate: shrink-swell, slope.	Severe: slope.	Severe: low strength.	Moderate: slope.
BrC*: Braddock	Moderate: too clayey, slope.	Moderate: shrink-swell, slope.	Moderate: shrink-swell, slope.	Severe: slope.	Severe: low strength.	Moderate: slope.
Urban land.						
BsC*: Brasstown	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: low strength, slope, frost action.	Moderate: slope.
Junaluska	Moderate: depth to rock, slope.	Moderate: slope.	Moderate: depth to rock, slope.	Severe: slope.	Moderate: low strength, slope, frost action.	Moderate: slope, depth to rock.
BuD*, BuF*: Burton	Severe: slope, depth to rock.	Severe: slope.	Severe: slope, depth to rock.	Severe: slope.	Severe: slope.	Severe: slope.
Craggey	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: slope, depth to rock.
Rock outcrop.						

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
CbF*:						
Cataska	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Severe: slope.
Rock outcrop.						
ChE, ChF	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Cheoah						
CmD*, CmE*, CmF*:						
Chestnut	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Cleveland	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.
Rock outcrop.						
CnD*, CnE*, CnF*:						
Chestnut	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Edneyville	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
CuD*, CuE*, CuF*:						
Cullasaja	Severe: cutbanks cave, large stones, slope.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: large stones, slope.
Tuckasegee	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
DgB	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Severe: droughty, flooding.
Dellwood						
DrB	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Moderate: low strength, wetness.	Slight.
Dillard						
EdD*, EdE*, EdF*:						
Edneyville	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Chestnut	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
EtE*.						
Eutrochrepts						
EvB*:						
Evard	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Moderate: frost action.	Moderate: small stones, large stones.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
EvB*:						
Cowee	Moderate: depth to rock.	Slight	Moderate: depth to rock.	Moderate: slope.	Moderate: frost action.	Moderate: small stones, depth to rock.
EvC*, EvD*:						
Evard	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: small stones, large stones.
Cowee	Moderate: depth to rock, slope.	Moderate: slope.	Moderate: depth to rock, slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: small stones, slope, depth to rock.
EvE*, EvF*:						
Evard	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Cowee	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
FaC---Fannin	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: low strength.	Moderate: small stones, slope.
FaD---Fannin	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: low strength, slope.	Severe: slope.
FmC*:						
Fannin	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: low strength.	Moderate: small stones, slope.
Urban land.						
FrA---French	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.
HaB---Hayesville	Moderate: too clayey.	Slight	Slight	Moderate: slope.	Moderate: low strength, frost action.	Slight.
HaC---Hayesville	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: low strength, slope, frost action.	Moderate: slope.
HaD---Hayesville	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
HbB2---Hayesville	Moderate: too clayey.	Slight	Slight	Moderate: slope.	Moderate: low strength, frost action.	Slight.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
HbC2---------- Hayesville	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: low strength, slope, frost action.	Moderate: slope.
HbD2---------- Hayesville	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
HmA---------- Hemphill	Severe: wetness.	Severe: flooding, wetness, shrink-swell.	Severe: flooding, wetness, shrink-swell.	Severe: flooding, wetness, shrink-swell.	Severe: shrink-swell, low strength, wetness.	Severe: wetness.
JbD*, JbE*:						
Junaluska--------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Brasstown--------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
JtC*:						
Junaluska--------	Moderate: depth to rock, slope.	Moderate: slope.	Moderate: depth to rock, slope.	Severe: slope.	Moderate: low strength, slope, frost action.	Moderate: small stones, slope, depth to rock.
Tsali----------	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Moderate: depth to rock, low strength, slope.	Severe: depth to rock.
JtD*, JtE*, JtF*:						
Junaluska--------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Tsali----------	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Severe: slope, depth to rock.
LoB---------- Lonon	Slight---------	Slight---------	Slight---------	Moderate: slope.	Moderate: frost action.	Slight.
LoC---------- Lonon	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: slope.
LoD---------- Lonon	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
NkA---------- Nikwasi	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.
OwD, OwE---------- Oconaluftee	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
PwD, PwE, PwF----- Plott	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
RhA---------- Reddies	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Severe: flooding.
RkF*: Rock outcrop.						
Cleveland--------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.
RnA---------- Rosman	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: flooding, frost action.	Slight.
RsA---------- Rosman	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.
SoD*, SoE*, SoF*, SpE*:						
Soco----------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Stecoah---------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
SrC*:						
Spivey----------	Severe: large stones.	Severe: large stones.	Severe: large stones.	Severe: slope, large stones.	Severe: large stones.	Severe: large stones.
Santeetlah-------	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: slope.
SrD*, SrE*, SrF*:						
Spivey----------	Severe: large stones, slope.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: large stones, slope.
Santeetlah-------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
SvB---------- Statler	Slight---------	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: flooding.	Slight.
SxD*, SxE*, SxF*:						
Sylco----------	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Severe: slope.
Cataska----------	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Severe: slope.
TgC---------- Tate	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: small stones, large stones, slope.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
TgD---------- Tate	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
ThB---------- Tate	Slight---------	Slight---------	Slight---------	Moderate: slope.	Moderate: frost action.	Slight.
ThC---------- Tate	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: slope.
ThD---------- Tate	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
ToA---------- Toxaway	Severe: wetness, cutbanks cave.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, wetness, flooding.	Severe: wetness, flooding.
TrE, TrF---------- Trimont	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
TsC*: Tuckasegee-------	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: large stones, slope.
Cullasaja--------	Severe: cutbanks cave, large stones.	Severe: large stones.	Severe: large stones.	Severe: slope, large stones.	Severe: large stones.	Severe: large stones.
Ud*. Udorthents						

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 11.--SANITARY FACILITIES

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "good," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
AkA Arkaqua	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Fair: wetness.
ArA Arkaqua	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Fair: wetness.
BdB Braddock	Moderate: percs slowly.	Severe: seepage.	Severe: seepage, too clayey.	Slight	Poor: too clayey, hard to pack.
BdC Braddock	Moderate: percs slowly, slope.	Severe: seepage, slope.	Severe: seepage, too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.
BkB2 Braddock	Moderate: percs slowly.	Severe: seepage.	Severe: seepage, too clayey.	Slight	Poor: too clayey, hard to pack.
BkC2 Braddock	Moderate: percs slowly, slope.	Severe: seepage, slope.	Severe: seepage, too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.
BrC*: Braddock	Moderate: percs slowly, slope.	Severe: seepage, slope.	Severe: seepage, too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.
Urban land.					
BsC*: Brasstown	Moderate: depth to rock, percs slowly, slope.	Severe: slope.	Severe: depth to rock.	Moderate: depth to rock, slope.	Fair: depth to rock, small stones, slope.
Junaluska	Severe: depth to rock.	Severe: seepage, depth to rock, slope.	Severe: seepage, depth to rock.	Severe: seepage, depth to rock.	Poor: depth to rock, small stones.
BuD*, BuF*: Burton	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: depth to rock, slope.
Craggey	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, slope.	Poor: depth to rock, small stones, slope.
Rock outcrop.					

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
CbF*:					
Cataska	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: depth to rock, small stones, slope.
Rock outcrop.					
ChE, ChF	Severe: slope.	Severe: seepage, slope.	Severe: depth to rock, seepage, slope.	Severe: seepage, slope.	Poor: slope.
Cheoah					
CmD*, CmE*, CmF*:					
Chestnut	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: depth to rock, small stones, slope.
Cleveland	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, slope.	Poor: depth to rock, slope.
Rock outcrop.					
CnD*, CnE*, CnF*:					
Chestnut	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: depth to rock, small stones, slope.
Edneyville	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.
CuD*, CuE*, CuF*:					
Cullasaja	Severe: slope, large stones.	Severe: seepage, slope, large stones.	Severe: seepage, slope, large stones.	Severe: seepage, slope.	Poor: seepage, large stones, slope.
Tuckasegee	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: slope, seepage.	Poor: large stones, slope.
DgB	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, small stones.
DrB	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness, too clayey.	Severe: wetness.	Fair: too clayey.
EdD*, EdE*, EdF*:					
Edneyville	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
EdD*, EdE*, EdF*:					
Chestnut	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: depth to rock, small stones, slope.
EtE*.					
Eutrochrepts					
EvB*:					
Evard	Slight	Moderate: seepage, slope.	Moderate: too sandy.	Slight	Fair: too sandy, small stones.
Cowee	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Poor: depth to rock.
EvC*, EvD*:					
Evard	Moderate: slope.	Severe: slope.	Moderate: slope, too sandy.	Moderate: slope.	Fair: too sandy, small stones, slope.
Cowee	Severe: depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock.	Severe: depth to rock.	Poor: depth to rock.
EvE*, EvF*:					
Evard	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
Cowee	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Poor: depth to rock, slope.
FaC	Moderate: slope, percs slowly.	Severe: slope.	Moderate: slope.	Moderate: slope.	Fair: small stones, slope.
FaD	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
FmC*:					
Fannin	Moderate: slope, percs slowly.	Severe: slope.	Moderate: slope.	Moderate: slope.	Fair: small stones, slope.
Urban land.					
FrA	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, small stones.
HaB	Moderate: percs slowly.	Severe: seepage.	Severe: seepage.	Slight	Fair: too clayey, hard to pack.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
HaC Hayesville	Moderate: percs slowly, slope.	Severe: seepage, slope.	Severe: seepage.	Moderate: slope.	Fair: too clayey, hard to pack, slope.
HaD Hayesville	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: slope.	Poor: slope.
HbB2 Hayesville	Moderate: percs slowly.	Severe: seepage.	Severe: seepage.	Slight	Fair: too clayey, hard to pack.
HbC2 Hayesville	Moderate: percs slowly, slope.	Severe: seepage, slope.	Severe: seepage.	Moderate: slope.	Fair: too clayey, hard to pack, slope.
HbD2 Hayesville	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: slope.	Poor: slope.
HmA Hemphill	Severe: wetness, percs slowly.	Moderate: seepage.	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack, wetness.
JbD*, JbE*: Junaluska	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: seepage, depth to rock, slope.	Poor: depth to rock, small stones, slope.
Brasstown	Severe: slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Poor: slope.
JtC*: Junaluska	Severe: depth to rock.	Severe: seepage, depth to rock, slope.	Severe: seepage, depth to rock.	Severe: seepage, depth to rock.	Poor: depth to rock, small stones.
Tsali	Severe: depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock.	Severe: depth to rock.	Poor: depth to rock, small stones.
JtD*, JtE*, JtF*: Junaluska	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: seepage, depth to rock, slope.	Poor: depth to rock, small stones, slope.
Tsali	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Poor: depth to rock, small stones, slope.
LoB Lonon	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
LoC---------- Lonon	Moderate: percs slowly, slope.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, slope.
LoD---------- Lonon	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
NkA---------- Nikwasi	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, small stones.
OwD, OwE---------- Oconaluftee	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: small stones, slope.
PwD, PwE, PwF------- Plott	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.
RhA---------- Reddies	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, small stones.
RkF*: Rock outcrop.					
Cleveland----------	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, slope.	Poor: depth to rock, slope.
RnA---------- Rosman	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Fair: wetness.
RsA---------- Rosman	Severe: flooding, wetness.	Severe: seepage, flooding, wetness.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Fair: wetness.
SoD*, SoE*, SoF*, SpE*: Soco----------	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, slope, seepage.	Severe: depth to rock, slope, seepage.	Poor: depth to rock, slope.
Stecoah----------	Severe: slope.	Severe: seepage, slope.	Severe: depth to rock, seepage, slope.	Severe: seepage, slope.	Poor: small stones, slope.
SrC*: Spivey----------	Severe: large stones.	Severe: seepage, slope.	Severe: seepage, large stones.	Severe: seepage.	Poor: seepage, large stones.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
SrC*:					
Santeetlah	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: slope.
SrD*, SrE*, SrF*:					
Spivey	Severe: slope, large stones.	Severe: seepage, slope.	Severe: seepage, slope, large stones.	Severe: seepage, slope.	Poor: seepage, large stones, slope.
Santeetlah	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.
SvB	Moderate: flooding, percs slowly.	Severe: seepage.	Severe: seepage.	Moderate: flooding.	Good.
SxD*, SxE*, SxF*:					
Sylco	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Poor: depth to rock, small stones, slope.
Cataska	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.	Severe: depth to rock, seepage, slope.	Severe: depth to rock, seepage, slope.	Poor: depth to rock, small stones, slope.
TgC	Moderate: percs slowly, slope.	Severe: seepage, slope.	Severe: seepage.	Moderate: slope.	Fair: too clayey, large stones, slope.
TgD	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: slope.	Poor: slope.
ThB	Moderate: percs slowly.	Severe: seepage.	Severe: seepage.	Slight	Fair: too clayey, large stones.
ThC	Moderate: percs slowly, slope.	Severe: seepage, slope.	Severe: seepage.	Moderate: slope.	Fair: too clayey, large stones, slope.
ThD	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: slope.	Poor: slope.
ToA	Severe: flooding, wetness.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: wetness.
TrE, TrF	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
TsC*:					
Tuckasegee	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Poor: large stones.
Cullasaja	Severe: large stones.	Severe: seepage, slope, large stones.	Severe: seepage, large stones.	Severe: seepage.	Poor: seepage, large stones.
Ud*.					
Udorthents					

