



Meridian 2 styling guide

A guide to styling Meridian 2 in MapInfo TAB and ESRI Shapefile

Styling guide

Responsibility for this document

James Terry is responsible for the content of this document.

Change history

Version	Date	Summary of change
1.0	Dec 2012	First issue

Distribution

This document is for Meridian 2 customers.

Approval for issue

James Terry, Technical Product Manager.

Issued by James Terry.

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1 Introduction

This styling guide has been created to explain how to load and manage the styles that accompany Meridian™ 2. Within this document the customer will find an explanation of the styles Ordnance Survey has opted to use, information about loading the styles and altering the styles to suit their needs.

2 Background

Responding to customer feedback about our OS OpenData™ products Ordnance Survey has produced styled data for Meridian 2 in two major formats: MapInfo TAB and ESRI Layer files. These two formats are widely used and will serve a large proportion of OpenData users. Customers can opt to use the styles Ordnance Survey has provided or they can customise them to suit their individual needs. Within this styling guide you will find details of how to achieve this.

Ordnance Survey has adopted the backdrop styles applied to the OS VectorMap® products. The styles have been designed to aid customers in their representation of the data for a variety of purposes. Primarily they enable customers to view the data in a geographical information system (GIS) and overlay their own data onto Meridian 2. They also aid in the combination of Meridian 2 with other similarly styled products in the OS OpenData range, like Strategi® (small scale) and OS VectorMap® District (mid scale) within a GIS.

MapInfo and ESRI manage the data and styles in slightly different ways and consequently there will be minor differences between some of the feature styles. For example, roads in ESRI have road casings applied but they do not in MapInfo, however, these can be applied by the customer upon receipt of the data.

3 MapInfo TAB

The styled data will open in versions of MapInfo back to MapInfo Professional v7.5. We have not tested it back further than this.

3.1 How to load the styles

MapInfo Professional 11.0.4 has been used to create the screenshots in the following instructions but the functionality will be similar in most versions.

Styling for MapInfo TAB is hard coded into the data itself so customer's only have to load the data.

Open a blank workspace in MapInfo Professional.

Go to File → Open and navigate to the Meridian 2 TAB files, highlighting those to open.

From the Preferred View drop-down list select New Mapper ([Figure 1](#)).

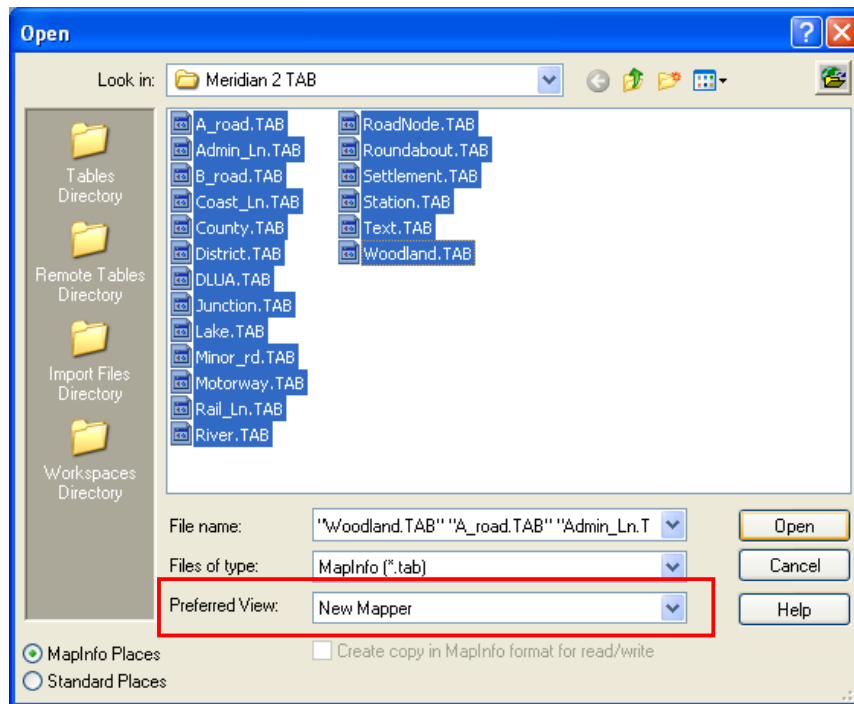


Figure 1 Load TAB files in a New Mapper

Click Open.

In the Layer Control window arrange the layers as they appear in [Figure 2](#). The layers do not open in this order when you load them. The TAB files load in the following order:

- 1 By geometry type:
 - Point
 - Line
 - Polygon
- 2 Then alphanumerically.

