

Styling OS Mastermap Layers within QGIS – Part2

In a previous White Paper, we discovered how to style OS Mastermap data using QML style files within QGIS:

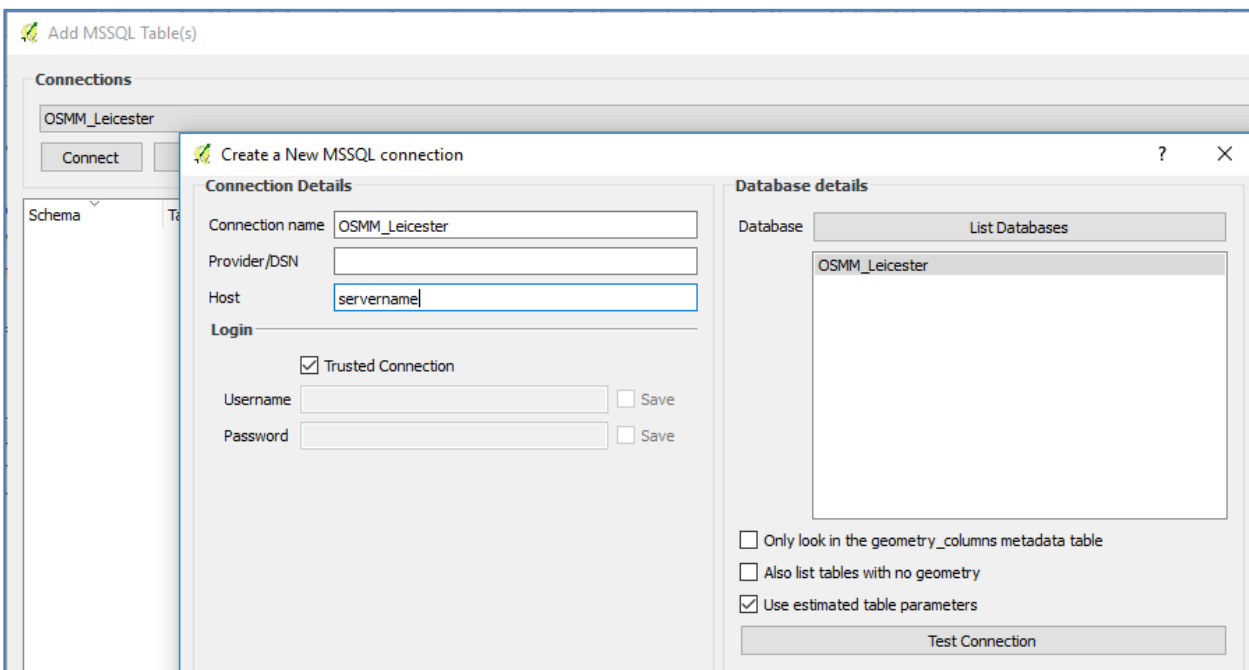
<https://www.cadlinecommunity.co.uk/hc/en-us/articles/360000279965-Styling-SQL-Server-OS-MasterMap-Layers-in-QGIS>

Now in Part 2 we will provide a full description of how to fully style OS Mastermap layers within QGIS including applying label styles to your CARTO TEXT layer. In this paper we will explore the following:

- Connecting QGIS to your OSMM spatial database – in this example **SQL Server**
- Download the required QML files
- Copy the SVG images for polygon textures to the correct location
- Apply the QML style files to all individual OSMM layers
- Apply all the correct Label setting options to the Carto Text layer

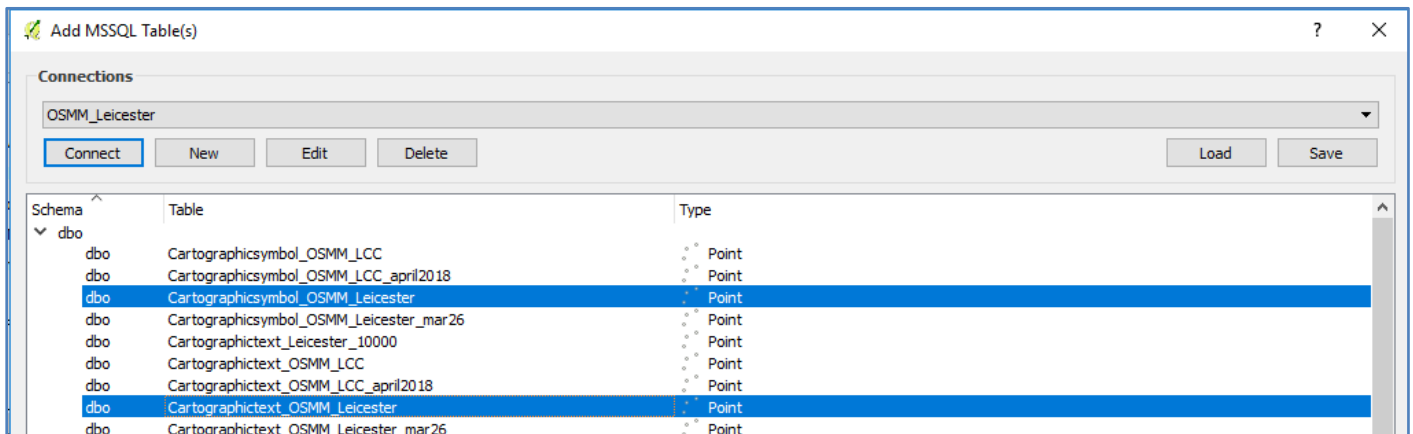
(A) Connect QGIS to SQL:

