BLUEBEAM bits & bobs

# Measurements – a few things that no one talks about

Here's the thing, if you're going to be an Estimator, you're going to be using the measurement capabilities of the software more than anyone else. You might as well take some time to learn how to use them to the best of their abilities. To know and understand the attributes of the various measurement tools will help you better manipulate your Markups list in later steps.

The Markups list is arguably Revu's most powerful feature, and something that sets in apart from other programs. Its customization can help you produce everything from a full estimate to whatever report you might need for your team. You have to know how to set it up for success though, and that starts with understanding the tools.

This is the full and compete Measurement Toolbar. On it is everything you need to take your measurements in Revu. From left to right: Measurement Tool, Calibrate, Length, Polylength, Perimeter, Area, Volume, Polygon Cutout, Ellipse Cutout, Dynamic Fill, Count, Diameter, Angle, Radius, Center Radius, 3 Point Radius. Will you use all of these? Doubtful. I have yet to find a use for the Volume tool in Architectural Millwork, so I have mine turned off. I have also never quite figured out the Ellipse Cutout tool, but if you have, let me know will you. I also don't use the calibrate tool, I prefer to do that off the Measurements Panel. Feel free to adjust your toolbar to suit your workflow. Most of these are pretty much self-explanatory, but I'd like to touch on a few because they have some unique attributes that you might not be aware of.

One of the very first tips I learned about Revu was that regardless of what kind of markup you're doing, to use a measurement tool. The reason? A measurement tool allows you to apply both a Subject and a Label. A polygon markup will only allow you to set a subject. Adding a label gives you the ability to sort and filter by a second criteria. It also expands your options. Maybe you create a subject for Wood Casework and another for Plam Casework. Both will most likely have a BFH-2 as the Label. Where you can, try to use both. You can also embed a layer into any tool. Measurement tools also produce primary and secondary measurements. These are important for later if you're writing a formula in the markups list.

In the markups list there is a column called 'Measurement'. It doesn't come on by default so you will have to enable it. Using the measurement column instead of say length or height, will allow you to do a more global formula because the Measurement column recognizes the Primary measurement of a tool. More on that in a different post though.

After you're done reading let me know what you think in the comments. Tell me if you learned something, Tell me if I'm wrong. Let me know what you'd like to learn in Bluebeam Revu, maybe we can learn something together. Maybe we can learn something they don't teach in the online tutorials. Enjoy, and happy Bluebeaming - Doug

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## Polylength Tool:

*Primary Measurement: Length*

*Secondary Measurements: Depth, Wall Area*

This is a rather interesting tool. By default, it will show you the segmented values, but those segments don't show up in the Markups list. Some people would really like those segments too. Like a few other tools the Polylength tool can be given a Depth, which will read in the Markups list as in the Depth column. Revu will multiply the length by the depth to give you something called Wall Area (see below) You can also add to it what Bluebeam calls, a Rise/ Drop. This is for when you need that line to go vertical in some way. I don't really use this feature in Millwork all that often but say you're taking off Baseboard and there is a step up to a different room. You would enter that step up as your Rise Drop. Now when you do that, the segmented values gets turned off, and you'll get a caption showing the Rise/ Drop. You can turn the segmented values back on, however. The segment lengths will remain the same and your Rise/ Drop will display. There is even a built in column for Rise/ Drop, but you'll have to select it to enable it.
Another thing about the Polylength tool is that you can't automatically draw a box with it like you can with a Perimeter or Area tool. It won't let you. It's only a line. It can't be closed automatically like the Perimeter tool by the keyboard shortcut "c". A segment of a Polylength tool can also be converted to an arc if needed.

## Perimeter Tool:

*Primary measurement: Length*

*Secondary Measurements: Depth, Wall Area*

On the surface, Polylength and Perimeter are quite similar. Digging into them a little though reveals their differences.
A Perimeter tool cannot be given a Rise/ Drop, but it can be closed by using the keyboard "c". You can also draw a box with it by holding the left mouse button and dragging. You can draw an odd shape by clicking and releasing the left mouse button, moving, and then clicking the next points(s). It can also be given a depth like the Polylength tool, however, that depth will apply to all lines of the perimeter. Say you draw an 8'-0" x 8'-0" box with a 10'-0" depth. You'll get a Wall Area of 320 sqft. By default, a Perimeter tool does not show the segmented values.

Which of these two tools you choose is really dependent on what you want out of it. I kinda found out the hard way that if you want you markup to only be a straight line, use a Polylength tool. The tool will not draw a closed square on its own. If you need to draw box around a room, like if you were taking off baseboard, I'd use a perimeter tool.
Both of these tools will allow you to convert a segment to an arc as well. What's really nice is that the length of the arc will be displayed as Length in the Markups list when you do this.

