LEGAL DESCRIPTIONS

INTRODUCTION

Legal descriptions, as the name implies, are the way and means by which real property, or real estate, is legally identified, conveyed, assessed and taxed.

To put this into context, suppose for a moment that you walked into a car dealership and walked out having purchased a car. How do you know that you have ownership of that particular vehicle? The answer lies in the way your vehicle is described and identified on a certificate of title. Vehicles are identified with an identification (VIN) number that is unique to each vehicle, so your ownership is validated by a title that specifically identifies your vehicle and all of its appurtenant parts. When you pull into your driveway, your neighbor isn't going to claim ownership of the vehicle or demand that you give him the tires and mirrors.

When real estate is transacted, it is the legal description that uniquely describes and identifies the property involved in the transaction and all of its appurtenances. It is not sufficient to rely merely on an address or property identification number for this purpose. Your property ownership is "legally" identified by the legal description on your deed.

It is important to make the distinction early on that although tax and legal descriptions may be one in the same, the assessor deals with tax descriptions. We leave the "legals" to the title companies and real estate agents.

You will find the use of legal descriptions in all types of transactions, not just those involving the sale or purchase of real estate. Legal descriptions are used in deeds of conveyance, mortgages, claims of title, leases, title insurance policies, easements, etc. It should come as no surprise then that legal descriptions are also used to identify real property on assessment and tax rolls.

Because legal descriptions are integral to the assessment and taxation of real property, it is important for assessing officers to be able to identify and locate parcels by their legal description. To do this effectively, an adequate understanding of legal descriptions is necessary.

The goal of this chapter will be to give the assessing officer an adequate and working knowledge of the history of legal descriptions; the methods used to describe real property; reading and plotting legal descriptions; parcel numbering and arrangement of property descriptions on the assessment roll; the types of common description errors found in the assessment roll; condensing legal descriptions for the assessment and tax roll; and the types of maps used in assessment administration.

In order to maintain accurate property information, each parcel must include information on land (front foot and depth), measurements, road right of way, exemptions, restrictions, county drains, etc.

HISTORY OF MICHIGAN'S LAND DESCRIPTION SYSTEM

Our current land description system was necessitated by the planned disposition and settlement of territory known as the Northwest Territory governed under the Northwest Ordinance adopted July 13, 1787 by the Second Continental Congress of the United States. The Northwest Territory was an area of land lying north of the Ohio River, west of Pennsylvania and east of the Mississippi River. The ordinance, adopted in response to an increasing number of settlers and land speculators who were attracted to what are now the states of Ohio, Indiana, Illinois, Michigan and Wisconsin, followed the principals outlined by Thomas Jefferson in the Land Ordinance of 1785.

Figure 1

The Northwest Territory of the United States, circa 1787, time of the Northwest Ordinance[1]

The Land Ordinance of 1785 was the first legislation which addressed the subdivision of public lands and established the process by which lands would be divided into states as well as the process for surveying and disposing of public lands. The plan that Thomas Jefferson and his Congressional Committee proposed became known as the rectangular survey system and was premised on a culmination of methods which already existed in various parts of New England at the time with many years of trial and error as its basis.[2] By providing a uniform and systematic way to locate, describe and parcel out public land in rectangles, the system would also provide for a more accurate means of tax collection over the more haphazard "metes and bounds" system brought to this country by British settlers. *If you have ever been on a domestic airline flight over the Midwest, you have probably noticed the checkerboard pattern of the ground below*

[1] CC-BY-2.0-MAP; Released under the GNU Free Documentation License

[2] Flynn, Michael. "The Origin and Development of the Rectangular Survey System" http://www.landman.org/landmanarchive/archive/2000404.doc

which is characteristic of the rectangular survey system developed by Thomas Jefferson and his committee over 200 years ago.

The Land Ordinance of 1785 provided that public land was to be surveyed (using a magnetic compass and chains) into square townships that were six miles long on each side and for those townships to be divided into 36 sections, each one mile square or 640 acres. Section 16 was to be reserved for public schools and sections 8, 11, 26, and 29 were reserved to compensate Revolutionary War veterans with land bounties. The remaining sections were to be sold at public auction. The immediate goal of the ordinance was to raise money through the sale of public lands in the largely unmapped territory west of the original colonies and to provide for the orderly settlement of those lands. Though modified since its original adoption, this act continues to be the basis for all surveys of United States public lands with the exception of private land grants.

The rectangular survey provided a rational and systematic way to describe land with reference to a meridian and a base line. The method was to establish an arbitrary point within a survey district- usually set by astronomical observation. From this initial point a principal meridian would extend north and south, and a base line would extend east and west at right angles to the meridian. The two lines would then provide the basis for laying out the townships. The unique feature of the system was its attempt to use north-south longitude lines and the corresponding east-west lines of latitude as a fixed grid from which to work from in laying out the lattice work of townships.[3] However rational and scientific was the plan, "a persistent traditionalism" was apparent in the actual surveying - in that while principal meridians pointed true north, their origins were usually established at the mouths of rivers giving less emphasis to geometry and more to the historical importance of the inland waterways in the early American west and their crucial role in penetrating the interior of the Northwest Territory.[4] This practice would have also been consistent with traditional approaches to surveying which would rely on natural features for orientation.

Once the principal meridian and base line were established, townships were to be numbered north and south from the base line. For example, the first township north of the baseline would be Town 1 North and the first township south of the base line would be Town 1 South. Townships would also be numbered east and west of the Principal Meridian. For example, the first township east of the meridian would be Range 1 East and the first township west of the meridian would be Range 1 West. To take the example one step further, the first township to the north of the base line and east of the meridian would be referred to as Town 1 North, Range 1 East.

Each township would be subdivided into one mile square sections numbered from one to thirty six beginning in the northeast corner of the township with number one and continuing westerly to number six in the northwest corner of the township. Directly

[3] Flynn, Michael. "The Origin and Development of the Rectangular Survey System" http://www.landman.org/landmanarchive/archive/2000404.doc

[4] Faragher, John Mack. Sugar Creek, 42-43; Buley, Old Northwest, 1:95.

south of section six would be section seven with the numbering proceeding in a back and forth or oscillating manner to section thirty six in the southeast corner of the township. Because of the ease of locating land with this system, it has commonly been referred to as the Section, Town and Range System.

Although the basic format of the system worked well it was not without flaws - most notably its failure to consider the curvature of the earth and resulting convergence of north-south meridian lines as the work of surveying township boundaries proceeded northward. However, despite subsequent revisions to major parts of the Ordinance since its adoption in 1785, the basic framework of laying out 36 square mile townships according to a principal north-south meridian line and corresponding east-west base line never changed and continues to be the basis of all surveys today.

Thomas Hutchins, who was a major contributor to Jefferson's committee that developed the rectangular survey plan, was appointed Geographer of the United States in 1781 and was instrumental in establishing the Public Land Survey System (PLSS) following the adoption of the Land Ordinance of 1785. The first surveys under the new rectangular survey system, by Hutchins and his crew of government surveyors, began in September 1785 in eastern Ohio in an area to be known as the Seven Ranges, or "7 ranges of townships", as it was referred to in the Land Ordinance of 1785. The initial point would be where the Ohio River intersected with the western line of the state of Pennsylvania. The base line that Hutchins ran due west from this point became known as the "Geographer's Line", and formed the north line of the Seven Ranges.

In 1812 the General Land Office was established by Congress as an independent agency of the United States. Under the direction of a commissioner whose duty it was "*to superintend, execute and perform, all such acts and things, touching or respecting the public lands of the United States*"[5], the office was responsible for overseeing the surveying, platting, and sale of public lands and remained responsible for the disposal of public lands throughout the nineteenth century.

The General Land Office (GLO) maps are the cartographical product of the original state surveyors' field notes and can be found in the Register of Deeds office of most counties.

[5] Twelfth Congress, Session 1. CH. 68. 1812 Statute 1, April 25, 1812. CHAP LXVIII

Figure 2

General Land Office map of Township 22 North, Range 3 East

By 1815 the General Land Office began contracting with private "deputy" surveyors to proceed with the enormous and often arduous task of surveying the basic reference lines (principal meridians and base lines) which were an essential first step to the sale and settlement of land in the Northwest Territory.

LAND SURVEYING BEGINS IN MICHIGAN

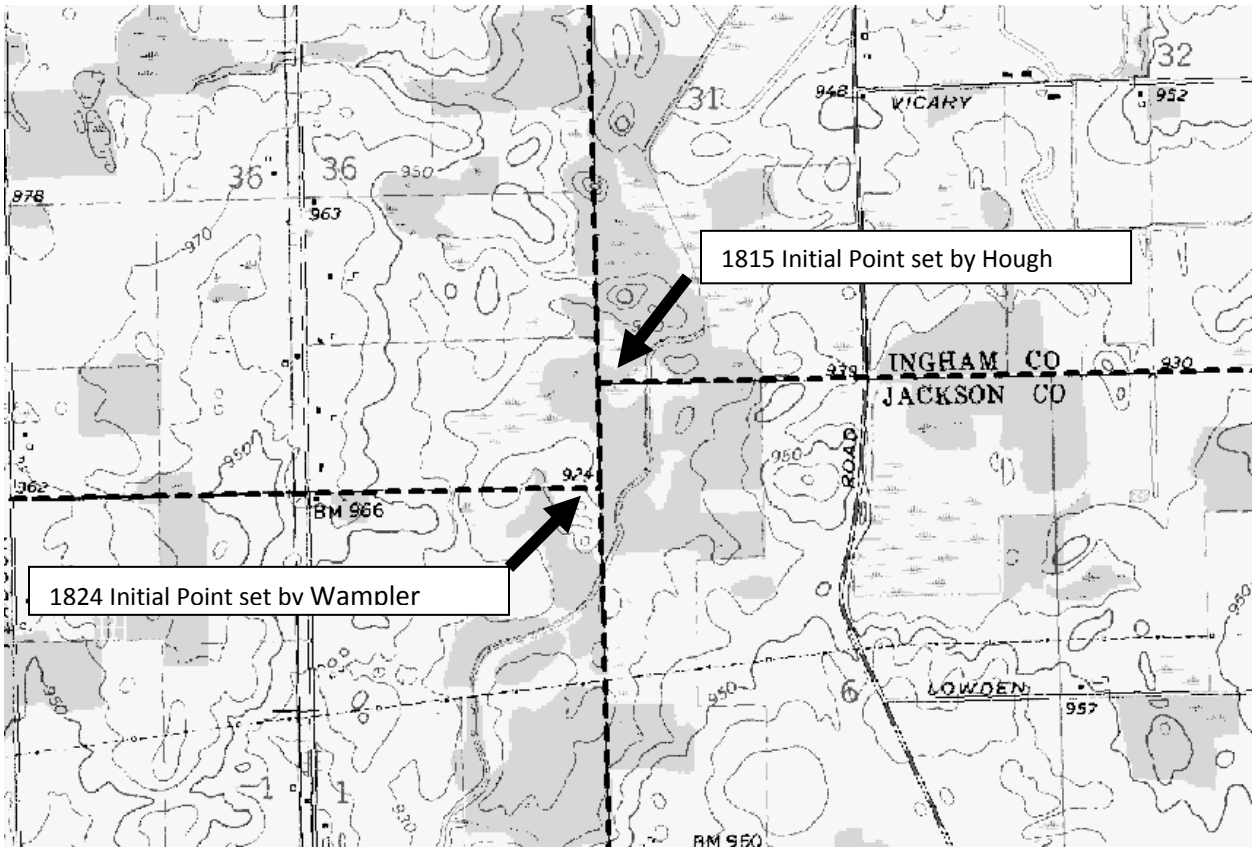
The work of surveying a meridian, baseline and townships in the Michigan Territory began in April 1815 when Alexander Holmes was given the contract to survey the base line which would begin just north of Detroit and extend westward to the western boundary of approximately two million acres of Indian land ceded to the government in the 1807 Treaty of Detroit. This boundary, which extended from the mouth of the Auglaize River at Fort Defiance, Ohio to Sault Ste Mare, would become the principal meridian line or "Michigan Meridian". Later that month, on April 28, 1815, Benjamin Hough was given the contract to survey the principal meridian line where it was to intersect with the base line being established by Holmes. The initial point was to be set where the two lines intersected.

Townships were to be surveyed from that intersection or initial point; however because of the government's anxiousness to have the land east of the meridian or Indian boundary settled, Hough was instructed to begin laying out the townships to the east of the meridian on both sides of the base line – a line that Holmes had not yet established to the meridian and would not complete. He would fall short of the meridian by several townships and return to Detroit after encountering too many hardships to continue beyond the Grand River. Hough marked his initial point in October 1815.

Figure 3 "Map of the United States of America", by M. Carey, Philadelphia, 1814

A surveyor by the name of Joseph Fletcher was contracted to complete the work on the base line begun by Holmes, but his work was found to be so inaccurate that it had to be redone in 1824 by yet another surveyor named Joseph Wampler. By the time Wampler attempted to re-establish the base line begun by Holmes, lands to the east of the meridian had already been settled based on previous survey work. Once Wampler reached the meridian and was preparing to survey the base line west of the meridian, he found that his measurements didn't agree with Hough's. Wampler's point was set 14.18 chains (935.88 feet) south of the first initial point set by Hough in order to tie in the survey of the lands which had already been laid out and settled east of the meridian. This resulted in a jog in the baseline at the principal meridian which follows along the line common to Jackson and Ingham Counties. The actual result of this jog would be two base lines with the east baseline originating from the initial point set by Hough and a west base line originating from the second initial point set by Wampler. This is demonstrated by the fact that the south line of Town 1 North, Range 1 East is 935.88 feet to the north of the south line of Town 1 North, Range 1 as shown in Figure 4.

Figure 4



Source: USGS

By 1831 all of the Michigan Territory south of the base line had been surveyed. Land north of the baseline remained largely unsurveyed at that time. The surveys would continue northward as more land was acquired by the United States government after being ceded by local Indian tribes in a succession of treaties. Notable among such treaties was the Treaty of Washington in 1836 in which the Ottawa and Chippewa ceded the lands north of Grand River and Thunder Bay River extending west to Lake Michigan and north to Lake Superior. This cessation of land opened to survey those townships north of 27 N. [6]

By 1854, following the resurvey of several townships north and west of the Saginaw Bay to correct fraudulent survey work which had been done previously, the survey of the entire state had been completed.

[6] Jacobson, Daniel. "Michigan Meridian and Base Line: A Teaching Formulation for the Secondary School" Journal of Geography 87.4 (1988). 30 Apr. 2010

As the government tried to stay ahead of settlers who were moving westward, new surveys were started in areas where the demand by settlers was the greatest. New points of beginning were required to serve as a reference for the new surveys. In all, 37 initial points were established in the United States as part of the Public Land Survey System. Michigan however, is the only state who's base line does not conform to the regulations governed by the US Public Land Survey System specifying that surveyors first establish an initial point and then extend the base line east and west from that point on a true parallel of latitude.

"*A principal meridian is intended to conform to the true meridian, extending north or south, or in both directions, from the initial point as conditions require. The base line is extended east and west from the initial point on a true parallel of latitude."* (Manual 1973, p.61, 62)

The principal meridian controls all east and west survey lines while the base line controls all north and south survey lines. Because of the curvature of earth, additional control lines called Guide Meridians were run every 24 miles east and west of the principal meridian which serve as correction lines. Because meridian lines converge toward the North and South Poles, townships are not perfectly regular. To compensate for this irregularity, quarter sections along the north and west boundary of each township absorb the excess or shortage in the township. Because of this, these quarter sections are referred to as "fractional sections".

Today, Michigan's principal meridian starts at the Ohio border south of Hudson and extends north to Sault Ste. Marie. It bisects Ingham and Jackson Counties and passes along a line common to 12 counties, including Lenawee, Hillsdale, Clinton, Shiawassee, Saginaw, Gratiot, Ogemaw, Roscommon, Oscoda, Crawford, Otsego and Montmorency.

Michigan's base line runs along present day 8 Mile Road in Detroit and extends west to South Haven on Lake Michigan. It can be easily traced across the state as it forms the north boundary of Van Buren, Kalamazoo, Calhoun, Jackson, Washtenaw and Wayne Counties.

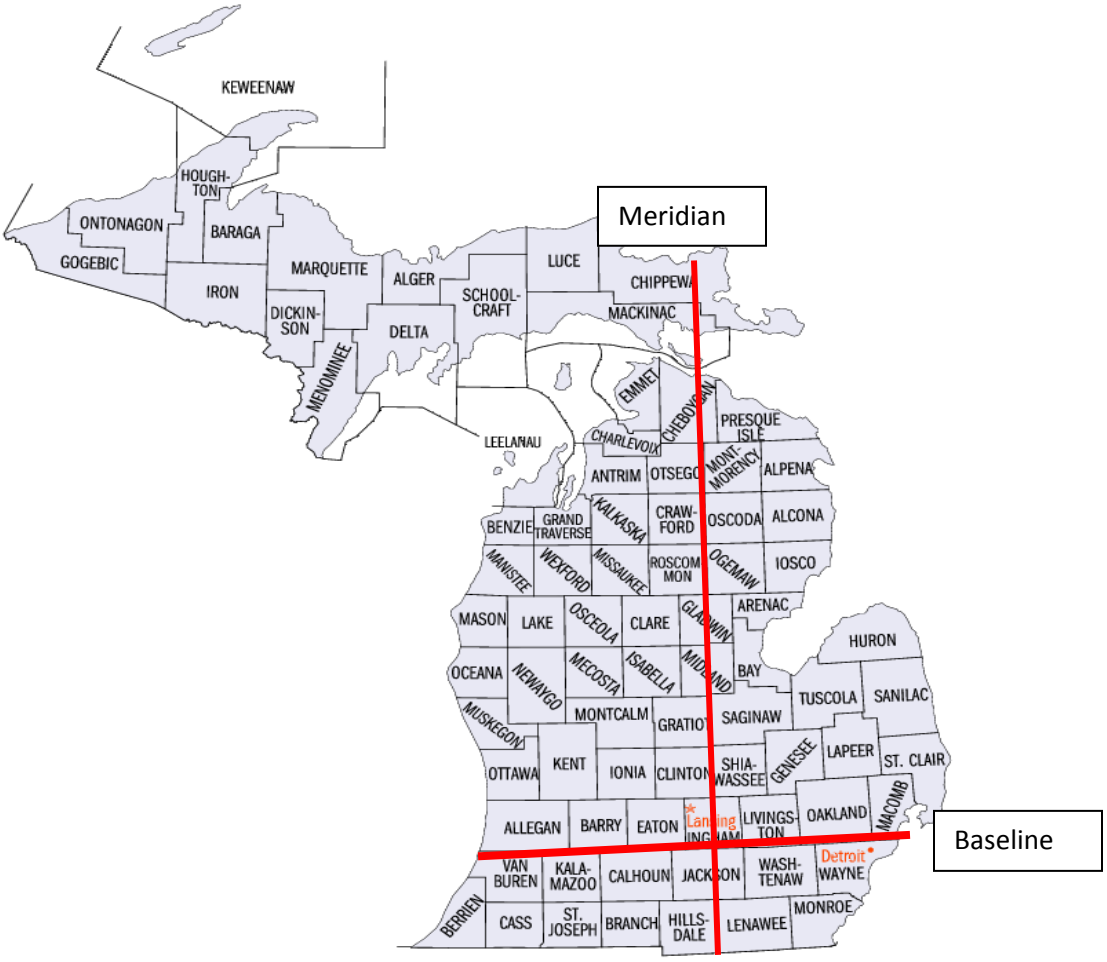


Figure 5

REMONUMENTATION

In December 1990 The State Survey and Remonumentation Act, 1990 PA 345 was enacted which, for the first time in 175 years, provided for the remonumentation of approximately 300,000 United States public land survey (controlling) corners in the State of Michigan. The importance of such legislation is evident when considering the fact that all land ownership within the state, both public and private, are described and located from these corners.