1. In QGIS make a connection to your chosen SQL Database, using the **Edit Connection** option, adding the **Host** – as the Servername, and the **login** - as your Database username and password.



NB: ensure you untick the 'Only look in geometry_columns metadata table' option.

- To open your OSMM table, choose **Connect** and select each table, holding shift to select multiple tables, and press **Add** to open the tables into QGIS.



- Once the OSMM tables have been added to QGIS, if you zoom into the map you will see the features in each of the layers.



(B) Access the OSMM QML files:

- To style the OSMM tables you can use the **QML style files** that the Ordnance Survey have provided. These can be downloaded from their **GitHub page**:

[https://github.com/OrdnanceSurvey/OSMM-Topography-Layer-stylesheets/tree/master/Schema%20version%209/Stylesheets/QGIS%20stylesheets%20\(QML\)](https://github.com/OrdnanceSurvey/OSMM-Topography-Layer-stylesheets/tree/master/Schema%20version%209/Stylesheets/QGIS%20stylesheets%20(QML))

This download contains;

- The **QML style** file for each OSMM layer/table – with a choice of styles e.g. Outdoors, standard, backdrop etc.
- A **true type font installer** – simply run this as soon as you download it
- **Osmmsymbols** folder which contains SVG files used to style woodland, scrub areas etc.

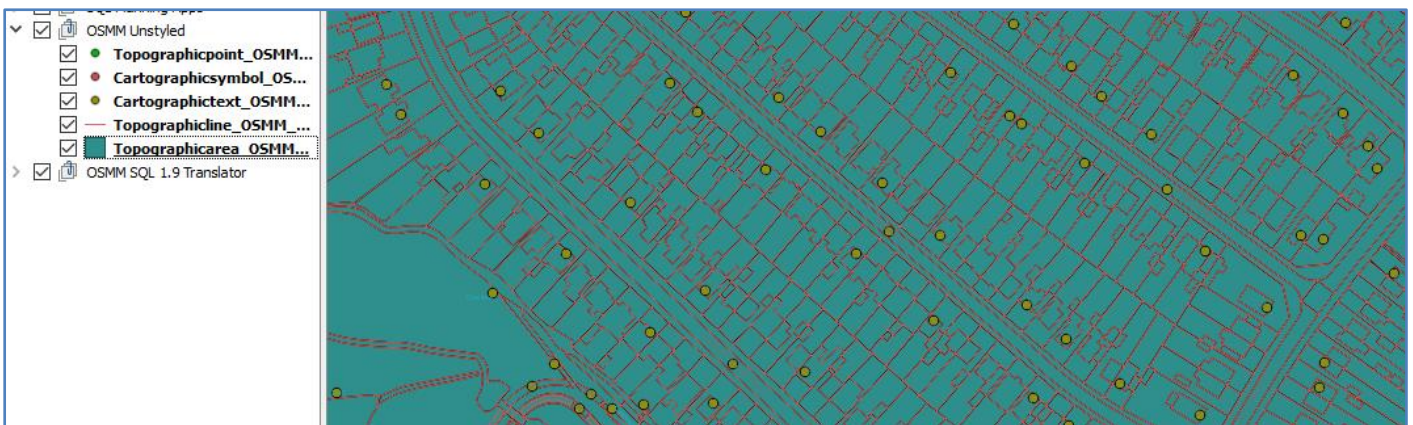
Download all the files to the relevant folder on your server.

NB: If you are a DynamicMaps client, then you will also have access to the DynamicMaps versions of these style files.

(C) Style the OSMM layers using QML files:

To style the OSMM tables you can now use the QML files that you have downloaded from the OS pages.