Several layers are not displayed because they detract from the overall effectiveness of the styling. They can be displayed by checking the tick box before the layer name.

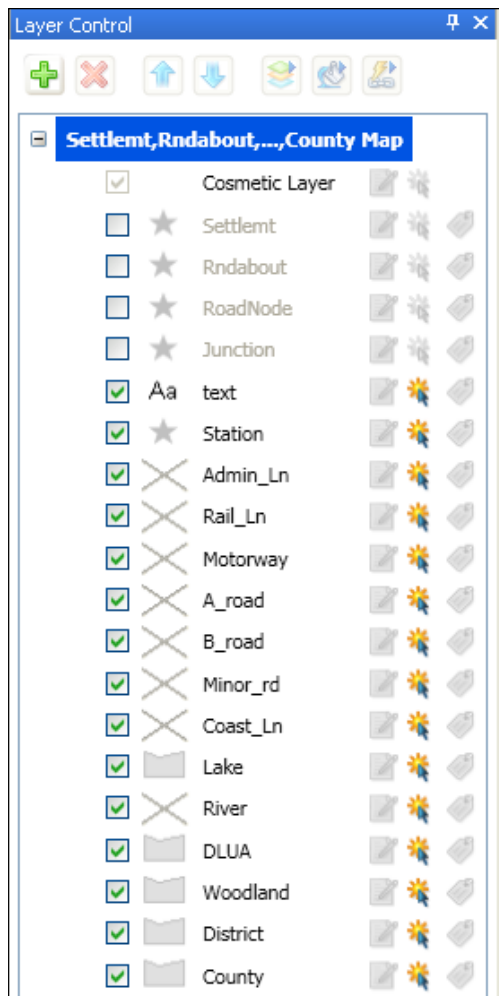


Figure 2 Suggested layer order for TAB file

This is only a recommendation and the customer's requirements for layer order and layer visibility may differ.

The optimum viewing scale for Meridian 2 is 1:50 000 and our recommended viewing range is 1:25 000–1:75 000 although there are no minimum and maximum scale restrictions

Viewing the data at scales larger than 1:25 000 works reasonably well but when viewing it at scales smaller than 1:75 000 the styles start to degrade.

3.2 How to set the scale range

In the Layer Control panel, right click on the title and choose Map Options.

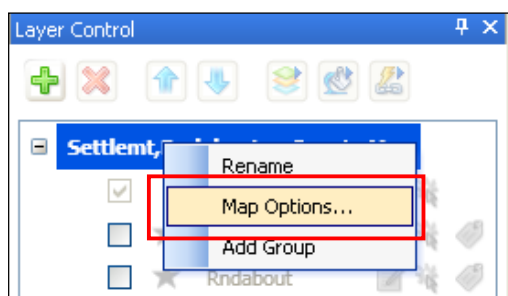


Figure 3 Set the scale range – Map Options

In the Map Options window change the Distance Units to centimetres.

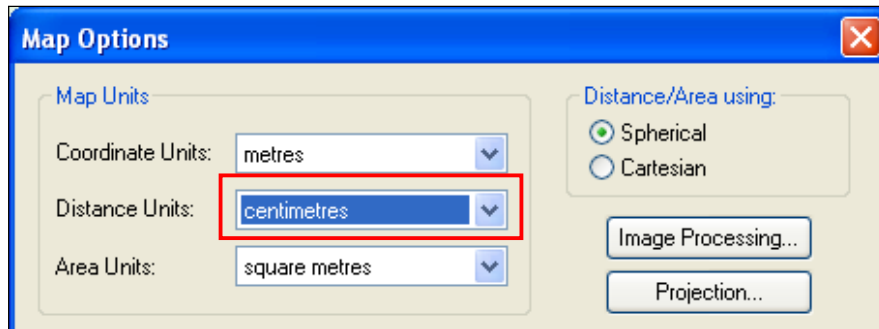


Figure 4 Set the scale range – Distance Units

Click OK to close the Map Options window.

Right click on your map and choose Change View.