The remonumentation effort is administered locally by each county over a period of 20 years and involves identifying, replacing and restoring the original section corners, quarter corners and meander corners (known as GLO corners) set between 1815 and 1854 to their original positions. A controlling corner as defined by the Act is "*a public land survey corner or any property corner the does not lie on a property line of the*

property in question but that controls the location of 1 or more of the property corners of the property in question."[7]

Keeping in mind that the original section corners were marked with wood posts or stakes, one can imagine how over the years as the land changed from a wooded wilderness to present day usage, how many of these stakes and posts would have deteriorated, been lost or destroyed from the clearing of land and construction of roads. In these instances many of the locations have been perpetuated by the county surveyor and other surveyors doing work within the county over the years.[8]

In the early surveys, surveyors marked "bearing trees" near where the section and quarter-section corners were set to insure that these corners could be located if the wood posts were destroyed. When a corner is remonumented, existing posts, pipes, fence corners, road intersections, or other means used by property owners to mark their corner position are used to establish the corner whenever possible. There are just a few instances where an existing corner is not acceptable. In those instances, a new corner is established.

The image in Figure 6 is of a wood quarter post that was recovered in a very swampy area north of Houghton Lake in Roscommon County in 1994 as part of the county's remonumentation program. Although the original corner was set in 1852, this post was believed to have been set in the early 1900s.[9] If you look closely, you can see the "1/4" etched into the top of the post which had been covered by moss.

The image in Figure 7 is the remains of stakes set as cited in the county survey records of 1891, county survey by Joseph Graham, (E-10) E 1/4 corner, T16N R4W, Vernon Township, Isabella County.[10]

[7] MCL 54.262

[8] Mid Michigan Chapter, Michigan Society of Professional Surveyors

[9] Source: Timothy L. Lapham, P.E., P.S.

[10] Source: Mid Michigan Chapter, Michigan Society of Professional Surveyors

Figure 6

Figure 7

All restored corners are marked with aluminum capped monuments set into the ground and stamped to identify their position. (See Figure 8) Each corner is then recorded in the Register of Deeds office and available to the public.

Figure 8

Each county remonumentation plan is required by the Act to include a "*perpetual monument maintenance plan that provides for all corners to be checked, and if necessary remonumented, at least once every 20 years*."[11]

[11] MCL 54.268(2)(d)

TYPES OF LEGAL DESCRIPTIONS

The term legal description in this chapter refers to a legal tax roll description which may be different from a legal description that will stand up in court for the purpose of identifying and locating a parcel of land. For that purpose a legal description must conform to the often cited rule which says; "*If the description in a deed is such that a surveyor, by applying the rules of surveying, can locate the same, such description is sufficient and the deed will be sustained, otherwise it will be void*." [12]

The tax law standard of a legal tax roll description is found in Section 55 of the General Property Tax Act (MCL 211.55) which says; "*The county treasurer at any time may reject any tax upon land which has been twice assessed, or up on any parcel which is so erroneously or defectively described upon the tax roll that it cannot be correctly and easily ascertained*.", meaning that a legal tax description must be constructed in such a way that it can be correctly and easily ascertained by the tax officials.

An assessing officer must ascertain that all land subject to taxation within their jurisdiction is identified and taxed on the tax roll. He or she must also verify that no property is being assessed twice. To accomplish this, the assessing officer must have a means by which to identify and locate each individual parcel of land. That means is the legal description - of which there are four common types. They are the rectangular survey description, the metes and bounds description, the platted description and the condominium description. A fifth less common type of legal description is the private claims description.

1. Rectangular Survey

Rectangular Survey land descriptions are part of a system of rectangles established to locate and identify parcel boundaries. The following is an example of a rectangular survey description: "*The North one-half of the Southwest one-quarter of Section 24, Township 22 North, Range 2 East" or "N1/2 SW 1/4, Sec 24, T22N, R2E*". This description when first read may fail to make any sense, however after understanding a few simple rules, a person should have no difficulty reading and locating this type of description on a map.

Because the common practice is to cite the general reference to the location at the end of the description and the specific location at the beginning, the cardinal rule is to read a rectangular survey description backwards, from right to left or from the largest unit to the smallest unit.

If we were to locate the parcel described by the example description, we would start with the township reference, that being **Township 22 North, Range 2 East**. This is the

[12] *A Treatise on the Law of Surveying and Boundaries* by Frank Emerson Clark (1922)

largest unit in the description – a 36 square mile geographical township that is located 126 miles (21 townships x 6 miles) north and 6 miles (1 range x 6 miles) east of the initial point where the principal meridian and base line intersect.

Next we would locate **Section 24** within the referenced township. Each township is divided into 36 sections, each one mile square (containing 640 acres) which are numbered in a back and forth manner beginning with Section 1 in the northeast corner of the township and ending with Section 36 in the southeast corner of the township. Within each section, land is referred to as half and quarter sections which can be further divided as shown in Figure 9.

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

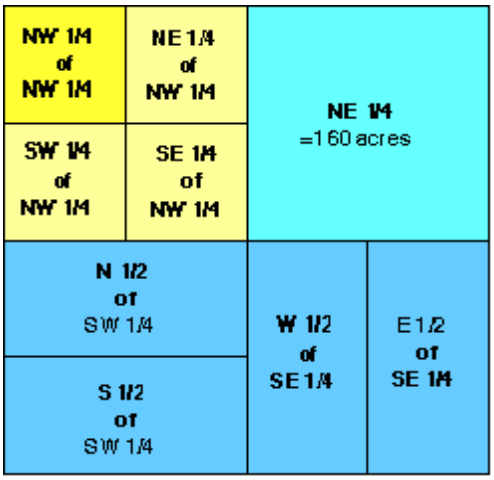


Figure 9

Next we would locate the **Southwest one-quarter**, which is the quadrant or quarter of the section where our example is located. Finally we locate the **North one-half** of that quarter of the section – that being the smallest unit in the description and the specific location of our example. By completing the exercises on pages 21 and 22 of this chapter, you will gain a better understanding of how to read and locate rectangular survey parcel descriptions.

2. Metes and Bounds

Metes and Bounds (sometimes referred to as bearings and distance) land descriptions were used by the original colonies prior to the establishment of the rectangular survey system. It is a method whereby land is described using local geographical features in combination with directions and distances.

The term "Metes" refers to a boundary which is defined by the measurement or "metering" of each straight run specified between points, and an orientation or direction indicated either by a simple compass bearing such as north, south, east or west, or a more precise orientation or bearing determined by accurate survey methods such as

North 89 degrees 46 minutes, 20 seconds West. The term "Bounds" refers to a more general boundary description such as running along a creek, a fence, or an adjoining public road way.

Boundaries are described in a continuous prose style working around the parcel of land in a sequence beginning with a point of beginning and returning back to the same point, and may include references to other adjoining parcels. A typical metes and bounds description might read as follows: "*Beginning 330 feet south of the N 1/4 post of Section 36, T19N, R2E, thence South 165 feet, thence running West along highway 264 feet, thence North 165 feet, thence East 264 feet back to the point of beginning, containing 1 acre*." You will notice that the description contains "metes" (e.g. the distances between points and the compass bearings or directions followed – south, west, north and east), and "bounds" (e.g. "running west along highway"). The description sequentially works around the parcel by beginning at a point and ending at the same point. The description must always "close" meaning that it must end at the same point it began. This is one of the more common errors concerning metes and bounds descriptions.

Whether the description contains simple bearings such as north, south, east, and west, or more complex bearings such as N 87 degrees 32'44" E, a working knowledge of plotting is necessary to locating a metes and bounds description.

3. Platted Descriptions

When a rectangular survey description or metes and bounds description is further subdivided into "platted lots", the resulting parcels are no longer described using rectangular survey or metes and bounds descriptions, but rather by reference to a specific lot number and subdivision name or lot, block and caption of the plat. The following is an example of a platted description: *Lot 10, Plat of Riverview Estates as recorded in Liber 5 Page 23 of Plats in the Office of the Ogemaw County Register of Deeds*. The condensed tax roll description might read as *Lot 10, Plat of Riverview Estates*.

The platting process for subdivisions is governed by 1996 PA 591 or Michigan's Land Division Act, which was formerly known as the Michigan Subdivision Control Act of 1967.

An exercise for locating and identifying various platted lot descriptions can be found on page 19 of this chapter.

4. Condominium Descriptions

Units that are created as part of a condominium subdivision or site condominium plan are governed by Public Act 59 of 1978 which is known as the Condominium Act. A condominium project may involve a group of houses, boat slips, apartments or building sites. The following is an example of a condominium description: *Unit 12A of Victorian*

Manor Condominiums, according to the Master Deed recorded in Liber 475 on pages 611-656, Ogemaw County Records. The tax roll description might read: *Unit 12A Victorian Manor Condominiums*.

The units in a condominium plan are "designed and intended for separate ownership".[13] When viewed from the highway, a residential site condominium may look exactly like a platted subdivision however there are significant differences. Unlike a conventional plat where the original parcel of land is subdivided or platted into a larger number of individual lots, a condominium remains one parcel regardless how many building sites or building envelopes may exist on the final plan. A condominium therefore is not a lot or a building - it is a form of ownership which binds all owners to a single master deed.

5. Private Claims Descriptions

Private Claims Descriptions are a much less common form of land description found primarily along water courses in Monroe, Wayne, Macomb, St. Clair, Cheboygan, Mackinac and Chippewa Counties. Private claims are references to government honored land titles given to settlers by French or British governments prior to United States sovereignty. These "private land claims" existed before the G.L.O. survey and replace the rectangular survey references. Rather than being referenced by section, township, and range, these descriptions are referenced by their assigned private claim numbers.

EXCEPTIONS WITHIN A LEGAL DESCRIPTION

Often within the body of a legal description an exception will be described which excludes that portion of land from the whole. An example of this might be as follows: "*The Southwest ¼ of the Northeast ¼ of Section 12, Town 21 North, Range 2 East,* ***except*** *the Northerly 33 feet thereof."* This example first describes a 40 acre parcel that is 1320 feet square. A parcel of land that is 33 feet by 1320 feet or 1 acre is then excepted at the end of the description. Care should be taken to recognize when an exception exists within a legal description. If not, an assessing officer could make the mistake of assessing the same parcel of land twice.

There are several instances where land that is specifically exempt from ad valorem taxes is excepted from a legal tax roll description. This would include exceptions for railroad rights of way, county drains and public highway rights of way.

1. Railroad Rights of Way

Because operating railroad rights of way are part of the total property owned by the railroad which pays a specific tax, they are exempt from ad valorem property taxation. (MCL 211.7v) Exceptions should be made for all railroad rights of way and the acreage

[13] MCL 559.104(3)

with the rights of way deducted from each parcel upon which a right of way traverses. Railroad rights of way are considered to be excepted from any parcel described as lying north, south, east or west of a railroad right of way. For example: *That part of the NE ¼ of Section 9, T26N, R3E, lying North of the DM RR R/W*.

The status of railroad rights of way need to be continually checked as these rights of way may at some time become abandoned by the railroad company and either be sold to private individuals in some cases or revert to the landowners of property through which the right of way passes. Information regarding such conveyances can be obtained through the railroad company or from deeds recorded with the county Register of Deeds office.

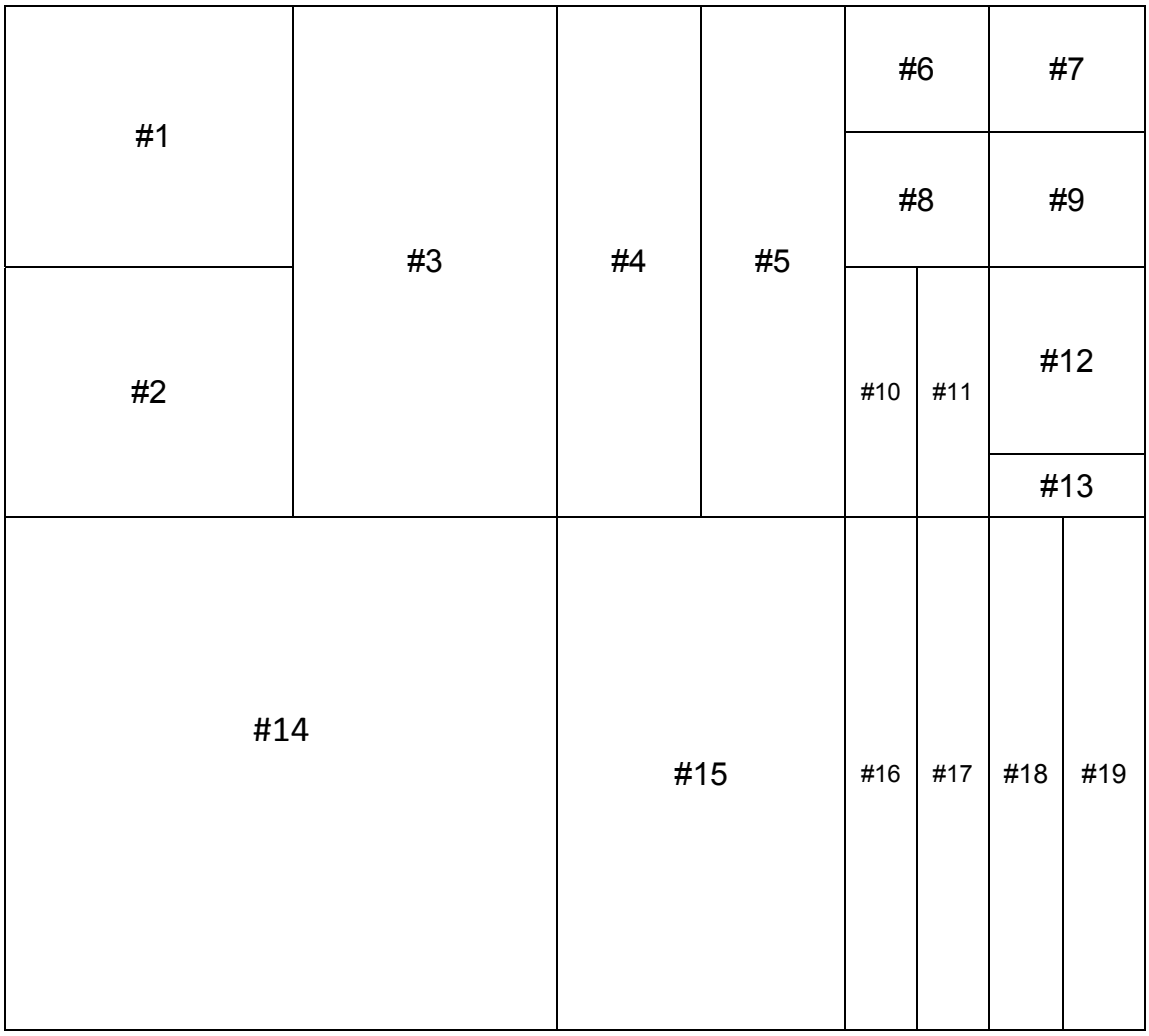
2. Public Highway Rights of Way

Land over which a public right of way is located is exempted from ad valorem property taxation and is not to be assessed pursuant to MCL 211.7e (2). This is applicable regardless of whether the governing body owns the land fee simple or just an easement.

Typically when a parcel lies adjacent to a public road, the portion which abuts the road is subject to such an easement. When the governing body owns the land on which the right of way is located, that portion is excepted from the tax roll description of adjacent lands. However, if the governing body only owns a surface easement over which the right of way is located, the right of way area would not typically be excepted from the tax roll description of adjacent lands because the landowners continue to own the land. In this instance care should be exercised by the assessing officer to recognize that such an easement exists and not assess the area of land subject to the right of way easement.

3. County Drain Rights of Way

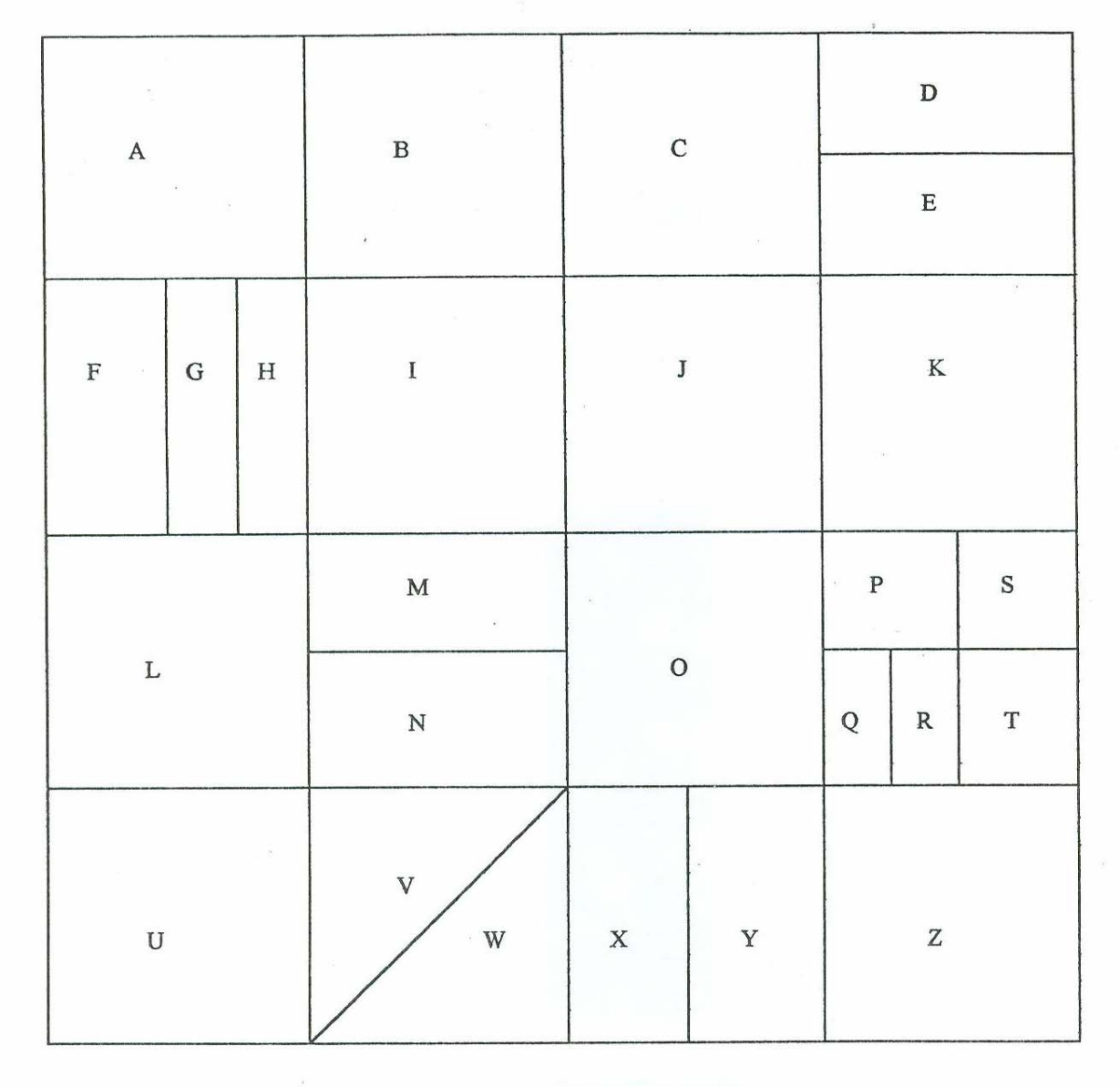
The land over which a county drain is located is exempt from ad valorem property taxation pursuant to MCL 211.7e (2). As with a public highway right of way, the exemption applies regardless of whether the county possesses the land or has an easement conferring the right to use the property without possessing it. Where property ownership is subject to such a drain easement, the area encumbered by the easement should be determined and excepted from the land being assessed - but not from the legal tax roll description. Public drain easements are usually denoted on surveys or recorded plats showing where water runoff must be allowed to flow unobstructed across the property either in open ditches or through underground piping, however the tax exemption does not apply to the later.