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## Area Tool:

*Primary measurement: Area*

*Secondary Measurements: Length, Width, Height, Depth, Wall Area, Volume*

The Area tool is pretty self-explanatory, it takes the area measurement of any shape that you've done. It works the same as the Perimeter tool for drawing a shape; click hold and drag for a square, click, release, and pick points for an oddball shape.
The Area tool can also be given a slope. After you've made your markup, go to the Measurements panel and you can edit the slope. You can choose either Pitch, Degree, or Grade. This is great for when you're taking off a roof or a ceiling for example. I did an experiment one day, and it doesn't matter which way the slope of the markup goes; along the x or along the y, the calculated area will be the same (ok, it does change after the 5$^{th}$ decimal, but if you need to be that accurate…).
It can be assigned a Depth just like the Perimeter and Polylength tools and can produce a Wall area just like they can.
Where the Area tool gets most confusing is in its secondary measurements.
It gets displayed in the Markups list like this:

Length is actually the Perimeter of the markup
Width is the measurement along the X axis
Height is the measurement along the Y axis

Why is this important? Well, if you are going to write any custom Formula columns, you need to know what's what.

Here's a weird thing about an area tool, that applies when you're making a markup on an angle.
If you make your markup as a standard XY rectangle and then rotate it, the Width and Height will display accurately in the Markups list HOWEVER, if you make your markup to the shape as its displayed on the page, the Width and Height are shown in the Markups list as the Width and Height of the outer box (the blue lines). Go on, try it, you'll see that I mean.
That's not a big deal if you only need the Area measurement, but if you need the Width and Height to be accurate, that's an issue.  So how do you get around this? You could take a snapshot, rotate the snapshot till its at 90° to the page and then take your markups, move your markup to the content and Bob's your Uncle. Something my estimating partner brought up, is that maybe you need this larger size because you have to fit an odd shaped piece onto a sheet… so maybe you DO want the larger measurements.
You could use the Deskew tool to set the rotation of the sheet to where its square (shoutout to @Troy DeGroot for this tip). I'll let you look up how to do this because this post is about measurements but do keep stuff like this in mind when you're doing an angled markup.

## Wall Area:

A quick thing about Wall Area.
Not a lot of people understand this feature, but it comes in really handy sometimes. A lot of the time, especially when we're doing a budget off of 50% drawings, we don't have elevations. Sometimes we do, but the returns aren't shown. We have to have a way to take off those items. This is where the Wall Area function comes in very handy. I have a couple of custom Polylength tools set up for taking off wall returns to get their area. Then use some other tricks to convert that to area. More on all that MUCH later.

The area tool will become one of your go to tools very quickly

## Volume Tool:

*Primary measurement: Volume – Cubic feet/ cubic meters*

*Secondary Measurements: Area, Length, Width, Height, Depth, Wall Area*

As I mentioned earlier, I have yet to find a use for the Volume tool in Millwork, so I really don't use it. It functions a lot like the Area tool except you HAVE to assign a depth to the tool in order for it to calculate the volume.
One thing to keep in mind though, if you do show the Wall Area, it might be different than the Volume. As we remember from elementary school math, Volume = L x W x H (Depth), whereas the Wall Area would be equal to L x H for each wall added together.

## Cutout Tools

The next couple of tools in the list work with the Area and Volume tools to allow you to do a cutout from an area or volume. I'll use this to cut out a window or a door in an elevation of wall paneling, for example.
They're pretty easy to operate, just pick your points that you want to cut out and do the markup.
I mentioned earlier that I have never quite figured out the ellipse cutout tool. I wish it would work differently than it does. You have to start it from the corner, which makes placing it a pain. Honestly, I wish Bluebeam would fix this tool. I guess if you had your crosshairs turned on this would work easier. You can also fill in the cutout if you like. You can select a different Area tool, i.e., glass and you can fill the cutout. When you hover over the cutout a little paint can will appear, just click to fill.

## Count Tool:

*Primary measurement: Count*

*Secondary Measurements: Length, Width, Height, Depth, Area, Volume*

Wait!!! WHAT?!?! Secondary measurements from a Count?? He's on glue.

Seriously, you can get these from a count tool. Nobody ever tells you this do they? Ok, OK, you have to enter the Length, Width, and Depth manually, but it will calculate the Area and Volume from those measurements. Why would you do this? Here's one example of where I use this feature: Steel posts inside diewalls.
In a lot of cases, we have a need for multiple sizes of steel posts that may be required inside a diewall. We might need them to be different widths, maybe we need some 2 x 2 and some 2 x 3. We also need them to be of different heights. You lay all these things out with a count tool. Then when you do a report, you have all that information for your steel vendor.
What if you're counting sheet sizes? You can set a count for 4 x 8 sheets, or 5 x 12 sheets or whatever. With the ability to label a Count, you can play with this more… how many 4 x 8 sheets of White Oak, how many 4 x 8 sheets of laminate, how many 24" in wall brackets, how many 20"?... this can all be done using the Count tool. You can easily output a report and have all of this information for your purchasing dept.

Counts in themselves are pretty self-explanatory, no need to go into them in depth. They are the only measurement tool that you can apply from the Search panel though. Counts can be split from a right click menu, and they can be merged the same way. Counts can be resumed, or they can be started over. It's a pretty cool tool when you look at it a bit closer. I didn't even mention that you can take any tool and turn it into a count tool did I?