

2020 Jul 2

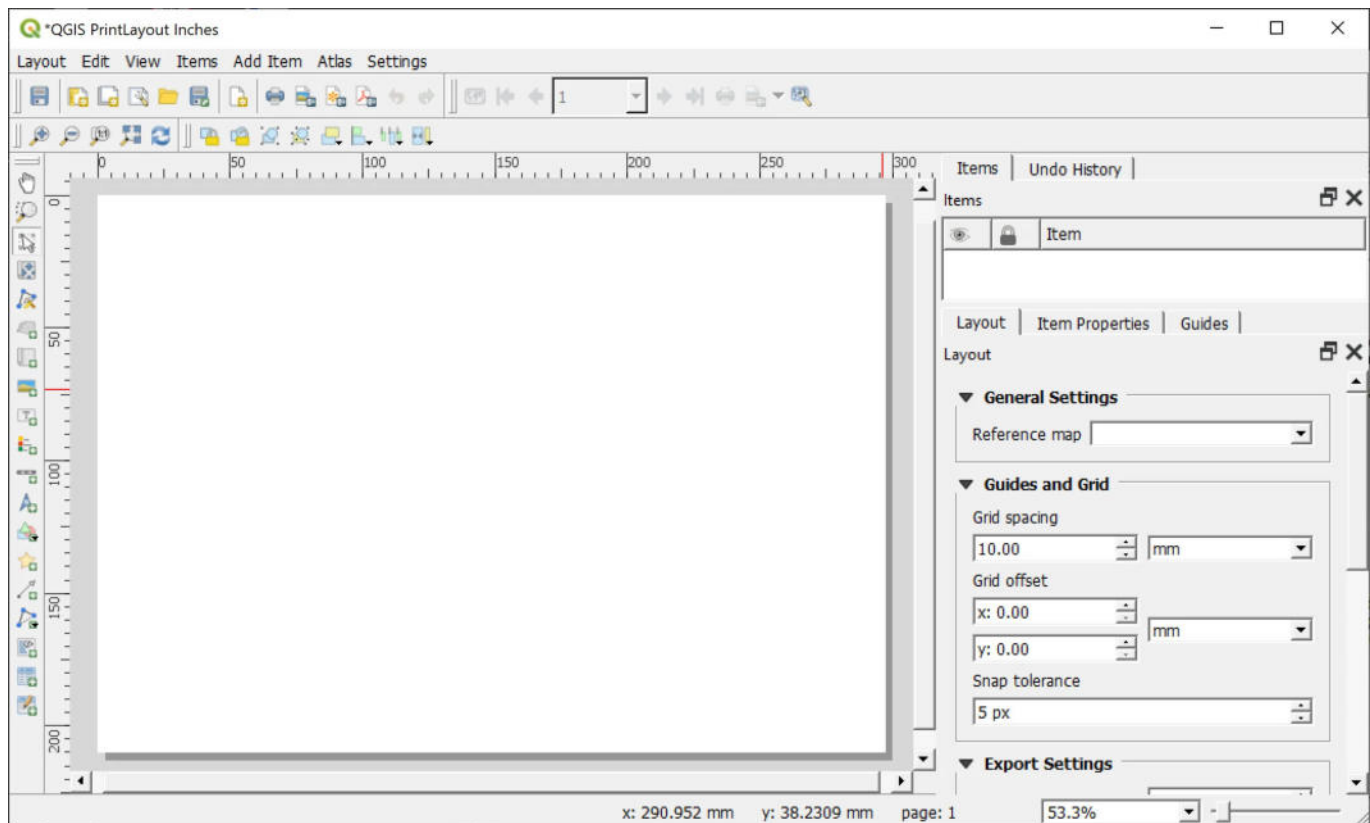
Setup QGIS Print Layout to use Inch Instead of Millimeter