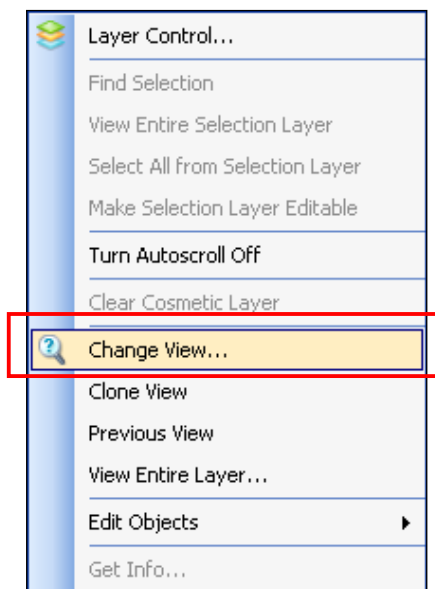


Figure 5 Set the scale range – Change View

In the Change View window input the Map Scale and click OK.

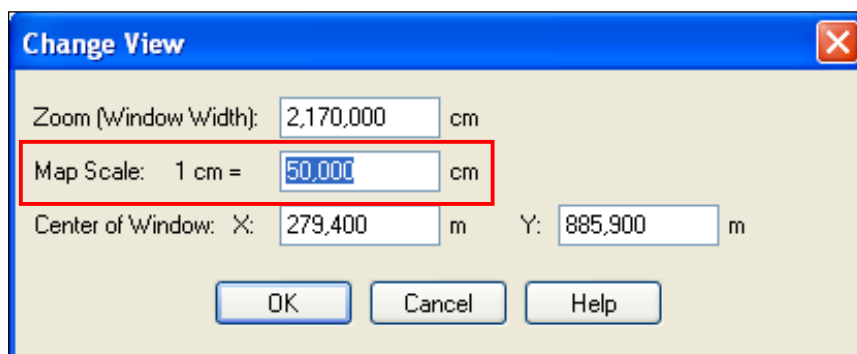


Figure 6 Set the scale range – Map Scale

3.2.1 Define a background colour in MapInfo

There are two options to add a colour to represent the sea.

- 1 Create a polygon that covers the map extent, place it at the bottom of the Layer Control panel and style it accordingly. The recommended sea colour is **R228 G244 B247**. See 3.3.5 for setting colour values.
- 2 Alternatively change the Windows display parameters. One caveat is that every window on this machine will have the new background colour.

For further information please refer to:

<http://testdrive.mapinfo.com/techsupp/miprod.nsf/2dcd2e03799251b185257125006b1089/12b94a7dd1dc2fa1852569460058a9d7?OpenDocument>

3.3 How to customise the styling

3.3.1 How to style the data using a Style Override

Using Style Override will alter the styling in a particular edit session or in a saved Workspace without permanently overriding the default styles. Users can revert back to the default styling.

In the Layer Control panel select the layer to style and right mouse click to open its Layer Properties window.

On the Layer Display tab tick the box for Style Override.

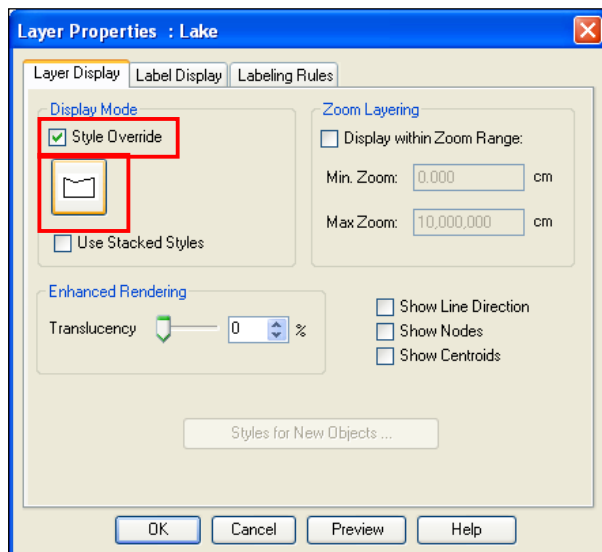


Figure 7 Style Override

Click on the button below the Style Override to open the Style window (this could be Region, Line or Symbol depending on the type of feature selected).

In the Style window (Figure 8), set the desired style then click OK.

