KEY PHRASES USED IN SOIL INTERPRETATIONS

GENERAL
Soil interpretations typically list the degree of limitation or suitability and factors affecting use of the soil for agricultural and nonagricultural purposes. The interpretations apply to the soils in their natural state (unless indicated otherwise) and not for areas that are altered by cut-or-fill operations.

LIMITATION OR SUITABILITY
Terms used are as follows:
If the soil property has a perceived negative impact on the proposed activity it is considered a limitation. Verbal ratings include slight, moderate, and severe but may include further subdivisions. Numerical (fuzzy) ratings may be assigned on a scale of 0 to 1.0 with a rating of 1.0 being the most limiting.
If the soil has a perceived positive outlook on the proposed activity it is considered to be a suitability. Verbal ratings include well, suitable, and poorly but may include further subdivisions. Numerical (fuzzy) ratings may be assigned on a scale of 0 to 1.0 with a rating of 1.0 being the most suitable.

Slight (well suited) – the soil is relatively free of limitations or limitations are easily overcome.
Moderate (suited) – the soil has one or more properties that make it less desirable than those rated slight, or well suited. The property(s) can be overcome with intensive management and careful design.

Severe (poorly suited) – the soil has one or more properties unfavorable for the use. Overcoming the unfavorable property requires special design, extra maintenance, or costly alteration.

Restrictive Features

The terms for restrictive features are used to identify soil properties that restrict or limit the use of a soil for a specific purpose. The restrictive features are intended to assist users in identifying soil features important for use and management. Some of the terms are self-explanatory; others need explanation to help readers make maximum use of the information. The following is a list of terms and approved definitions:

Factors Affecting
Area Reclaim an area difficult to reclaim after the removal of soil for construction and other uses.
Cemented Pan restrictive, dense, hard, somewhat impervious cemented soil material.
Deep to Permafrost depth to the permafrost layer is deeper than required to maintain a shallow perched water table and supply moisture to shallow rooted tundra vegetation.
Deep to Water deep to permanent water table during dry season.
Dense layer the layer is too dense for intended use.
Depth to Rock bedrock is too near the surface for the specified use.
Depth to Soft Rock soft rock is too near the surface for the specified use.

KEY PHRASES USED IN SOIL INTERPRETATIONS

Drainage Artificial discharge water from artificial drainage may adversely affect water quality.
Droughty soil holds too little water for plants during dry periods.
Dusty soil particles detach easily and cause dust.
Erodes Easily soil is easily eroded by water.
Excess Fines excess silt and clay in the soil. the soil does not provide an economic source of gravel or sand for construction purposes.
Excess Gypsum excess gypsum in the soil may cause problems with subsidence, piping, seepage, and corrosion of steel or concrete.
Excess Humus too much organic matter.
Excess Lime excess carbonates in the soil that restrict the growth of some plants.
Excess Permeability excess loss of water through subsurface discharge.
Excess Runoff excess loss of water through surface discharge.
Excess Salt excess water-soluble salts in the soil that restrict the growth of most plants.
Excess Sodium excess exchangeable sodium, which imparts poor physical properties that restrict the growth of plants.
Extreme Soil Temperatures the soil climate is either too hot or too cold or the soil has summer temperatures that are too cool during the growing season for unrestricted vegetative growth.
Excess Sulfur excessive amount of sulfur in the soil. the sulfur causes extreme acidity if the soil is drained, and the growth of most plants is restricted.
Fast Intake the rapid movement of water into the soil.
Favorable features of the soil are favorable for the intended use.
Flooding soil flooded by moving water from stream overflow, runoff, or high tides.
Fragile soil that is easily damaged by use or disturbance.
Fragmental having excess rock fragments greater than or equal to 2 mm.
Frost Action freezing and thawing of soil moisture. frost action can damage roads, buildings, and other structures.
Hard to Pack difficult to compact using regular earthwork construction equipment.
High Available Water Capacity soils hold relatively large quantities of water that is readily available to plants.
Infrequent Flooding flooding occurs at an interval that limits riparian plant species.
Large Stones rock fragments 3 inches or more across adversely affect the specified use of soil.
Loose Material unconsolidated soil materials, such as sand.
Low Adsorption low amounts of cations are adsorbed from wastes applied to the soil.
Low CEC the cation exchange capacity is low enough to affect plant growth.
Low Fertility fertility is low enough to adversely affect the growth of most crops.
Low Organic Matter organic matter at levels too low for optimum production of most crops.