5. Firstly, re-order the OSMM tables so they are in the correct order for styling and viewing:

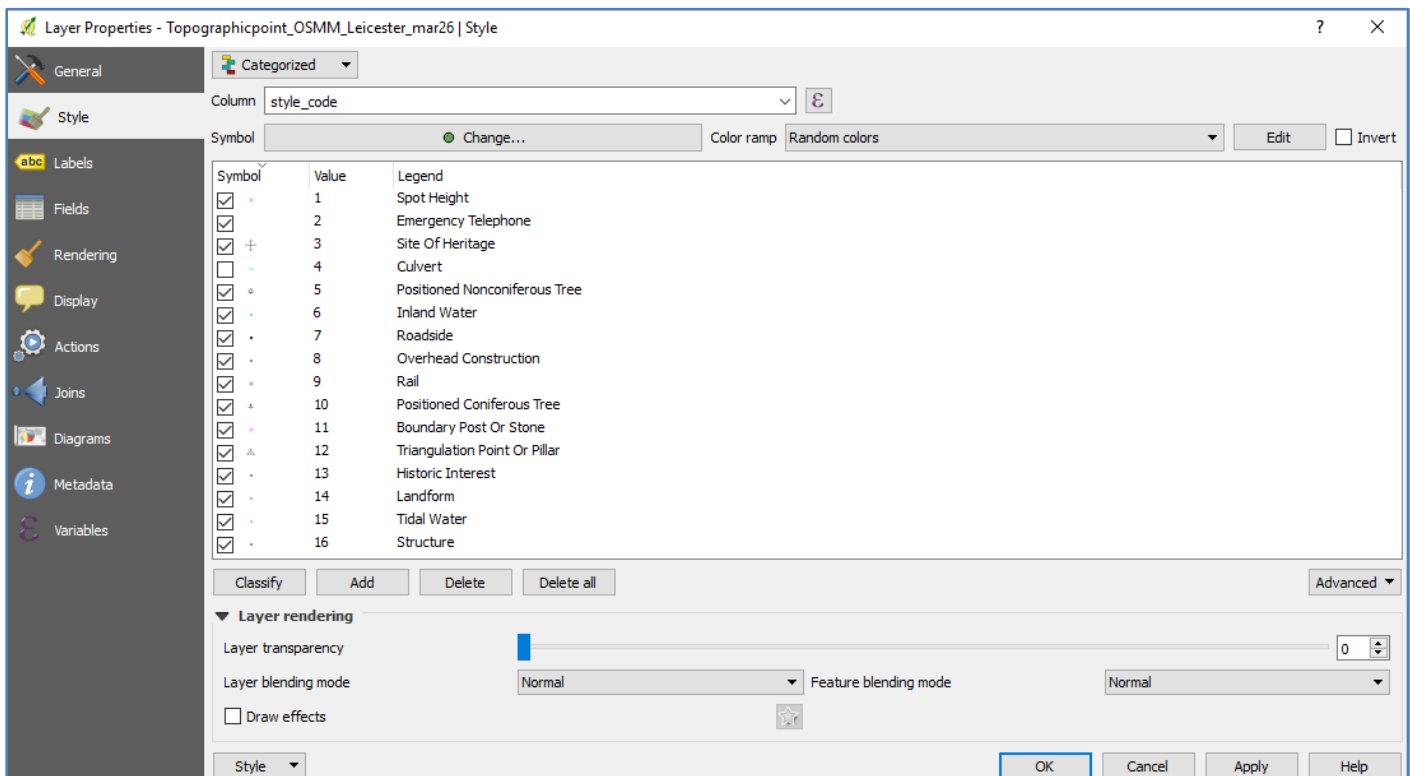


6. Now right click on each layer in turn and load the QML style files.

(C1) Style OSMM Topo Point:

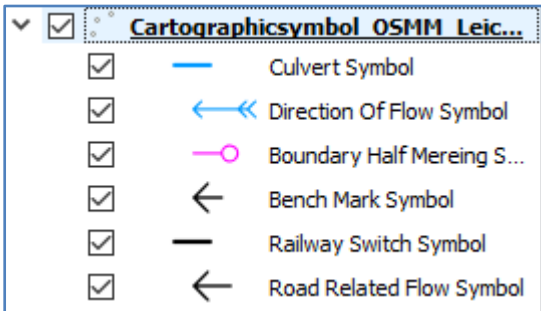
7. Right click on the **TOPO Point** table and choose **Properties**, and in the Style window choose the **Style** button and select **Load Style**.

8. Navigate to the folder where the OSMM QML files are. I am using Cadlines own version of these QML style files, so I have chosen **CADLINE_TOPO_POINT.qml**.
9. Once the QML style file is loaded, assuming the Schema of your OSMM table is correct, QGIS will apply Rule Based styling to your OSMM Topo Point layer and use a specified symbol style for each feature type.