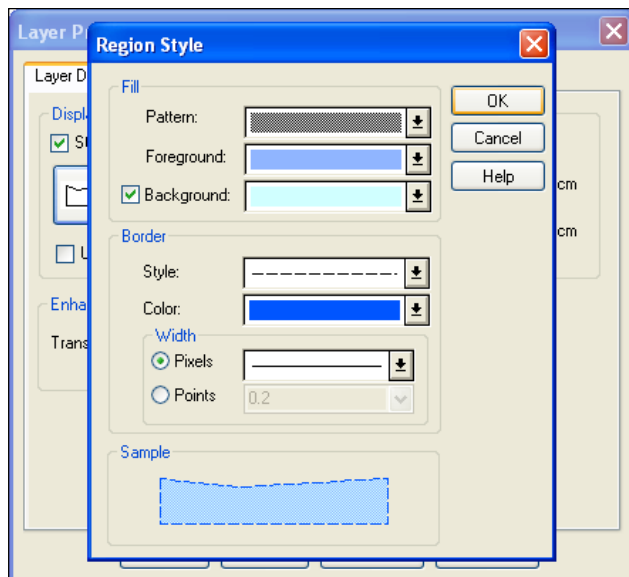



Figure 8 Style Window

Click OK on the Layer Properties window and the new style will appear in the Map Window. To remove the Style Override, untick the box in the Layer Properties window.

Styles set using a Style Override can be saved in a Workspace but will not be hard-coded to the data.

3.3.2 How to style the data using selections

This method of styling gives the User the ability to style features in the same layer differently based on a selection. Default styles using selections will be permanently removed as they are hard coded in the data.

In the Layer Control panel select the layer to style and make it editable by clicking on the  button.

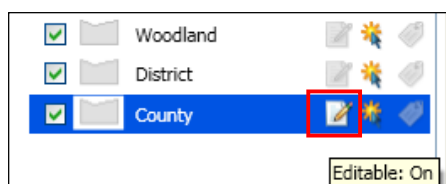


Figure 9 Editable layer

On the main toolbar click on Query → Select to open the Select window (you can also use SQL Select to build more complex queries).

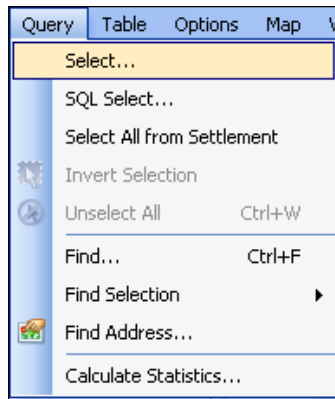


Figure 10 Select Query location

In the Select window, add an expression to filter the data. If required use the Assist button to help. This opens up the Expression window (Figure 11).

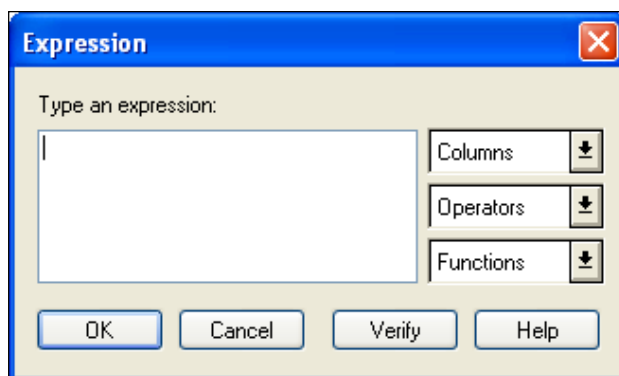


Figure 11 Expression window

Make sure that the Browse Results and Find Results in Current Map Window boxes are unticked and click OK (Figure 12).

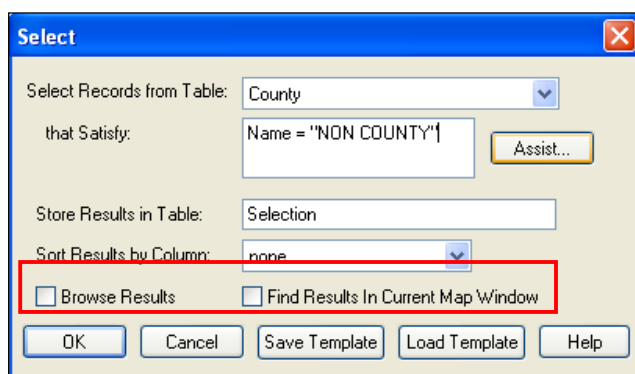


Figure 12 Select query example

On the main toolbar click Options and select the style option that is relevant to the layer being styled – line, region, symbol or text (Figure 13).

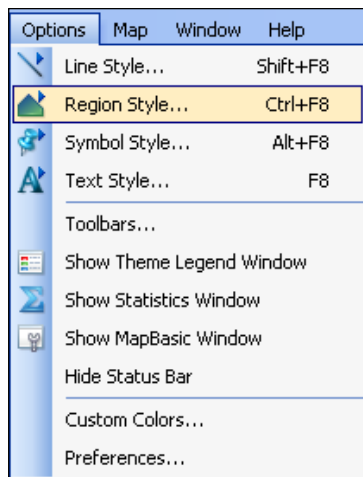


Figure 13 Styling Options

Select your desired style in the style window ([Figure 14](#)).