I'm in the process of migrating as much of my workflow from ArcGIS to QGIS as possible. As part of my migration, I'm creating Layout templates to make the process of map making a bit easier. One of the questions I get all the time is how to set the units used in Layout to be in inches instead of millimeter. If you're a QGIS user, you'll noticed that you can change the Layout page size to be in inches (e.g. 8.5x11" Letter Portrait), however, the unit for the Ruler in Layout is hard coded in QGIS to be in millimeter - this causes a lot of confusion/frustration for users since the page size and Ruler units don't match. This is

the workflow that I use to create a print layout template in QGIS that sets the units of the Ruler and the page size to be in inches. Note, I'm using the latest version of QGIS 3.14 Pi.

1. Open QGIS. Go to Project Menu >> New Print Layout
2. Give your new print layout a name (e.g QGIS PrintLayout Inches)

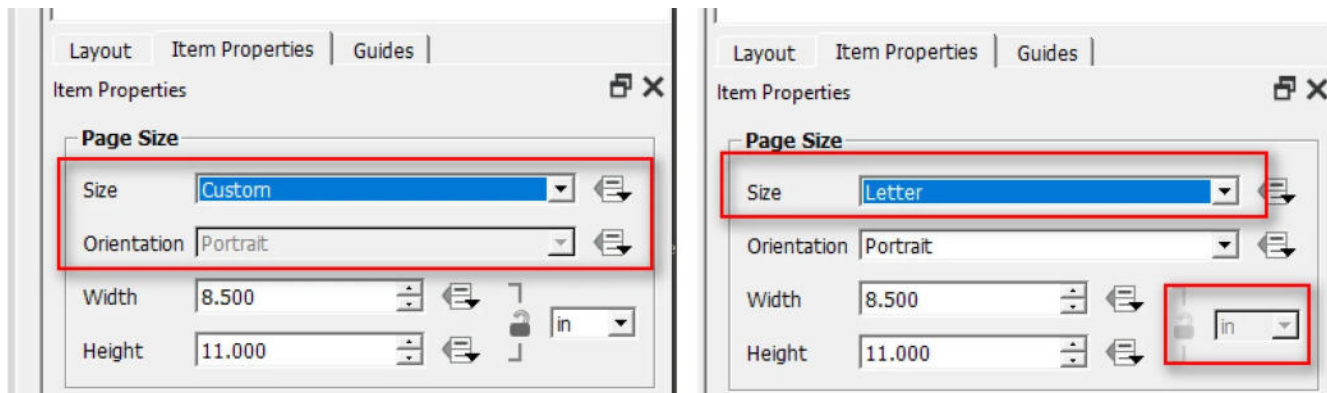
The default QGIS Layout looks like this:



3. Change page size via **Page Properties**, which is sort of hidden (its not in the menus). Right click anywhere within the Layout >> Page Properties.

