

Land Subdivision (in the U.S.)

Methods

Metes and Bounds

The original 13 colonies of the United States of America were subdivided and passed into private ownership using the so called “metes and bounds” method, sometimes jokingly referred to as “leaps and bounds.”

The term *mete* implies an act of metering, measuring, and assigning by measure, and *bounds* refers to property boundaries or other limiting extent of an ownership.

In some instances, however, especially older metes and bounds surveys consist entirely of descriptions without measurements, such as in the following example:

“starting at the pine tree blazed on its east side, thence along a hedgerow to a granite boulder on the bank of the Wampum River, thence along the river to the intersection of Cherokee Creek ...”

U.S. Public Land Survey

Most of the U.S. west of the Mississippi River and north of the Ohio River, including Alabama, Mississippi, and portions of Florida has been subdivided in accordance with the US Public Land Survey (Exhibit 5). The first law governing public land surveys was passed by Congress in 1785.

The “Northwest Territory” (later becoming the state of Ohio) was chosen as the experimental area for the development of this rectangular system

The original intent was to establish *townships* exactly 36 miles square, followed by subdivision into 36 sections of exactly 1 square mile each. At first, no allowance was made for curvature of the earth’s surface, resulting in numerous problems. Subsequently, Congress passed Survey Rules so that the system evolved into its present day form.

The origin of a rectangular system (there are more than 30 such origins in the U.S.) begins with an *initial point*, usually established by astronomical observation

Extending outward from the initial point is a true north-south line known as a *principal meridian* and a true east-west base line that corresponds to a parallel of latitude. These two lines constitute the main axes of a system (Exhibit 5). Each principal meridian is referenced by a name or a number.

Starting at the initial point, the area is divided into *tracts* approximately 36 miles square, followed by subdivision into 16 *townships* approximately 36 miles square, and then into 36 *sections* each approximately 1 mile square. Exhibit 6 shows an idealized system. The townships and sections are set up in the following manner.

At 24-mile intervals north and south of the base line, *standard parallels* are extended east and west of the principal meridian. These parallels are numbered north and south of the base line as “first standard parallel north,” and so on.

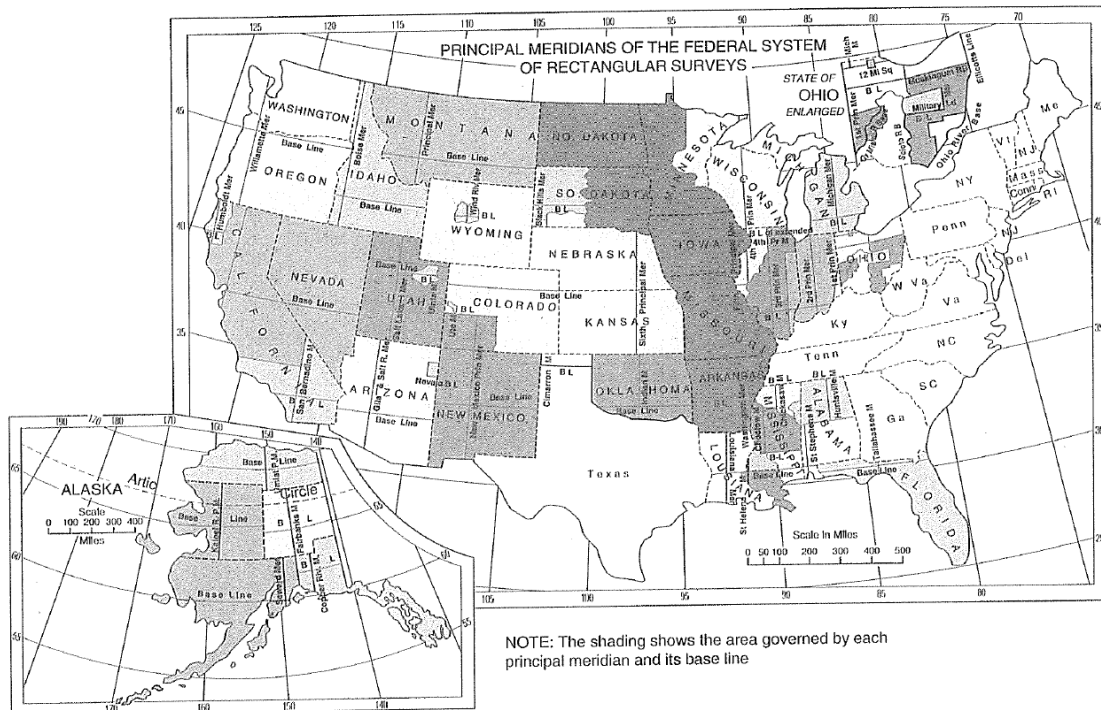


Exhibit 5.
States subdivided under the U.S. Public Land Survey.

