

Standard Surveying Terms

- **Aliquot** - The description of fractional section ownership used in the U.S. public land states. A parcel is generally identified by its *section*, *township*, and *range*. The aliquot specifies its precise location within the section, for example, the northwest quarter of the southeast quarter.
- **Azimuth** - The number of degrees from north (or other reference direction) that a line runs, measured clockwise.
- **Baseline** - In the U.S. Public land surveying system, a surveyed east-west (i.e. latitudinal) reference line, often hundreds of miles in length, from which *tiers* of *townships* are surveyed to the north and south. There are approximately two dozen baselines in the lower 48 states. See also *meridian*.
- **Bearing** - See *azimuth*. Bearings taken with a compass will be referenced to magnetic north unless otherwise noted.
- **Benchmark** - A survey mark made on a *monument* having a known location and elevation, serving as a reference point for surveying.
- **Call** - Any feature, landmark, or measurement called out in a survey. For example, "two white oaks next to the creek" is a call.
- **Chain carrier** - An assistant to the surveyor, the chain carriers moved the surveying chain from one location to another under the direction of the surveyor. This was a position of some responsibility, and the chain carriers took an oath as "sworn chain carriers" that they would do their job properly.
- **Chord** - The straight line connecting the end points of an arc.
- **Condition** - See *Conditional line*.
- **Conditional line** - An agreed line between neighbors that has not been surveyed, or which has been surveyed but not granted.
- **Corner** - The beginning or end point of any survey line. The term corner does not imply the property was in any way square.
- **Declination** - The difference between magnetic north and geographic (true) north. Surveyors used a compass to determine the direction of survey lines. Compasses point to magnetic north, rather than true north. This declination error is measured in degrees, and can range from a few degrees to ten degrees or more. Surveyors may have been instructed to correct their surveys by a particular declination value. The value of declination at any point on the earth is constantly changing because the location of magnetic north is drifting. [More information](#) about historical values of declination is available.
- **First station** - See *Point of Beginning*
- **Gore** - A thin triangular piece of land, the boundaries of which are defined by surveys of adjacent properties. Loosely, an overlap or gap between properties. See also *strip*.
- **Landmark** - A survey mark made on a 'permanent' feature of the land such as a tree, pile of stones, etc.
- **Line Tree** - Any tree that is on a property line, specifically one that is also a corner to another property.
- **Merestone** - A stone that marks a boundary. See *monument*.

- **Meridian** - In the U.S. public land surveying system, a surveyed north-south (i.e. longitudinal) reference line, often hundreds of miles in length, from which *ranges* are surveyed to the east and west. There are approximately two dozen meridians in the lower 48 states. See also *baseline*.
- **Mete** - In the context of surveying, a measure, i.e. the direction and distance of a property line.
- **Metes and Bounds** - An ancient surveying system that describes the perimeter of a parcel of land in terms of its bearings and distances and its relationship to natural features and adjacent parcels.
- **Monument** - A permanently placed survey marker such as a stone shaft sunk into the ground.
- **Point of Beginning** - The starting point of the survey
- **Point of intersection** - The point where two non-parallel lines intersect. More specifically, the point where two tangents to a curved line intersect.
- **Plat** - A drawing of a parcel of land.
- **Range** - In the U.S. public land surveying system, a north-south column of *townships*, identified as being east or west of a reference longitudinal *meridian*, for example, Range 3 West. See *township*.
- **Searles Spiral** - A surveying technique used by railroad surveyors in the late 1800s and early 1900s whereby they approximate a spiral by use of multiple curved segments.
- **Section** - In the U.S. public land surveying system, an area one mile square. See *aliquot*.
- **Strip** - A rectangular piece of land adjoining a parcel, created when a resurvey turns up a tiny bit larger than the original survey. The difference is accounted for by temperature or other effects on measuring chains. See also *gore*.
- **Tangent line** - A line that touches a circle at exactly one point and which makes a right angle with the circle's radius. For example, a circle that fills a square has four tangent points and the square's sides are tangent lines. An arc (curve) in a survey is part of a larger circle. One can construct tangent lines at the end points of the arc.
- **Tie line** - A survey line that connects a point to other surveyed lines.
- **Tier** - In the U.S. public land surveying system, an east-west row of *townships* identified as being north or south of a latitudinal *baseline*.
- **Total station** - A survey instrument that combines a theodolite and distance meter.
- **Township** - In the U.S. public land surveying system, an area six miles square, containing 36 *sections*. The townships are organized in *tiers* and *ranges*, identified with respect to a *baseline* and *meridian*. For example, Township 13 North Range 6 West describes a township's location.
- **Traverse** - 1) any line surveyed across a parcel, 2) a series of such lines connecting a number of points, often used as a base for triangulation.
- **Trocha** - Spanish for 'path'. In the southeast U.S. it is used for a cut or cleared survey line.
- **Witness Tree** - Generally used in the U.S. public land states, this refers to the trees close to a section corner. The surveyor blazed them and noted their position

- relative to the corner in his notebook. Witness trees are used as evidence for the corner location.
- **angle** - An angle measured from a vertical reference. Zero degrees is a vertical line pointing up, 90 degrees is horizontal, and 180 degrees is straight down.
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Surveyors' Slang

Surveying, like any profession, has its special terms and slang. Some are just humorous, some help distinguish similar sounds (e.g. eleven and seven), and some are just plain strange!