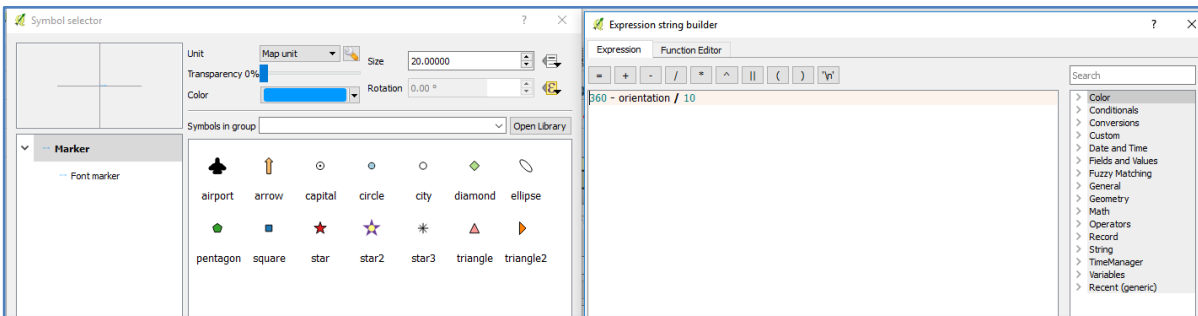


(C2) Style OSMM Carto Symbol:

10. Right click on the Carto Symbol table and choose **Properties**, and in the Style window choose the **Style** button and select Load Style.
11. Navigate to the folder where the OSMM QML files are. I am using Cadlines own version of these QML style files, so I have chosen **CADLINE_CARTO_SYMBOL.qml**.
12. Once the QML style file is loaded, assuming the Schema of your OSMM table is correct, QGIS will apply Rule Based styling to your OSMM Carto Symbol layer and use a specified symbol style for each feature type. With the Style Code field defining which of the styles below is used:



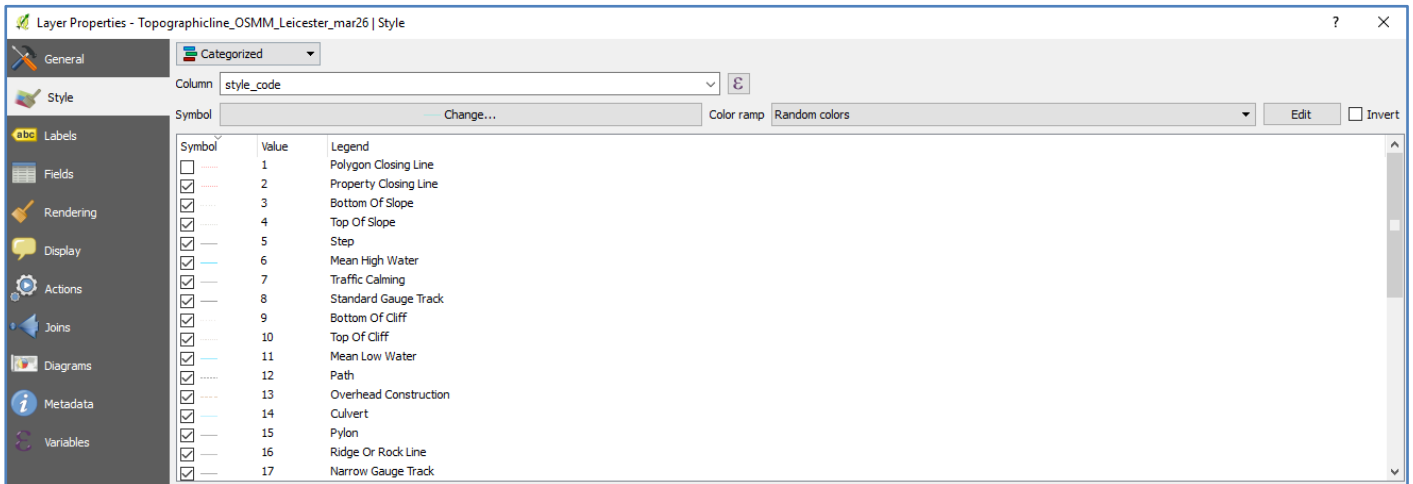
The Carto Symbol uses a STYLE option where each Symbol uses a **Rotation** Expression, which references the orientation field.



(C3) Style OSMM Topo Line:

13. Right click on the Topo Line table and choose **Properties**, and in the Style window choose the **Style** button and select Load Style.
14. Navigate to the folder where the OSMM QML files are. I am using Cadlines own version of these QML style files, so I have chosen **CADLINE_TOPO_LINE.qml**.