The diagram above represents a standard section. Identify where the following acreage parcel descriptions are located within the section by the number associated with that description.

A. W ½ SE ¼
B. NW ¼ NW ¼
C. NE ¼ NE ¼ NE ¼
D. SW ¼
E. W ½ W ½ NE ¼
F. SW ¼ NW ¼
G. W ½ W ½ SE ¼ NE ¼
H. E ½ W ½ SE ¼ NE ¼
I. W ½ W ½ E ½ SE ¼
J. E ½ W ½ NE ¼
K. E ½ E ½ E ½ SE ¼
L. S ½ of SE ¼ of SE ¼ of NE ¼
M. SW ¼ NE ¼ NE ¼
N. SE ¼ NE ¼ NE ¼
O. NE ¼ SE ¼ NE ¼ and N ½ SE ¼ SE ¼ NE ¼
P. E ½ W ½ E ½ SE ¼
Q. W ½ E ½ E ½ SE ¼
R. NW ¼ NE ¼ NE ¼
S. W ½ W ½ NE ¼

Answers: **A**. #15, **B**. #1, **C**. #7, **D**. #14, **E**. #4, **F**. #2, **G**. #10, **H**. #11, **I**. #16, **J**. #5, **K**. #19, **L**. #13, **M**. #8, **N**. #9, **O**. #12, **P**. #17, **Q**. #18, **R**. #6, **S**. #4.

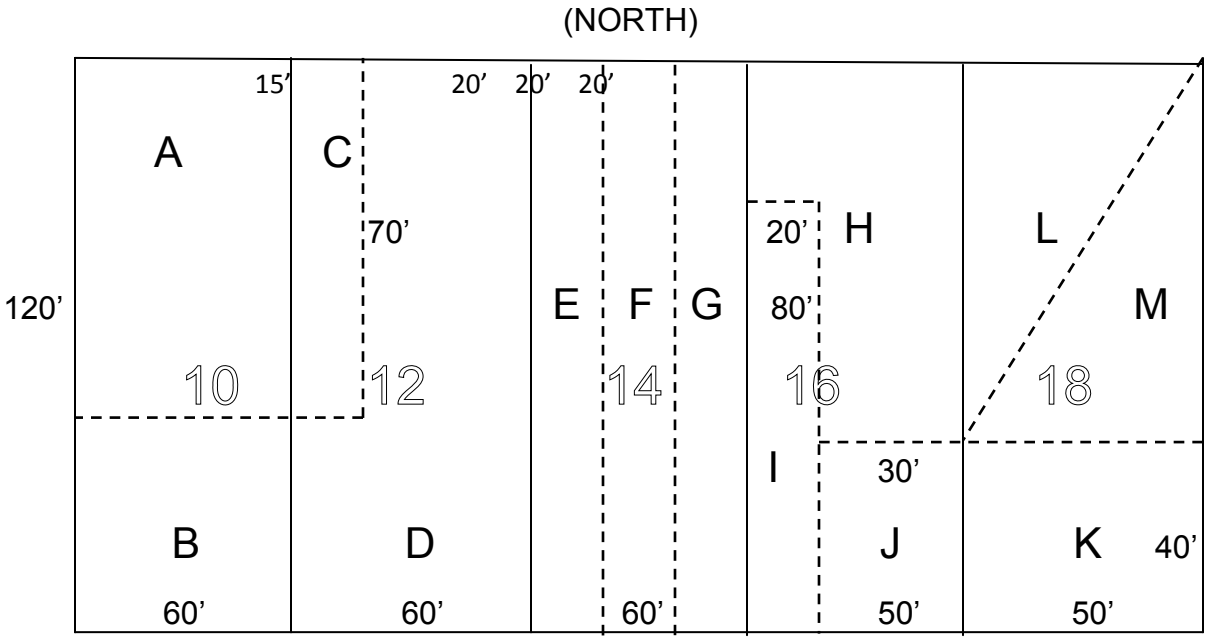


1. The parcel labeled M is described as: _____
2. How many acres are in parcel W? _____
3. NE 1/4 NE 1/4 SE 1/4 describes what parcel? _____
4. What are the dimensions of parcel D? _____
5. How many combined acres are there in parcels T and Z? _____
6. The following metes and bounds description describes which parcels? "Starting at the SW cor of Section 21, The E 1320 ft, th N 45 deg E to SW cor of a parcel described as the NW 1/4 SE 1/4 in said section, th N 2640 ft, th W 2640 ft, th S 3960 ft to beginning." _____

Answers: 1. N 1/2 NE 1/4 SW 1/4, 2. 20 acres, 3. S, 4. 660x1320, 5. 50 acres, 6. F,G,H,I,L,M,N,U, V.

Platted Description Identification Exercise

The following sketch shows five platted lots indicated by solid lines. Divisions of those lots are indicated by broken lines and the parts thus created have been assigned letters. Read each description below and indicate the corresponding parcel or parcels on the sketch by the letter or letters of each parcel described.



(*Answers are on page 57 of this chapter*)

1. ( ) Sly 50 ft of Lot 10
2. ( ) W'ly 20 ft of E'ly 40 ft of Lot 14
3. ( ) E'ly 40 ft of Lot 14
4. ( ) Lot 16 exc N'ly 40 ft; also exc E'ly 30 ft of S'ly 40 ft of N'ly 80 ft
5. ( ) S'ly 50 ft of Lot 10; also Lot 12 exc N'ly 70 ft of W'ly 15 ft
6. ( ) Lot 18 exc N'ly 80 ft
7. ( ) E'ly 20 ft of Lot 14
8. ( ) W'ly 15 ft of N'ly 70 ft of Lot 12
9. ( ) Lot 12 exc N'ly 70 ft of W'ly 15 ft
10. ( ) Lot 10 exc N'ly 70 ft
11. ( ) W'ly 20 ft of Lot 14
12. ( ) S'ly 40 ft of E'ly 30 ft of Lot 16
13. ( ) W'ly 40 ft of Lot 14
14. ( ) E'ly 20 ft of W'ly 40 ft of Lot 14
15. ( ) Lot 14 exc W'ly 40 ft
16. ( ) Lot 14 exc W'ly 20 ft
17. ( ) N'ly 80 ft of Lot 18
18. ( ) W'ly 20 ft of S'ly 80 ft of Lot 16
19. ( ) S'ly 40 ft of Lot 18
20. ( ) Beg at NW cor of Lot 10; thence E'ly along N'ly line of Lots 10 & 12, 75 ft; thence S'ly parallel with W'ly line of Lot 12, 70 ft; thence W'ly parallel with said N'ly line to W'ly line of Lot 10; thence N'ly to point of beginning.

DESCRIPTION TERMINOLOGY

The following are commonly used terms when working with legal descriptions. They form the common language of the Rectangular Survey System used by surveyors, attorneys, title abstractors, and various governmental agencies when working with legal descriptions. Likewise, the assessing officer should have an understanding of their meaning and place within the context of working with real property descriptions.

1. Principal Meridian

A true north and south line used for survey control which runs through an arbitrary point that is chosen as a starting point for laying out sections of land within a given area. In Michigan, this line known as the "Michigan Meridian" corresponds to the meridian of longitude 84 degrees, 21 minutes, 53 seconds west, and is one of thirty seven principal meridians established in the United States as part of the Public Land Survey System.

2. Base Line

A true or approximate parallel of latitude running through an arbitrary point that is chosen as a starting point for laying out sections of land within a given area. The General Land Office Survey (G.L.O.) would establish a base line, in addition to the meridian, that would run east and west at right angles to the meridian from which geographical townships were laid out and numbered either north or south of that line.

3. Town

A six mile square area of land containing 36 sections which is numbered according to its position either north or south of the base line. The term also refers to a horizontal row of townships in the Public Land Survey System. The description "T.3 N." denotes the third tier of townships north of the baseline.

4. Range

A range is a vertical column of townships in the Public Land Survey System. The term is used to represent the number of six mile square units (townships) east or west from the principal meridian. Thusly, Range 3E would occupy a vertical strip of land between 12 and 18 miles east of the principal meridian.

A geographical township therefore has a unique location which is not identical to any other six mile square township within the United States. The description T.3 N, R.3 E designates a geographical township which is located in the third tier of townships north of the base line and in the third range of townships east of the principal meridian.

5. Section

A section is a one square mile block of land containing 640 acres and comprises one thirty-sixth of a township. Not all sections are a regulation 640 acres however due to the curvature of the Earth and slight errors in measurements made during the original surveys. As a result, sections may occasionally be less than one square mile in size. To compensate for the discrepancies and provide for as many uniform sections of 640 acres as possible, an arbitrary decision was made to make all corrections to the sections bordering the north and west boundaries of each geographical township. As a result, sections 1 through 6 inclusive and 7,18,19,30 and 31 generally contain either more or less the regulation 640 acres. Furthermore, all corrections made within the above mentioned sections were made in that fraction of each section lying nearest to the north and west lines. These odd-sized subdivisions of a section are referred to as "fractional" quarters.

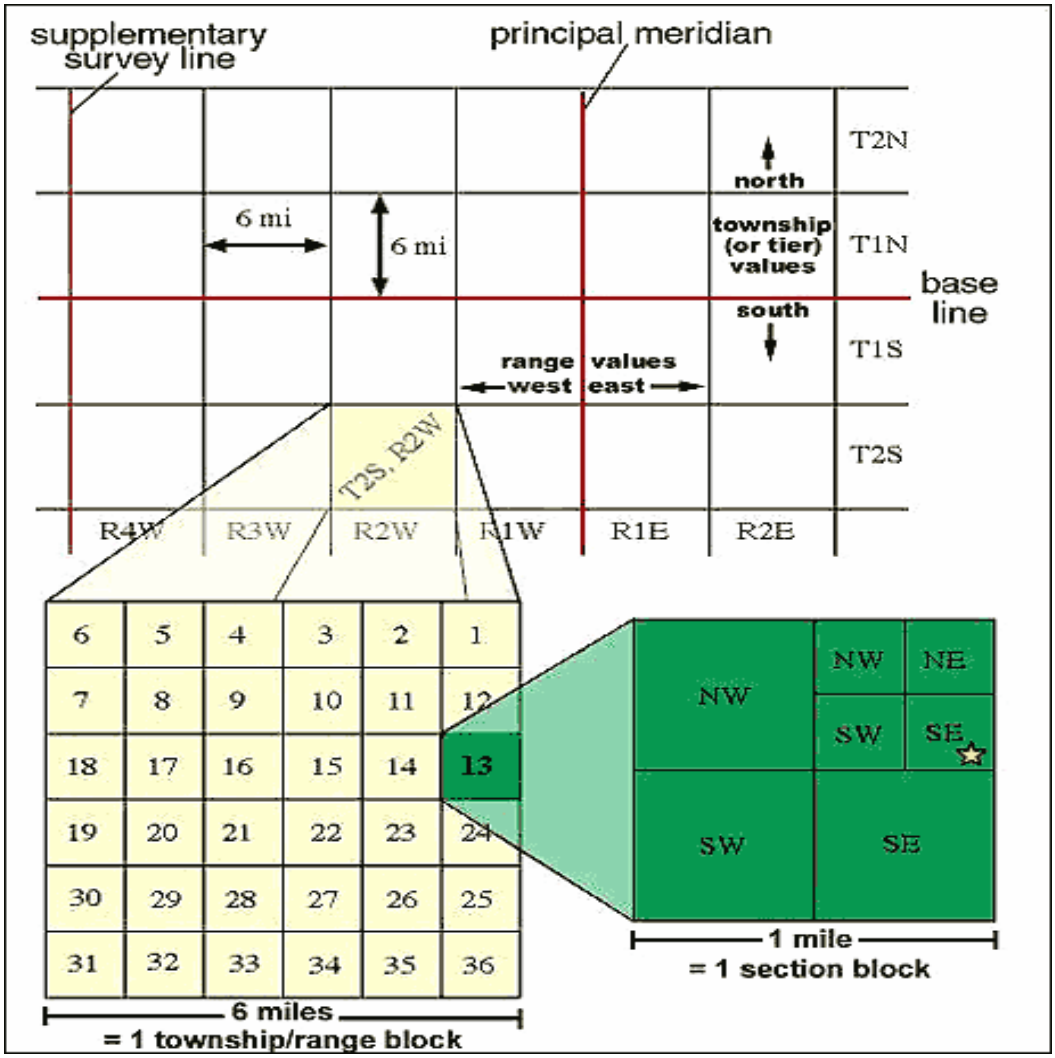
If the overall property description base is to be understood, there are some circumstances peculiar to Michigan that warrant review. Because the timing of the General Land Office survey was coincidental with the opening of new territory for settlement, it meant that surveys were being completed where needed while the meridian and base line were still being surveyed. The lands north of Detroit were being laid out without reference to a meridian and baseline. Consequently, the townships along the east side of the meridian were severely squeezed, and as a result, Range 1 East throughout Gladwin, Midland, Saginaw and Shiawassee Counties is only about 4 miles wide tapering almost back to the regulation 6 miles at the south side of Ingham County. As mentioned earlier in this chapter, this sequence of surveys also necessitated the establishment of two locations for the "initial point" with the east initial point lying 935.88 feet north of the west initial point.

The General Land Office (G.L.O.) survey township maps continue to be the authority for determining the size, shape and even the existence of each section.

6. Aliquot Part or Subdivision of a Section

The Aliquot part of a section is the standard subdivisions of that section, such as half section, quarter section, or quarter-quarter section. Since the standard section is 640 acres, subdividing the section is a relatively simple process. A quarter section, or 160 acre tract, is the most common subdivision and would be described for example as the NE 1/4 of Section 13. Quarter sections are designated as NE, NW, SW, and SE quarters of the section – each being described by denoting its direction from the center of the section. The same procedure is followed with smaller subdivisions. When a quarter-section is divided into quarters of 40 acres each called "Quarter-quarter sections", each forty or quarter-quarter is described by denoting its direction from the center of the quarter section such as the SE1/4 of the NE 1/4, for example.

Figure 10



7. Government Lot

A Government Lot is a fractional subsection (less than a full quarter section in area) which is not described as an aliquot part of the section, but is rather designated by a number, for example, “Lot 2” or “Gov’t Lot 2”. Put another way, Government Lots are special subdivisions of land which were created when rivers or lakes prevented the subdivision of a section into regular 40 or 160 acre tracts. This is why these lots most always border water areas excluded from the Public Land Survey and why their acreage may vary from that of the regular aliquot parts of the section.

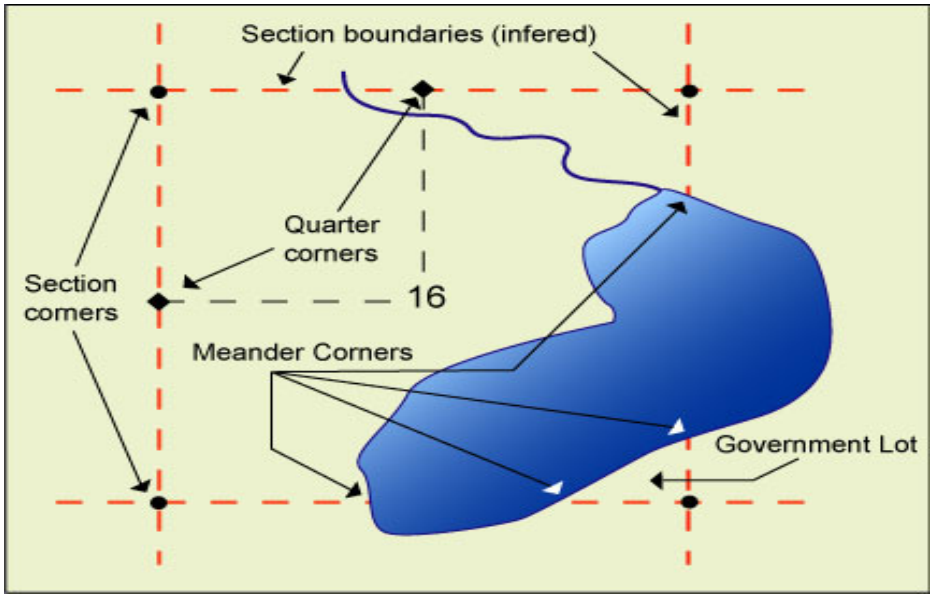
8. Meander Line

A meander line is a traverse line run along the margin of a stream or a lake and is not generally a boundary in the usual sense as the bank itself typically marks the limits of the survey.[14] All navigable bodies of water were meandered in the public land survey system as well as many important streams and lakes not regarded to be navigable.

9. Meander Corner

As shown in Figure 11, a meander corner is set at each point where a standard township or section line intersects the bank of a navigable body of water or other meandered streams and lakes.

Figure 11



[14] Hardin v. Jordan (140 U.S. 371). Meander lines, as shown by government surveys of land bounded by a lake or river, are merely for the purpose of ascertaining the quantity of land to be conveyed, and do not constitute its boundary. The water is the real boundary.

