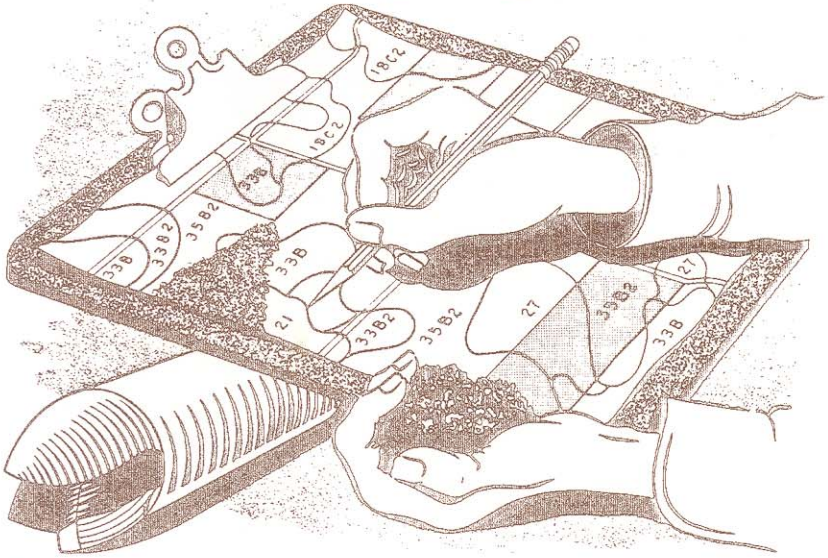
SOIL SURVEYS
can help you...



Land Use Planners

USDA NRCS

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Land Use Planners

Soil maps show soil limitations for buildings, recreation, waste disposal and other land uses, providing a major reference for land use planning.

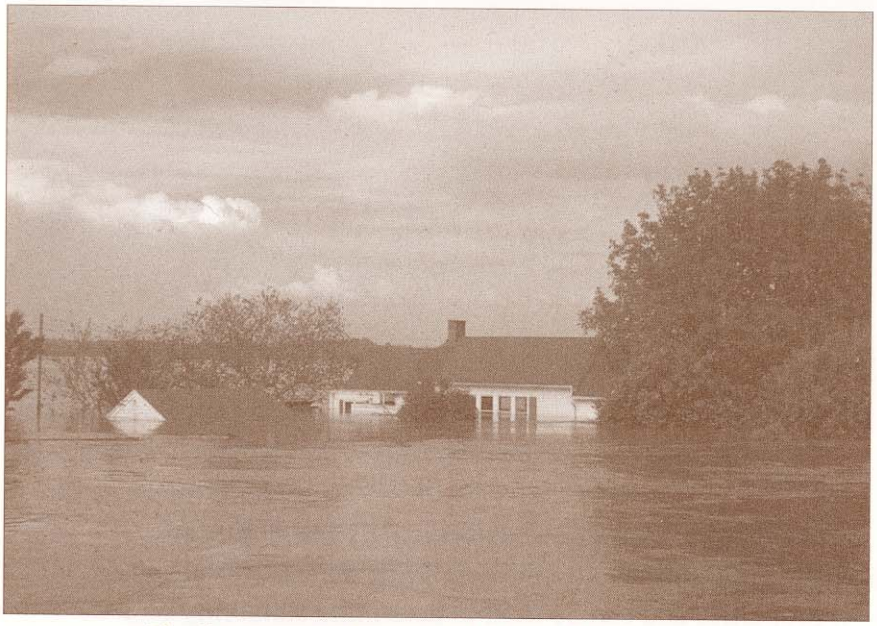
Planners already know that poorly drained areas are unsuited to septic tank absorption fields, that foundations and walls of buildings on soils that shrink and swell may crack, and that flood-prone areas are unsafe for housing. The consequences of poor land use are only too familiar.

What planners need is a means by which principles of sound land use can be related to specific tracts of land. Is there a high water table? Is the area in a flood plain? Is shrinking and swelling of soil a hazard? Is natural soil drainage adequate? These and other questions must be answered for each tract before land resources can be safely designated for housing, transportation, recreation, industry and agriculture. This pamphlet tells how soil surveys available from the **Natural Resources Conservation Service (NRCS)** can help planners determine suitability and limitations of soils in given areas for houses and commercial buildings, septic tank absorption fields, roads and highways, recreation areas, and many other land uses.

How can soil surveys help land use planners?

Soil surveys can help planners make and substantiate the decisions that local government officials translate into zoning ordinances, building permits, authorizations for sewer extensions, and other regulations that mold a growing community. Information about soil limitations for given uses helps prevent major mistakes in land use and unnecessary costs to individuals and the community.

Soil surveys help determine the extent to which an area is prone to floods, and they rate the hazards that affect use of soils in such areas. In many states soil surveys guide municipalities and other government agencies in restricting the use of flood plains for housing, septic tank absorption fields and other intensive development.



This house was built on a flood plain. Soil surveys can help planners identify areas that are subject to flooding.

Zoning areas for housing, recreation, commercial and other kinds of development should take into account the suitability and limitations of soils for such uses. Soil surveys describe soil properties in detail and can help planners establish general patterns of soil suitability and limitations for various land uses.

Erosion and sedimentation may increase where land is being developed. Sediment has become a major pollutant. Communities throughout the nation spend millions of dollars every year just to remove sediment from drinking water. Planners and other authorities can use soil maps and soil data to identify sources of sediment and to develop plans for controlling erosion and sedimentation.

Soil surveys can help in planning to prevent construction site erosion.

Septic tank absorption fields do not work in wet or impermeable soils. Soil surveys provide detailed descriptions of soil properties and can be used to determine suitability of areas for absorption fields. They indicate soil hazards that affect absorption fields, such as slow permeability caused by high clay content, the presence of a high water table, or excessive permeability that may allow effluent to pollute ground water.

In many parts of the United States soil surveys are used as a basis for ordinances that regulate use of land for septic tank absorption fields.

Through use of soil surveys, roads and highways can be routed to avoid major soil hazards, and sources of borrow material needed to construct highways can be located. Contractors can more accurately bid for work and can consider soil suitability and limitations in planning and designing specific structures.

Soil surveys can help in planning outdoor recreation facilities.

Recreation uses of land should be based on soil suitability. Soil surveys can help identify areas suitable for campsites, golf courses, manmade fishponds and many other recreation facilities. They also can help in planning construction and layout of large recreation areas that have restrooms, parking areas, outbuildings and other structures.

Prime farmland can be identified through soil surveys. Other areas suited to development and not so well suited to farming may be selected for development instead.

Irreplaceable prime agricultural land is being converted to urban uses. Soil surveys can help planners select areas other than prime agricultural land for development.

What soil data are available?

NRCS publishes soil surveys of counties throughout the United States. The boundaries of each kind of soil in the county surveyed are shown on detailed maps. Soil surveys describe important soil properties, such as flood hazard, natural drainage, depth to bedrock, depth to seasonal water table, permeability, shrinking and swelling potential, bearing capacity, and content of silt, sand, and clay. The Unified and AASHTO engineering classifications of each soil layer are given.

Soil surveys also provide interpretations of soil suitability and limitations for foundations of houses, schools and commercial buildings; sanitary landfills, sewage lagoons, and septic tank absorption fields; installation of underground pipelines; and development of parks and other recreation areas.

How can you get a soil survey?

Call the local NRCS office of the to determine whether a soil survey of the area that interests you is available. If the survey has not been published, you can arrange to examine maps and data available in preliminary form.

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