- **Balls** - Slang for numeric .00, as in 4-balls (4.00)
- **Beep** - Verb. To use a magnetic detector to look for iron pipe, etc.
- **Boot** - To raise the levels rod some number of inches so as to be visible to the instrument man, e.g. "Boot 6!" means "raise it 6 inches."
- **Blue topping** - In road or grading work the surveyor sets stakes and paints their tops blue to represent the required elevation. Graders then work to just cover the blue tops of the stakes.
- **Bug** - To use a magnetic locator to search for an iron pipe.
- **Bullseye** - Zero degrees of inclination.
- **Burn** - See *shoot*
- **Burn one** - Measure from the one foot mark on the tape rather than from the end of the tape in order to increase the accuracy of the measurement.
- **Cut line** - To clear vegetation for a line of sight between two survey control points.
- **Double nickel** - Slang for .55, as in 6-double nickel (6.55)
- **Dummy or dummy-end** - The base or zero end of a tape or chain, as in "hold dummy at the face of the curb."
- **EDM** - Electromagnetic Distance Measurement device, the instrument used by modern surveyors that replaces the use of measurement chains. It determines distance by measuring the time it takes for laser light to reflect off a prism on top of a rod at the target location.
- **Ginney** - A wooden dowel 6-9 inches in length with a sharpened end. Set in the ground to mark survey points.
- **Glass** - The *EDM* prism.
- **Gun** - Originally, a transit, but potentially any measurement instrument in use, e.g. theodolite, *EDM*, or Total Station.
- **Hours** - Degrees
- **Hub and Tack** - A 2" by 2" stake that is set in the ground and that contains a nail ("tack") that precisely marks the point being set.
- **Jigger** - Transit (Australia and New Zealand)
- **Legs** - Tripod
- **Pogo** - Prism pole
- **Punk** - See *railroad*.

- **Railroad** - Slang for eleven, as in 42-railroad (42.11)
 - **Rodman** - The person holding the rod with the *EDM* prism. This person is the modern version of a chain carrier or chain man.
 - **Shoot** - Measure distance with an *EDM*
 - **Spike** - Usually a 60 penny nail used to mark survey points in hard ground.
 - **Stob** - In the southeast U.S., a wooden stake or post, but in modern surveying, a piece of rebar used to mark a property boundary.
 - **Tie** - To locate something with the transit or other measuring device.
 - **Top** - Slang for eleven. See *railroad*.
 - **Trip** - Slang for triple digits, as in trip5 means 555, and 43trip7 means 43.777
 - **Turn** - The rodman is told to stay in place while the gun or level is moved to a new location.
 - **Zero** - Zero degrees, minutes, and seconds. A perfect zero.
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Surveyors' Abbreviations

You might find the following corner descriptions on a plat drawing.

- **B.R.L.** - Building restriction line.
 - **FD** - Found
 - **IPF** - Iron pipe found
 - **IRF** - Iron rod found
 - **L.O.D.** - Limit of Disturbance. The area to be cleared, graded, etc.
 - **NPP** - Nail in power pole
 - **NTCFP** - Nail on top of corner fence post
 - **NTEP** - Nail on top of fence post
 - **PI** - *Point of intersection*
 - **PK** - Point Known
 - **PK nail** - A surveyor's nail that marks a survey point. See also *hub and tack*.
 - **SR** - Steel rebar
 - **SRS** - Steel rod set (rebar or other steel)
 - **WC** - Witness corner
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Water Terms

- **Arroyo** - A small steep-walled (usually) dry watercourse with a flat floor. A gulch or gully. Chiefly in the U.S. southwest.
- **Bank** - Edge of a stream.
- **Bed and banks** - For property lines that cross a body of water, this term is used to explicitly refer to the bottom of the water.
- **Bottom** - Land along a river.

- **Branch** - Small stream.
- **Brook** - Small stream.
- **Creek** - Small stream.
- **Drain** - Small dry stream or gully.
- **Draughts of** - (pronounced drafts). See *waters of*.
- **Drean** - See *drain*.
- **Ford** - Shallow part of a stream or river where one could cross.
- **Fork** - Meeting point of two streams. "In the fork of" means between two branches.
- **Gut** - A narrow passage between hills. A stream in such a passage. A *drain*.
- **Head** - The *source* of a stream.
- **Headwaters** - The smallest streams that combine to make a larger stream.
- **Kill** - (Dutch) Creek.
- **Lower** - Toward the mouth of a stream. Further down along its course. Opposite of *upper*.
- **Meander** - "with the meanders of the stream" means the survey line follows the twists and turns of the stream.
- **Mouth** - The place where a stream enters another, larger stream.
- **Narrows** - Narrow part of a stream.
- **River** - Large stream.
- **Run** - Small stream.
- **Shoal** - Shallows.
- **Spring** - A pool or other source of water that feeds a stream.
- **Swamp** - In the southeastern U.S., a stream, particularly one that has swampy parts. A marsh.
- **Thalweg** - 1. An imaginary line connecting the lowest points of a valley. 2. The line connecting the lowest points of a stream's channel. 3. The surface midline of a channel.
- **Upper** - Toward the head of a stream. Further up along its course. Opposite of *lower*.
- **Vly** - (Dutch) Swampy lowland.
- **Waters ("watters") of** - In the drainage of. On the branches of.