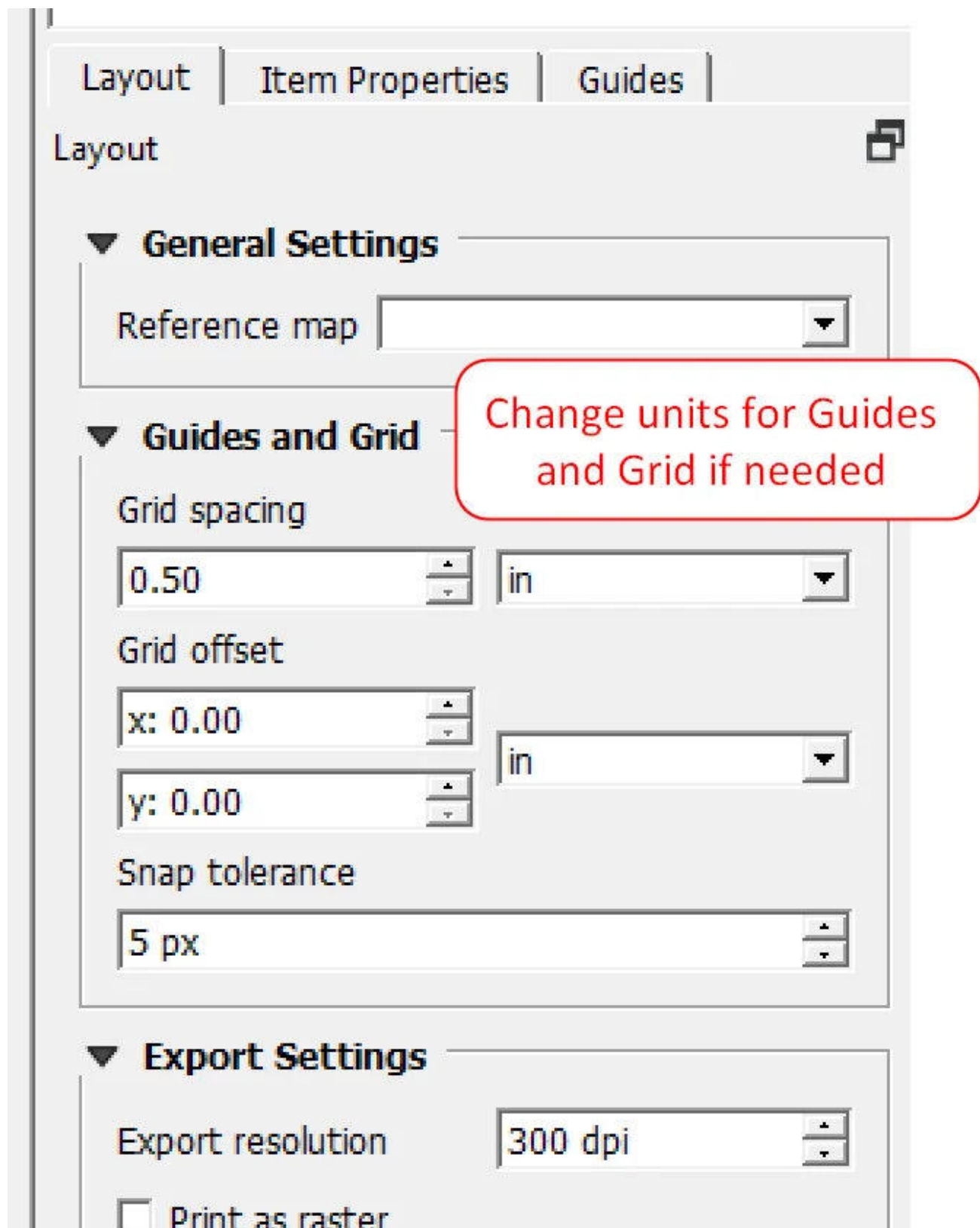
Change your settings on the Page Properties to whatever you want. Here I'm changing my page size to 8.5x11 inches Portrait

Note: You may get either the Unit or Orientation grayed out depending on what page size you choose. Notice in the snapshot below, when Custom is selected the Orientation field is grayed out, and when selecting Letter the unit is grayed out. I find this weird and don't know if this a bug or not. But to work around it I first use Custom as my page size to input the width and height and change the unit to inches. Then switch to Letter size and change my orientation to Portrait.