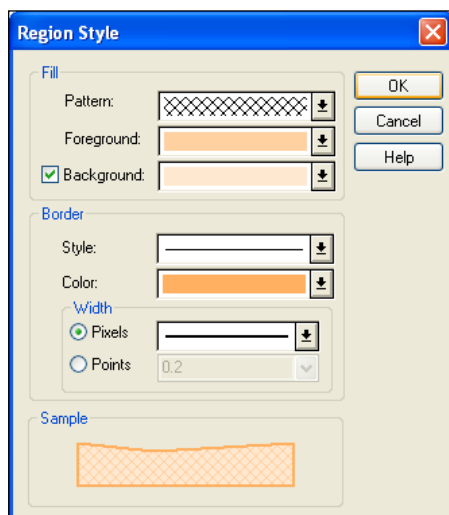


Figure 14 Styling Example

Click OK and the new style will appear in the Map Window.

It is possible to make multiple selections on the same layer and style its features differently.

In order to save this new styling it needs to be hard-coded to the data. On the main toolbar click File → Save Table, select the relevant table and click Save.

NOTE: this will overwrite the default style of the TAB which will not be retrievable once saved.

3.3.3 How to add labels

In the Layer Control panel select the layer to be labelled and right mouse click to open its Layer Properties window ([Figure 15](#)).

Click on the Label Display tab and select the attribute field to be used for labelling.

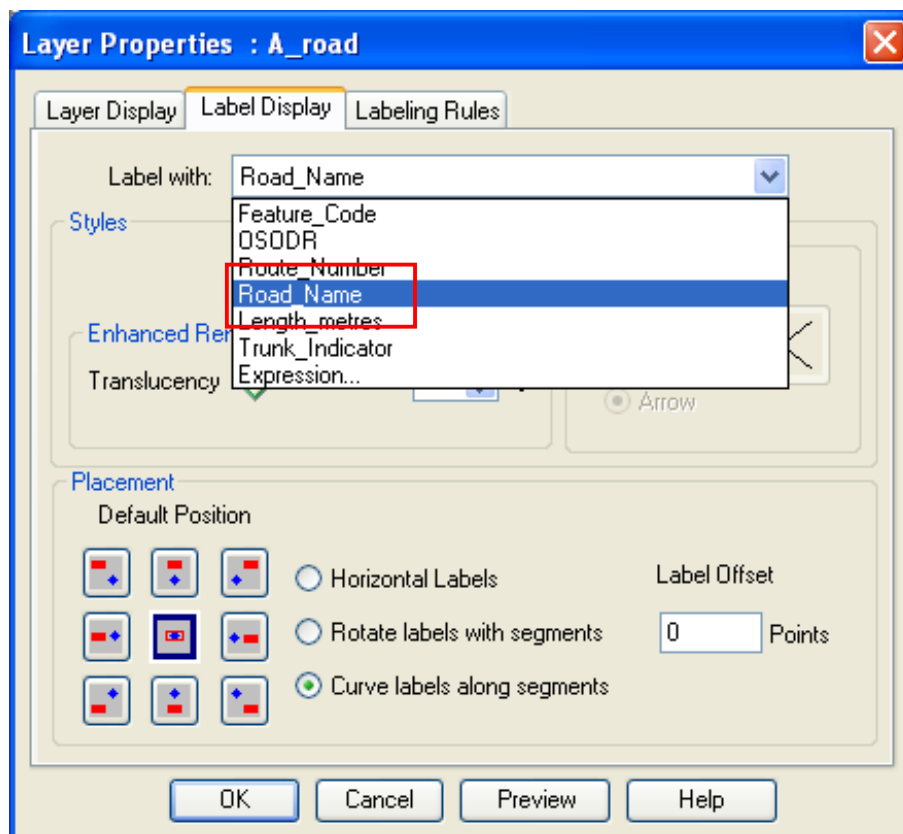


Figure 15 Attribute field selection

Alternatively, select Expression and customise the labels.

For more information see this tutorial:

<http://www.pbinsight.com/support/education/video-tutorials/detail/label-with-expressions/>

Use the Label Display and Labelling Rules tabs to set your label styles and placement rules.

In the Layer Control window turn Automatic Labels on for the layer that you want to label.



Figure 16 Automatic Labels Selection

The labels will now appear in the Map Window.