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 12.--CONSTRUCTION MATERIALS

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
AkA, ArA Arkaqua	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
BdB, BdC, BkB2, BkC2 Braddock	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, area reclaim, small stones.
BrC*:				
Braddock	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, area reclaim, small stones.
Urban land.				
BsC*:				
Brasstown	Fair: depth to rock, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Junaluska	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
BuD*:				
Burton	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Craggey	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, slope.
Rock outcrop.				
BuF*:				
Burton	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Craggey	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, slope.
Rock outcrop.				
CbF*:				
Cataska	Poor: depth to rock, slope.	Improbable: small stones, thin layer.	Improbable: thin layer.	Poor: small stones, slope.
Rock outcrop.				

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
ChE, ChF	Poor:	Improbable:	Improbable:	Poor:
Cheoah	slope.	excess fines.	excess fines.	small stones, slope.
CmD*:				
Chestnut	Poor:	Improbable:	Improbable:	Poor:
	depth to rock.	excess fines, thin layer.	excess fines, thin layer.	small stones, slope.
Cleveland	Poor:	Improbable:	Improbable:	Poor:
	depth to rock.	excess fines.	excess fines.	depth to rock, small stones, slope.
Rock outcrop.				
CmE*, CmF*:				
Chestnut	Poor:	Improbable:	Improbable:	Poor:
	depth to rock, slope.	excess fines, thin layer.	excess fines, thin layer.	small stones, slope.
Cleveland	Poor:	Improbable:	Improbable:	Poor:
	depth to rock, slope.	excess fines.	excess fines.	depth to rock, small stones, slope.
Rock outcrop.				
CnD*:				
Chestnut	Poor:	Improbable:	Improbable:	Poor:
	depth to rock.	excess fines, thin layer.	excess fines, thin layer.	small stones, slope.
Edneyville	Fair:	Improbable:	Improbable:	Poor:
	slope.	excess fines.	excess fines.	small stones, slope.
CnE*, CnF*:				
Chestnut	Poor:	Improbable:	Improbable:	Poor:
	depth to rock, slope.	excess fines, thin layer.	excess fines, thin layer.	small stones, slope.
Edneyville	Poor:	Improbable:	Improbable:	Poor:
	slope.	excess fines.	excess fines.	small stones, slope.
CuD*:				
Cullasaja	Poor:	Improbable:	Improbable:	Poor:
	large stones.	large stones.	large stones.	large stones, area reclaim, slope.
Tuckasegee	Fair:	Improbable:	Improbable:	Poor:
	slope.	excess fines.	excess fines.	small stones, area reclaim, slope.

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
CuE*, CuF*:				
Cullasaja	Poor: large stones, slope.	Improbable: large stones.	Improbable: large stones.	Poor: large stones, area reclaim, slope.
Tuckasegee	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
DgB Dellwood	Fair: large stones, wetness.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
DrB Dillard	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
EdD*:				
Edneyville	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Chestnut	Poor: depth to rock.	Improbable: excess fines, thin layer.	Improbable: excess fines, thin layer.	Poor: small stones, slope.
EdE*, EdF*:				
Edneyville	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Chestnut	Poor: depth to rock, slope.	Improbable: excess fines, thin layer.	Improbable: excess fines, thin layer.	Poor: small stones, slope.
EtE*. Eutrochrepts				
EvB*, EvC*, EvD*:				
Evard	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Cowee	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
EvE*, EvF*:				
Evard	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Cowee	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, small stones.
FaC Fannin	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, small stones.

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
FaD Fannin	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
FmC*: Fannin	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, small stones.
Urban land.				
FrA French	Fair: wetness.	Probable	Probable	Poor: small stones, area reclaim.
HaB, HaC Hayesville	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
HaD Hayesville	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, slope.
HbB2, HbC2 Hayesville	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
HbD2 Hayesville	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, slope.
HmA Hemphill	Poor: shrink-swell, low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, wetness.
JbD*: Junaluska	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Brasstown	Fair: depth to rock, low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
JbE*: Junaluska	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Brasstown	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
JtC*: Junaluska	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Tsali	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones.

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
JtD*:				
Junaluska	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Tsali	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
JtE*, JtF*:				
Junaluska	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Tsali	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
LoB, LoC Lonon	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim.
LoD Lonon	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, slope.
NkA Nikwasi	Poor: wetness.	Probable	Probable	Poor: small stones, area reclaim, wetness.
OwD Oconaluftee	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
OwE Oconaluftee	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
PwD Plott	Fair: slope.	Probable	Probable	Poor: slope.
PwE, PwF Plott	Poor: slope.	Probable	Probable	Poor: slope.
RhA Reddies	Fair: wetness.	Probable	Probable	Poor: small stones, area reclaim.
RkF*:				
Rock outcrop.				
Cleveland	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
RnA, RsA Rosman	Fair: wetness.	Probable	Probable	Fair: small stones, area reclaim.
SoD*: Soco	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Stecoah	Fair: depth to rock, thin layer, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
SoE*, SoF*, SpE*: Soco	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Stecoah	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
SrC*: Spivey	Poor: large stones.	Improbable: excess fines, large stones.	Improbable: excess fines, large stones.	Poor: large stones, area reclaim.
Santeetlah	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
SrD*: Spivey	Poor: large stones.	Improbable: excess fines, large stones.	Improbable: excess fines, large stones.	Poor: large stones, area reclaim, slope.
Santeetlah	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
SrE*, SrF*: Spivey	Poor: large stones, slope.	Improbable: excess fines, large stones.	Improbable: excess fines, large stones.	Poor: large stones, area reclaim, slope.
Santeetlah	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
SvB Statler	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
SxD*:				
Sylco	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Cataska	Poor: depth to rock.	Improbable: small stones, thin layer.	Improbable: thin layer.	Poor: small stones, slope.
SxE*, SxF*:				
Sylco	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Cataska	Poor: depth to rock, slope.	Improbable: small stones, thin layer.	Improbable: thin layer.	Poor: small stones, slope.
TgC Tate	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
TgD Tate	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
ThB, ThC Tate	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones, area reclaim.
ThD Tate	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones, area reclaim, slope.
ToA Toxaway	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
TrE, TrF Trimont	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
TsC*:				
Tuckasegee	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
Cullasaja	Poor: large stones.	Improbable: large stones.	Improbable: large stones.	Poor: large stones, area reclaim.
Ud* Udorthents				

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 13.--WATER MANAGEMENT

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not evaluated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
AkA---------- Arkaqua	Moderate: seepage.	Severe: wetness.	Favorable------	Wetness--------	Wetness--------	Favorable.
ArA---------- Arkaqua	Moderate: seepage.	Severe: wetness.	Flooding-------	Wetness, flooding.	Wetness--------	Favorable.
BdB---------- Braddock	Severe: seepage.	Moderate: hard to pack.	Deep to water	Slope----------	Favorable------	Favorable.
BdC---------- Braddock	Severe: seepage, slope.	Moderate: hard to pack.	Deep to water	Slope----------	Slope----------	Slope.
BkB2--------- Braddock	Severe: seepage.	Moderate: hard to pack.	Deep to water	Slope----------	Favorable------	Favorable.
BkC2--------- Braddock	Severe: seepage, slope.	Moderate: hard to pack.	Deep to water	Slope----------	Slope----------	Slope.
BrC*: Braddock---------	Severe: seepage, slope.	Moderate: hard to pack.	Deep to water	Slope----------	Slope----------	Slope.
Urban land.						
BsC*: Brasstown--------	Severe: slope.	Severe: piping.	Deep to water	Slope----------	Slope----------	Slope.
Junaluska--------	Severe: seepage, slope.	Severe: thin layer.	Deep to water	Depth to rock, slope.	Slope, depth to rock.	Slope, depth to rock.
BuD*, BuF*: Burton----------	Severe: seepage, slope.	Severe: piping.	Deep to water	Slope, depth to rock.	Slope, large stones, depth to rock.	Large stones, slope, depth to rock.
Craggey----------	Severe: depth to rock, slope.	Severe: seepage, thin layer.	Deep to water	Slope, depth to rock.	Depth to rock, slope.	Depth to rock, slope.
Rock outcrop.						
CbF*: Cataska----------	Severe: depth to rock, slope.	Severe: seepage, thin layer.	Deep to water	Droughty, depth to rock, slope.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
Rock outcrop.						