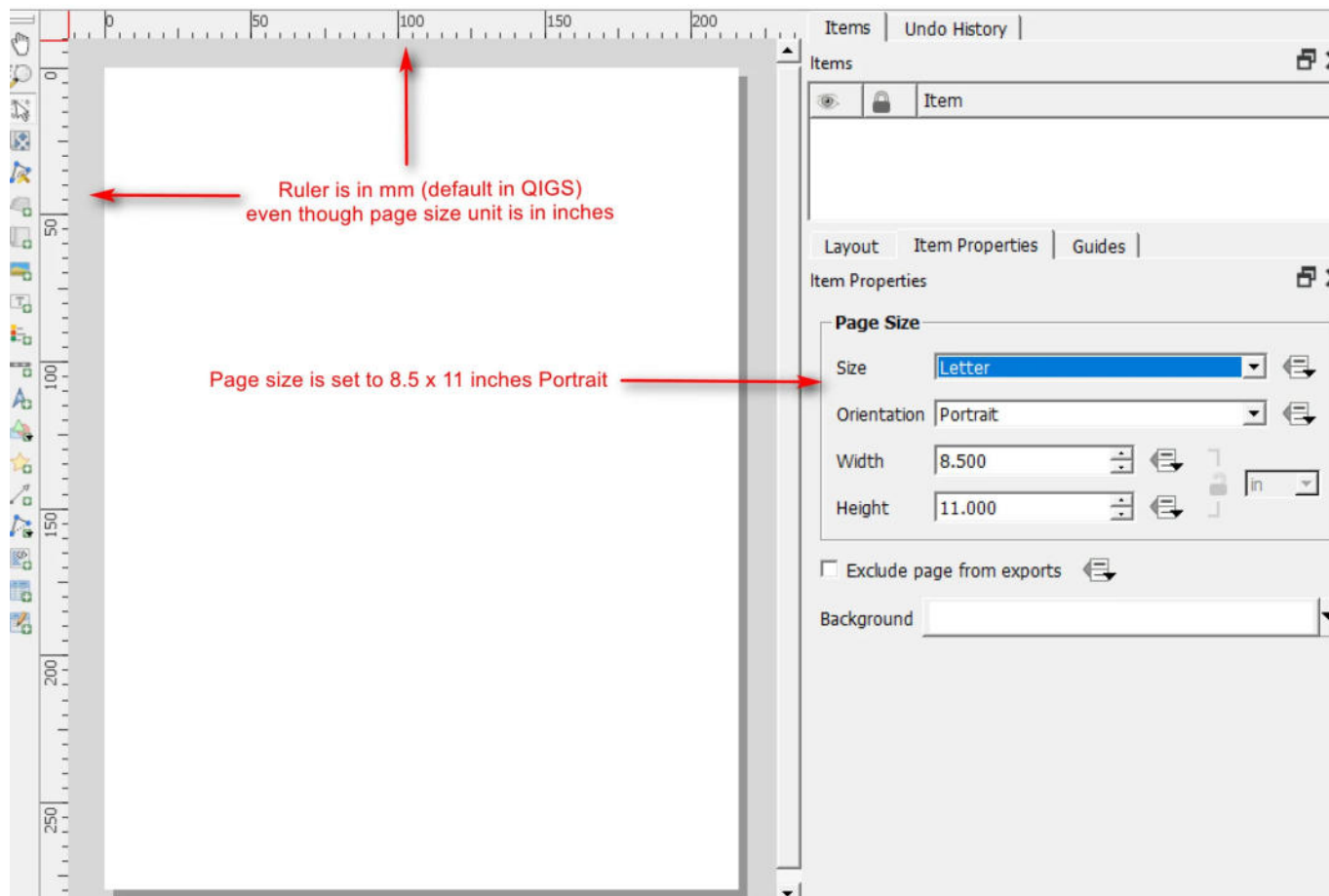


Notice when Custom is selected the Orientation field is grayed out, and when selecting Letter the unit is grayed out.

4. Change the units for the Guides and Grid as needed (e.g. Inches)



This is how my layout looks like now. Notice that even though my page size is set to 8.5x11 inches Portrait the Ruler unit is still in mm (this is the default unit in QGIS and built into the core software).



At this point, you can add other map elements (e.g. Logo, map title, scale bar, etc) that you want to include in your template.