15. Once the QML style file is loaded, assuming the Schema of your OSMM table is correct, QGIS will apply Rule Based styling to your OSMM Topo Line layer and use a specified line style for each feature type.

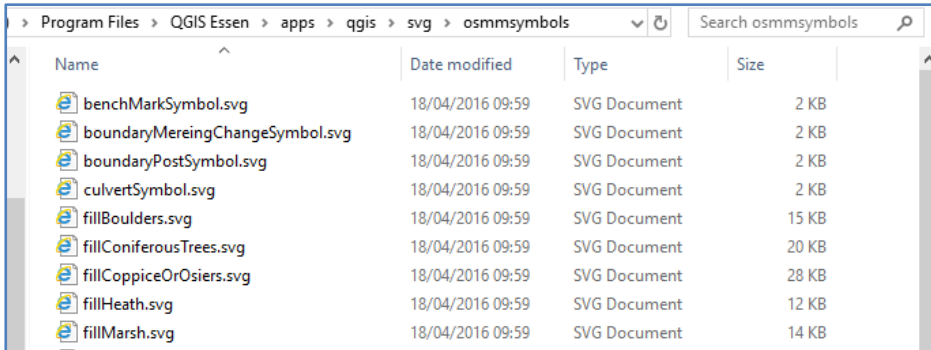


(C4) Style OSMM Topo Area:

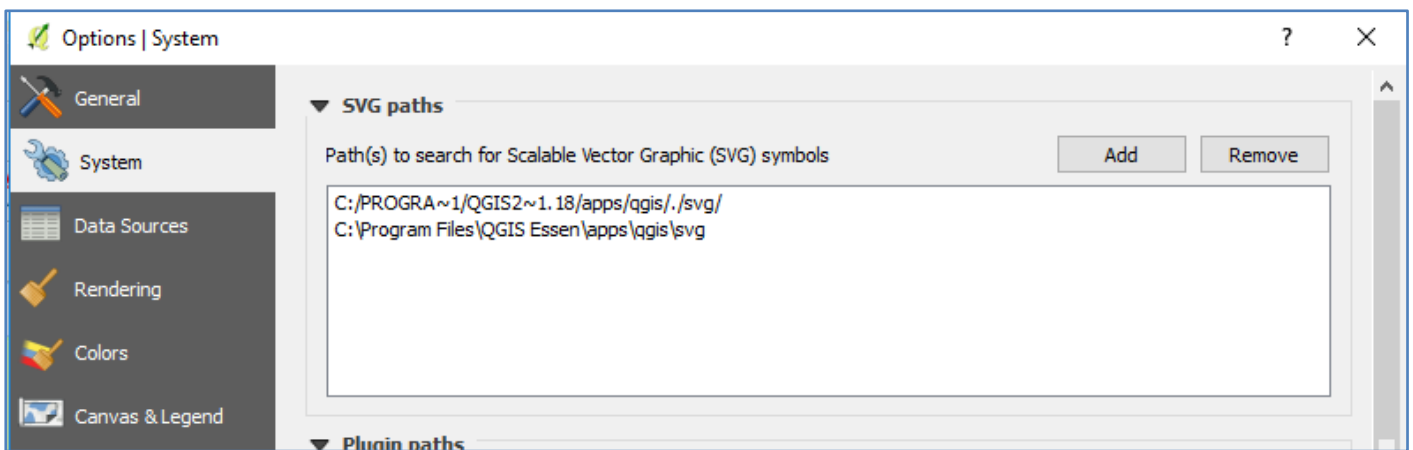
16. Before you apply the QML style to the Topo Area layer you will need the **SVG files** saving to the folder that QGIS uses. These will be used to style the Woodland/trees/scrub areas with a corresponding icon in spread across the fill pattern e.g.



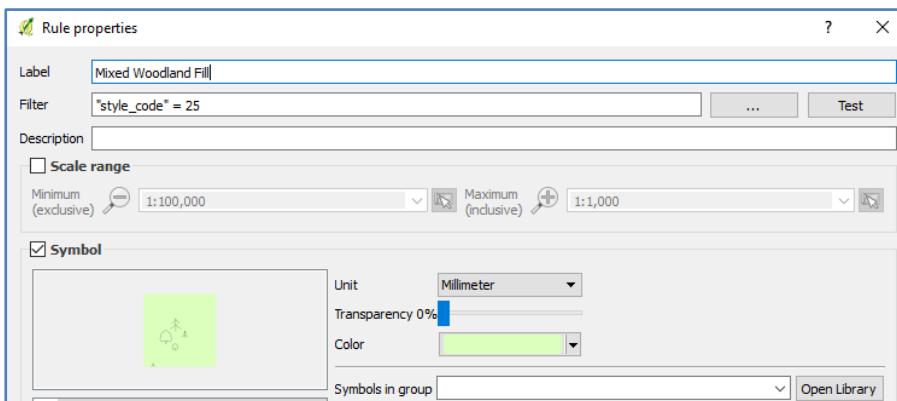
17. Copy the **OSSMSYMBOLS** folder that you downloaded from OS GitHub, and paste it into the folder where QGIS is installed to – e.g.