10. Standard Parallels (Correction Lines) and Guide Meridians

Along the principal meridian, points were marked at defined distance intervals, usually every 24 miles. However, in some of the earlier surveys, these points were marked at 30, 36 or 60 mile intervals. From these points, lines called “standard parallels”, also called “correction lines”, were extended east and west paralleled to the base line. Standard parallels are numbered consecutively north and south of the base line and designated, for example, as First Standard Parallel North, Second Standard Parallel North, and so on, or 1st Correction Line, 2nd Correction Line, etc. In Michigan, there are five such correction lines which are located at the north line of every tenth township north of the base line except in Saginaw, Tuscola and Sanilac Counties.

.

Along each standard parallel, points are marked at 24 mile intervals east and west from the principal meridian. These points are called “standard corners”. From each “standard corner”, a line is run true north (not magnetic north) called a “guide meridian”. Due to the convergence of these guide meridians as they extend northward because of the curvature of the earth, the guide meridian does not intersect with the standard corner set along the next standard parallel lying to the north.

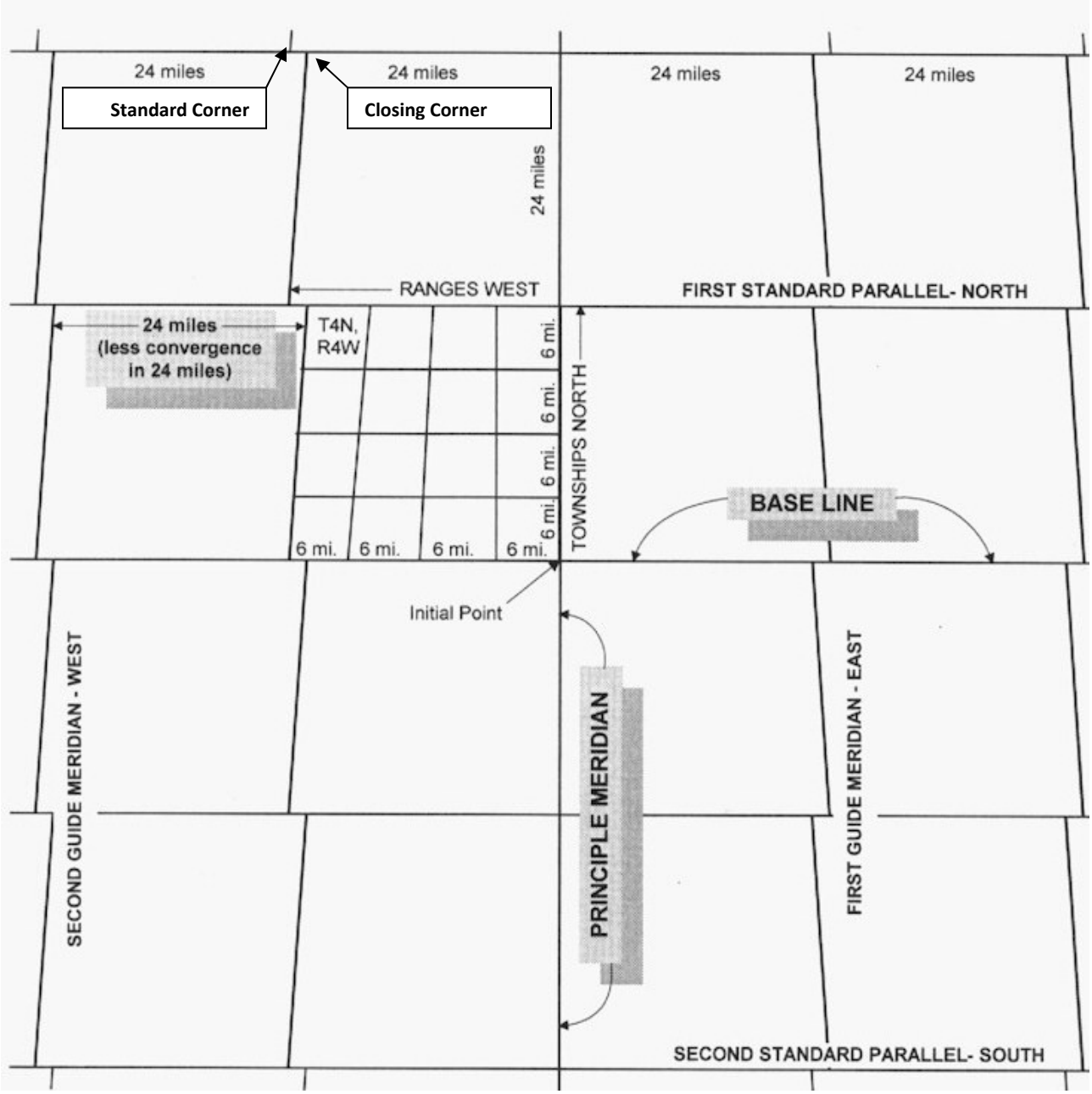
As meridians extend in a true north or true south direction, they continue to approach each other, or converge until they meet at the poles.

Consequently, the point at which the guide meridian does intersect with the next standard parallel to the north is called a “closing corner”. As a result, each standard parallel has a set of both standard and closing corners. This means that each township and section that borders on a standard parallel or correction line will have double corners as shown in Figure 12.

Without the establishment of these correction lines, the south line of townships would be longer than the north line with the differences becoming greater the farther north the survey is extended. These lines therefore allowed the original surveyors to maintain their 6 mile square townships without varying from the true north and south lines by more than a few degrees, and if the surveyor did maintain true north-south and east-

west lines, the correction line provided a new base line for the townships lying north of the correction line allowing for consistency with the 36 square mile township standard.

Figure 12



PLOTTING AND CHECKING LEGAL DESCRIPTIONS

The process of plotting and checking legal tax roll descriptions begins with an understanding of how to read both rectangular survey and metes and bounds descriptions. By this point in the chapter you have been acquainted with the history and terminology of legal descriptions. The following pages will build the foundation for plotting and identifying both, rectangular survey and metes and bounds descriptions by introducing the tools (starting with the most common), methods, and system of measurements and compass directions needed to do so effectively and accurately.

Tools Needed for Non-Computer Aided Plotting of Legal Descriptions

As with any trade, the process of plotting property descriptions on a map has its own specific set of tools with which to accomplish the task. The following equipment is necessary for plotting and checking legal tax roll descriptions and constructing and maintaining tax and land value maps:

Cross-Section Paper: When beginning to plot or draw simple descriptions, cross section paper provides north-south grid lines on which to align the base of a protractor at the point of beginning for a description. The grid lines help align the protractor as the process is repeated at each boundary point of the description.

Engineer's Scale: An engineer's scale is a 12 inch triangular ruler on which contains 6 scales that are calibrated or divided into 10, 20, 30, 40, 50, and 60 parts or graduations to the inch. This is an indispensable tool for drawing maps to scale. For instance, using a scale of 20 or 200 feet to an inch, the smallest graduation on a 20 scale is equal to 10 feet. A distance of 315 feet would be read on the 20 scale as half way between the 31st and 32nd divisions or at a distance of 31.5 graduations. An obvious advantage of an engineer's scale is that it permits the direct reading and plotting of distances at multiple scales, such as 1 inch equals 100, 200, 300 or 400 feet.

Protractor: A protractor is a circular or semi-circular transparent tool used for measuring angles or bearings. A typical protractor is a half circle that is divided into 180 degrees. For drawing descriptions, a protractor should be used that indicates half degrees (30 minutes) as well as degrees. Directions when used in legal descriptions are expressed in terms of bearings which are defined by the number of degrees, minutes and seconds toward east or west as measured from north or south. Although a protractor only contains degrees and half degrees, most bearings contain degrees, minutes and seconds, so a short explanation of their relationship is called for here. There are 360 degrees in a circle. Each degree is split into 60 parts; each one being 1/60 of a degree which is called a minute. Each minute is split into 60 parts; each one being 1/60 of a minute which is called a second. Because of the obvious difficulties involved with seeing or plotting seconds, one need not try to measure seconds when plotting a description. However, the complete bearing should be noted on the drawing and in the description.

Triangles: The 45 degree triangle is composed of two 45 degree angles and a 90 degree angle. The 90 degree angle side is used primarily for drawing vertical lines. The 30-60 degree right triangle is composed of a 30, 60 and 90 degree angle and is used in combination with the 45 degree angle to draw various angles.

Irregular Curves: An irregular curve is an instrument used for drawing curved lines from point to point that cannot be drawn with a compass due to varying curvatures. When drawing an actual traverse line or boundary in which the distance to be traversed is in a series of short curved lines of varying curvatures marked by placing fine dots (tics) at the beginning and end of each short course along the traverse, the various curved edges of the irregular curve can be brought in contact with the dots to draw one smooth curve representing the traverse or boundary.

Drafting and Lettering Sets: Drafting sets contain precision instruments, which when treated as such, produce accurate work. When working with pencil drawings, the only instrument in the drafting set which is typically used is the compass with lead in one leg. Although lettering sets are valuable for producing uniformly lettered maps, they are rarely used for pencil drawings with the possible exception of map titles.

Other equipment which may be used less commonly would include a drafting table with edges that are square and straight, and which is classified as an instrument in the drafting room; and a tee square, which gets its name from its shape and is used to draw horizontal lines by sliding the head of the square along the left-hand edge of the drafting table to position it on the drawing or map.

Measurements Used in Land Descriptions

The system of measurement which was used in the public land surveys was based on a statute mile or 5280 feet. Distances in early public land surveys were measured in chains and links, not feet and inches. A measuring chain was 66 feet long so there are 80 chains in a mile. Each chain is composed of 100 links each of which are 7.92 inches in length. Because there are 100 links in a chain, the measurement can easily be converted to a decimal, (e.g. 20 chains and 56 links could be converted to 20.56 chains). To convert chains to feet, you would multiply the number of chains by 66, (e.g. 20.56 chains x 66 = 1356.96 feet). There are many legal tax roll descriptions that yet today, continue to contain references to chains and links.

Another unit of measurement found today in many legal tax roll descriptions is the rod. A rod is a metal bar which is 16.5 feet long and was used as a standard of length in early surveys. An example of a legal tax roll description containing this unit of measurement might read: "*Commencing 80 rods East and 20 rods North of the Southwest corner of Section 15, T.21N, R.3E; thence North 10 rods; thence East 16 rods; thence South 10 rods; thence West 16 rods to the place of beginning*". Locating this parcel by converting the rods to feet, you would begin at the southwest corner of the section, and then proceed easterly 1320 feet and northerly 330 feet for a point of beginning. The boundary of the parcel is then described as running North 165 feet,

East 264 feet, South 165 feet and West 264 feet back to its point of beginning. What is the size of this parcel and what quarter-quarter of the section is it located in?

Answer: 1 acre (165 x 264 = 43,560 sq ft) in the SE 1/4 SW 1/4

TABLE OF MEASUREMENTS
One Chain = 66 feet
One Link = 7.92 inches or 0.66 feet
One Rod = 16.5 feet
One Acre = 43,560 square feet
One Square Acre = 208.71 feet x 208.71 feet
One Section is 5,280 feet square or one mile square
Each Quarter Section is 2,640 feet square or 160 acres
Each Quarter-quarter Section is 1,320 feet square or 40 acres
Acres in a non-fractional section = 640

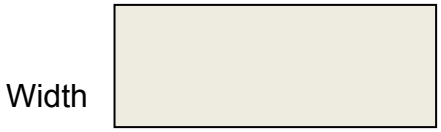
Finding the Area of a Description

Because the correct determination of a parcel's area is essential to the accurate analysis and assessment of land value by the assessing officer, a working knowledge of computing land area within a description is necessary. Unless you are a surveyor, or mathematician, or work with a computer-aided drafting or geographic information system, the task of determining the area of an odd-shaped or complex parcel description will be most likely accomplished through a method called: "divide and conquer". (This method can also be used to check the area of parking lots, decks, or buildings.)

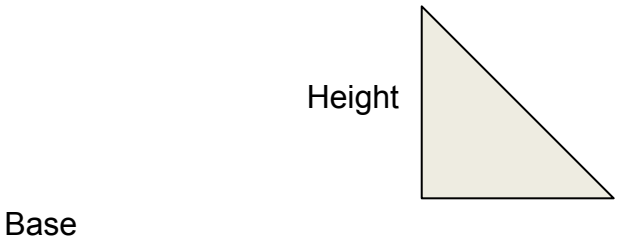
Whatever methods are used to determine the number of square feet in a parcel description, the number of acres is always found by dividing the square footage by 43,560, which is the number of square feet in an acre.

The "divide and conquer" method splits the total area of a parcel into the various shapes that make up the parcel; such as rectangles, triangles, trapezoids, parallelograms, parts of circle, etc. The area of each piece or shape is then calculated and added together to arrive at the total. To use this method effectively, an understanding of the formulas used to compute the area of various common shapes is required, most of which are listed below:

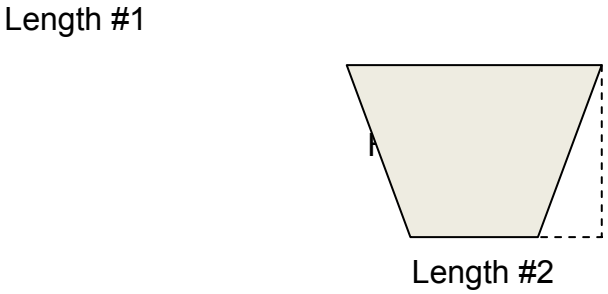
a) Rectangle – a four sided polygon with all right angles. Area equals length times the width.



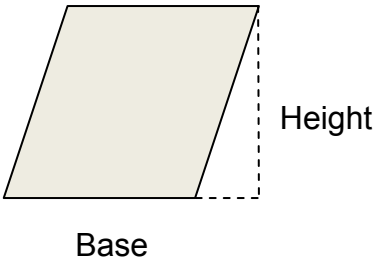
b) Triangle – a three sided polygon. Area equals 1/2 the base times the height.



c) Trapezoid – a polygon having 2 sides running parallel to each other. Area equals 1/2 the sum of the two parallel sides (*length #1 and length #2*) times the height (measured at right angles to the two parallel sides).

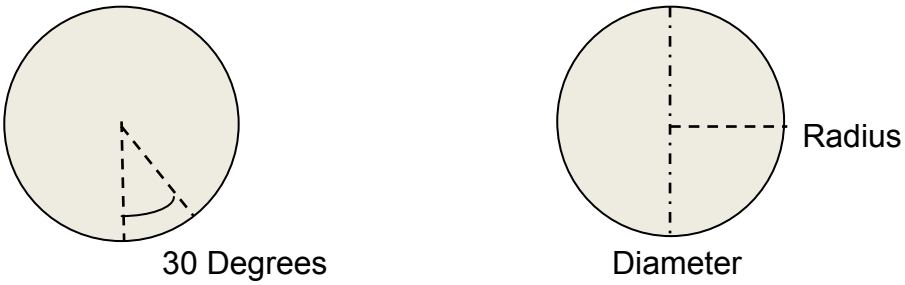


d) Parallelogram – a four-sided polygon with two pairs of parallel sides. Area equals the base times the height (height being the perpendicular distance between the parallel sides)



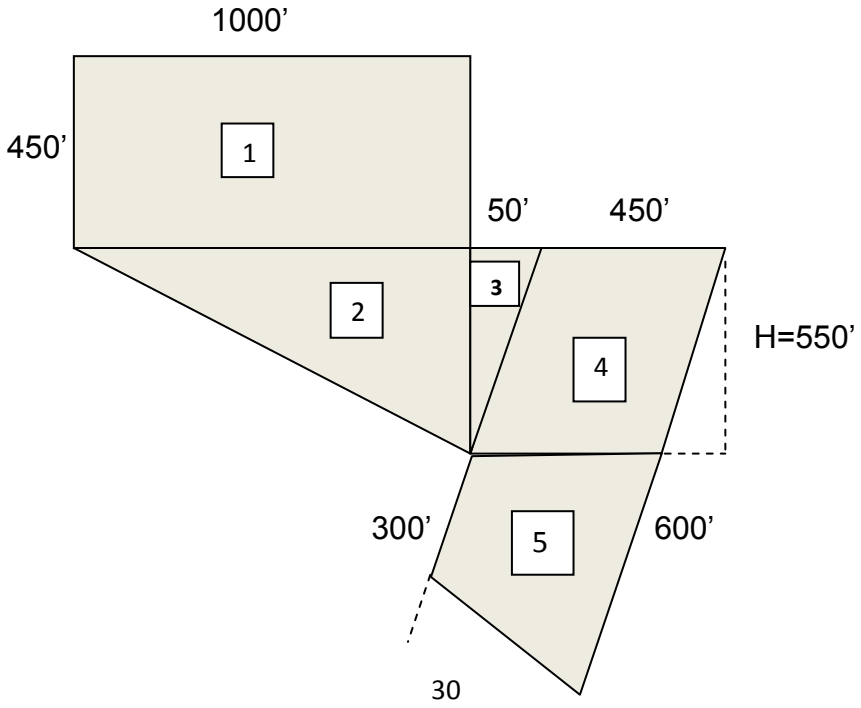
e) Circle – a simple closed curve with a perimeter or circumference that equals 360 degrees. Area is 3.1416 times radius times radius or (πr^2). If a description contains part of a circle, as in Figure 13, the area becomes proportionate to the number of degrees in that segment of the circle. For example, a 30 degree segment of a 200 foot radius circle would have an area of 3.1416 times 200 times 200 times (30 divided by 360) or 10,472 square feet.

Figure 13



Example of the Divide and Conquer Method

The area of the odd-shape parcel below can be computed by dividing the parcel into the geometric shapes that comprise the total parcel and determining the area of each shape individually, using the formulas listed on the previous pages. The area of the parcel is then determined by the sum of its parts.



H= 450’

The segments in which the above parcel has been divided into are calculated separately and totaled as demonstrated below:

1. 1000(L) X 450(W) = 450,000
2. 1/2(550) Base X 1000(L) = 275,000
3. 1/2(50) Base X 550(L) = 13,750
4. 450 Base X 550(H) = 247,500
5. 1/2(600 + 300) X 450(H) = 202,500

1,188,750 square feet/43,560 = 27.29 Acres

Another less common method of determining the area of a parcel is through the use of a (not quite yet obsolescent) Planimeter. As shown in Figure 14, a Planimeter is a wheeled device which when rolled along the edge of a scaled drawing of a description, measures the area contained within that description. A known area is drawn at the same scale as the plotted description and measured by the Planimeter to calibrate it to the precise scale of the drawing. This instrument is exceptionally useful for irregularly bounded parcels, such as those bounded by a stream or lake, and with aerial photo scaled enlargements.