5. Save the print layout as a *.qpt template file (e.g. QGIS_Layout_inhces.qpt). Go to the Layout Menu >> Save as Template

6. Open and edit the layout template (.qpt) that you just saved. Here, I'm using Notepad++ as my text editor. Find and replace "**mm**" to "**in**" the qpt file. Save the file when done editing.

```

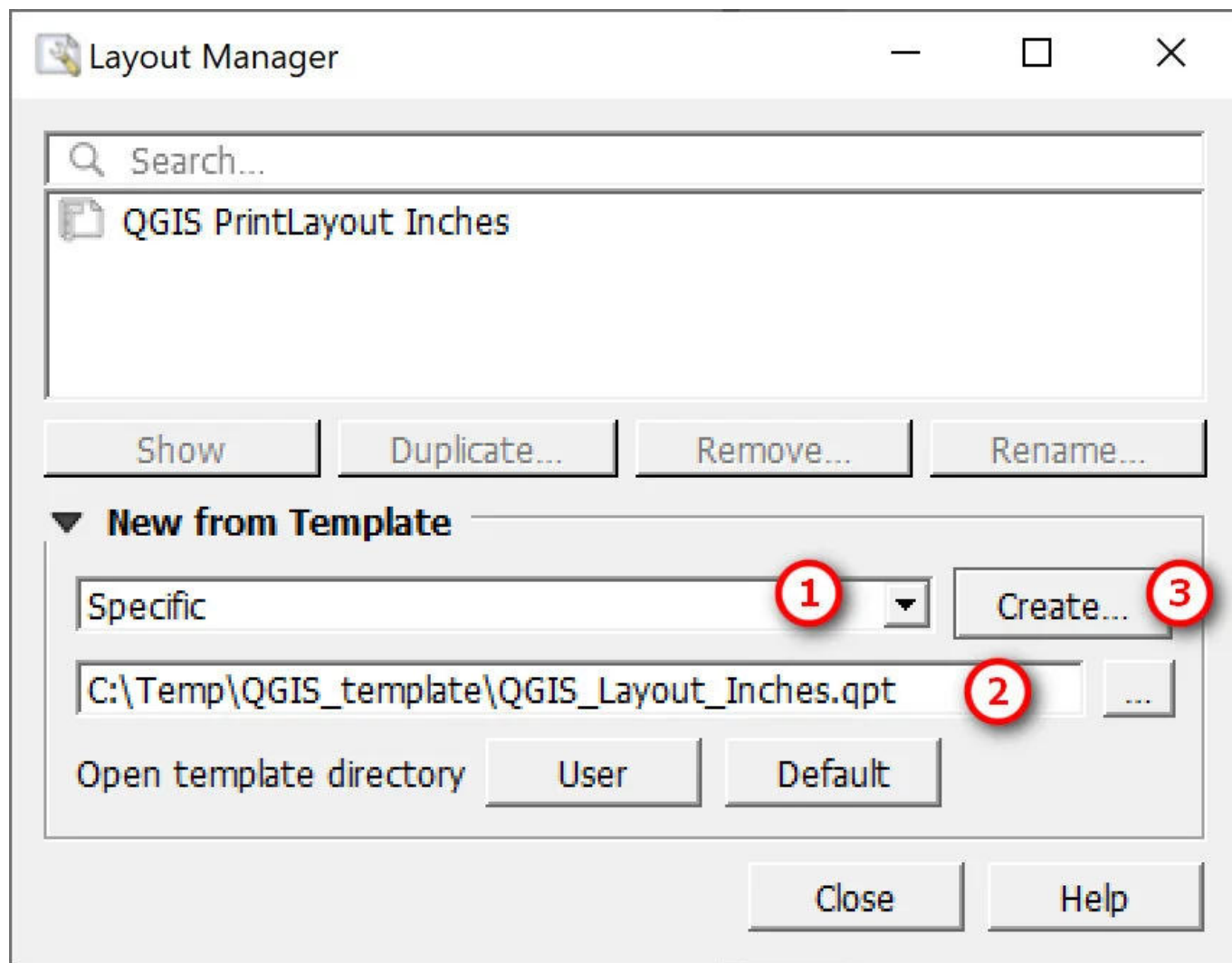
1 <Layout printResolution="300" name="QGIS PrintLayout Inches " units="mm" worldFileMap="">
2 <Snapper snapToItems="1" tolerance="5" snapToGuides="1" snapToGrid="0"/>
3 <Grid offsetY="0" resolution="10" resUnits="mm" offsetX="0" offsetUnits="mm"/>
4 <PageCollection>
5 <symbol clip_to_extent="1" type="fill" name="" alpha="1" force_rhr="0">
6 <layer class="SimpleFill" locked="0" enabled="1" pass="0">
7 <prop k="border_width_map_unit_scale" v="3x:0,0,0,0,0,0"/>
8 <prop k="color" v="255,255,255,255"/>
9 <prop k="joinstyle" v="miter"/>
10 <prop k="offset" v="0,0"/>
11 <prop k="offset_map_unit_scale" v="3x:0,0,0,0,0,0"/>
12 <prop k="offset_unit" v="MM"/>
13 <prop k="outline_color" v="35,35,35,255"/>
14 <prop k="outline_style" v="no"/>