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
ChE, ChF---------- Cheoah	Severe: seepage, slope.	Severe: piping.	Deep to water	Slope----------	Slope----------	Slope.
CmD*, CmE*, CmF*:						
Chestnut---------	Severe: seepage, slope.	Severe: piping, thin layer.	Deep to water	Slope, droughty, depth to rock.	Slope, large stones, depth to rock.	Large stones, slope, depth to rock.
Cleveland--------	Severe: depth to rock, slope.	Severe: piping.	Deep to water	Slope, droughty.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
Rock outcrop.						
CnD*, CnE*, CnF*:						
Chestnut---------	Severe: seepage, slope.	Severe: piping, thin layer.	Deep to water	Slope, droughty, depth to rock.	Slope, large stones, depth to rock.	Large stones, slope, depth to rock.
Edneyville-------	Severe: seepage, slope.	Severe: piping.	Deep to water	Slope, droughty.	Slope----------	Slope, droughty.
CuD*, CuE*, CuF*:						
Cullasaja--------	Severe: seepage, slope.	Severe: seepage, large stones.	Deep to water	Slope, large stones, droughty.	Slope, large stones, too sandy.	Large stones, slope, droughty.
Tuckasegee-------	Severe: seepage, slope.	Severe: piping.	Deep to water	Slope, soil blowing.	Slope, large stones, soil blowing.	Large stones, slope.
DgB---------- Dellwood	Severe: seepage.	Severe: seepage, large stones.	Flooding, large stones.	Large stones, wetness, droughty.	Large stones, wetness, too sandy.	Large stones, droughty.
DrB---------- Dillard	Slight---------	Moderate: thin layer, wetness.	Slope----------	Slope, wetness, soil blowing.	Wetness, soil blowing.	Favorable.
EdD*, EdE*, EdF*:						
Edneyville-------	Severe: seepage, slope.	Severe: piping.	Deep to water	Slope, droughty.	Slope----------	Slope, droughty.
Chestnut---------	Severe: seepage, slope.	Severe: piping, thin layer.	Deep to water	Slope, droughty, depth to rock.	Slope, large stones, depth to rock.	Large stones, slope, depth to rock.
EtE*. Eutrochrepts						
EvB*:						
Evard----------	Moderate: seepage, slope.	Severe: seepage, piping.	Deep to water	Slope----------	Too sandy------	Favorable.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
EvB*:						
Cowee	Moderate: seepage, depth to rock, slope.	Severe: thin layer, piping.	Deep to water	Depth to rock, slope.	Depth to rock	Depth to rock.
EvC*, EvD*, EvE*, EvF*:						
Evard	Severe: slope.	Severe: seepage, piping.	Deep to water	Slope	Slope, too sandy.	Slope.
Cowee	Severe: slope.	Severe: thin layer, piping.	Deep to water	Depth to rock, slope.	Depth to rock, slope.	Slope, depth to rock.
FaC, FaD---------- Fannin	Severe: slope.	Severe: piping.	Deep to water	Slope	Slope	Slope.
FmC*:						
Fannin	Severe: slope.	Severe: piping.	Deep to water	Slope	Slope	Slope.
Urban land.						
FrA---------- French	Severe: seepage.	Severe: seepage, wetness.	Flooding, large stones.	Wetness, flooding.	Large stones, wetness, too sandy.	Large stones, wetness, droughty.
HaB---------- Hayesville	Severe: seepage.	Severe: hard to pack.	Deep to water	Slope	Favorable	Favorable.
HaC, HaD---------- Hayesville	Severe: seepage, slope.	Severe: hard to pack.	Deep to water	Slope	Slope	Slope.
HbB2---------- Hayesville	Severe: seepage.	Severe: hard to pack.	Deep to water	Slope	Favorable	Favorable.
HbC2, HbD2-------- Hayesville	Severe: seepage, slope.	Severe: hard to pack.	Deep to water	Slope	Slope	Slope.
HmA---------- Hemphill	Slight	Severe: hard to pack, wetness.	Percs slowly, frost action.	Wetness, percs slowly.	Wetness, percs slowly.	Wetness, percs slowly.
JbD*, JbE*:						
Junaluska	Severe: seepage, slope.	Severe: thin layer.	Deep to water	Depth to rock, slope.	Slope, depth to rock.	Slope, depth to rock.
Brasstown	Severe: slope.	Severe: piping.	Deep to water	Slope	Slope	Slope.
JtC*, JtD*, JtE*, JtF*:						
Junaluska	Severe: seepage, slope.	Severe: thin layer.	Deep to water	Depth to rock, slope.	Slope, depth to rock.	Slope, depth to rock.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
JtC*, JtD*, JtE*, JtF*:						
Tsali	Severe: depth to rock, slope.	Severe: thin layer.	Deep to water	Depth to rock, slope.	Slope, depth to rock.	Slope, depth to rock.
LoB Lonon	Moderate: seepage, slope.	Severe: piping.	Deep to water	Slope	Favorable	Favorable.
LoC, LoD Lonon	Severe: slope.	Severe: piping.	Deep to water	Slope	Slope	Slope.
NkA Nikwasi	Severe: seepage.	Severe: seepage, wetness.	Flooding, large stones, cutbanks cave.	Wetness, droughty, flooding.	Large stones, wetness, too sandy.	Large stones, wetness, droughty.
OwD, OwE Oconaluftee	Severe: seepage, slope.	Severe: piping.	Deep to water	Slope	Slope	Slope.
PwD, PwE, PwF Plott	Severe: seepage, slope.	Severe: piping.	Deep to water	Slope	Slope	Slope.
RhA Reddies	Severe: seepage.	Severe: seepage.	Flooding, large stones, cutbanks cave.	Wetness, droughty.	Large stones, wetness, too sandy.	Large stones, droughty.
RkF*:						
Rock outcrop.						
Cleveland	Severe: depth to rock, slope.	Severe: piping.	Deep to water	Slope, droughty.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
RnA Rosman	Severe: seepage.	Severe: piping.	Favorable	Soil blowing	Wetness, soil blowing.	Favorable.
RsA Rosman	Severe: seepage.	Severe: piping.	Flooding	Flooding, soil blowing.	Wetness, soil blowing.	Favorable.
SoD*, SoE*, SoF*, SpE*:						
Soco	Severe: seepage, slope.	Severe: piping, thin layer.	Deep to water	Depth to rock, slope.	Slope, depth to rock.	Slope, depth to rock.
Stecoah	Severe: seepage, slope.	Severe: piping.	Deep to water	Slope	Slope	Slope.
SrC*, SrD*, SrE*, SrF*:						
Spivey	Severe: seepage, slope.	Severe: seepage, large stones.	Deep to water	Slope, large stones, droughty.	Slope, large stones.	Large stones, slope, droughty.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
SrC*, SrD*, SrE*, SrF*:						
Santeetlah	Severe: seepage, slope.	Severe: piping.	Deep to water	Slope	Slope	Slope.
SvB Statler	Severe: seepage.	Severe: piping.	Deep to water	Slope	Favorable	Favorable.
SxD*, SxE*, SxF*:						
Sylco	Severe: slope.	Severe: piping.	Deep to water	Slope, droughty, depth to rock.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
Cataska	Severe: depth to rock, slope.	Severe: seepage, thin layer.	Deep to water	Droughty, depth to rock, slope.	Slope, large stones, depth to rock.	Large stones, slope, droughty.
TgC, TgD Tate	Severe: seepage, slope.	Severe: piping.	Deep to water	Slope	Slope	Slope.
ThB Tate	Severe: seepage.	Severe: piping.	Deep to water	Slope	Favorable	Favorable.
ThC, ThD Tate	Severe: seepage, slope.	Severe: piping.	Deep to water	Slope	Slope	Slope.
ToA Toxaway	Severe: seepage.	Severe: piping, wetness.	Flooding, frost action.	Wetness, flooding.	Wetness	Wetness.
TrE, TrF Trimont	Severe: slope.	Severe: piping.	Deep to water	Slope	Slope	Slope.
TsC*:						
Tuckasegee	Severe: seepage, slope.	Severe: piping.	Deep to water	Slope, soil blowing.	Slope, large stones, soil blowing.	Large stones, slope.
Cullasaja	Severe: seepage, slope.	Severe: seepage, large stones.	Deep to water	Slope, large stones, droughty.	Slope, large stones, too sandy.	Large stones, slope, droughty.
Ud*. Udorthents						

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 14.--ENGINEERING INDEX PROPERTIES

(The symbol < means less than; > means more than. Absence of an entry indicates that data were not estimated)