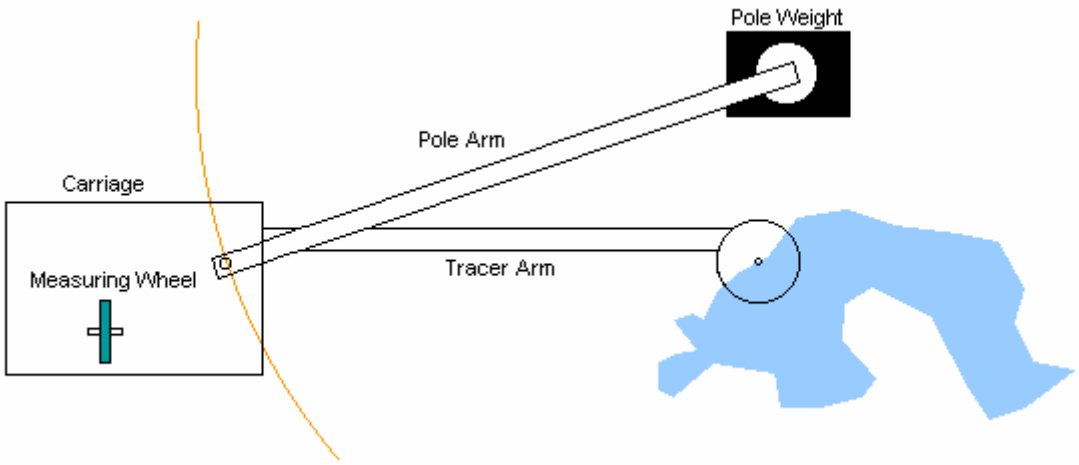


Figure 14

Unknown Dimension Formula

When the dimension of a key length is not known, it can be scaled from a drawing or map using an engineer's scale, or in some cases can be computed using a known dimension from another length. The formula for determining an unknown dimension is: (number of acres multiplied by 43,560) divided by the known dimension. The formula can be demonstrated, for example, by determining the dimensions for the East 5 acres of the NE ¼ of the NE ¼.

First, we know the known dimension is 1320 from the fact that the NE ¼ of NE ¼ is 1320 feet square, so that is our divisor. Next, we know the number of acres in our description from the description itself (East **5 acres** of the NE ¼ of the NE ¼), so we multiply 5 acres by 43,560 (number of square feet in an acre) to get our dividend of 217,800 square feet. When we divide 217,800 square feet by our known dimension of 1320 feet, we get the unknown dimension of 165 feet. Expressed as an equation it would look like this: (5 x 43,560) / 1320 = 165. The dimensions of our description would therefore be 165 by 1320.

Bearings and Land Descriptions

Compass directions used in the original public land surveys were based on a bearing compass (see Figure 16) instead of the azimuth (or full circle of a) compass which uses all 360 degrees of the compass to indicate direction.

A bearing can best be described as the angle of a line connecting two points and a north-south line (meridian). Therefore, the specific direction using a quadrant bearing is measured in degrees starting from either north or south and moving east or west. Whenever a quadrant bearing is measured, it should always be recorded listing North or South first, followed by the number of degrees, and ending with the direction you are moving toward, e.g. *North 49 degrees East*, meaning 49 degrees to the East of North, or *South 70 degrees West*, meaning 70 degrees to the West of South.(see Figure 15)

Figure 15

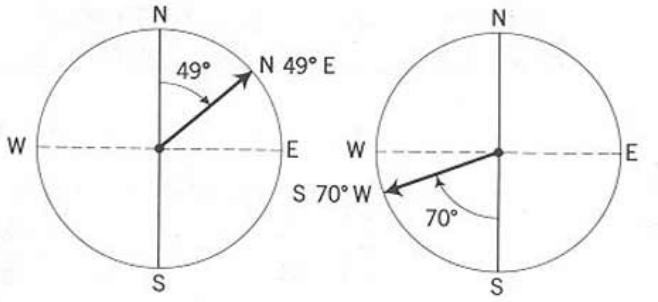
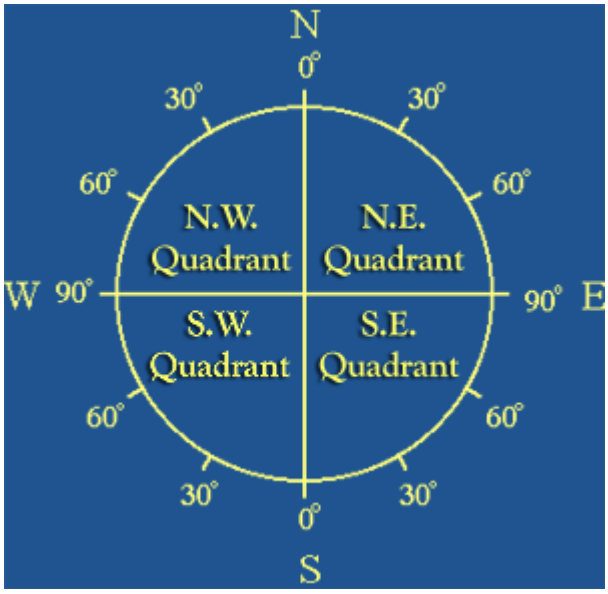


Figure 16



The quadrant bearing is integral to the "metes and bounds" type of property description in which boundaries (bounds) are described according to *directional calls* or bearings and distances between each point (metes) of the boundary. A typical metes and bounds description containing quadrant bearings might read as: "*Beginning at the East 1/4 corner of Section 1; thence N 0 Degrees 08'26" E, 451 feet; thence S 89 Degrees 01'23" W, 103 feet; thence S 65 Degrees 35'05" W, 149.09 feet; thence S 0 Degrees 44'18" W, 162.45 feet; thence S 86 Degrees 58'51" E, 150.92 feet; thence S 14 Degrees 30'39" E, 223.59 feet; thence S 88 Degrees 38'52" E 33.01 feet back to the point of beginning*."

The bearing compass is divided into four 90 degree quadrants, as shown in Figure 16. Following the compass clockwise, they are the Northeast, Southeast, Southwest and Northwest quadrants.

You will note from the previous description example, that all the bearings within the description are recorded beginning with either North or South first; then the number of degrees; and finally the direction the line is moving toward, such as East or West.

Measuring a Bearing

When measuring a quadrant bearing using a protractor, it is important to note that a protractor has a baseline, an origin and a set of graduated scales (outer scale and inner scale) running opposite of each other. One row of numbers begins with 0 and run to 180 with the other running opposite from 180 to 0. With two sets of numbers, it can be confusing at first determining which number to use, but remembering a simple rule will

help. The rule is that you always count up from zero. In addition, remembering that each quadrant runs from 0 to 90 degrees will help determine which number to use, meaning that for a quadrant bearing, you will always select the lesser of the two numbers shown on the scales.

When using the protractor to plot or measure a bearing, rotate the protractor so that the baseline of the protractor is oriented parallel to a north-south grid line, and the origin (the small hole near the base of the protractor) is over the starting point or "origin" of the course or bearing to be measured.

The baseline of the protractor in the following exercise is oriented parallel to an imaginary N-S grid line in the same manner as you would place it on a map or cross section paper to locate or plot the bearing(s) of a description. The starting point for the following bearings is the same as indicated by the placement of the protractor's origin in the example. Locate the following bearings on the diagram in Figure 17 and indicate below by matching the correct letter with each of the bearings:

1. N 90 degrees E ___
2. S 45 degrees E ___
3. N 15 degrees E ___
4. S 05 degrees E ___
5. N 40 degrees E ___

Answers: 1. (c), 2. (d), 3. (a), 4. (e), 5. (b)

You can use a protractor to plot a bearing when drawing a description or determine the bearing of an existing line on a map.

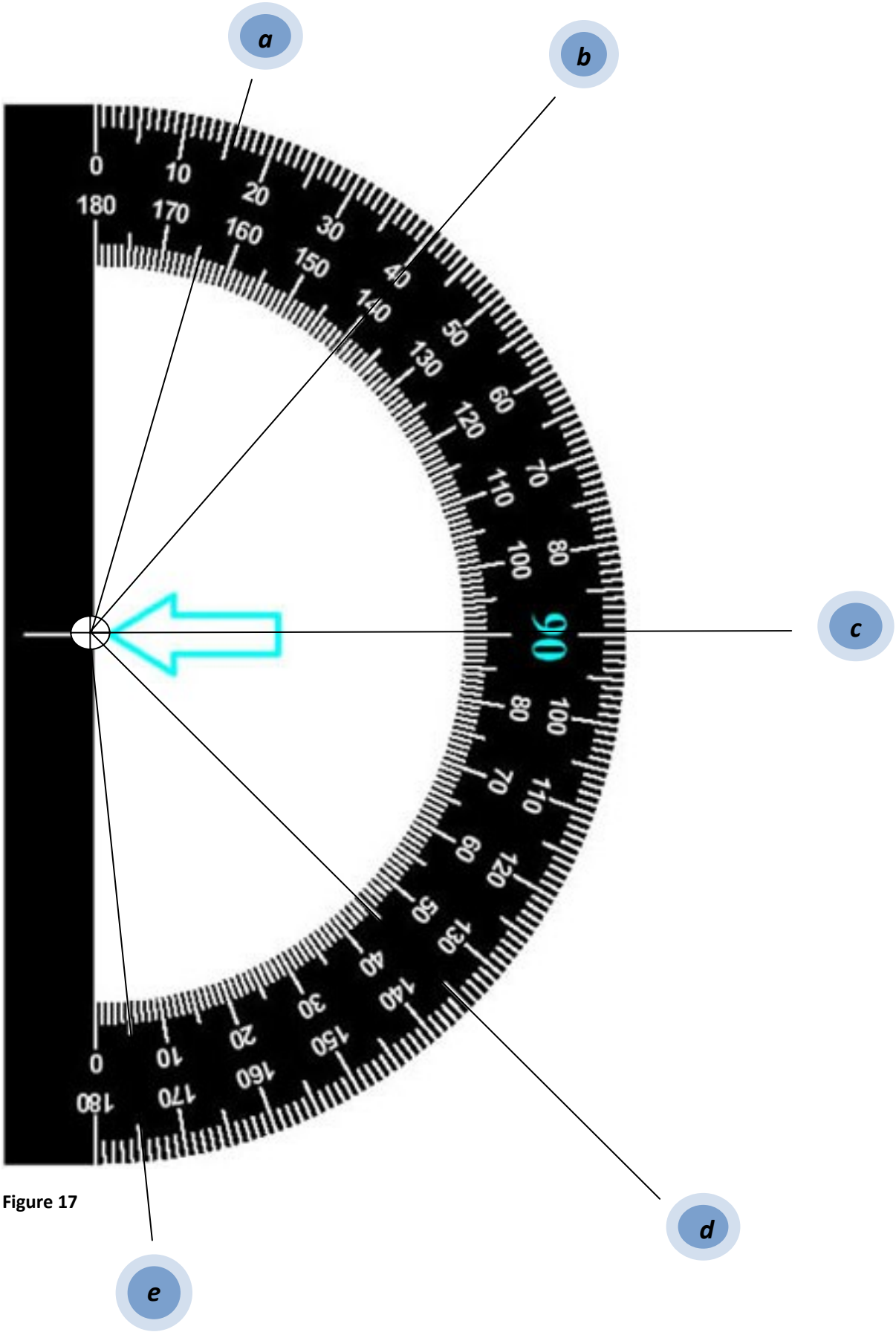
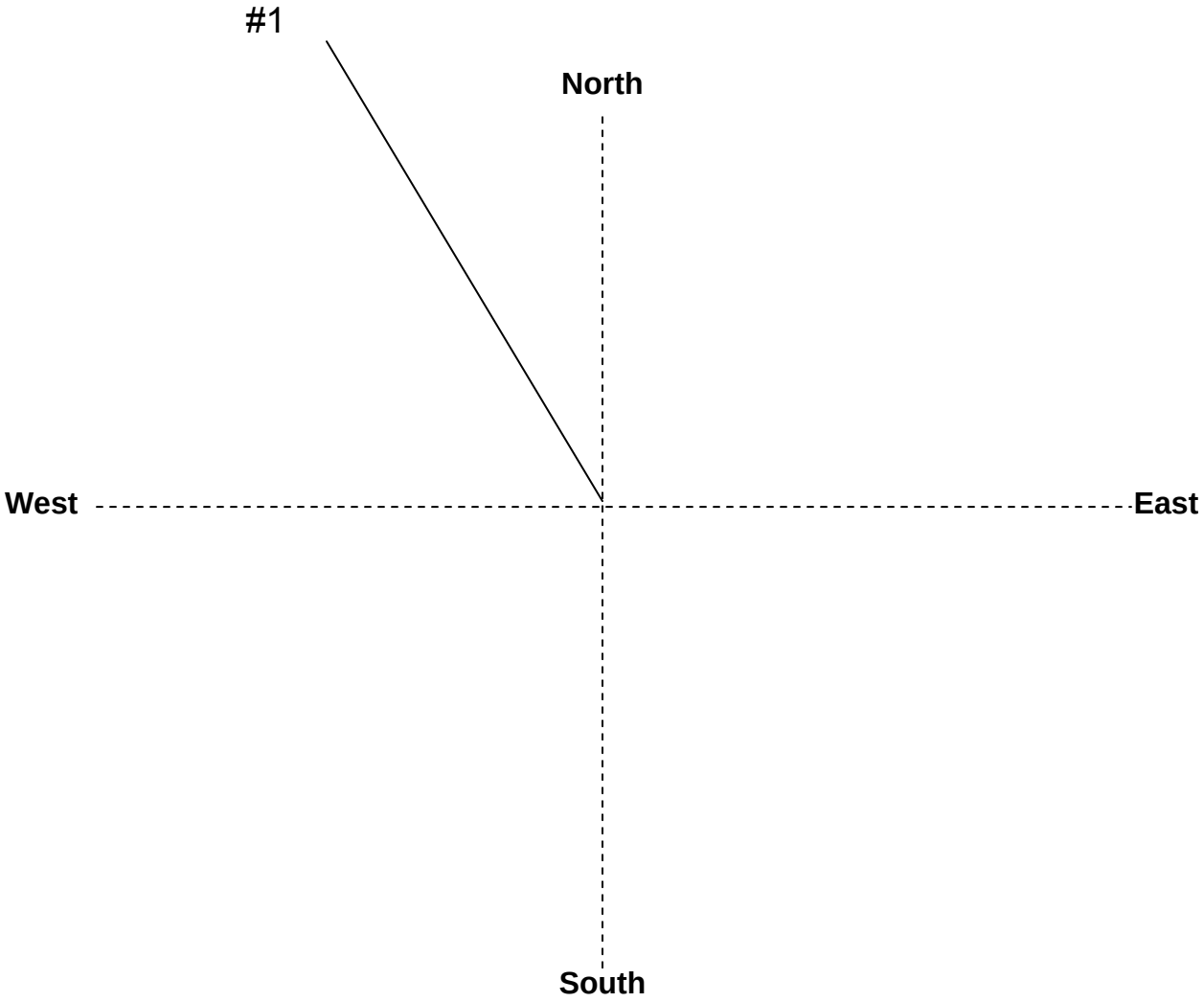

a
b
c
d
e
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180

Figure 17

Protractor – Bearings Exercise

In the following exercise you will be plotting various bearings on the grid below with a protractor. **Remember** that a bearing is always measured toward East or West from North or South and although there are 360 degrees in a complete circle, quadrant bearings or 90 degrees in each quarter-circle are used when plotting legal descriptions. Each degree has 60 minutes and each minute has 60 seconds. Draw and label the bearings indicated below. (*The first bearing has already been plotted and labeled*.)

1.	N30degW	5.	N76degE	9.	S44degE
2.	S30degE	6.	N83degW	10.	S89degE
3.	N33degE	7.	N47degE	11.	S87degW
4.	S33degW	8.	S68degW	12.	N45degW



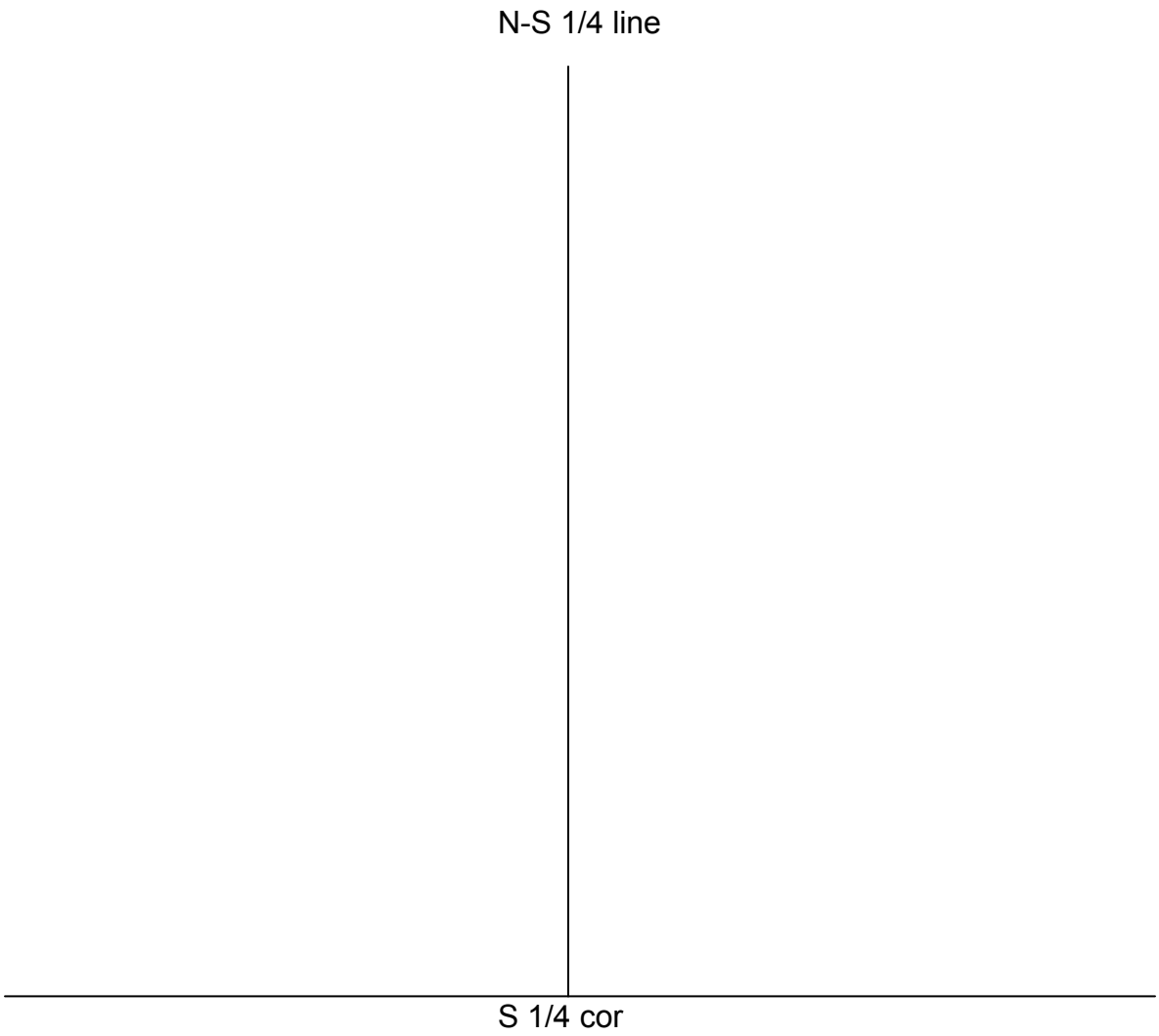
Answers are on page 58 of this chapter.