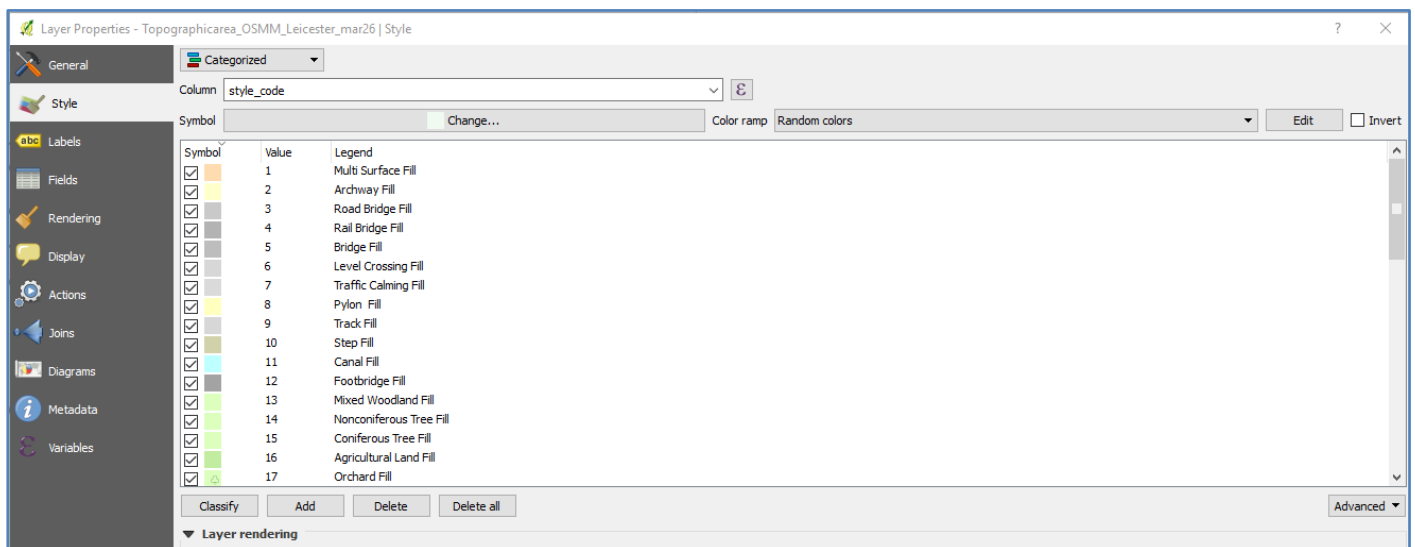
18. Next you will need to ensure that this new folder is available in the SVG settings for QGIS. To do this choose **Settings > Options** and on the **System** tab > Add in the **folder path** for the SVG files



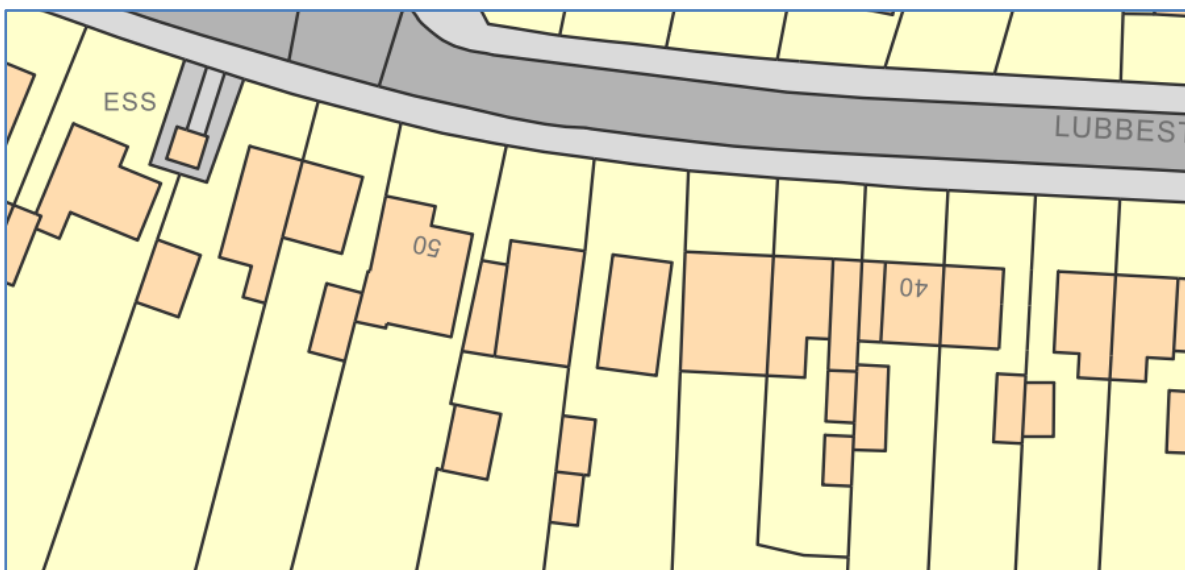
19. Once the Topo Area QML is loaded, it will be able to reference these SVG files and as per the example below for Mixed Woodland an image will be spread across the fill pattern e.g.