Soil name and map symbol	Depth	USDA texture	Classification		Fragments	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	> 3 inches	4	10	40	200		
	In				Pct					Pct	
AkA, ArA---------	0-11	Loam----------	SM	A-2, A-4	0	98-100	95-100	60-90	30-50	<35	NP-7
Arkaqua	11-51	Fine sandy loam, clay loam, loam.	ML, SM, CL-ML	A-4	0	96-100	95-100	60-100	36-70	<35	NP-7
	51-60	Variable---------	---	---	---	---	---	---	---	---	---
BdB, BdC---------	0-18	Loam----------	CL, SM, ML, SC	A-2, A-4	0-5	85-100	75-100	50-85	25-65	<30	NP-10
Braddock	18-60	Clay loam, gravelly clay, sandy clay.	CH, CL, SC	A-7	0-15	80-100	65-100	55-95	40-90	42-66	15-35
BkB2, BkC2-------	0-6	Clay loam--------	CL	A-6, A-7	0-5	80-100	75-100	65-95	50-85	35-50	15-26
Braddock	6-60	Clay loam, gravelly clay, sandy clay.	CH, CL, SC	A-7	0-15	80-100	65-100	55-95	40-90	42-66	15-35
BrC*:											
Braddock--------	0-6	Clay loam--------	CL	A-6, A-7	0-5	80-100	75-100	65-95	50-85	35-50	15-26
	6-60	Clay loam, gravelly clay, very gravelly sandy clay.	CH, CL, SC	A-7, A-2	0-15	80-100	30-100	25-95	20-90	42-66	15-35
Urban land.											
BsC*:											
Brasstown-------	0-12	Fine sandy loam	SM, ML, MH	A-4, A-5, A-7-5	0-5	85-100	80-100	65-95	35-60	30-57	NP-14
	12-27	Channery loam, channery sandy clay loam, clay loam.	CL, ML, SC, SM	A-6, A-7-6	2-15	75-100	70-100	55-97	40-73	35-50	11-20
	27-54	Channery fine sandy loam, loam.	SM, GM, ML	A-4	2-15	70-100	70-100	40-96	35-55	25-35	NP-10
	54-60	Weathered bedrock	---	---	---	---	---	---	---	---	---
Junaluska-------	0-3	Channery fine sandy loam.	SM, ML, GM, MH	A-2-4, A-5, A-4, A-7	5-15	70-96	55-91	40-80	30-55	29-56	NP-14
	3-27	Channery loam, channery clay loam, loam.	CL, ML, SC, SM	A-6, A-7	5-15	75-100	60-100	55-95	40-73	29-50	10-20
	27-30	Channery loam, channery fine sandy loam, fine sandy loam.	SM, ML, GM	A-4	5-15	70-100	55-100	40-91	35-55	25-40	3-10
	30-45	Weathered bedrock	---	---	---	---	---	---	---	---	---
BuD*, BuF*:											
Burton----------	0-17	Sandy loam-------	SM	A-2, A-4, A-5	0-15	80-100	80-100	60-90	30-49	30-50	NP-7
	17-38	Sandy loam, gravelly sandy loam, loam.	SM, SC-SM	A-2, A-4	5-15	73-100	70-95	57-95	25-49	25-35	NP-7
	38	Unweathered bedrock.	---	---	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	> 3 inches	4	10	40	200		
	In				Pct					Pct	
BuD*, BuF*:											
Craggey	0-18	Sandy loam	SM, SC-SM	A-2, A-4, A-5	0-5	90-100	85-100	65-95	25-49	<50	NP-7
	18	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
CbF*:											
Cataska	0-5	Channery loam	CL-ML, ML, GM, GM-GC	A-4	3-15	55-80	50-75	45-70	40-60	<30	NP-6
	5-14	Slaty silt loam, channery silt loam, very channery loam.	GM-GC, GM, GP-GM	A-2, A-1	10-25	15-50	10-45	10-40	10-35	<30	NP-7
	14-21	Weathered bedrock	---	---	---	---	---	---	---	---	---
	21	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
ChE, ChF	0-13	Channery loam	SM, GM, ML, MH	A-4, A-7-5, A-5	5-15	70-95	55-90	40-80	36-65	30-64	NP-11
Cheoah											
	13-28	Loam, fine sandy loam, silt loam.	SM, SC, ML, CL	A-4	0-5	85-100	80-100	65-90	36-76	25-40	NP-10
	28-47	Channery loam, flaggy fine sandy loam, channery sandy loam.	SM, SC, ML, CL	A-4	5-15	70-95	55-90	40-84	36-65	25-36	NP-10
	47-54	Weathered bedrock	---	---	---	---	---	---	---	---	---
CmD*, CmE*, CmF*:											
Chestnut	0-16	Fine sandy loam	SM, SC-SM, ML, CL-ML	A-4, A-2, A-5	0-5	85-100	80-95	60-95	30-55	<50	NP-9
	16-32	Gravelly loam, gravelly fine sandy loam, sandy loam.	SM, SC-SM	A-4, A-2, A-5	0-25	75-98	65-97	60-85	34-49	<45	NP-10
	32-40	Weathered bedrock	---	---	---	---	---	---	---	---	---
Cleveland	0-15	Gravelly fine sandy loam.	SM, GM	A-2, A-4, A-1	2-10	65-90	50-80	45-75	20-40	<25	NP-3
	15	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
CnD*, CnE*, CnF*:											
Chestnut	0-16	Fine sandy loam	SM, SC-SM, ML, CL-ML	A-4, A-2, A-5	0-5	85-100	80-95	60-95	30-55	<50	NP-9
	16-32	Gravelly loam, gravelly fine sandy loam, sandy loam.	SM, SC-SM	A-4, A-2, A-5	0-25	75-98	65-97	60-85	34-49	<45	NP-10
	32-40	Weathered bedrock	---	---	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	> 3 inches	4	10	40	200		
	In				Pct					Pct	
CnD*, CnE*, CnF*:											
Edneyville	0-8	Fine sandy loam	SM, SC-SM, MH, ML	A-2, A-4, A-5	0-5	85-100	80-100	65-95	30-69	25-61	NP-7
	8-39	Fine sandy loam, sandy loam, loam.	SM, SC-SM, ML, CL-ML	A-2, A-4, A-5	0-5	85-100	80-100	65-95	30-68	25-45	NP-10
	39-60	Sandy loam, cobbly sandy loam, cobbly fine sandy loam.	SM, SC-SM	A-2, A-4, A-5	0-10	75-100	65-100	60-88	28-49	25-45	NP-10
CuD*, CuE*, CuF*:											
Cullasaja	0-23	Cobbly fine sandy loam.	SM	A-5, A-2-5, A-5	15-35	70-95	65-85	55-70	25-40	41-70	NP-7
	23-60	Cobbly sandy loam, very cobbly fine sandy loam, very cobbly loam.	SM, GM	A-1-b, A-2-4	30-60	55-85	50-75	35-60	15-30	25-40	NP-7
Tuckasegee	0-12	Fine sandy loam	SM	A-2, A-4, A-5	0-10	85-100	80-100	65-80	30-50	19-50	NP-10
	12-47	Loam, fine sandy loam, sandy loam, sandy clay loam.	SM, ML	A-4	0-15	85-100	75-100	65-95	36-65	<40	NP-10
	47-62	Cobbly loam, cobbly fine sandy loam, cobbly sandy loam.	SM	A-2-4, A-4, A-1-b	15-35	75-90	70-85	30-75	20-50	<40	NP-10
DgB	0-14	Gravelly fine sandy loam.	SM	A-2-4, A-4, A-1-b	0-15	70-85	60-75	30-65	15-45	<37	NP-4
Dellwood	14-60	Extremely gravelly sand, very cobbly sand, extremely gravelly coarse sand.	GM, GP-GM, GP, SP	A-1	30-50	13-75	10-40	4-40	1-15	---	NP
DrB	0-8	Loam	ML, CL	A-4	0-2	95-100	90-100	75-95	60-85	<35	NP-10
Dillard	8-21	Clay loam, sandy clay loam.	CL, ML, SC	A-4, A-6, A-7	0-2	95-100	85-100	60-95	45-70	30-45	8-22
	21-45	Clay, clay loam	CL, CH	A-6, A-7	0-2	98-100	95-100	70-95	60-90	36-55	15-30
	45-60	Variable	---	---	---	---	---	---	---	---	---
EdD*, EdE*, EdF*:											
Edneyville	0-8	Fine sandy loam	SM, SC-SM, MH, ML	A-2, A-4, A-5	0-5	85-100	80-100	65-95	30-69	25-61	NP-7
	8-39	Fine sandy loam, sandy loam, loam.	SM, SC-SM, ML, CL-ML	A-2, A-4, A-5	0-5	85-100	80-100	65-95	30-68	25-45	NP-10
	39-60	Sandy loam, cobbly sandy loam, cobbly fine sandy loam.	SM, SC-SM	A-2, A-4, A-5	0-10	75-100	65-100	60-88	28-49	25-45	NP-10

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
EdD*, EdE*, EdF*:											
Chestnut	0-16	Fine sandy loam	SM, SC-SM, ML, CL-ML	A-4, A-2, A-5	0-5	85-100	80-95	60-95	30-55	<50	NP-9
	16-32	Gravelly loam, gravelly fine sandy loam, sandy loam.	SM, SC-SM	A-4, A-2, A-5	0-25	75-98	65-97	60-85	34-49	<45	NP-10
	32-40	Weathered bedrock	---	---	---	---	---	---	---	---	---
EtE*.											
Eutrochrepts											
EvB*, EvC*, EvD*, EvE*, EvF*:											
Evard	0-7	Gravelly loam	SM	A-2	0-15	65-85	60-80	55-75	15-35	<30	NP-4
	7-36	Sandy clay loam, clay loam, loam.	SM, SC, ML, CL	A-2, A-4, A-6, A-7-6	0-2	90-100	85-100	60-95	30-70	25-45	7-18
	36-49	Sandy loam, gravelly loam, loam, sandy clay loam.	SC-SM, ML, CL, SC-SM	A-2, A-4	0-5	80-100	75-100	60-95	20-55	<25	NP-9
	49-60	Sandy loam, fine sandy loam, loamy sand.	SM	A-2, A-4	0-15	75-100	70-100	60-90	15-50	---	NP
Cowee	0-6	Gravelly loam	SM, SC-SM, ML	A-2-4, A-4, A-5, A-2-5	0-15	75-95	65-85	55-75	20-51	26-41	NP-12
	6-20	Gravelly sandy clay loam, gravelly loam, gravelly clay loam.	SC, CL, ML, SM	A-4, A-6, A-7, A-2	0-15	47-99	45-90	45-85	30-60	26-56	5-22
	20-34	Fine sandy loam, sandy loam.	SM, SC-SM	A-2, A-4, A-5	0-15	75-100	65-100	60-88	28-49	25-45	NP-10
	34-45	Weathered bedrock	---	---	---	---	---	---	---	---	---
FaC, FaD	0-6	Fine sandy loam	ML, SM, MH	A-4, A-2, A-5, A-7-5	0-5	92-100	86-100	60-95	34-85	30-51	NP-18
Fannin	6-32	Clay loam, sandy clay loam, loam.	ML, MH, SM	A-4, A-7, A-6	2-10	97-100	90-100	67-95	40-85	30-55	5-23
	32-60	Loam, sandy loam, fine sandy loam.	SM, ML	A-2, A-4, A-5	0-15	75-100	70-98	60-90	15-70	30-50	NP-10
FmC*:											
Fannin	0-6	Fine sandy loam	ML, SM, MH	A-4, A-2, A-5, A-7-5	0-5	92-100	86-100	60-95	34-85	30-51	NP-18
	6-32	Clay loam, sandy clay loam, loam.	ML, MH, SM	A-4, A-7, A-6	2-10	97-100	90-100	67-95	40-85	30-55	5-23
	32-60	Loam, sandy loam, fine sandy loam.	SM, ML	A-2, A-4, A-5	0-15	75-100	70-98	60-90	15-70	30-50	NP-10
Urban land.											

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	> 3 inches	4	10	40	200		
	In				Pct					Pct	
FrA---------- French	0-8	Fine sandy loam	SM, SC-SM	A-2, A-4	0-15	90-100	85-100	60-90	30-49	<25	NP-7
	8-32	Fine sandy loam, sandy loam, sandy clay loam, loam.	SC-SM, SC, CL	A-4, A-6, A-7	0-15	90-100	85-100	60-95	36-80	20-45	7-25
	32-60	Very gravelly loamy sand, extremely gravelly sand, very cobbly loamy sand.	GP-GM, GM, SM, SP-SM	A-1	10-50	45-75	10-55	10-40	5-15	---	NP
HaB, HaC, HaD---- Hayesville	0-5	Loam----------	SM, SC, ML, CL	A-4	0-5	90-100	85-95	70-95	35-60	25-35	NP-10
	5-38	Clay loam, clay	ML, MH, CL, CH	A-6, A-7	0-5	90-100	85-100	70-100	55-80	36-66	11-35
	38-48	Sandy clay loam, clay loam, loam.	SM, ML, MH, CL	A-6, A-7	0-5	90-100	90-100	85-95	45-65	36-55	11-25
	48-60	Fine sandy loam, loam, sandy clay loam.	SM, ML, CL, SC	A-4, A-6	5-15	90-100	90-95	65-90	40-55	25-40	NP-12
HbB2, HbC2, HbD2- Hayesville	0-7	Clay loam--------	CL, SC, ML	A-4, A-6, A-7	0-5	90-100	85-100	80-95	45-65	30-50	7-18
	7-31	Clay loam, clay	ML, MH, CL, CH	A-6, A-7	0-5	90-100	85-100	70-100	55-80	36-66	11-35
	31-60	Sandy clay loam, clay loam, loam.	SM, ML, MH, CL	A-6, A-7	0-5	90-100	90-100	85-95	45-65	36-55	11-25
HmA---------- Hemphill	0-12	Loam----------	SM, ML	A-4	0	95-100	93-100	65-100	40-90	25-50	4-16
	12-30	Clay, silty clay, clay loam.	CL, CH, MH, ML	A-6, A-7	0	95-100	95-100	85-100	65-95	30-60	11-29
	30-44	Fine sandy loam, loam, clay loam.	SM, SC-SM, CL-ML, ML	A-4, A-5, A-6, A-7	0	95-100	90-100	65-100	40-90	25-50	NP-16
	44-60	Variable---------	---	---	---	---	---	---	---	---	---
JbD*, JbE*: Junaluska-------	0-3	Channery fine sandy loam.	SM, ML, MH, GM	A-4, A-5, A-2-4, A-7	5-15	70-96	55-91	40-80	30-55	29-56	NP-14
	3-27	Channery loam, channery clay loam, loam.	CL, ML, SC, SM	A-6, A-7	5-15	75-100	60-100	55-95	40-73	29-50	10-20
	27-30	Channery loam, channery fine sandy loam, fine sandy loam.	SM, ML, GM	A-4	5-15	70-100	55-100	40-91	35-55	25-40	3-10
	30-45	Weathered bedrock	---	---	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	> 3 inches	4	10	40	200		
	In				Pct					Pct	
JbD*, JbE*:											
Brasstown	0-12	Fine sandy loam	SM, ML, MH	A-4, A-5, A-7-5	0-5	85-100	80-100	65-95	35-60	30-57	NP-14
	12-27	Channery loam, channery sandy clay loam, clay loam.	CL, ML, SC, SM	A-6, A-7-6	2-15	75-100	70-100	55-97	40-73	35-50	11-20
	27-54	Channery fine sandy loam, channery very fine sandy loam, loam.	SM, GM, ML	A-4	2-15	70-100	70-100	40-96	35-55	25-35	NP-10
	54-60	Weathered bedrock	---	---	---	---	---	---	---	---	---
JtC*, JtD*, JtE*, JtF*:											
Junaluska	0-3	Channery fine sandy loam.	SM, ML, MH, GM	A-4, A-5, A-2-4, A-7	5-15	70-96	55-91	40-80	30-55	29-56	NP-14
	3-27	Channery loam, channery clay loam, loam.	CL, ML, SC, SM	A-6, A-7	5-15	75-100	60-100	55-95	40-73	29-50	10-20
	27-30	Channery loam, channery fine sandy loam, fine sandy loam.	SM, ML, GM	A-4	5-15	70-100	55-100	40-91	35-55	25-40	3-10
	30-45	Weathered bedrock	---	---	---	---	---	---	---	---	---
Tsali	0-10	Channery fine sandy loam.	SM, ML	A-4, A-5	5-15	70-95	55-90	40-80	35-55	30-50	NP-10
	10-16	Channery sandy clay loam, channery loam, channery clay loam.	CL, ML, SC, SM	A-6, A-7	5-15	75-95	60-90	55-80	40-70	30-50	11-20
	16-30	Weathered bedrock	---	---	---	---	---	---	---	---	---
LoB, LoC, LoD---- Lonon	0-9	Loam----------	SM, ML	A-2-4, A-4	0-5	90-100	85-100	60-85	25-65	<30	NP-7
	9-60	Loam, sandy clay loam, clay loam.	ML, SC, CL, SM	A-4, A-6	0-5	90-100	85-100	75-85	35-65	25-40	7-14
NkA---------- Nikwasi	0-29	Fine sandy loam	SM, ML	A-2-4, A-4	0-5	90-100	80-99	50-93	17-55	<37	NP-4
	29-60	Extremely gravelly coarse sand, very gravelly sand, very cobbly loamy sand.	GP-GM, GM, SM, SP-SM	A-1	10-50	25-75	10-55	7-40	1-15	---	NP