Metes and Bounds Description - Plotting Exercise

Using a protractor and an engineer's scale, plot and label the following description at a scale of 1" = 200 feet, but first convert chains and links into feet. (*Refer to the Table of Measurements found on page 31*.)

Com at S 1/4 corner of Sec. 34, T22N, R1E; thence N 60 deg E, 12 chains; thence N 30 deg W, 9 chains 25 links; thence S 70 deg W, 14 chains, 75 links; thence S 40 deg E 11 chains, 75 links to point of beginning.

What quarter(s) is this description part of?



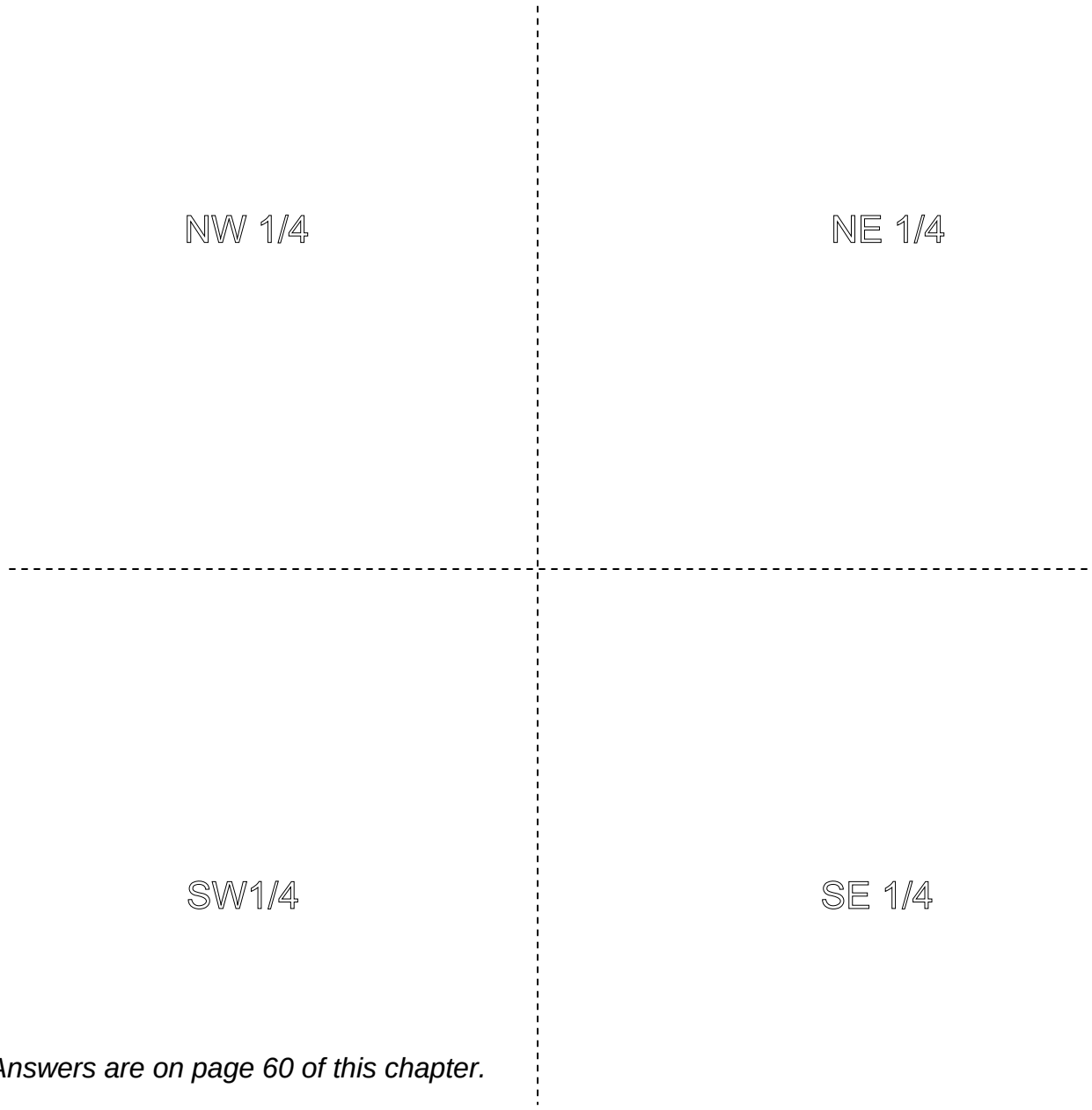
Answers are on page 59 of this chapter.

Missing Bearing and Distance Exercise

At a scale of 1 inch = 200 feet plot and label the following description and determine the approximate bearing and distance back to the place of beginning.

Com 100 ft E of SW cor of NE 1/4; thence E 300 ft; thence S 30 deg E 400 ft; thence S 45 deg W 400 ft; thence N 30 deg W 900 ft; thence …

What quarter(s) is this description a part of?



Answers are on page 60 of this chapter.

TAX ROLL DESCRIPTIONS OTHER THAN REAL PROPERTY

There are several types of descriptions found in the tax roll other than those types of legal descriptions used to describe real property.

Personal Property Descriptions

1. The personal property assessment roll should be separate from the real property roll and begin after the final page of real property descriptions.

"The taxable value of personal property located on a parcel of real property and assessed to the same person shall be calculated separately from the calculation of taxable value of the real property under section 27a." MCL 211.8b

2. Although the word, "personal" may be used as the description for personal property[15], it is advisable for the personal property description to also include locational references necessary to identify the assessable situs or location of the personal property.

3. When personal property is under same ownership but located in more than one school district within a unit, separate descriptions and assessed values should be established.

Act 189 of 1953 (MCL 211.181 and 182)

An Act 189 property is real property owned by a tax-exempt entity that is being leased to an individual, association, or corporation who is conducting business for profit. It is recommended that the necessary number of pages from the assessment roll be segregated as a separate roll (referred to as the Act 189 roll) and identified by the heading: "Act 189 of 1953 as amended".

For purposes of equalization and the application of the proper equalized value multiplier, Act 189 valuations are included as part of the real property.

"Taxes levied under this act shall be assessed to the lessees or users of real property and shall be collected at the same time and in the same manner as taxes collected under the general property tax act…" MCL 211.182(1)

It is for this reason that the Act 189 roll should be located between the real property roll and the personal property roll.

Commercial Forest Reserves

Commercial Forest Reserves property is real property that is exempt from ad valorem taxes and not subject to equalization. Instead a specific tax is levied on this type of property. As such, these properties should be segregated from the assessment roll and

[15] "*The description of personal property on said roll may be made by using the word "personal*". MCL 211.26

identified on a separate roll at a location following the personal property roll and identified with the heading: “Commercial Forest Reserves 1994 PA 451 Part 511”.

To facilitate cross-checking descriptions in the regular assessment roll that are exempt C.F.R. lands with those in the C.F.R. roll, the descriptions in the C.F.R. roll should be arranged in the same sequence as they are in the regular assessment roll.

Industrial Facilities Tax (IFT) Act 198 of 1974

Real (excluding land) and personal property included in an Industrial Facilities Exemption Certificate is exempt from ad valorem taxation and equalization and subject instead to a specific tax. As such these properties should be segregated from the assessment roll as a separate roll at a location following the personal property roll and identified with the heading: “Industrial Facilities Tax , 1974 Act 198”. The land upon which this type of property is located continues to be described in the same fashion as other real property on the ad valorem assessment roll.

The description should include the duration of the certificate, whether the exemption is for real or personal property, whether the certificate is for a new facility or rehabilitation of an existing facility, and the certificate number. A typical description might read: “*IFT New Facility 12/31/2000 through 12/31/2012, Certificate #2000-299 Real Property”*

ARRANGEMENT OF PROPERTY DESCRIPTIONS ON THE ROLL

The manner in which real property is to be described, arranged and numbered within the assessment and tax roll for townships, cities, and villages is defined within Michigan Compiled Laws Section 211.25.

MCL 211.25(1) states that real property may be described as follows:

1. Entire sections - by section number, town and range
2. A subdivision of a section - by designation of subdivision (quarter-section), section number, town and range.
3. A tract less than a subdivision of a section - as “*a distinct part of the subdivision, or in a manner as will definitely describe it*”. This could include either a rectangular survey or metes and bounds description of the “distinct part”.
4. *Recorded Plats - by “reference to the plat and by the number of the lots and blocks thereof*.”

MCL 211.25(2) states that real property shall be arranged in the following manner:

1. Acreage descriptions – are to be listed "*in numerical order of section beginning with section 1 of each township",'* and completely listing the parcels within a survey or geographical township before the next township, if any[16], is entered.

2. Government Lots – are to be listed numerically.

3. Private claim descriptions – "*if more than 1 private claim is located in the same township, the description of each claim shall be listed numerically*."

4. Island descriptions – listed by the number or name of island.

MCL 211.25 provides no guidance or direction regarding the arrangement of acreage descriptions within the sections of a township, nor does it provide direction for the arrangement of platted descriptions within cities and villages. Nonetheless, the commission recommends that a definite arrangement for acreage parcels and plats be followed in each city, township and village roll, so that a parcel can readily be located by all concerned, in particular, the county treasurer who must work with rolls from several assessing units which are not uniformly arranged.

In addition to the guidelines provided above by MCL 211.25, the commission recommends the following sequence of descriptions for city, township and village assessment rolls:

1. Original Plat (Cities and Villages) listed in lot and block order.

2. Acreage parcels (listed in numerical order by section) When it is impractical to split a parcel lying in two or more sections, the parcel should be listed in the section in which it first appears.

3. Private claims (listed in numerical order)

4. Recorded Plats (listed in alphabetical order) Lots in recorded plats are arranged in the roll by their numerical order within each block and blocks are listed according to their numerical or alphabetical order in the plat. If the plat is not platted into blocks, lots are to be listed numerically throughout the entire plat.

   Outlots are to be arranged in numerical or alphabetical order following the last numerical or alphabetical block or numbered lot.

5. Condominiums (listed in numerical order) Units within condominiums are to be listed in sequence and described by reference to the unit number indicated in the

[16] Political townships may range in size from one which contains less than one section to another which contains 20 survey or geographical townships.

condominium plan and the caption thereof together with the liber and page or document number of the county records in which the master deed is recorded.[17]

While MCL 211.25 states that Government Lots in any section shall be listed numerically, the commission has interpreted this to mean that Government lots must be described by the Government Lot number and not that they should be listed numerically following the regular subdivisions of the section as has been the practice in some assessing units.

Also, while tax laws state that land included in an unincorporated village may be arranged without separation as to sections within any township, it is the belief of the commission that this is a poor practice. The commission therefore recommends that acreage descriptions in unincorporated villages be listed in the same manner as any other acreage descriptions in the township.

Assessment rolls for incorporated as well as unincorporated villages, should follow the arrangement of the township roll as closely as possible for the descriptions common to both governmental units. However, if there is an "original plat" for the village, the original plat should precede the acreage descriptions.

In cities, townships, and villages, recorded plats, with the exception of the original plat, should be arranged alphabetically by the plat caption or title. Following, are the types of recorded plats and the definition and method for indexing each:

Original Plat: A plat constituting the original layout of a municipality such as a city or village. If the word "original" does not appear in the plat caption, the oldest recorded plat would then be considered to be the original plat.

Proprietor's Plat: A plat prepared for recording by a private individual, firm, association, partnership, corporation or a combination thereof. The proprietor's name usually appears in the caption of such plats and this type of plat should be indexed alphabetically according to the surname of the proprietor. If there is more than one proprietor, the surname of the first one listed would be used.

Assessor's Plat: A plat prepared and recorded by the assessor who derives authority from the governing body of the municipality in which the plat is located. Assessor's Plats should be indexed under "Assessors" and, if more than one Assessor's Plat exists, they should be indexed numerically following Assessor's Plat No. 1 or according to the succession in which they were recorded.

Supervisor's Plat: A plat prepared and recorded by a Supervisor who derives authority from the governing body of the township. Supervisor's Plats should be indexed under "Supervisor" and, if there is more than one Supervisor's Plat, they should be indexed numerically following Supervisor's Plat No. 1 or according to the succession in which they were recorded.

[17] Michigan Compiled Laws Section 559.101

Re-Plats: These are re-platted portions of a previously recorded plat whereas the word "Re-Plat" typically appears in the plat caption. Re-Plats should be indexed following the plat of which they are a re-plat.

Additions: This type of plat is usually a platted addition to some previously recorded plat and the word "Addition" appears in the plat caption. Additions are to be indexed numerically following the plats to which they are an addition to.

Condominiums: These are a form of real property ownership which are similar to recorded plats except that individual ownerships are described by unit number and carry with them an appurtenant percentage of the general common elements described within a master deed, which includes among other things, land occupied by the entire project. Condominiums may be indexed alphabetically by the plan caption.

NUMBERING OF PROPERTY DESCRIPTIONS

Parcel Identification Numbers (PIN) help to easily and readily identify descriptions which have been plotted on the tax map. Each separately assessed description is assigned a number whether the description constitutes one lot, three lots, or a fraction of a lot. These numbers are used for filing and locating assessment record cards, tax bills, receipts, assessment change notices, and so forth. The parcel identification number also appears in the assessment and tax roll opposite the description of each parcel when used in addition to the legal tax roll description.

Parcel identification numbers prove valuable in locating parcels rapidly, especially for many taxpayers who cannot locate their property by description, but can identify their property by looking on a tax map, from which their property identification number can be obtained; thus allowing them to locate any other type of property tax record associated with that number quickly.

Parcel numbers are a supplement to the narrative descriptions and not a substitute for legal tax roll descriptions, except as provided for by Public Act 101 of 1965 which provides for a system of real estate index numbers, which upon written approval from the State Tax Commission, may be used in lieu of the narrative descriptions on assessment rolls, tax rolls and tax statements.

Although there are several systems of numbering parcels in use in Michigan, the most common is a geographically defined permanent parcel numbering system known as the Sidwell numbering system. The sidwell number commonly referred to as a parcel identification number or PIN, is part of an index numbering system that uniquely identifies each property description and can be used in addition to, or in lieu of, the method of listing property by legal description.

"An assessing officer, with the approval of the governing body of the city or township, may establish a real estate index number system for listing real estate for purposes of assessment and collection of taxes, in addition to, or in lieu of, the method of listing by legal description provided in this act. The system shall describe real estate by county, township, section, block and parcel or lot. The numbering system shall be approved by

the state tax commission. The assessing officer shall establish and maintain cross indexes of numbers assigned under the system with the complete legal description of the real estate to which such numbers relate. The assessing officer shall assign individual index numbers and the assessment rolls, tax rolls and tax statements shall carry the index numbers and not the legal descriptions, except that both the legal description and the index number shall be shown on the tax statements for the first year after this section is effective. Indexes established hereunder shall be open to public inspection." 1965 PA 101, being MCL 211.25a

The standard sidwell number, or parcel identification number contains 12 digits which are a combination of the county code, governmental survey township, section, quarter section or subdivision/block number, and parcel number, each designation defined within a separate group of digits as follows:

Group 1: Two (2) digits designate the county. There are 83 counties in Michigan. Therefore the first county would be coded as 01 and the last county would be 84 (*The code number 83 was assigned to the City of Detroit*). A table of county codes is shown in Figure 18.

Group 2 –Two (2) digits designate the survey or geographical township, also known as the congressional township.

Group 3 – Two (2) digits designate the survey section number. Section 1 would be 01 and section 36 would be 36.

Group 4 – Three (3) digits designate the quarter-section or subdivision/block number. Parcels are assigned a number in a 100, 200, 300 or 400 series depending on the quarter in which they are located, beginning with the Northeast quarter (100) and proceeding in a counter-clockwise manner to the Southeast quarter (400).

Group 5 – Three (3) digits designate the individual parcel number.

A typical sidwell or parcel identification number would be 63 19 24 377 011. In this example, the number 63 designates Oakland County; the number 19 designates Bloomfield Township; the number 24 designates section 24; the number 377 designates a subdivision lying within the Southwest quarter of the section; and the number 011 designates the individual parcel or lot.

Although there may be variations of this numbering system throughout the state, the general format is usually followed.

An assessor must maintain constant vigilance for changes to property descriptions which may be the result of property transfers which involve a change in legal description such as:

1. Divisions of one parcel into two or more smaller parcels.
2. The combination of two or more parcels into a single parcel.

3. The sale of a portion of a parcel to the owner of an adjoining parcel.

4. Descriptions which change from acreage to platted whenever acreage is subdivided into a new recorded plat.

Should a legal description change because of one the aforementioned reasons, it will be necessary to "retire" the existing parcel identification number and assign new numbers to the resulting parcel or parcels. Procedures for maintaining description records will vary depending upon local and county policies or procedures, so assessors should become familiar with the specific policies and procedures of their unit(s). Changes to legal descriptions and property identification numbers need also to be carried forward on the unit's tax maps.

Figure 18
Michigan County Codes

1	ALCONA	33	INGHAM	65	OGEMAW
2	ALGER	34	IONIA	66	ONTONAGON
3	ALLEGAN	35	IOSCO	67	OSCEOLA
4	ALPENA	36	IRON	68	OSCODA
5	ANTRIM	37	ISABELLA	69	OTSEGO
6	ARENAC	38	JACKSON	70	OTTAWA
7	BARAGA	39	KALAMAZOO	71	PRESQUE ISLE
8	BARRY	40	KALKASKA	72	ROSCOMMON
9	BAY	41	KENT	73	SAGINAW
10	BENZIE	42	KEWEENAW	74	SAINT CLAIR
11	BERRIEN	43	LAKE	75	SAINT JOSEPH
12	BRANCH	44	LAPEER	76	SANILAC
13	CALHOUN	45	LEELANAU	77	SCHOOLCRAFT
14	CASS	46	LENAWEE	78	SHIAWASSEE
15	CHARLEVOIX	47	LIVINGSTON	79	TUSCOLA
16	CHEBOYGAN	48	LUCE	80	VAN BUREN
17	CHIPPEWA	49	MACKINAC	81	WASHTENAW
18	CLARE	50	MACOMB	82	WAYNE
19	CLINTON	51	MANISTEE	83	WEXFORD
20	CRAWFORD	52	MARQUETTE		
21	DELTA	53	MASON		
22	DICKINSON	54	MECOSTA		
23	EATON	55	MENOMINEE		
24	EMMET	56	MIDLAND		
25	GENESEE	57	MISSAUKEE		
26	GLADWIN	58	MONROE		
27	GOGEBIC	59	MONTCALM		
28	GRAND TRAVERSE	60	MONTMORENCY		
29	GRATIOT	61	MUSKEGON		
30	HILLSDALE	62	NEWAYGO		
31	HOUGHTON	63	OAKLAND		
32	HURON	64	OCEANA		

TYPES OF ERRORS FOUND IN PROPERTY DESCRIPTIONS

The task of finding and correcting errors in property descriptions is an important one, especially when reviewing the tax law standard applied to legal tax descriptions, which again is that a legal tax description must be constructed in such a was that it can be correctly and easily ascertained by the tax officials.[18]

The following are the most commonly found errors in acreage and platted descriptions:

Twice Assessed

This is one of the more common types of errors found in an assessment roll and occurs when a parcel is described on the assessment roll twice, either in its entirely or in part, such as when one parcel description overlaps another.