15 <prop k="outline_width" v="0.26"/>
16 <prop k="outline_width_unit" v="MM"/>
17 <prop k="style" v="solid"/>
18 <data_defined_properties>
19 <Option type="Map">
20 <Option value="" type="QString" name="name"/>
21 <Option name="properties"/>
22 <Option value="collection" type="QString" name="type"/>
23 </Option>
24 </data_defined_properties>
25 </layer>
26 </symbol>
27 <LayoutItem referencePoint="0" excludeFromExports="0" positionLock="false"
positionOnPage="0,0,mm" frame="false" size="8.5,11,in" position="0,0,mm"
templateUuid="{31b4579f-b410-49b2-956c-a26c2291496d}"
uuid="{31b4579f-b410-49b2-956c-a26c2291496d}" zValue="0" type="65638" itemRotation="0"
outlineWidthM="0.3,mm" visibility="1" blendMode="0" id="" groupUuid=""
frameJoinStyle="miter" background="true" opacity="1">
28 <FrameColor blue="0" green="0" alpha="255" red="0"/>
29 <BackgroundColor blue="255" green="255" alpha="255" red="255"/>
30 <LayoutObject>
31 <dataDefinedProperties>
32 <Option type="Map">
33 <Option value="" type="QString" name="name"/>
34 <Option name="properties"/>
35 <Option value="collection" type="QString" name="type"/>