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	> 3 inches	4	10	40	200		
	In				Pct					Pct	
OwD, OwE--------- Oconaluftee	0-12	Channery loam----	SM, ML, GM	A-4, A-5	5-15	70-95	55-90	40-80	36-65	30-75	NP-7
	12-44	Channery loam, fine sandy loam, channery fine sandy loam.	SM, SC, ML, CL	A-4, A-5	5-15	70-100	55-100	40-94	36-77	25-45	NP-10
	44-60	Channery loam, flaggy fine sandy loam, channery fine sandy loam.	SM, SC, ML, CL	A-4, A-5	5-15	70-100	55-100	40-91	36-69	25-45	NP-10
PwD, PwE, PwF---- Plott	0-16	Fine sandy loam	SM, ML, MH	A-2, A-4, A-5	0-5	90-100	80-99	50-85	25-70	30-67	NP-7
	16-30	Loam, fine sandy loam, sandy loam.	SM, SC-SM, ML, CL-ML	A-2, A-4, A-5	0-5	90-100	80-95	50-85	20-70	25-44	NP-10
	30-61	Cobbly fine sandy loam, cobbly sandy loam, loamy sand.	SM, SC-SM, SP-SM, GM	A-2-4, A-1-b	5-15	58-92	56-89	20-72	10-30	25-36	NP-7
RhA-------------- Reddies	0-11	Loam-------------	SM, ML	A-2-4, A-4	0-5	90-100	80-100	50-95	25-55	25-37	NP-7
	11-29	Fine sandy loam, loam, gravelly loam.	SM, ML	A-2-4, A-4, A-1-b	0-15	70-100	60-95	30-85	15-55	25-35	NP-7
	29-60	Extremely gravelly sand, very cobbly loamy sand, very cobbly sand.	GM, GP-GM, SM, SP-SM	A-1	10-50	13-75	10-55	4-40	1-15	---	NP
RkF*: Rock outcrop.											
Cleveland------- 15	0-15	Gravelly fine sandy loam.	SM, GM	A-2, A-4, A-1	2-10	65-90	50-80	45-75	20-40	<25	NP-3
		Unweathered bedrock.	---	---	---	---	---	---	---	---	---
RnA, RsA--------- Rosman	0-11	Fine sandy loam	ML, SM, SC-SM	A-2-4, A-4, A-2-5, A-5	0	95-100	90-100	75-100	30-60	<45	NP-7
	11-60	Loam, fine sandy loam, sandy loam.	ML, SM, SC-SM	A-2-4, A-4	0	95-100	90-100	75-100	30-85	<39	NP-8
SoD*, SoE*, SoF*, SpE*: Soco-----------	0-3	Channery loam----	SM, ML, GM, MH	A-4, A-5	5-15	70-96	55-92	40-83	36-65	20-55	NP-7
	3-23	Loam, fine sandy loam, silt loam.	SM, SC, ML, CL	A-4, A-6	0-5	85-100	80-100	65-92	36-77	25-40	NP-11
	23-35	Weathered bedrock	---	---	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	> 3 inches	4	10	40	200		
	In				Pct					Pct	
SoD*, SoE*, SoF*, SpE*:											
Stecoah	0-5	Fine sandy loam	SM, ML, MH	A-4, A-5	0-5	85-100	80-100	65-90	36-75	30-55	NP-7
	5-36	Channery loam, channery fine sandy loam, loam.	SM, SC, ML, CL	A-4, A-6	0-15	70-100	55-100	40-94	36-77	25-40	NP-12
	36-52	Channery loam, channery fine sandy loam, loam.	SM, SC, ML, CL	A-4	5-15	70-100	55-100	40-91	35-69	24-40	NP-10
	52-60	Weathered bedrock	---	---	---	---	---	---	---	---	---
SrC*, SrD*, SrE*, SrF*:											
Spivey	0-16	Flaggy loam	SM, GM, MH, ML	A-4, A-5	15-30	70-95	65-85	40-80	36-65	30-70	NP-10
	16-60	Flaggy loam, very cobbly loam, very flaggy loam.	SM, GM	A-1, A-2, A-4	20-60	55-85	40-75	30-60	20-50	25-40	NP-10
Santeetlah	0-17	Loam	SM, ML, MH	A-4, A-5	0-5	85-100	80-100	65-92	36-77	30-74	NP-7
	17-39	Loam, fine sandy loam, silt loam.	SM, ML	A-4, A-6, A-7-6	0-5	85-100	80-100	65-90	36-75	25-41	NP-11
	39-49	Channery loam, channery fine sandy loam, channery silt loam.	SM, ML, GM	A-4	5-15	70-95	55-90	40-80	36-65	25-40	NP-10
	49-65	Very channery loam, flaggy loam, very channery fine sandy loam.	SM, ML, GM	A-4, A-2-4	15-25	60-95	50-80	35-75	25-55	25-40	NP-10
SvB	0-10	Loam	ML, CL-ML, CL	A-4, A-6	0	95-100	75-100	70-100	53-75	25-37	3-14
Statler	10-49	Clay loam, silt loam, loam.	CL, CL-ML	A-4, A-6	0	95-100	75-100	70-100	60-80	25-50	5-27
	49-60	Loam, clay loam, sandy clay loam.	CL, CL-ML, ML	A-4, A-6, A-7	0-5	95-100	75-100	65-98	50-75	25-50	5-27
SxD*, SxE*, SxF*:											
Sylco	0-6	Channery loam	GC, CL-ML, GM-GC	A-4	0-7	70-90	55-85	50-75	45-70	<30	4-10
	6-29	Very channery silt loam, very channery loam, very channery silty clay loam.	CL-ML, CL, GC, GM-GC	A-4, A-1-b, A-2-4	6-20	55-85	30-80	25-75	20-70	20-30	5-10
	29-36	Unweathered bedrock.	---	---	---	---	---	---	---	---	---

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	> 3 inches	4	10	40	200		
	In				Pct					Pct	
SxD*, SxE*, SxF*: Cataska	0-5	Channery loam	CL-ML, ML, GM, GM-GC	A-4	3-15	55-80	50-75	45-70	40-60	<30	NP-6
	5-14	Slaty silt loam, channery silt loam, very channery loam.	GM-GC, GM, GP-GM	A-2, A-1	10-25	15-50	10-45	10-40	10-35	<30	NP-7
	14-21	Weathered bedrock	---	---	---	---	---	---	---	---	---
	21	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
TgC, TgD Tate	0-11	Gravelly loam	SM, ML	A-2, A-4, A-1-b, A-6	5-15	70-85	60-75	30-65	20-55	<38	NP-13
	11-37	Clay loam, sandy clay loam, loam.	CL, ML, CL-ML, SC-SM	A-4, A-6	0-15	94-100	87-100	75-99	40-85	25-40	5-15
	37-60	Gravelly fine sandy loam, cobbly fine sandy loam, fine sandy loam.	GM, GM-GC, SM, SC-SM	A-4, A-2-4, A-2-6, A-6	5-35	40-100	40-90	35-60	30-50	<30	NP-13
ThB, ThC, ThD Tate	0-9	Loam	ML, SM	A-4, A-6	0-5	96-100	86-98	68-98	40-80	<38	NP-13
	9-38	Clay loam, sandy clay loam, loam.	CL, ML, CL-ML, SC-SM	A-4, A-6	0-15	94-100	87-100	75-99	40-85	20-40	5-15
	38-60	Gravelly fine sandy loam, very cobbly fine sandy loam, gravelly loam.	GM, GM-GC, SM, SC-SM	A-4, A-2-4, A-2-6, A-6	5-35	40-100	40-90	35-60	30-50	<35	NP-13
ToA Toxaway	0-26	Loam	CL, ML, CL-ML, MH	A-4, A-6, A-7	0	98-100	95-100	85-100	51-90	25-55	6-22
	26-60	Stratified sandy clay loam to sand.	CL, ML, SM, SC	A-2, A-4, A-6	5-15	95-100	85-100	60-95	25-90	20-40	NP-15
TrE, TrF Trimont	0-9	Gravelly loam	SM, ML	A-2-4, A-4, A-1, A-5	5-15	70-85	60-75	30-65	20-55	30-51	NP-10
	9-34	Clay loam, sandy clay loam, loam.	SC, CL, ML, SM	A-4, A-6, A-7	0-5	90-100	85-100	75-90	35-65	25-51	6-18
	34-60	Gravelly sandy loam, fine sandy loam, sandy loam.	SM, ML, CL, SC	A-2-4, A-4, A-1, A-5	0-15	70-100	60-100	30-85	20-65	25-50	NP-16