20. Right click on the Topo Area table and choose **Properties**, and in the Style window choose the **Style** button and select Load Style.
21. Navigate to the folder where the OSMM QML files are. I am using Cadlines own version of these QML style files, so I have chosen **CADLINE_TOPO_AREA.qml**.
22. Once the QML style file is loaded, assuming the Schema of your OSMM table is correct, QGIS will apply Rule Based styling to your OSMM Topo Area layer and use a specified fill and line style for each feature type.

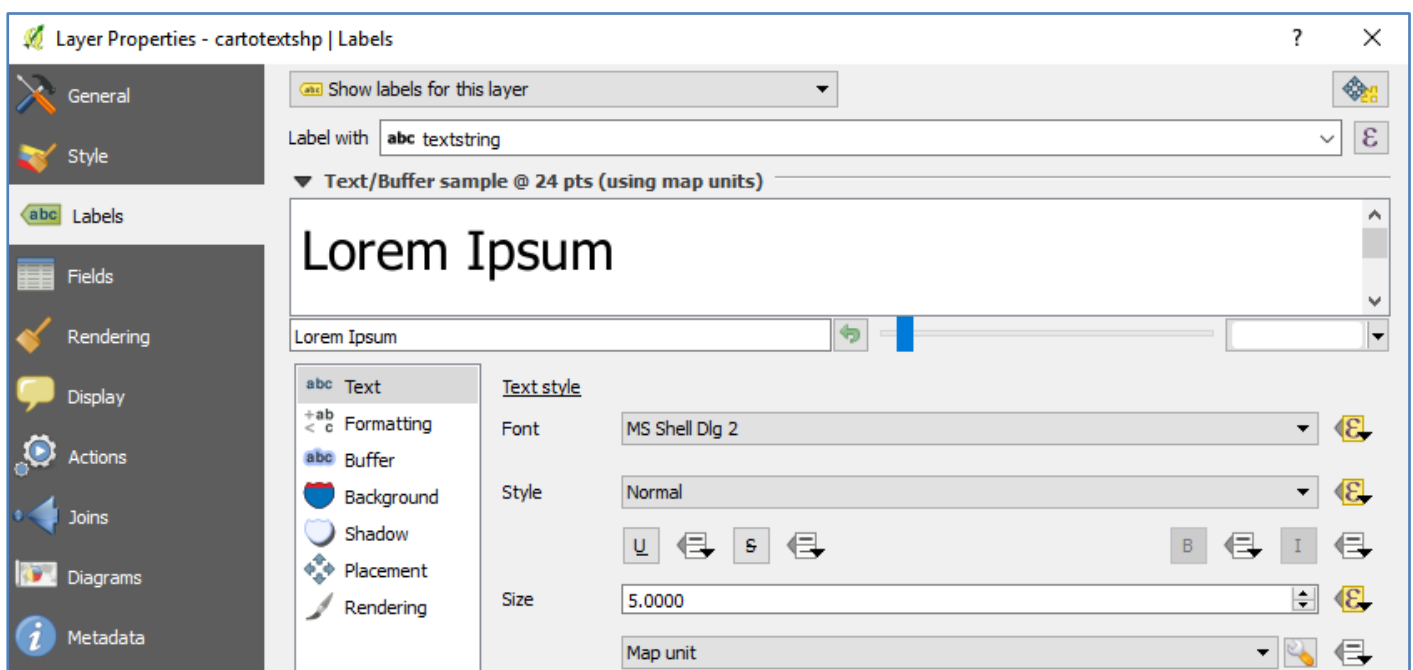


Note that the Cadline QML style file for OSMM Topo Area is like the OS provided style file, except that we have chosen to swap the fill colours used for the Multi Surface and Building Fill, and changed the Archway Fill to Yellow. These will be auto applied using the Cadline QML file.