Improper Starting Point

This type of error occurs when the starting point of the description cannot be accurately established due to a survey error or omission. A legal starting point is one that can be located on a base map such as a section corner, a quarter-corner, or any corner of any subdivision of a section which is shown on the General Land Office survey. Any point in a recorded plat can be used provided the plat description is such that the recorded plat can be located.

Description Does Not Close

This is another common error occurring when a metes and bounds description does not return to its point of beginning due to one or more wrong bearings or distances. Description errors of this type which result from copying errors can be corrected by checking earlier deeds or tax roll descriptions or by using bearings and distances from adjoining parcels.

Exception Indefinite

This type of error occurs when a parcel has been sold or excepted and the exception itself contains one or more errors such as the ones just mentioned. Most errors of this type are the result of failing to copy the entire description of the portion to be excepted from the original parcel.

Personal Boundary

This type of error results when one or more boundary lines of a description are described solely by reference to names of adjoining land owners. A single description of this type can occasionally be corrected without the necessity of a survey by using the legal description of adjoining parcels. The description which is finally written must in itself delineate the boundary of the parcel.

[18] Michigan Compiled Laws Section 211.55

Location Indefinite

This type of error indicates a parcel that cannot be definitely located for reasons other than those listed above.

Numbered Government Lots

This type of error results when land which is entirely, or part of, a government lot is described other than as “Government Lot No., Section No.”, or “A part of Government Lot No., Section No., described as follows…” Parcels which include all or part of a numbered Government Lot must be described as being Government Lot or Lots or as part thereof. Both the word “Government” and the number of the lot must appear in the legal description for a Government Lot. Areas comprised by Government Lots on the G.L.O. survey, just as those in a recorded plat, cannot legally be described in any other manner.

This type of error can be corrected by re-writing the description; citing the G.L.O. survey as the authority for the correction.

Missing Areas (Omitted Property)

This type of error indicates an area for which no description exists on the assessment roll. An assessment roll must account for every acre in each section as shown on the G.L.O. maps, including both taxable and exempt parcels.

Descriptions for omitted property may frequently be located by referencing previously recorded deeds, assessment rolls for prior years, or may be written from the descriptions of adjoining parcels. Descriptions for all missing areas should be listed on the assessment roll and plotted and numbered in the same manner as all other parcels on the roll. If the owner of the missing area cannot be ascertained, then “owner unknown” should be indicated instead.

All of the error types listed above can also be found in metes and bounds descriptions within a recorded plat, such as in large out-lots or plats recorded many years ago in which the property is not occupied as originally surveyed and is now described by metes and bounds. In addition to the errors which are applicable to these and other acreage descriptions, the following may be found in platted descriptions.

Erroneous Plat Caption

This error occurs when a different plat caption is used in the description other than the dedicated caption in the plat. Each plat should be checked for the correct caption which is typically found under the dedication paragraph. If no dedication paragraph is found, the title of the plat, and in most cases only the capitalized part, is used instead. In those occasional cases where the title of the plat differs from the dedication, the caption appearing in the dedication should be used.

No Such Plat Recorded

This type of error indicates a parcel that is being described by lot, block or plat caption for which no plat has been recorded. In these instances, a plat might have been surveyed and mapped from which the lot and block description was obtained, but not recorded. Such plats have no legal status in Michigan. The only legal description that can be used for parcels which are not part of a recorded plat is a rectangular survey or metes and bounds description.

This type of error can be corrected by locating a prior deed which contains a legal metes and bounds description or by writing a metes and bounds description from information appearing on the map of the unrecorded plat or from the descriptions of adjoining parcels.

Parcel within a Vacated Portion of Plat

An error of this type indicates that a parcel lying in a vacated plat or portion thereof is being described as a lot and block. Vacated portions of a plat have the same status as acreage property and must be described with a rectangular survey (acreage) or metes and bounds description.

Plats may also be found which have not been vacated but which have been superceded by a plat recorded at a later date. In this instance, the plat or portions thereof which have been recorded last will take precedence over all other plats covering the same area which were recorded at an earlier date.

Conversely, there have been instances of plats or parts thereof which have been assessed by the assessor as acreage parcels even though they have not been legally vacated. This situation frequently occurs in so-called wild cat subdivisions where perhaps only one or two lots were sold and the remaining lots retained by the proprietor have little chance of being sold. Such parcels must still be described only by lot and block unless legally vacated. The process for vacating a plat is found in Michigan Compiled Laws Sections 560.221 through 560.229.

No Such Lot or Block

An error of this type indicates a parcel which is described on the assessment roll by a lot or block number which does not appear on the map of the plat. This error is occasionally found in instances whereby an out-lot had been subsequently subdivided but was not recorded, or where lot lines were indicated on a plat but never given a number at the time the plat was recorded. In both instances, the parcel should be described by metes and bounds as being part of an out-lot of the plat.

On occasion, lots will be found that are being described by a block number that does not appear on the plat, or a description will omit a block number which does appear on the plat, making it difficult to locate that lot in the case of duplicate lot numbers on the assessment roll. The information that appears on the map of the recorded plat will typically help to correct errors of this type.

Lots Not Contiguous

This type of error occurs when two or more lots which are not contiguous are being assessed under one description, as for example: “Lots 1, 6 and 9 Plat of Error Place Subdivision”, where neither lot adjoins the other. Only those lots which are contiguous may be described under one description as provided by MCL 211.24, which states: *“…all unimproved lots in any block that are contiguous and owned by 1 person, firm, corporation, or other legal entity shall be assessed as 1 parcel…”*

Non-contiguous lots, including those separated by any public thoroughfare, must have separate tax descriptions. Two or more lots which are not contiguous and are being assessed under one tax description should be split into two or more separate tax descriptions and assessed as such.

Fractional Descriptions

Although not considered an error in the same manner as those errors listed above, descriptions which contain this type of “omission” error should be corrected for the assessment roll.

All descriptions which lie within a fractional subdivision of a section, such as the NW 1/4 of the NW 1/4 of Section 6, should contain the word “fractional” or its abbreviation. A rule of thumb to remember when writing fractional descriptions is to use the word “fractional” when describing any section or subdivision of a section which is indicated by the General Land Office (G.L.O.) to be fractional. Any section containing more or less than the standard 640 acres or any subdivision thereof containing more or less acres than the standard for that subdivision, such as a quarter-quarter section containing more or less than the standard 40 acres, is considered to be fractional.

(*Remember the discussion earlier in the chapter where, to compensate for the curvature of the earth and convergence of meridian lines, corrections were made to that fraction of Sections 1 through 6 inclusive and 7,18,19,30 and 31 lying closest to the north and west lines resulting in “fractional’ quarters?*)

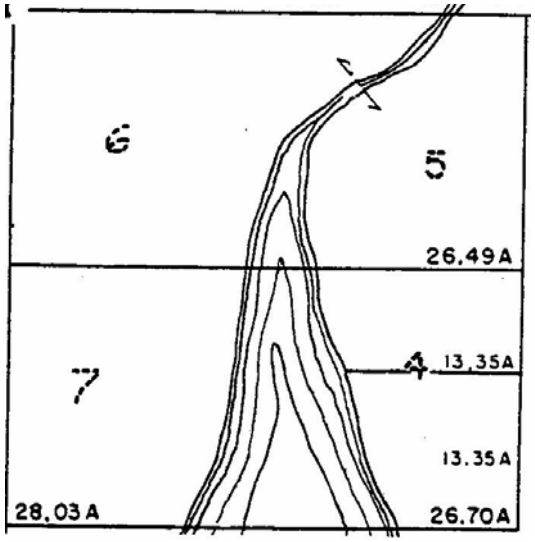
A typical description for a parcel lying in one of these fractional quarters might read as follows:

“That part of Frl. N 1/2 of Frl. NW 1/4 lying North and West of DM R.R. R/W, Frl. Sec 1, T.22 N, R .4 E.”

When checking the acreage of Government Lots or fractional subdivisions of a section, one should bear in mind that the fractional part (such as the North 1/2 of Government Lot 4) refers to the width thereof and not an equal division by area unless the text of the description indicates an intent to convey more or less acreage than what would be indicated by the Government Survey.

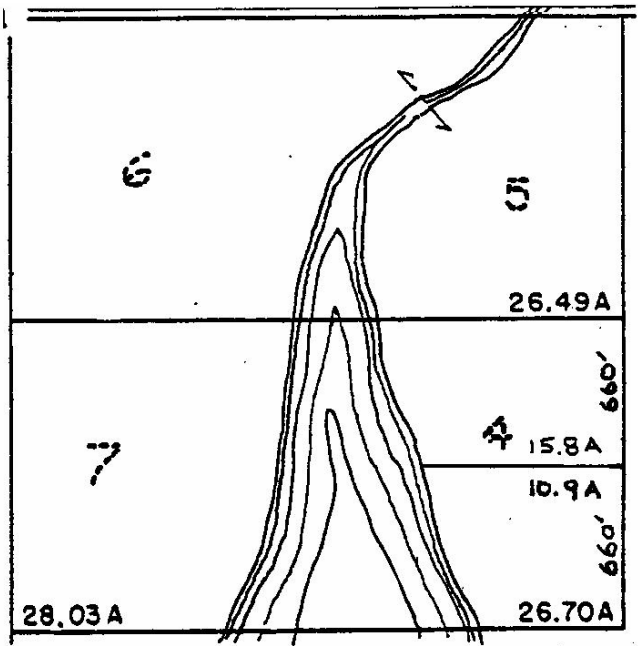
For example: “The N 1/2 of Gov. Lot 4 containing 13.35 acres being the N 1/2 of 26.7 acres.” would be mapped to include on-half the entire Government Lot by area. (Figure 19)

Figure 18



However, if the description read: “The N 1/2 of Gov. Lot 4”, the parcel would be fractioned according to width and mapped as 10 Chains or 660 feet wide (1/2 of 1320 ft) along the east side of the described parcel (Figure 20), the result being that the N 1/2 of Gov. Lot 4 contains 15.8 acres, which is not an equal division of area.

Figure 19



WRITING CONDENSED ASSESSMENT ROLL DESCRIPTIONS

The process of condensing an assessment roll consists of reducing the number of legal descriptions by combining all contiguous acreage parcels and lots under same ownership using accepted abbreviations and eliminating all unnecessary words from each description. The authority for reducing the number of descriptions by combining contiguous parcels and the use of abbreviations is found in the following tax laws:

Michigan Compiled Laws Section 211.24(1) (a) states that *"All contiguous subdivisions of any section that are owned by one person, firm or corporation…shall be assessed as one parcel unless demand in writing is made by the owner or occupant to have each subdivision of the section or each lot assessed separately. However, failure to assess contiguous parcels as entireties does not invalidate the assessment as made."*

However, MCL 211.25(1) (e) requires that permission be obtained from the owner prior to combining and assessing as one valuation. *"The assessing authority shall send a notice of intent to assess the parcels by 1 valuation to the owner or owners. Permission shall be considered obtained if there is no negative response within 30 days following the notice of intent."*

The above laws are interpreted to mean that contiguously owned parcels located in different sections cannot be assessed together as one parcel, except for land located within an unincorporated village. In other words, all land in Section 1 should be listed on the assessment roll followed by all land in Section 2, and so forth. There are several reasons for listing property this way, not the least of which is the fact that it would be very difficult to check an assessment roll to insure that all acreage is listed and accounted for if property descriptions were not listed according to section in numerical order.

Parcels which meet only at a corner are not considered to be contiguous. Parcels considered to be non-contiguous would also include those that are split by a railroad or highway right-of-way. However, it has been the recommendation of the commission that such parcels be assessed under one valuation in rural areas. When a single description is discovered on the roll that aggregately describes parcels which are not contiguous, it is to be corrected by splitting it into two or more parts as required and writing new descriptions for the non-contiguous parts.

All government owned parcels in State and National Forests should be combined into as few descriptions (within a section) as possible as there is little chance these parcels will ever change ownership.

Use of Abbreviations

It is a common misunderstanding that an assessing officer must copy descriptions to the assessment roll in the exact manner in which they appear in a written deed. This is not the case. An assessing officer has the authority to rewrite any description if it correctly and effectively describes the parcel in such a way that it can meet the standard provided for in MCL 211.55, that being that the description can be "*correctly and easily*

ascertained "by tax officials. The re-writing of descriptions should only be attempted when thoroughly familiar with the procedure. Otherwise the probable result will be many erroneous descriptions.

Michigan Compiled Laws Section 211.25(1) (f) states: "*It shall be sufficient to describe the real property assessed upon a roll and in other proceedings under this act in the manner heretofore in use by initials, letters, abbreviations, and figures*."

The following table lists the most common initials, letters, abbreviations and figures used when condensing legal property descriptions for an assessment roll.

Term	Abbreviation	Term	Abbreviation
Acre	A.	Meridian	Mer.
Addition	Add.	Mile	Mi.
Angle	∠ or Ang.	Minutes	' or M.
And Others	Et. Al.	More or Less	M. or L.
And Wife	Et. Ux.	Miscellaneous	Misc.
Assessors	Ass'rs		
		North	N.
Beginning	Beg.	Northeast	NE.
Between	Bet.	Northwest	NW.
Bound	Bd.	Northeasterly	NE'ly
Boundary, Boundaries	Bdy., Bdrs.	Northwesterly	NW'ly
Block	Blk.	Number	No.
Center	Cent.	Original	Orig.
Center Line	C.L.		
Chain	Ch.	Page	P.
Commence	Com.	Parallel	or Par.
Commencing	Com.	Point	Pt.
Continue	Cont.	Point of Beginning	P.O.B.
Continuing	Contn.	Point of Curvature	P.C.
Continued	Contd.	Point of Ending	P.O.E.
Corner, Corners	Cor., Cors.	Point of Tangency	P.T.
Correction	Corr.	Private Claim	P.C.
Dedication	Ded.	Quarter	Qtr. or 1/4
Description, Described	Desc.		
Degree	° Degree	Radius	Rad.
District	Dist.	Railroad	R.R.
		Railway	Rwy.
East	E.	Range, Ranges	R., Rs.
Easement	Ease.	Reserve	Res.
Except	Exc.		
		Right	Rt.
Foot or Feet	Ft.	Right of Way	R/W or
Fourth	1/4		R.O.W.
Fraction	Fr.	Rods	Rds.
Fractional	Frl.	Running	Rng.
General Land Office Survey	G.L.O.	Seconds	" or S.
Government Lot	Gov't Lot	Section, Sections	Sec., Secs.
		Square	Sq.
Half	1/2	South	S.
Highway	Hwy.	Southeast	SE.
		Southwest	SW.
Incorporated	Inc.	Southeasterly	SE'ly
Inch, Inches	In.	Southwesterly	SW'ly
Intersection	Int.	Street	St.
		Streets	Sts.
Left	Lt.	Subdivision	Sub.
Liber	L.	Supervisor, Supervisors	Super.,
Link, Links	Lk., Lks.	Supers.	
Thence	Th.	Variation	Var.
Town	T.	Village	Vill.
Township, Townships	Twp., Twps.	Viz	"Namely" or "described as follows"
Unincorporated	Uninc.		
Undivided	Und.		
		West	W.
		Westerly	W'ly.

Excess Words or Phrases to be Eliminated

All words which are not necessary to correctly and effectively describe or plot a parcel may be eliminated from the parcel description. For example, when the bearing and distance is given for a meander, only the bearing and distance is necessary. All other words associated with the meander can be eliminated.

The following description illustrates the most common forms of excess words and phrases found in deeded descriptions. The bold italicized parts should be eliminated.

That part of the S 1/2 of the NE 1/4 of the NE 1/4 of Section 12, T 3 N, R 4 E, commencing at the NE corner of ***said NE 1/4 of the NE 1/4,*** Sec. 12, T 3 N, R 4 E, thence W 66 feet ***to W. Boundary of Highway U.S. 16***, thence south ***along said right-of-way a distance of*** 660 feet for a point of beginning; thence West ***along south line of Fred Jones lands a distance of*** 594 feet ***to the SW corner of the NE 1/4 of the NE 1/4 of the NE 1/4*** ; thence south ***a distance of*** 660 feet ***from said SW corner of the NE 1/4 of NE 1/4 of the NE 1/4 to an oak stake four inches in diameter on the S line of the NE 1/4 of the NE 1/4, Section 12, T 3 N, R 4 E***; thence East ***a distance of*** 594 feet ***along said South line of said NE 1/4 of the NE 1/4 to a point on the west boundary of the right-of-way of Highway U.S. 16;*** thence North ***a distance of*** 660 feet ***along west boundary of said right-of-way*** to ***the*** point of beginning.

By eliminating the bold italicized words and using standard abbreviations, the result is the following condensed form of the description:

Com. at NE cor Sec. 12, T 3 N, R 3 E; th W 66 ft; th S 660 ft to P.O.B.; th W 594 ft; th S 660 ft; th E 594 ft; th N 660 ft to P.O.B.

Two phrases often eliminated which are, in fact, necessary to plotting descriptions on a map are those including “parallel” and “are right angle to”. For example: “*Thence northerly parallel to East line 100 feet*” denotes a line bearing which is identical to the East line. If the bearing of the East line is given, this bearing may be used in the description instead of the phrase, “parallel to East line”.

THE ROLE OF GIS (GEOGRAPHIC INFORMATION SYSTEMS) IN ASSESSING

No chapter on legal descriptions would be complete without mention of Geographic Information Systems or GIS; a geographic database capable of storing, analyzing, and displaying spatial information such as line and polygon (parcel) data. What differentiates a Geographic Information System from just another computer aided mapping program is the ability to assign geographic coordinates to a set of attributes and features and link that information to a geographic location on the map. The most common attributes of interest to the assessing officer would be: taxpayer names and addresses, property addresses, legal descriptions, assessment and tax data, and sales data.

A typical geodatabase will contain cadastral data, such as tax parcels, roads and easements; planimetric data, such as street centerlines, rivers and lakes; and orthophotography or aerial imagery.

The integration of all forms of spatial or location data and information within a single geographic database allows the user to visualize data in many ways, discover trends, and quantify relationships between one set of data and another, such as a relationship between property values and geographic locations.

Parcel mapping, is by far the most common, and beneficial digital layer found in the public GIS environment. One reason for this is that 70 to 80 percent of the work of a local unit of government involves cadastral or geographically related information.[19] GIS parcel data is therefore used ever-increasingly by local units of government, such as cities, villages, townships, county, state and federal; quasi-public organizations, such as school districts, planning agencies, health districts, etc; and the public, such as taxpayers, real estate professionals, marketing agencies, title companies, etc.