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	> 3 inches	4	10	40	200		
	In				Pct					Pct	
TsC*:											
Tuckasegee	0-12	Fine sandy loam	SM	A-2, A-4, A-5	0-10	85-100	80-100	65-80	30-50	19-50	NP-10
	12-47	Loam, fine sandy loam, sandy loam, sandy clay loam.	SM, ML	A-4	0-15	85-100	75-100	65-95	36-65	<40	NP-10
	47-62	Cobbly loam, cobbly fine sandy loam, cobbly sandy loam.	SM	A-2-4, A-4, A-1-b	15-35	75-90	70-85	30-75	20-50	<40	NP-10
Cullasaja	0-23	Cobbly fine sandy loam.	SM	A-5, A-2-5, A-5	15-35	70-95	65-85	55-70	25-40	41-70	NP-7
	23-60	Cobbly sandy loam, very cobbly fine sandy loam, very cobbly loam.	SM, GM	A-1-b, A-2-4	30-60	55-85	50-75	35-60	15-30	25-40	NP-7
Ud*.											
Udorthents											

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS

(The symbol < means less than; > means more than. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Organic matter" apply only to the surface layer. Absence of an entry indicates that data were not available or were not estimated)

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Wind erodibility group	Organic matter
								K	T		
	In	Pct	g/cc	In/hr	In/in	pH					Pct
AkA, ArA----------	0-11	10-20	1.20-1.50	0.6-2.0	0.12-0.20	4.5-7.3	Low----------	0.24	4	5	2-5
Arkaqua	11-51	10-30	1.30-1.60	0.6-2.0	0.12-0.20	4.5-6.0	Low----------	0.28			
	51-60	---	---	0.6-6.0	---	---	----------	----			
BdB, BdC----------	0-18	10-25	1.20-1.50	0.6-6.0	0.14-0.19	3.6-7.3	Low----------	0.32	4	8	1-2
Braddock	18-60	35-55	1.20-1.50	0.6-2.0	0.12-0.17	3.6-5.5	Moderate-----	0.24			
BkB2, BkC2-------	0-6	27-40	1.20-1.50	0.6-2.0	0.14-0.19	3.6-7.3	Low----------	0.32	3	8	.5-1
Braddock	6-60	35-55	1.20-1.50	0.6-2.0	0.12-0.17	3.6-5.5	Moderate-----	0.24			
BrC*:											
Braddock--------	0-6	27-40	1.20-1.50	0.6-2.0	0.14-0.19	3.6-5.5	Low----------	0.32	3	8	.5-1
	6-60	35-55	1.20-1.50	0.6-2.0	0.12-0.17	3.6-5.5	Moderate-----	0.24			
Urban land.											
BsC*:											
Brasstown-------	0-12	5-18	1.00-1.40	2.0-6.0	0.12-0.18	3.6-6.0	Low----------	0.28	3	5	1-5
	12-27	18-35	1.35-1.60	0.6-2.0	0.12-0.18	3.6-6.0	Low----------	0.15			
	27-54	8-20	1.40-1.65	0.6-2.0	0.10-0.15	3.6-6.0	Low----------	0.15			
	54-60	---	---	---	---	---	----------	----			
Junaluska-------	0-3	5-18	1.35-1.60	2.0-6.0	0.10-0.15	3.6-6.0	Low----------	0.15	2	5	1-5
	3-27	18-35	1.30-1.65	0.6-2.0	0.12-0.18	3.6-6.0	Low----------	0.15			
	27-30	15-20	1.35-1.65	2.0-6.0	0.10-0.15	3.6-6.0	Low----------	0.15			
	30-45	---	---	---	---	---	----------	----			
BuD*, BuF*:											
Burton----------	0-17	5-18	1.10-1.30	2.0-6.0	0.16-0.23	3.6-6.0	Low----------	0.24	2	5	8-20
	17-38	5-18	1.35-1.60	2.0-6.0	0.10-0.15	3.6-6.0	Low----------	0.15			
	38	---	---	---	---	---	----------	----			
Craggey---------	0-18	8-20	1.10-1.30	2.0-6.0	0.12-0.17	3.6-6.0	Low----------	0.24	1	5	8-20
	18	---	---	---	---	---	----------	----			
Rock outcrop.											
CbF*:											
Cataska---------	0-5	12-22	1.30-1.40	2.0-6.0	0.10-0.14	3.6-5.5	Low----------	0.20	1	8	1-3
	5-14	12-22	1.30-1.45	2.0-6.0	0.04-0.09	3.6-5.5	Low----------	0.15			
	14-21	---	---	0.2-0.01	---	---	----------	----			
	21	---	---	---	---	---	----------	----			
Rock outcrop.											
ChE, ChF---------	0-13	5-18	1.35-1.60	2.0-6.0	0.12-0.18	3.6-5.5	Low----------	0.15	3	5	5-10
Cheoah	13-28	5-18	1.35-1.60	2.0-6.0	0.14-0.22	3.6-6.0	Low----------	0.32			
	28-47	5-18	1.35-1.60	2.0-6.0	0.11-0.17	3.6-6.0	Low----------	0.20			
	47-54	---	---	---	---	---	----------	----			
CmD*, CmE*, CmF*:											
Chestnut--------	0-16	5-20	1.35-1.60	2.0-6.0	0.10-0.15	3.6-6.0	Low----------	0.24	2	5	1-8
	16-32	5-25	1.35-1.60	2.0-6.0	0.08-0.12	3.6-6.0	Low----------	0.15			
	32-40	---	---	---	---	---	----------	----			

See footnote at end of table.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Wind erodibility group	Organic matter
								K	T		
	In	Pct	g/cc	In/hr	In/in	pH					Pct
CmD*, CmE*, CmF*:											
Cleveland	0-15	6-20	1.20-1.50	2.0-6.0	0.05-0.10	4.5-6.0	Low	0.17	1	8	.5-8
	15	---	---	---	---	---	---				
Rock outcrop.											
CnD*, CnE*, CnF*:											
Chestnut	0-16	5-20	1.35-1.60	2.0-6.0	0.10-0.15	3.6-6.0	Low	0.24	2	5	1-8
	16-32	5-25	1.35-1.60	2.0-6.0	0.08-0.12	3.6-6.0	Low	0.15			
	32-40	---	---	---	---	---	---				
Edneyville	0-8	5-18	1.40-1.60	2.0-6.0	0.11-0.17	4.5-6.0	Low	0.24	4	5	1-8
	8-39	7-20	1.40-1.60	2.0-6.0	0.10-0.16	4.5-6.0	Low	0.20			
	39-60	5-20	1.40-1.60	2.0-6.0	0.08-0.14	4.5-6.0	Low	0.20			
CuD*, CuE*, CuF*:											
Cullasaja	0-23	5-25	0.50-1.20	2.0-6.0	0.10-0.16	4.5-6.0	Low	0.10	5	8	5-18
	23-60	5-20	1.00-1.60	2.0-6.0	0.07-0.10	4.5-6.0	Low	0.05			
Tuckasegee	0-12	12-20	0.85-1.20	2.0-6.0	0.14-0.22	4.5-6.5	Low	0.24	5	3	4-15
	12-47	15-27	1.00-1.40	2.0-6.0	0.15-0.21	4.5-6.0	Low	0.20			
	47-62	15-27	1.20-1.50	2.0-6.0	0.11-0.16	4.5-6.0	Low	0.15			
DgB	0-14	5-15	1.30-1.50	2.0-6.0	0.08-0.12	4.5-7.3	Low	0.10	2	3	3-8
Dellwood	14-60	1-8	1.40-1.60	>6.0	0.02-0.05	4.5-7.3	Low	0.05			
DrB	0-8	10-25	1.20-1.50	0.6-2.0	0.15-0.20	5.1-7.3	Low	0.32	4	5	.5-5
Dillard	8-21	18-35	1.40-1.60	0.6-2.0	0.12-0.16	4.5-5.5	Low	0.28			
	21-45	30-50	1.40-1.60	0.2-0.6	0.14-0.18	4.5-5.5	Moderate	0.28			
	45-60	---	---	0.00-0.2	---	---	---				
EdD*, EdE*, EdF*:											
Edneyville	0-8	5-18	1.40-1.60	2.0-6.0	0.11-0.17	4.5-6.0	Low	0.24	4	5	1-8
	8-39	7-20	1.40-1.60	2.0-6.0	0.10-0.16	4.5-6.0	Low	0.20			
	39-60	5-20	1.40-1.60	2.0-6.0	0.08-0.14	4.5-6.0	Low	0.20			
Chestnut	0-16	5-20	1.35-1.60	2.0-6.0	0.10-0.15	3.6-6.0	Low	0.24	2	5	1-8
	16-32	5-25	1.35-1.60	2.0-6.0	0.08-0.12	3.6-6.0	Low	0.15			
	32-40	---	---	---	---	---	---				
EtE*.											
Eutrochrepts											
EvB*, EvC*, EvD*, EvE*, EvF*:											
Evard	0-7	5-20	1.20-1.50	2.0-6.0	0.08-0.14	4.5-6.0	Low	0.15	5	8	1-5
	7-36	18-35	1.30-1.50	0.6-2.0	0.15-0.18	4.5-6.0	Low	0.24			
	36-49	12-20	1.20-1.40	0.6-2.0	0.08-0.18	4.5-6.0	Low	0.24			
	49-60	5-20	1.20-1.40	0.6-2.0	0.05-0.17	4.5-6.0	Low	0.24			
Cowee	0-6	8-20	1.25-1.60	2.0-6.0	0.10-0.15	3.6-6.0	Low	0.20	2	5	1-5
	6-20	18-35	1.30-1.60	0.6-2.0	0.12-0.18	3.6-6.0	Low	0.24			
	20-34	5-20	1.40-1.60	2.0-6.0	0.08-0.14	3.6-6.0	Low	0.20			
	34-45	---	---	---	---	---	---				
FaC, FaD	0-6	5-25	1.30-1.50	2.0-6.0	0.12-0.18	4.5-6.5	Low	0.32	3	5	1-5
Fannin	6-32	18-35	1.30-1.50	0.6-2.0	0.11-0.17	4.5-6.5	Low	0.24			
	32-60	5-25	1.30-1.50	0.6-2.0	0.08-0.12	4.5-6.5	Low	0.24			