(C5) Style OSMM Carto Text:

23. Right click on the Carto Text table and choose **Properties**, and in the Style window choose the **Style** button and select Load Style.
24. Navigate to the folder where the OSMM QML files are. I am using Cadlines own version of these QML style files, so I have chosen **CADLINE_CARTO_TEXT.qml**.
25. Once the QML style file is loaded, assuming the Schema of your OSMM table is correct, QGIS will apply Rule Based Label Styles to your OSMM Carto Text layer and use a specified label style for the font, placement and orientation of the labels.
26. To **apply styling for the Carto Text layer manually** you can choose the **Labels** option in the Layer Properties and choose **Show Labels** for this Layer, using the new **textstring** column.



27. Now edit each Text item; Text, Placement etc. to complete the Expression tags that are in yellow. These expressions will use the underlying attributes in the table to use else if statements in order to label different Carto Text features with different fonts and placement options.

Text:

Font - CASE WHEN "font_code" = '3' THEN 'Times New Roman' ELSE 'Arial' END

Style - CASE WHEN "font_code" = '1' THEN 'Normal' ELSE 'Italic' END

Size - "height" * 1.6 Adjust this accordingly to make text smaller. E.g. * 1.4

Colour - CASE WHEN "colour_cod" = '1' THEN color_rgb(113,113,113) WHEN "colour_cod" = '2' THEN color_rgb(37,173,201) WHEN "colour_cod" = '3' THEN color_rgb(164,143,122) WHEN "colour_cod" = '4' THEN color_rgb(127,119,87) WHEN "colour_cod" = '5' THEN color_rgb(255,0,255) END

Placement (Data Defined):

Choose the Placement option to be – Offset from Point

Coordinate X - \$x

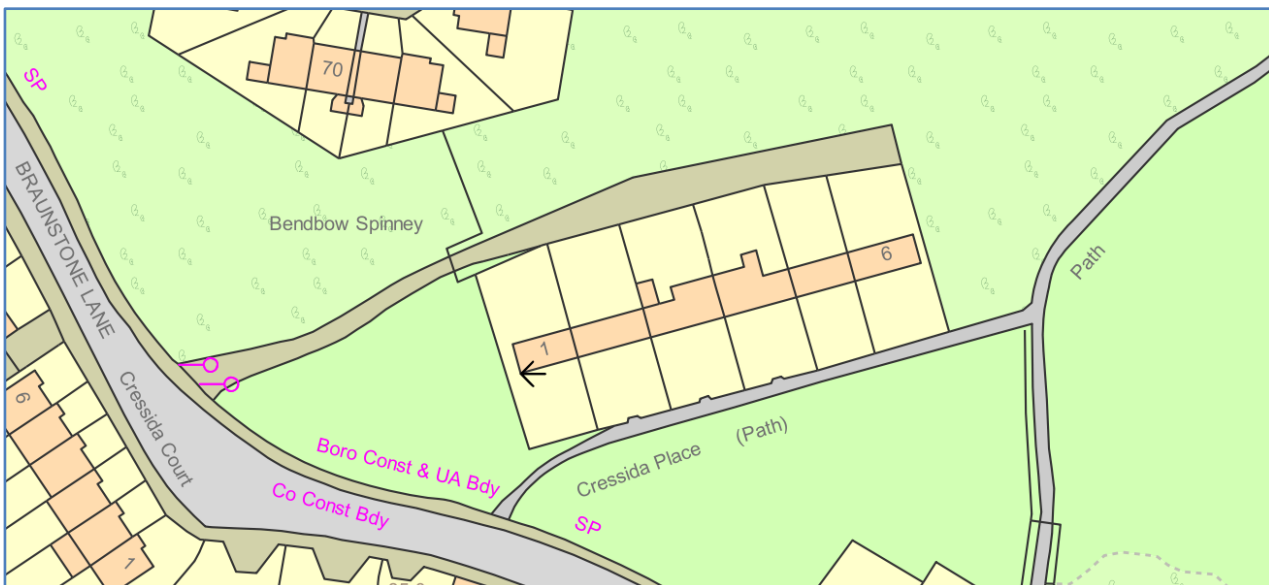
Coordinate Y - \$y

Alignment Horizontal - CASE WHEN "geo_x" = 0 THEN 'left' WHEN "geo_x" = 0.5 THEN 'center' WHEN "geo_x" = 1 THEN 'right' END

Alignment Vertical - CASE WHEN "geo_y" = 0 THEN 'bottom' WHEN "geo_y" = 0.5 THEN 'half' WHEN "geo_y" = 1 THEN 'top' END

Rotation – Choose the FIELD option of Rotation

Priority – Set this to HIGH



The above styling now makes OSMM style and look great at many scales within QGIS.