Recognizing the additional costs of maintaining digital files, such as those associated with a Geographic Information System, the Enhanced Access Act (1996 PA 462) was enacted which permits public bodies to charge reasonable fees when accommodating requests for, or providing access to digital data.

MICHIGAN'S LAND DIVISION ACT

The legal partitioning or splitting of land in Michigan is governed by 1996 PA 591, known as the Land Division Act, and formerly known as the Subdivision Control Act of 1967. This act substantially revised the way un-platted land in Michigan could be divided by eliminating the rules which allowed four parcel splits under ten acres every ten years and an unlimited number of splits if the resulting parcels exceeded ten acres.

The Act establishes a requisite local approval process whenever, "*for the purpose of sale, or lease of more than 1 year, or of building development*", a parcel or tract of un-platted land is split and the split results in at least one parcel which is less than 40 acres or the equivalent. If the proposed division complies with the requirements of Sections 108 and 109 of the Act, it will qualify as a legal division under the act and thus be exempted from the Act's platting requirements.

Section 108 contains the formulas for determining the number of parcels allowed to be split without being platted. If the number of parcels resulting from a split is allowed according to one or more of the formulas found in Section 108, the resulting parcels must then meet the basic requirements of Section 109 which are as follows:

[19] Dueweke, Michael, Liao, Rui. Institute for Geospatial Research and Education, from the Abstract "Going Outside the COTS (Commercial Off The Shelf Software) Box

1. Each parcel must have an adequate and accurate legal description and be depicted in a tentative parcel map, drawn to scale showing the area, parcel lines, approximate dimensions, public utility easements and accessibility,

2. Each parcel that is 10 acres or less must have a depth of not more than four times the width, unless there is a local ordinance requiring a depth to width ratio that is smaller or larger.

3. Each parcel must have a width and area not less than the minimum required by a local ordinance.

4. Each parcel must be accessible and have adequate easements for public utilities.

In the vast majority of local jurisdictions, the assessing officer will be involved in the local approval process; therefore a working knowledge of the Act and its requirements will be necessary.

In addition to a likely role in the local approval process, an assessing officer also has a duty under the General Property Tax Act, being MCL 211.53(3), which states:

"If an assessing officer has reason to believe that a violation of the subdivision control act of 1967, Act No. 288 of the Public Acts of 1967, being sections 560.101 to 560.293 of the Michigan Compiled Laws, has occurred with respect to property for which a division is being requested pursuant to subsection (2) or section 24, or that such a division does not conform with the requirements of the subdivision control act of 1967, Act No. 288 of the Public Acts of 1967, the assessing officer shall not recognize a division of that property requested pursuant to subsection (2) or section 24 on the tax roll or assessment roll until he or she refers the suspected violation or potential nonconformity to the county prosecuting attorney and gives written notice to the plat section of the department of commerce, the person requesting the division, and the person suspected of the violation or potential nonconformity, of such referral to the prosecuting attorney."

This section requires an assessing officer to refer a suspected violation of the Act to the stated authorities, and give notice to the person(s) requesting the division on the assessment and tax rolls, as well as the person(s) suspected of the violation, before recording the description(s) of the suspected non-conforming parcel split(s) in the assessment and tax rolls.

There are three categories of land splits defined within the Act which are listed below:

1. Subdivision – a parcel split that is subject to the platting requirements of the Act. (*The term "subdivision" as used in the context of this Act should not be confused with the same term used earlier in this chapter when referencing the subdivision of public lands*) This definition does not include a transfer of land between two adjoining parcels.

2. Division – a parcel split for the purpose of sale, lease for more than one year, or building development; that is not subject to the platting requirements of the Act, but is subject to and complies with the requirements found in Sections 108 and 109. This definition does not include a transfer of land between two adjoining parcels.

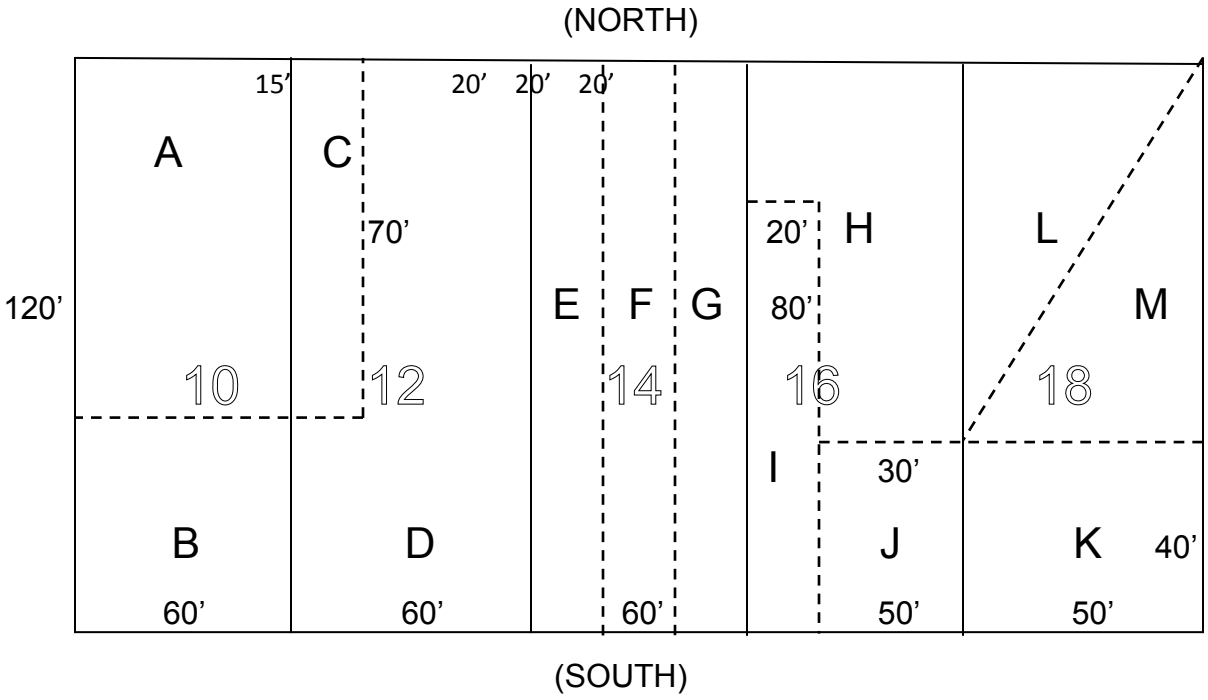
3. Exempt Split – a parcel of at least 40 acres or the equivalent (means 40 acres or a quarter-quarter of a section not less than 30 acres or Government Lot not less than 30 acres) that is not subject to the platting requirements of the Act provided the parcel is accessible.

With the exception of any description which evidences a transfer of land between two or more adjacent parcels, the assessing officer should suspect a violation with any parcel description not meeting the definition of 2 or 3 above; which evidences an un-platted land split. In those cases it is likely that subdivision has occurred and unless the platting requirements have been complied with for the parcel(s) in question, the land split is most likely a violation of the Act, and the assessing officer should follow the steps outlined in MCL 211.53(3).

The information contained in this chapter provides the assessing officer with a solid foundation for reading, plotting and understanding legal descriptions. However, proficiency will only be gained from the frequent application and review of the methods described herein.

Answers to Platted Description Identification Exercise found on page 19

The following sketch shows five platted lots indicated by solid lines. Divisions of those lots are indicated by broken lines and the parts thus created have been assigned letters. Read each description below and indicate the corresponding parcel or parcels on the sketch by the letter or letters of each parcel described.

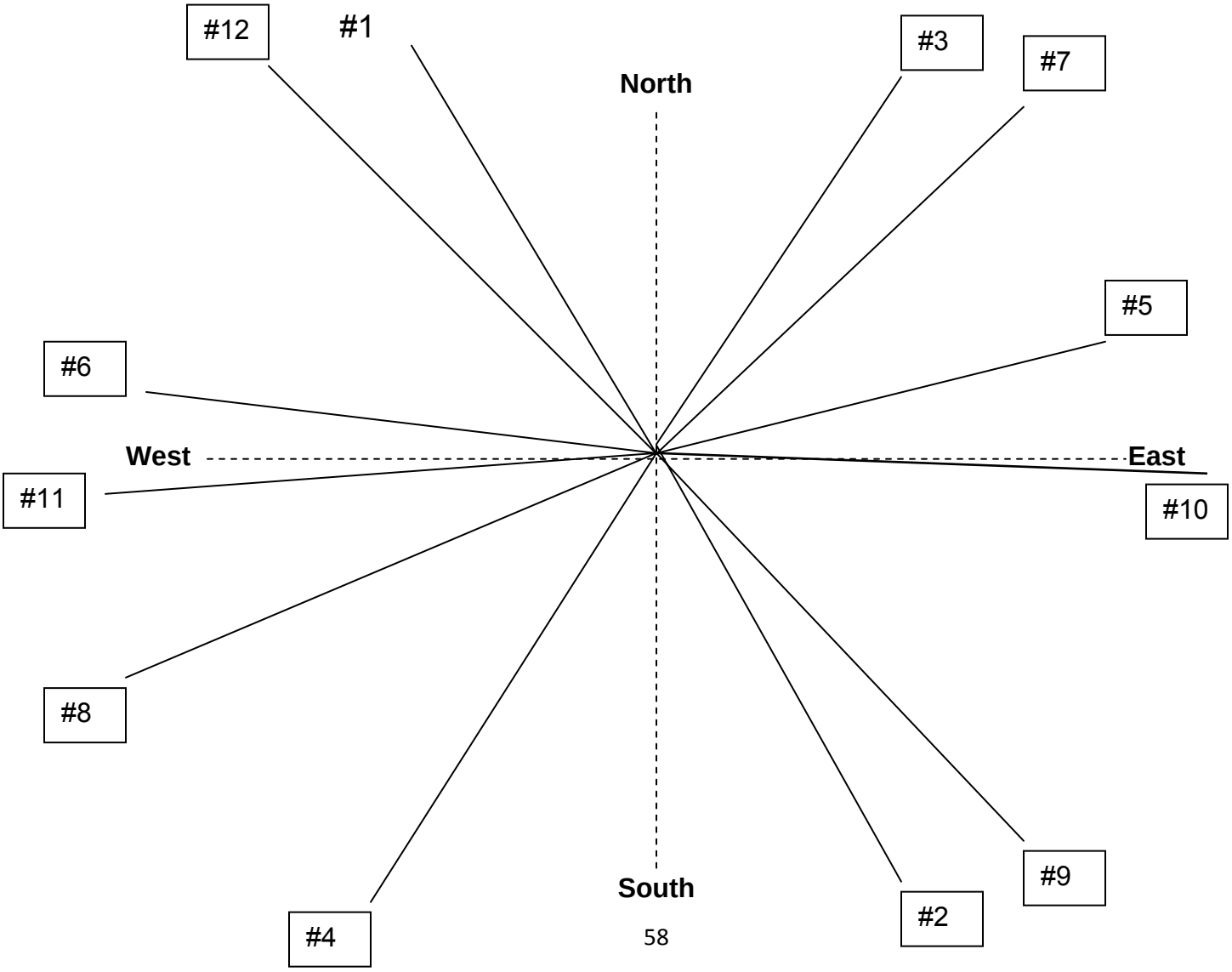


1. (**B**) Sly 50 ft of Lot 10
2. (**F**) W'ly 20 ft of E'ly 40 ft of Lot 14
3. (**FG**) E'ly 40 ft of Lot 14
4. (**IJ**) Lot 16 exc N'ly 40 ft; also exc E'ly 30 ft of S'ly 40 ft of N'ly 80 ft
5. (**BD**) S'ly 50 ft of Lot 10; also Lot 12 exc N'ly 70 ft of W'ly 15 ft
6. (**K**) Lot 18 exc N'ly 80 ft
7. (**G**) E'ly 20 ft of Lot 14
8. (**C**) W'ly 15 ft of N'ly 70 ft of Lot 12
9. (**D**) Lot 12 exc N'ly 70 ft of W'ly 15 ft
10. (**B**) Lot 10 exc N'ly 70 ft
11. (**E**) W'ly 20 ft of Lot 14
12. (**J**) S'ly 40 ft of E'ly 30 ft of Lot 16
13. (**EF**) W'ly 40 ft of Lot 14
14. (**F**) E'ly 20 ft of W'ly 40 ft of Lot 14
15. (**G**) Lot 14 exc W'ly 40 ft
16. (**FG**) Lot 14 exc W'ly 20 ft
17. (**LM**) N'ly 80 ft of Lot 18
18. (**I**) W'ly 20 ft of S'ly 80 ft of Lot 16
19. (**K**) S'ly 40 ft of Lot 18
20. (**AC**) Beg at NW cor of Lot 10; thence E'ly along N'ly line of Lots 10 & 12, 75 ft; thence S'ly parallel with W'ly line of Lot 12, 70 ft; thence W'ly parallel with said N'ly line to W'ly line of Lot 10; thence N'ly to point of beginning.

Answers to Protractor – Bearings Exercise found on page 36

In the following exercise you will be plotting various bearings on the grid below with a protractor. **Remember** that a bearing is always measured toward East or West from North or South and although there are 360 degrees in a complete circle, quadrant bearings or 90 degrees in each quarter-circle are used when plotting legal descriptions. Each degree has 60 minutes and each minute has 60 seconds. Draw and label the bearings indicated below. (*The first bearing has already been plotted and labeled*.)

1. N30degW
2. S30degE
3. N33degE
4. S33degW
5. N76degE
6. N83degW
7. N47degE
8. S68degW
9. S44degE
10. S89degE
11. S87degW
12. N45degW

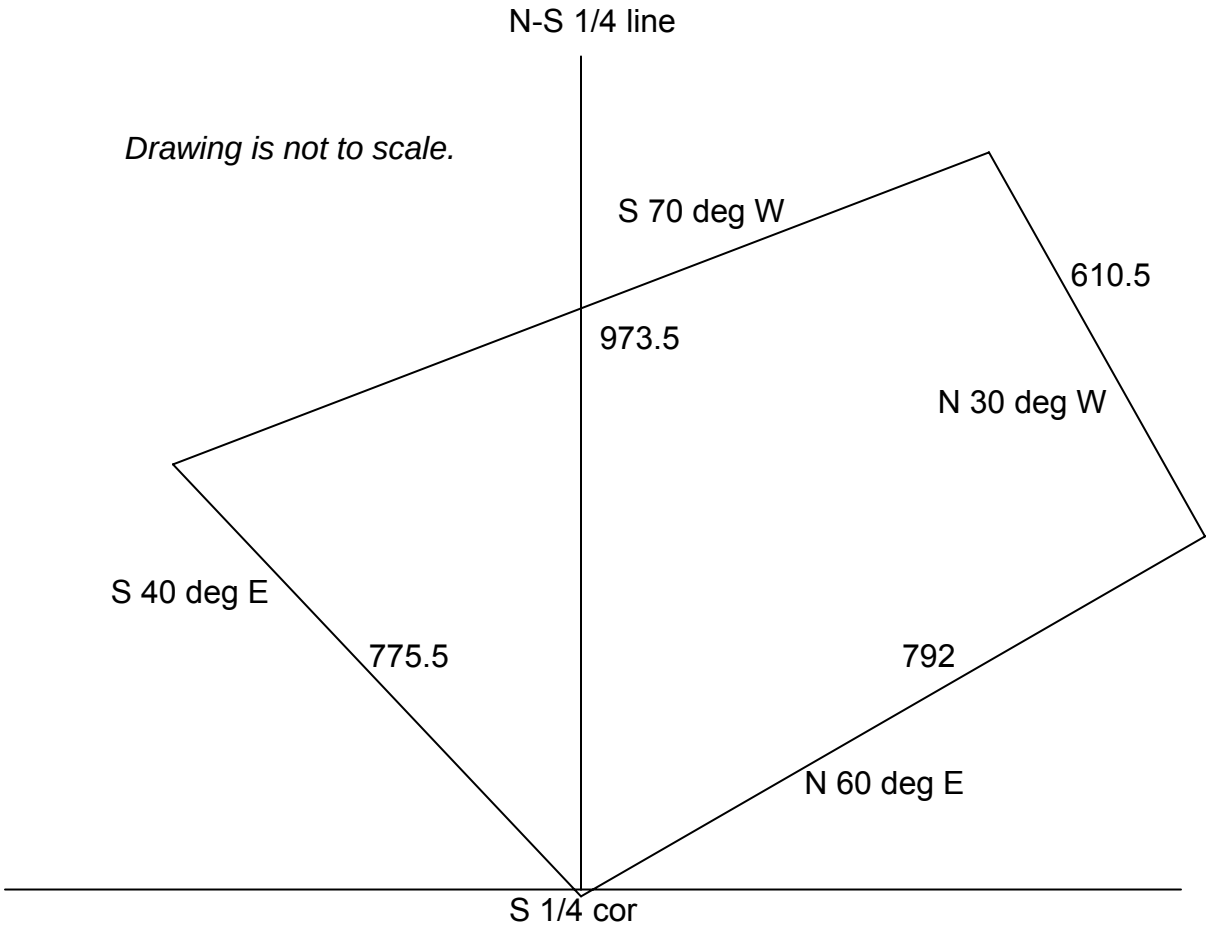


Answers to Metes and Bounds Description - Plotting Exercise found on page 37

Using a protractor and an engineer's scale; plot and label the following description at a scale of 1" = 200 feet, but first convert chains and links into feet. (*Refer to the Table of Measurements found on page 31*.)

Com at S ¼ corner of Sec. 34, T22N, R1E; thence N 60 deg E, 12 chains; thence N 30 deg W, 9 chains 25 links; thence S 70 deg W, 14 chains, 75 links; thence S 40 deg E 11 chains, 75 links to point of beginning.

What quarter(s) is this description part of? SE 1/4 and SW 1/4



12 Chains = 792 feet
9 Chains = 594 feet
25 Links = 16.5 feet
14 Chains = 924 feet
75 Links = 49.5 feet
11 Chains = 726 feet

Answers to Missing Bearing and Distance Exercise found on page 38

At a scale of 1 inch = 200 feet plot and label the following description and determine the approximate bearing and distance back to the place of beginning.

Com 100 ft E of SW cor of NE 1/4; thence E 300 ft; thence S 30 deg E 400 ft; thence S 45 deg W 400 ft; thence N 30 deg W 900 ft; ***thence S 56 deg E 270 ft back to point of beginning.***

What quarter(s) is this description a part of? **All four quarters**

If the description begins 100 ft east of the SW cor of NE 1/4 (or the center of the section), continues east and then on a SE'ly bearing it will fall into the SE 1/4. From the second call the line continues 400 ft in a SW'ly direction toward the SW 1/4, but still ends east of the N-S 1/4 line. The N 30 deg W bearing of 900 feet will place the line just into the SW 1/4 and continue over the E-W 1/4 line into the NW 1/4. The missing bearing back to the point of beginning will just fall into the NE 1/4.