See footnote at end of table.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Wind erodibility group	Organic matter
								K	T		
	In	Pct	g/cc	In/hr	In/in	pH					Pct
FmC*:											
Fannin	0-6	5-25	1.30-1.50	2.0-6.0	0.12-0.18	4.5-6.5	Low	0.32	3	5	1-5
	6-32	18-35	1.30-1.50	0.6-2.0	0.11-0.17	4.5-6.5	Low	0.24			
	32-60	5-25	1.30-1.50	0.6-2.0	0.08-0.12	4.5-6.5	Low	0.24			
Urban land.											
FrA	0-8	5-20	1.50-1.70	0.6-2.0	0.10-0.15	5.1-6.5	Low	0.24	3	---	1-4
French	8-32	8-35	1.30-1.50	0.6-2.0	0.12-0.20	5.1-6.5	Low	0.32			
	32-60	1-5	1.40-1.60	>6.0	0.02-0.05	5.1-6.5	Low	0.05			
HaB, HaC, HaD	0-5	10-25	1.35-1.60	2.0-6.0	0.12-0.20	3.6-7.3	Low	0.20	5	5	1-3
Hayesville	5-38	30-50	1.20-1.35	0.6-2.0	0.15-0.20	3.6-6.0	Low	0.24			
	38-48	20-40	1.30-1.40	0.6-2.0	0.12-0.20	3.6-6.0	Low	0.20			
	48-60	5-25	1.45-1.65	2.0-6.0	0.11-0.15	3.6-6.0	Low	0.17			
HbB2, HbC2, HbD2-	0-7	20-40	1.30-1.50	0.6-2.0	0.12-0.20	3.6-7.3	Low	0.24	5	5	.5-1
Hayesville	7-31	30-50	1.20-1.35	0.6-2.0	0.15-0.20	3.6-6.0	Low	0.24			
	31-60	20-40	1.30-1.40	0.6-2.0	0.12-0.20	3.6-6.0	Low	0.20			
HmA	0-12	8-27	1.20-1.45	0.6-2.0	0.15-0.24	4.5-7.3	Low	0.32	5	5	3-10
Hemphill	12-30	35-60	1.20-1.45	0.06-0.2	0.15-0.20	4.5-7.3	High	0.28			
	30-44	8-35	1.20-1.45	0.2-0.6	0.12-0.20	4.5-7.3	Low	0.24			
	44-60	---	---	---	---	---	---	---			
JbD*, JbE*:											
Junaluska	0-3	5-18	1.35-1.60	2.0-6.0	0.10-0.15	3.6-6.0	Low	0.15	2	5	1-5
	3-27	18-35	1.30-1.65	0.6-2.0	0.12-0.18	3.6-6.0	Low	0.15			
	27-30	15-20	1.35-1.65	2.0-6.0	0.10-0.15	3.6-6.0	Low	0.15			
	30-45	---	---	---	---	---	---	---			
Brasstown	0-12	5-18	1.00-1.40	2.0-6.0	0.12-0.18	3.6-6.0	Low	0.28	3	5	1-5
	12-27	18-35	1.35-1.60	0.6-2.0	0.12-0.18	3.6-6.0	Low	0.15			
	27-54	8-20	1.40-1.65	0.6-2.0	0.10-0.15	3.6-6.0	Low	0.15			
	54-60	---	---	---	---	---	---	---			
JtC*, JtD*, JtE*, JtF*:											
Junaluska	0-3	5-18	1.35-1.60	2.0-6.0	0.10-0.15	3.6-6.0	Low	0.15	2	5	1-5
	3-27	18-35	1.30-1.65	0.6-2.0	0.12-0.18	3.6-6.0	Low	0.15			
	27-30	15-20	1.35-1.65	2.0-6.0	0.10-0.15	3.6-6.0	Low	0.15			
	30-45	---	---	---	---	---	---	---			
Tsali	0-10	5-20	1.35-1.60	2.0-6.0	0.10-0.15	3.6-6.0	Low	0.15	1	5	1-5
	10-16	18-35	1.30-1.50	0.6-2.0	0.12-0.18	3.6-6.0	Low	0.15			
	16-30	---	---	---	---	---	---	---			
LoB, LoC, LoD	0-9	7-20	1.35-1.60	2.0-6.0	0.14-0.20	3.6-6.0	Low	0.24	5	5	.5-3
Lonon	9-60	18-35	1.30-1.50	0.6-2.0	0.12-0.20	3.6-6.0	Low	0.24			
NkA	0-29	5-18	1.30-1.50	2.0-6.0	0.13-0.20	4.5-6.5	Low	0.20	3	3	5-12
Nikwasi	29-60	1-5	1.40-1.60	>6.0	0.02-0.05	4.5-6.5	Low	0.05			
OwD, OwE	0-12	5-18	1.00-1.30	2.0-6.0	0.13-0.18	3.6-5.5	Low	0.15	3	5	8-20
Oconaluftee	12-44	5-18	1.20-1.50	2.0-6.0	0.11-0.17	3.6-6.0	Low	0.20			
	44-60	5-18	1.35-1.60	2.0-6.0	0.11-0.17	3.6-6.0	Low	0.20			

See footnote at end of table.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Wind erodibility group	Organic matter
								K	T		
	In	Pct	g/cc	In/hr	In/in	pH					Pct
PwD, PwE, PwF----	0-16	4-18	1.00-1.20	2.0-6.0	0.18-0.28	3.6-6.0	Low----------	0.24	4	5	5-15
Plott	16-30	5-20	1.20-1.40	2.0-6.0	0.14-0.24	4.5-6.0	Low----------	0.24			
	30-61	2-18	1.20-1.60	2.0-6.0	0.05-0.20	4.5-6.0	Low----------	0.15			
RhA----------	0-11	5-18	1.30-1.50	2.0-6.0	0.10-0.18	4.5-7.3	Low----------	0.20	3	3	3-8
Reddies	11-29	5-18	1.35-1.55	2.0-6.0	0.08-0.15	4.5-7.3	Low----------	0.10			
	29-60	1-5	1.40-1.60	>6.0	0.02-0.05	4.5-7.3	Low----------	0.05			
RkF*:											
Rock outcrop.											
Cleveland-------	0-15	6-20	1.20-1.50	2.0-6.0	0.05-0.10	4.5-6.0	Low----------	0.17	1	8	.5-8
	15	---	---	---	---	---	----------	----			
RnA, RsA---------	0-11	8-18	1.25-1.40	2.0-6.0	0.12-0.18	5.1-6.5	Low----------	0.24	5	3	2-8
Rosman	11-60	8-18	1.25-1.50	2.0-6.0	0.10-0.18	5.1-6.5	Low----------	0.24			
SoD*, SoE*, SoF*, SpE*:											
Soco----------	0-3	5-18	1.35-1.60	2.0-6.0	0.11-0.17	3.6-5.5	Low----------	0.15	2	5	1-8
	3-23	5-18	1.35-1.60	2.0-6.0	0.12-0.20	3.6-5.5	Low----------	0.32			
	23-35	---	---	---	---	---	----------	----			
Stecoah--------	0-5	5-18	1.35-1.60	2.0-6.0	0.14-0.22	3.6-5.5	Low----------	0.28	3	5	1-8
	5-36	5-18	1.35-1.60	2.0-6.0	0.10-0.17	3.6-5.5	Low----------	0.32			
	36-52	5-18	1.40-1.65	2.0-6.0	0.10-0.15	3.6-5.5	Low----------	0.15			
	52-60	---	---	---	---	---	----------	----			
SrC*, SrD*, SrE*, SrF*:											
Spivey---------	0-16	5-20	1.20-1.40	2.0-6.0	0.10-0.16	3.6-6.0	Low----------	0.17	5	8	5-18
	16-60	5-20	1.30-1.50	2.0-6.0	0.07-0.11	3.6-6.0	Low----------	----			
Santeetlah-----	0-17	5-18	1.20-1.40	2.0-6.0	0.15-0.24	3.6-6.0	Low----------	0.28	5	5	5-10
	17-39	5-18	1.30-1.50	2.0-6.0	0.14-0.22	3.6-6.0	Low----------	0.32			
	39-49	5-18	1.35-1.55	2.0-6.0	0.11-0.17	3.6-6.0	Low----------	0.20			
	49-65	5-18	1.35-1.55	2.0-6.0	0.08-0.13	3.6-6.0	Low----------	0.15			
SvB----------	0-10	10-20	1.35-1.45	0.6-2.0	0.18-0.22	5.1-7.3	Low----------	0.32	5	5	2-6
Statler	10-49	18-35	1.35-1.50	0.6-2.0	0.17-0.20	5.1-6.5	Low----------	0.24			
	49-60	15-35	1.35-1.50	0.6-2.0	0.17-0.20	5.1-6.0	Low----------	0.24			
SxD*, SxE*, SxF*:											
Sylco----------	0-6	15-25	1.00-1.20	0.6-2.0	0.11-0.16	3.6-5.5	Low----------	0.24	2	8	1-5
	6-29	15-35	1.30-1.50	0.6-2.0	0.10-0.15	3.6-5.5	Low----------	0.20			
	29-36	---	---	0.0-0.01	---	---	----------	----			
Cataska---------	0-5	12-22	1.30-1.40	2.0-6.0	0.10-0.14	3.6-5.5	Low----------	0.20	1	8	1-3
	5-14	12-22	1.30-1.45	2.0-6.0	0.04-0.09	3.6-5.5	Low----------	0.15			
	14-21	---	---	0.2-0.01	---	---	----------	----			
	21	---	---	---	---	---	----------	----			
TgC, TgD---------	0-11	5-25	1.35-1.60	2.0-6.0	0.12-0.15	4.5-6.5	Low----------	0.17	5	5	1-3
Tate	11-37	18-35	1.30-1.45	0.6-2.0	0.17-0.19	4.5-6.5	Low----------	0.28			
	37-60	5-25	1.35-1.60	2.0-6.0	0.12-0.15	4.5-6.5	Low----------	0.17			
ThB, ThC, ThD----	0-9	5-25	1.35-1.60	2.0-6.0	0.17-0.19	4.5-6.5	Low----------	0.24	5	5	1-3
Tate	9-38	18-35	1.30-1.45	0.6-2.0	0.17-0.19	4.5-6.5	Low----------	0.28			
	38-60	5-25	1.35-1.60	2.0-6.0	0.12-0.15	4.5-5.5	Low----------	0.17			

See footnote at end of table.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Wind erodibility group	Organic matter
								K	T		
	In	Pct	g/cc	In/hr	In/in	pH					Pct
ToA----------	0-26	7-27	1.30-1.50	0.6-2.0	0.15-0.20	5.1-6.5	Low----------	0.17	5	5	2-10
Toxaway	26-60	5-30	1.45-1.65	2.0-20	0.05-0.15	5.1-6.5	Low----------	0.17			
TrE, TrF---------	0-9	8-20	1.35-1.60	2.0-6.0	0.10-0.15	4.5-6.0	Low----------	0.15	4	5	3-9
Trimont	9-34	18-35	1.30-1.50	0.6-2.0	0.12-0.20	4.5-6.0	Low----------	0.24			
	34-60	8-20	1.40-1.65	0.6-2.0	0.10-0.15	4.5-6.0	Low----------	0.15			
TsC*:											
Tuckasegee------	0-12	12-20	0.85-1.20	2.0-6.0	0.14-0.22	4.5-6.5	Low----------	0.24	5	3	4-15
	12-47	15-27	1.00-1.40	2.0-6.0	0.15-0.21	4.5-6.0	Low----------	0.20			
	47-62	15-27	1.20-1.50	2.0-6.0	0.11-0.16	4.5-6.0	Low----------	0.15			
Cullasaja-------	0-23	5-25	0.50-1.20	2.0-6.0	0.10-0.16	4.5-6.0	Low----------	0.10	5	8	5-18
	23-60	5-20	1.00-1.60	2.0-6.0	0.07-0.10	4.5-6.0	Low----------	0.05			
Ud*.											
Udorthents											

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 16.--SOIL AND WATER FEATURES

("Flooding" and "water table" and terms such as "rare," "very brief," and "apparent" are explained in the text. The symbol < means less than; > means more than. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Soil name and map symbol	Hydrologic group	Flooding			High water table			Bedrock		Potential frost action	Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hardness		Uncoated steel	Concrete
					Ft			In				
AkA---------- Arkaqua	C	Rare--------	---	---	1.5-2.0	Apparent	Dec-May	>60	---	Moderate	High-----	Moderate.
ArA---------- Arkaqua	C	Frequent----	Very brief	Dec-May	1.5-2.0	Apparent	Dec-May	>60	---	Moderate	High-----	Moderate.
BdB, BdC, BkB2, BkC2---------- Braddock	B	None--------	---	---	>6.0	---	---	>60	---	Moderate	High-----	Moderate.
BrC*:												
Braddock---------	B	None--------	---	---	>6.0	---	---	>60	---	Moderate	High-----	Moderate.
Urban land.												
BsC*:												
Brasstown--------	B	None--------	---	---	>6.0	---	---	40-60	Soft	Moderate	Moderate	High.
								>60	Hard			
Junaluska--------	B	None--------	---	---	>6.0	---	---	20-40	Soft	Moderate	Moderate	High.
								>40	Hard			
BuD*, BuF*:												
Burton-----------	B	None--------	---	---	>6.0	---	---	20-40	Hard	Moderate	High-----	High.
Craggey----------	D	None--------	---	---	>6.0	---	---	10-20	Hard	Moderate	High-----	High.
Rock outcrop.												
CbF*:												
Cataska----------	D	None--------	---	---	>6.0	---	---	10-20	Soft	Moderate	Low------	Moderate.
								20-40	Hard			
Rock outcrop.												
ChE, ChF---------- Cheoah	B	None--------	---	---	>6.0	---	---	40-60	Soft	Moderate	Low------	High.
CmD*, CmE*, CmF*:												
Chestnut---------	B	None--------	---	---	>6.0	---	---	20-40	Soft	Moderate	Low------	High.
								>40	Hard			

See footnote at end of table.