```

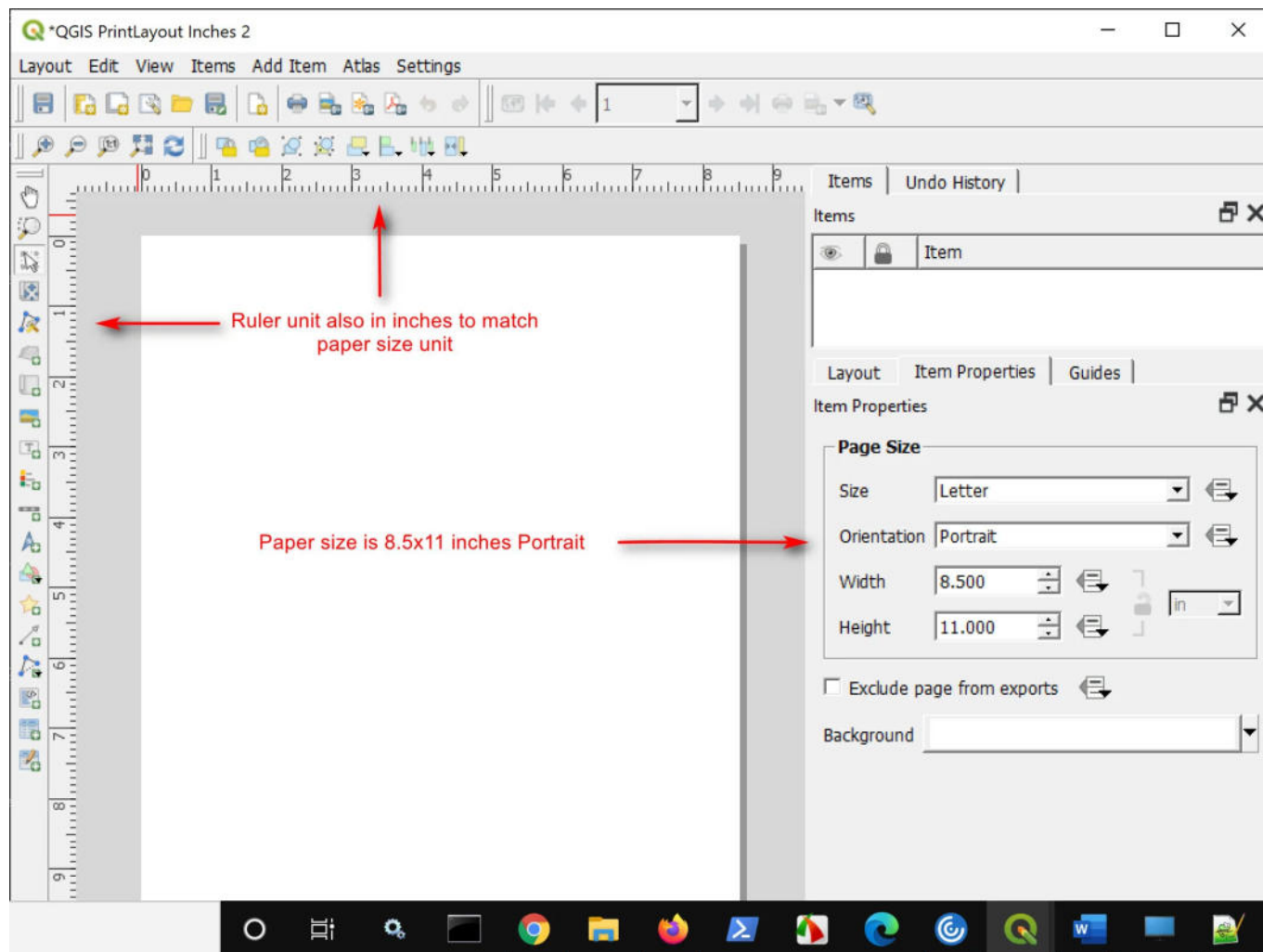
Normal text file length : 3,202 lines : 70 Ln : 1 Col : 1 Sel : 0 | 0 Unix (LF) UTF-8 IN

