

Unit 5: Land Description

LECTURE OUTLINE

The legal description of a parcel of property is the exact location of the parcel according to an established system; the description is legally sufficient if a competent surveyor can locate the parcel using that description.

- I. Methods of describing real estate
 - A. Metes-and-bounds method (see Figure 5.1)
 1. Must have a specific point of beginning (POB)
 2. Must have measurements (metes = to measure)
 3. Must have linear boundaries (bounds = linear directions)
 4. Must completely enclose the area (return to the POB)
 5. Monuments are fixed objects used to identify the POB, all corners of the parcel, or ends of boundary segments.
 - B. Rectangular (government) survey system (see Figures 5.2 through 5.7)
 1. Established by Congress in 1785 (see Figure 5.2)
 2. Based on two intersecting lines
 - a. Principal meridians that run north and south
 - b. Base lines that run east and west
 - (1) Both principal meridians and base lines are located in reference to degrees of longitude and latitude.
 - (2) Each principal meridian is named and is crossed by its own base line.
 - (3) The rectangular survey system affects specific land areas within the boundaries.
 3. Tiers
 - a. Township lines are six miles apart and run east and west parallel to the base line (see Figure 5.3).
 - b. Tiers are six-mile-wide strips of townships that are numbered north and south of the base line.
 4. Ranges (see Figure 5.4)
 - a. Range lines are six miles apart and run north and south parallel to the principal meridian.

- b. Ranges are six-mile-wide strips of townships that are numbered east and west of the principal meridian.
5. Townships (see Figure 5.5)
- a. Townships are formed by intersecting pairs of township lines and range lines (the intersection of a township strip and a range strip).
 - b. Each township is six miles square and contains 36 square miles (36 sections) or 23,040 acres.
6. Sections (see Figures 5.6 and 5.7)
- a. There are 36 sections in a township.
 - b. They are numbered 1 through 36, starting in the top right corner and moving east to west and then west to east (similar to the way a field is plowed).
 - c. Each section is one square mile or 640 acres.
 - d. Section 16 commonly is referred to as the school section.
 - e. Sections are divided into halves and quarters for reference purposes.
 - f. Reading a government survey legal description and calculating the size of a tract of land
 - (1) Start at the end of description and work backward to the beginning.
 - (2) Begin size calculations from right hand side with section containing 640 acres, then divide by each fraction given as you move to the left (the beginning of description) of the principal meridian.
 - g. Metes-and-bounds descriptions within the rectangular survey system are used when:
 - (1) Tract is irregular.
 - (2) Tract is too small to be described by quarter sections .
 - (3) Tract does not follow the lot or block lines of recorded subdivision or section, quarter-section lines, or other fractional section lines.
- C. Lot-and-block (recorded plat) system (see Figure 5.8)
- 1. This system uses a recorded subdivision plat map.
 - 2. It requires a survey plat by a licensed surveyor or land engineer.
- II. The Survey: Measuring Property Rights—a survey sketch shows the location and

dimensions of the parcel and a spot survey includes the location of buildings on the land; legal descriptions should be copied with extreme care

A. Measuring Elevations

1. Condominium laws require a legal definition of the horizontal property rights included with each unit (air lots); the plat map references an official datum for elevation measurements
2. Subsurface rights are also defined using a datum; subsurface rights are measured below the datum rather than above.

B. Datum—point of reference for measuring elevations

1. The United States Geological Survey (USGS) uses mean (average) sea level in New York Harbor.
2. Many large cities use official local datum rather than USGS datum.
3. Monuments—traditionally used to mark only surface measurements between points.
4. Benchmarks—monuments established as permanent reference points used primarily to mark datums.

C. Land Units and Measurements (see Figure 5.9)