TABLE 16.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Bedrock		Potential frost action	Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hardness		Uncoated steel	Concrete
					Ft			In				
CmD*, CmE*, CmF*:												
Cleveland	C	None	---	---	>6.0	---	---	10-20	Hard	Moderate	Low	High.
Rock outcrop.												
CnD*, CnE*, CnF*:												
Chestnut	B	None	---	---	>6.0	---	---	20-40	Soft	Moderate	Low	High.
								>40	Hard			
Edneyville	B	None	---	---	>6.0	---	---	>60	---	Moderate	Low	High.
CuD*, CuE*, CuF*:												
Cullasaja	B	None	---	---	>6.0	---	---	>60	---	Moderate	High	High.
Tuckasegee	B	None	---	---	>6.0	---	---	>60	---	Moderate	High	High.
DgB	A	Frequent	Very brief	Dec-Apr	2.0-4.0	Apparent	Jan-Apr	>60	---	Low	Low	Moderate.
Dellwood												
DrB	C	Rare	---	---	2.0-3.0	Apparent	Dec-Apr	>60	---	Moderate	Moderate	High.
Dillard												
EdD*, EdE*, EdF*:												
Edneyville	B	None	---	---	>6.0	---	---	>60	---	Moderate	Low	High.
Chestnut	B	None	---	---	>6.0	---	---	20-40	Soft	Moderate	Low	High.
								>40	Hard			
EtE*.												
Eutrochrepts												
EvB*, EvC*, EvD*, EvE*, EvF*:												
Evard	B	None	---	---	>6.0	---	---	>60	---	Moderate	Moderate	High.
Cowee	B	None	---	---	>6.0	---	---	20-40	Soft	Moderate	Moderate	High.
								>40	Hard			
FaC, FaD	B	None	---	---	>6.0	---	---	>60	---	Moderate	Moderate	Moderate.
Fannin												
FmC*:												
Fannin	B	None	---	---	>6.0	---	---	>60	---	Moderate	Moderate	Moderate.
Urban land.												

See footnote at end of table.

TABLE 16.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Bedrock		Potential frost action	Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hardness		Uncoated steel	Concrete
					Ft			In				
FrA---------- French	C	Frequent----	Very brief	Dec-Apr	1.0-2.5	Apparent	Dec-May	>60	---	---	Moderate	Moderate.
HaB, HaC, HaD, HbB2, HbC2, HbD2- Hayesville	B	None--------	---	---	>6.0	---	---	>60	---	Moderate	Moderate	Moderate.
HmA---------- Hemphill	D	Rare--------	---	---	0-1.0	Apparent	Nov-May	>60	---	High-----	High-----	High.
JbD*, JbE*:												
Junaluska--------	B	None--------	---	---	>6.0	---	---	20-40 >40	Soft Hard	Moderate	Moderate	High.
Brasstown--------	B	None--------	---	---	>6.0	---	---	40-60 >60	Soft Hard	Moderate	Moderate	High.
JtC*, JtD*, JtE*, JtF*:												
Junaluska-------	B	None--------	---	---	>6.0	---	---	20-40 >40	Soft Hard	Moderate	Moderate	High.
Tsali----------	C	None--------	---	---	>6.0	---	---	10-20 >30	Soft Hard	Moderate	Moderate	High.
LoB, LoC, LoD----- Lonon	B	None--------	---	---	>6.0	---	---	>60	---	Moderate	Low------	High.
NkA---------- Nikwasi	B/D	Frequent----	Very brief	Jan-Dec	0-1.0	Apparent	Nov-May	>60	---	Moderate	High-----	High.
OwD, OwE---------- Oconaluftee	B	None--------	---	---	>6.0	---	---	>60	---	Moderate	Low------	High.
PwD, PwE, PwF----- Plott	B	None--------	---	---	>6.0	---	---	>60	---	Moderate	Low------	High.
RhA---------- Reddies	B	Frequent----	Very brief	Jan-Dec	2.0-3.5	Apparent	Dec-Apr	>60	---	Low------	Low------	Moderate.
RkF*:												
Rock outcrop.												
Cleveland--------	C	None--------	---	---	>6.0	---	---	10-20	Hard	Moderate	Low------	High.

See footnote at end of table.

TABLE 16.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Bedrock		Potential frost action	Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hardness		Uncoated steel	Concrete
					Ft			In				
RnA---------- Rosman	B	Rare	---	---	2.5-5.0	Apparent	Jan-Apr	>60	---	Moderate	Moderate	Moderate.
RsA---------- Rosman	B	Frequent	Very brief	Dec-Apr	2.5-5.0	Apparent	Jan-Apr	>60	---	Moderate	Moderate	Moderate.
SoD*, SoE*, SoF*, SpE*:												
Soco----------	B	None	---	---	>6.0	---	---	20-40 >40	Soft Hard	Moderate	Moderate	High.
Stecoah----------	B	None	---	---	>6.0	---	---	40-60 >60	Soft Hard	Moderate	Moderate	High.
SrC*, SrD*, SrE*, SrF*:												
Spivey----------	B	None	---	---	>6.0	---	---	>60	---	Moderate	Low------	High.
Santeetlah------	B	None	---	---	>6.0	---	---	>60	---	Moderate	Low------	High.
SvB---------- Statler	B	Rare	---	---	>6.0	---	---	>60	---	Moderate	Low------	Moderate.
SxD*, SxE*, SxF*:												
Sylco----------	C	None	---	---	>6.0	---	---	20-40	Hard	Moderate	Low------	Moderate.
Cataska----------	D	None	---	---	>6.0	---	---	10-20 20-40	Soft Hard	Moderate	Low------	Moderate.
TgC, TgD, ThB, ThC, ThD---------- Tate	B	None	---	---	>6.0	---	---	>60	---	Moderate	Moderate	Moderate.
ToA---------- Toxaway	B/D	Frequent	Very brief	Nov-Mar	0-1.0	Apparent	Nov-Apr	>60	---	High-----	High-----	Moderate.
TrE, TrF---------- Trimont	B	None	---	---	>6.0	---	---	>60	---	Moderate	Low------	High.
TsC*:												
Tuckasegee-------	B	None	---	---	>6.0	---	---	>60	---	Moderate	High-----	High.
Cullasaja--------	B	None	---	---	>6.0	---	---	>60	---	Moderate	High-----	High.
Ud*. Udorthents												

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 17.--CLASSIFICATION OF THE SOILS

(An asterisk in the first column indicates that the soil is a taxadjunct to the series. See text for a description of those characteristics of the soil that are outside the range of the series)

Soil name	Family or higher taxonomic class
*Arkaqua	Fine-loamy, mixed, mesic Fluvaquentic Dystrochrepts
Braddock	Clayey, mixed, mesic Typic Hapludults
Brasstown	Fine-loamy, mixed, mesic Typic Hapludults
Burton	Coarse-loamy, mixed, frigid Typic Haplumbrepts
Cataska	Loamy-skeletal, mixed, mesic, shallow Typic Dystrochrepts
Cheoah	Coarse-loamy, mixed, mesic Typic Haplumbrepts
Chestnut	Coarse-loamy, mixed, mesic Typic Dystrochrepts
Cleveland	Loamy, mixed, mesic Lithic Dystrochrepts
Cowee	Fine-loamy, mixed, mesic Typic Hapludults
Craggey	Loamy, mixed, frigid Lithic Haplumbrepts
Cullasaja	Loamy-skeletal, mixed, mesic Typic Haplumbrepts
Dellwood	Sandy-skeletal, mixed, mesic Fluventic Haplumbrepts
Dillard	Fine-loamy, mixed, mesic Aquic Hapludults
Edneyville	Coarse-loamy, mixed, mesic Typic Dystrochrepts
Eutrochrepts	Eutrochrepts
Evard	Fine-loamy, oxidic, mesic Typic Hapludults
Fannin	Fine-loamy, micaceous, mesic Typic Hapludults
French	Fine-loamy over sandy or sandy-skeletal, mixed, mesic Fluvaquentic Dystrochrepts
Hayesville	Clayey, kaolinitic, mesic Typic Kanhapludults
Hemphill	Fine, mixed, mesic Typic Umbraqualfs
Junaluska	Fine-loamy, mixed, mesic Typic Hapludults
Lonon	Fine-loamy, mixed, mesic Typic Hapludults
Nikwasi	Coarse-loamy over sandy or sandy-skeletal, mixed, nonacid, mesic Cumulic Humaquepts
Oconaluftee	Coarse-loamy, mixed, frigid Typic Haplumbrepts
Plott	Coarse-loamy, mixed, mesic Typic Haplumbrepts
Reddies	Coarse-loamy over sandy or sandy-skeletal, mixed, mesic Fluventic Haplumbrepts
Rosman	Coarse-loamy, mixed, mesic Fluventic Haplumbrepts
Santeetlah	Coarse-loamy, mixed, mesic Typic Haplumbrepts
Soco	Coarse-loamy, mixed, mesic Typic Dystrochrepts
Spivey	Loamy-skeletal, mixed, mesic Typic Haplumbrepts
Statler	Fine-loamy, mixed, mesic Humic Hapludults
Stecoah	Coarse-loamy, mixed, mesic Typic Dystrochrepts
Sylco	Loamy-skeletal, mixed, mesic Typic Dystrochrepts
Tate	Fine-loamy, mixed, mesic Typic Hapludults
Toxaway	Fine-loamy, mixed, nonacid, mesic Cumulic Humaquepts
Trimont	Fine-loamy, mixed, mesic Humic Hapludults
Tsali	Loamy, mixed, mesic, shallow Typic Hapludults
Tuckasegee	Fine-loamy, mixed, mesic Typic Haplumbrepts
Udorthents	Udorthents

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