

Everything You Don't Know about Measuring (Really)

By Patrick J. Butler

Editor's Note: Appraiser Pat Butler shares little-known but common measuring mistakes, reveals why two competent appraisers might produce varying sketch measurements and provides the best ways to reconcile the differences. Due to its length, the second half of this story is posted at www.workingre.com and will be available to all readers free until November 17, 2006.

An important part of the appraisal review process performed by relocation companies and others is ensuring that both appraisers submitting reports have calculated a mostly similar amount of gross living area for the subject property.

Likewise, it's important for every appraiser to understand why their sketches can vary from other appraisers, even when both are done "by the book."

A reviewer might need to determine whether an appraiser made a measuring mistake or whether differences in each sketch are simply a result of different measuring techniques. Insurance underwriters also reveal that measuring mistakes are one of the most common reasons appraisers get sued.

This article introduces you to some inherent problems in the measuring process, allowing you to complete (or review) property sketches with an understanding of what problems might occur when measuring a particular house.

Because many organizations require a fixed limit on how close two appraiser's size calculations must be—100 square feet for example, accurately measuring properties becomes exceedingly important. After reading this article, you may decide a relative amount, such as a five percent difference, is a better strategy. To illustrate, a 100-square-foot difference on a 2,000-square-foot home (five percent) makes sense but what about a 100-square-foot difference on a 5,600-square-foot home?

Significance of Small Mistakes

Some of the measuring situations mentioned here may result in an appraiser being off on a measurement by only a few inches and this does not seem like much. However, remember that a house sketch might be comprised of dozens of small line segments, and those one- or two-inch mistakes add up if they are all in one direction. Also, the gross living area of a house is comprised of area calculations in which width measurements are multiplied by depth measurements—multiplying the effect of any mistakes.

Finally, there are some appraisers who insist on rounding their measurements to the nearest six inches or even a foot. A one-inch error can therefore result in a six-inch mistake if it causes the appraiser to round up or down in the wrong direction. Now multiply that six-inch mistake by the 50-foot length of a sample house and suddenly that one-inch mistake just affected the living area by 25 square feet. An appraiser who rounds to the nearest foot just made a 50-square-foot mistake by being off on only one measurement out of dozens that are likely to be made.

Pulling your Tape Tightly

Fiberglass measuring tapes are probably the most common measuring tool in an appraiser's arsenal. Fiberglass models are preferable to steel tape models because they are less apt to scratch something

when pulled around inside a house. Fiberglass has a tendency to stretch more easily than steel tape. Two people can get a different measurement depending on how tightly they pull the tape.

The stretch is usually less than an inch but that can be a critical amount for an appraiser who rounds his or her measurements to the nearest six-inch interval. Does one of your sketches have measurements that are consistently shorter than the measurements of another appraisal? It could simply be a difference in how tightly one appraiser is pulling his or her tape.

If this sort of difference in measuring has caused the sketches to differ quite a bit in their living areas, it might be necessary to have one of the appraisers re-check his or her measurements. That might actually require another trip to the subject property. You probably can get a



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good idea of which appraiser did a better job measuring based on your interviews with them. That will help you decide who needs to be encouraged to double-check his or her work.

Rolling Wheel

Some appraisers measure using a rolling wheel. These are commonly available with either small or large wheel diameters. A smaller-wheeled model is better for measuring the exterior of a house because it can be rolled in closer to an inside corner. Some of the larger-wheeled models have a 12-inch diameter wheel and can be rolled only within six or seven inches of an inside corner. A larger-wheeled model is more useful for taking long-distance site measurements over rough terrain, where the larger wheel is less apt to slip as it is rolling.

When measuring a wall with an inside corner, the appraiser needs some sort of reference point on the wheel itself to know when one revolution has been completed. The appraiser needs to carefully line up the reference line over the corner of the house and make sure he or she considers where the reference mark ends after the wheel has traveled the length of the wall. This will allow the appraiser to measure the final distance between the reference mark and the inside corner. Overall, rolling wheel measuring tools are among the least accurate devices available because the diameter of the wheel reduces the ability to measure into tight corners.

Another error made with rolling wheels is when an appraiser rolls the device along the sloping surface of the ground rather than against the house. In this instance, the appraiser actually is measuring the slope line of the ground, which will be a longer distance compared with the actual width of the house.

Carefully view the exterior photographs of the subject property to see if there are any sloping areas that might have contributed to measuring errors. If you are comparing two appraisals with

differing amounts of living area, it might be a good idea to ask your appraisers what types of measuring devices they used. The "wheel-roller" appraiser might want to double-check his or her measurements using a fiberglass tape.

Lasers

Laser and ultrasonic tape measuring devices are becoming the measuring tools of choice for the modern appraiser. Ultrasonic measuring devices are less expensive than laser tools and are becoming more commonly used by appraisers. Ultrasonic devices rely on sound wave transmissions through the air and measurements can be affected by changes in temperature. Thus, two appraisers can acquire different measurements depending on the temperature of the room they are in. The targeting beam of most ultrasonic devices can be large in diameter—that can result in inaccurate measurements if it is unclear where the invisible beam hit.

Most of the ultrasonic devices are designed for the mass consumer market and are likely to have quality issues. Many appraisers and real estate agents who use these devices will tell you that they seem to become less accurate over time.

While expensive, laser measuring devices are the tool of choice for any appraiser desiring the utmost accuracy. One popular model used by appraisers is the Disto by Leica (see pages 15, 17). These devices were used in the surveying profession long before they became popular with appraisers. As a result, most laser devices have a rugged design and generally are a higher quality than ultrasonic devices. Most laser measuring tools will project a red laser dot onto the target so the appraiser knows exactly where he or she is measuring. Some even have built-in scopes so an appraiser can visually line up the red laser dot over a long distance.


If an appraiser is properly using one of these laser tools to measure a house, you generally can expect more accurate measurements compared with the other

types of devices. If you are trying to reconcile two sketches with different measurements, it would be a good idea to ask each appraiser what tools they used to measure the house.

You'll find the second half of the story at www.workingre.com, including: how the characteristics of a house can cause measuring problems, including siding, stonework, corners, wall thickness and "squareness"; a discussion of ANSI measuring standards, adjustments and more. **WRE**



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