KEY PHRASES USED IN SOIL INTERPRETATIONS

Low Salt amounts of salt are too low for satisfactory growth of desired salt tolerant plants.
Low Sodium amounts of sodium are too low for satisfactory growth of desired sodium-tolerant plants.
Low Strength the soil has a low resistance to deforming, sliding, or failure; its low resistance affects its suitability for the intended use. the soil is not strong enough to support loads.
No Water too deep to ground water.
Non-durable soil that, according to its classification or texture, normally performs satisfactorily but contains natural material or particles that are subject to break down and can cause a change of properties or performance over time.
Organic an excess amount of organic matter that adversely affects the properties of the soil.
Percs Slowly the slow movement of water through the soil adversely affects the specified use.
Permafrost layers of soil in which a temperature below freezing exists continuously.
Piping the formation of subsurface tunnels or pipe like cavities by water eroding the soil as it moves through it.
Pitting pits that form on the soil as a result of ice melt after plant cover is removed.
Ponding standing water on soils in closed depressions that is removed only by percolation or evapo-transpiration.
Poor Filter effluent moves through the soil too rapidly for adequate filtration or treatment.
Prolonged Flooding floodwater saturates and remains on the soil surface for extended periods of time, adversely affecting vegetation.
Rapid Drainage the rapid removal of excess water, internally or externally, from the soil.
Restrictive Layer a soil or rock layer that inhibits the movement of water and/or roots through the soil.
Rock Fragments fragments that reduce the moisture and nutrient capacity of the soil.
Rooting Depth shallow root zone. the soil is shallow over a layer that greatly restricts roots.
Runoff the surface discharge of water that does not enter the soil.
Salty Water water that is too salty for consumption by livestock.
Seepage the movement of water through the soil. seepage adversely affects the specified use.
Shallow to Water the water table is at a depth that affects use and management for most applications.
Shrink-swell 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.
Slippage soil mass susceptible to movement downslope when loaded, excavated, or wet.
Slope slope is steep enough that special practices are required to ensure satisfactory performance of the soil for a specified use.
Slow Intake the slow movement of water into the soil.
Slow Refill the slow filling of aquifer fed ponds, resulting from restricted permeability in the soil.

KEY PHRASES USED IN SOIL INTERPRETATIONS

Small Stones rock fragments 2 mm to 76 mm in diameter. small stones adversely affect the specified use of the soil.
Soil Blowing soil easily moved by wind.
Stability soil has the capacity to resist detachment or slippage.
Stoniness soil has stones that interfere with its use and management.
Subsides settlement of organic soils, of soils containing semi-fluid layers, or of materials that dissolve in solution.
Thin Layer otherwise suitable soil material is too thin for the specified use or management.
Thin Surface a thin surface horizon that limits the specified use and management.
Too Acid the soil is so acid that growth of plants is restricted.
Too Alkaline the soil is so alkaline that growth of plants is restricted.
Too Arid the soil is dry most of the time, and vegetation is difficult to establish.
Too Bouldery the soil has boulders that interfere with use or management.
Too Clayey the soil is slippery and sticky when wet and slow to dry.
Too Cobbly the soil has excess cobbles that affect its performance for a given use.
Too Cold soils have temperatures too low for the intended use or management.
Too Gravelly the soil has excess gravel that affects its performance for a given use.
Too Moist distribution, pattern, and total amount of precipitation exceed the soil moisture requirements of most desert vegetation.
Too Sandy the soil is soft and loose, droughty, and low in fertility or is too fine to use as gravel.
Too Stony the soil has excess stones that affect its performance for a given use.
Unstable soils are subject to failure under load.
Unstable excavation walls the walls of excavation tend to cave in or slough.
Wetness the soil is wet during the period of desired use.

REFERENCES

(1) National Soil Survey Handbook, Part 620.
http://soils.usda.gov/technical/handbook/detailedtoc.html