7. Go to Layout Menu >> Layout Manager. Open your print template.

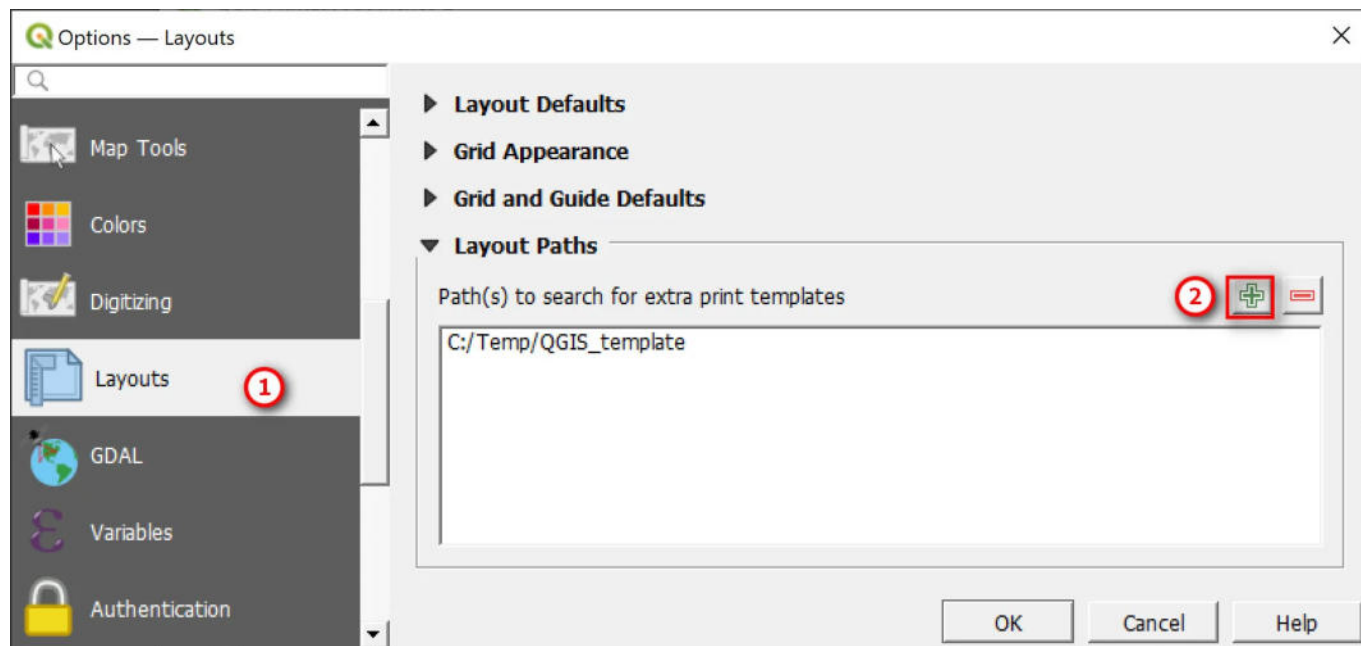
- Under New from Template: Select Specific
- Navigate to your print layout template (the one you just edited above in step 6).
- Create a new layout using the specified template



Now the Ruler unit and Page Size unit match. Both should be in inches.



8. Optional – you can add the path to your layout templates in the Layout Settings so that QGIS will know to look for your templates.



That's it for this session. I hope you find it useful. Print Layout templates is a great way to standardize map making and share them with others inside or outside your company.

Thanks for reading :)

Comments (3)

Newest First

Stephanie Saephan 6 years ago · 0 Likes

Hi,

I'm not sure what's actually gone with what you're seeing. I've noticed the same issue with my layout. I suspect this issue may be linked to the core of QGIS being hard coded to use mm, so there may be conflict between

the data viewer and the layout. And again, this is a work around so it's won't be a perfect solution to getting the layout to show different page units from the default setting.

For me, the issue is the symbols end up being very large. I was able to fix it by playing around with the Marker/symbol unit (e.g pixel) and size (20) then refreshing my map layout.

Hope this helps. If you find another solution, please let me know.

6 years ago · 0 Likes

I was excited to find this post, but when I followed the steps there's a problem: defining the ruler in inches totally messes up all symbology and labeling. On the layout everything takes on the size specified in the map at a factor of 25.4x, the conversion factor between millimeters and inches. Is there something else that needs to be done, here?

Stu Smith 6 years ago · 0 Likes

Thanks for a concise walk-through. I recently completed a project for a client that wanted the output to be sized for Arch D (24 x 36 inches). As you demonstrate, QGIS will happily accept those dimensions, but the layout ruler is always in millimeters. I had to subsequently arrange all of the map parts in mm. Although it wasn't too difficult, having the ruler in the same system (metric, standard...) as the page size is a big help!

< Mapping and Viewing
Geotagged Photos in QGIS

Viewing ESRI Basemaps in
Google Earth Web and Pro >

open.gis.lab



© 2026. open.gis.lab