Also, at 24-mile intervals along the base line and along all standard parallels, *guide meridians* are run on true north bearings, thus corresponding to true lines of longitude. Each guide meridian starts from a *standard corner* on a base line or on a standard parallel and ends at a *closing corner* on the next standard parallel to the north. Standard parallels are never crossed by meridians. Guide meridians are numbered east and west from the principal meridian as “first guide meridian east” and so forth.

The 24-mile tracts are divided into 16 townships by north-south *range* lines and east-west *township* lines. Range lines are established as true meridians at 6-mile intervals along each standard parallel and are run due north to the next standard parallel. Since range lines converge northward just as guide meridians do, the width of a township decreases from south to north, the shape is trapezoidal

The survey of townships within a tract begins with the southwest township and continues northward until the entire west range is completed; then it moves to the next range eastward and again proceeds from south to north. Townships are numbered consecutively northward and southward from the base line and eastward and westward from the principal meridian.

Section establishment begins in the southeast corner of a township by running lines 1 mile apart parallel to eastern range lines and 1 mile apart parallel to southern township lines. By starting in the southeast corner of the township, irregularities are ‘thrown’ into the northern and western tiers of sections in each township. Survey lines are first run around section 36, then 25, 24, 13, etc. (see Exhibit 6).

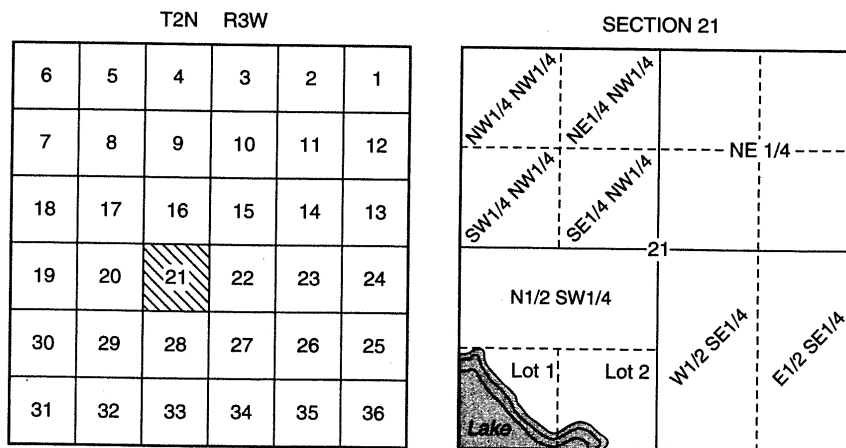
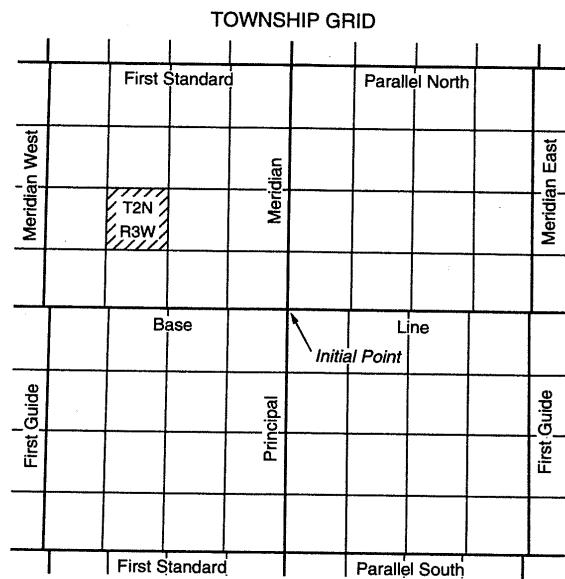


Exhibit 6.
Idealized subdivision of townships and sections. As an example, the principal meridian depicted in the top figure might be designated as “5th Principal Meridian.”

Survey corners that are actually established on the ground with monuments include section corners and quarter corners. Quarter sections may later be subdivided into 40-acre parcels known as “forties.”

A complete land description begins with the smallest land parcel and covers each division in order of size basis, and ends with the principal meridian involved. Thus, the forty composing the most northwesterly portion of section 21 in Exhibit 6 would be described as NW $\frac{1}{4}$ NW $\frac{1}{4}$ S.21, T2N, R3W, 5th P.M.

Parcels of land that have an area considerably smaller than the 40 or 160 acres intended, due either to accumulated irregularities in the northwesterly portions of sections or by local subdivision agreement are typically referred to as “lots” and may simply be numbered.