3.3.4 How to create road casings using Stacked Styles

It is possible to add road casings which may enhance the road styles against the other map features.

Stacked Styles is a feature that was introduced to MapInfo Professional at version 10.5. If using an older version of MapInfo Professional, skip to the next section.

In the Layer Control panel select the road layer to be styled and open its Layer Properties window.

In the Layer Properties window under the Layer Display tab tick the boxes for Style Override and Use Stacked Styles (Figure 17).

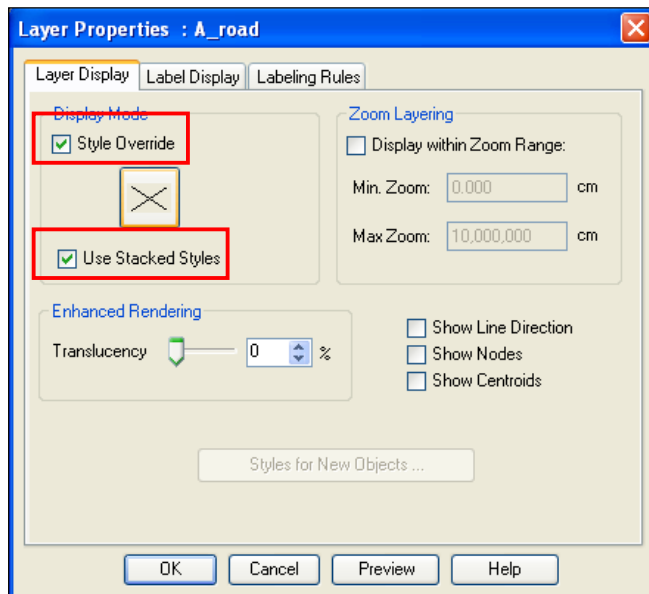



Figure 17 Stacked Styles tick box

Click on the  button to open the Stacked Line Styles window.

Click Add so two styles appear in the Style list.

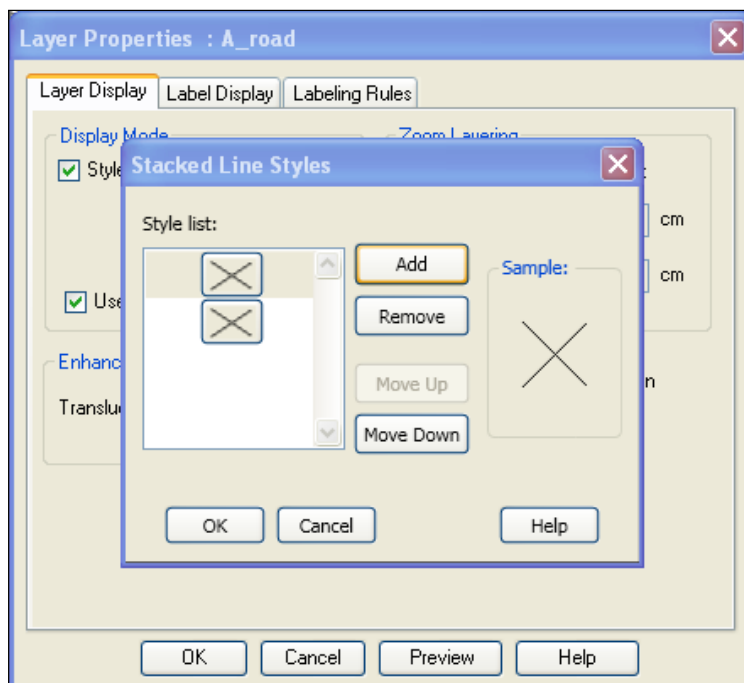



Figure 18 Stacked Styles

Click on each  button in turn and select the style, colour and width. The style for the layer on top, for the road fill, should be thinner than the style underneath for the road casing. See 3.3.5 for amending the Colour (RGB) values. These are the recommended values.


Road feature	Colour (R,G,B)	Width (in pixels)
Motorway fill	99, 200, 221	6
Motorway casing	112, 112, 112	7
A Road fill	255, 187, 210	5
A Road casing	144, 144, 144	6
B Road fill	253, 211, 177	4
B Road casing	144, 144, 144	5
Minor Road fill	255, 244, 225	2
Minor Road casing	176, 176, 176	3

Table 1 Recommended road casing values

Click OK on the Layer Properties window and the new style will appear in the Map Window. To remove the Style Override, untick the box in the Layer Properties window.

Repeat these steps for each of the road layers.

3.3.5 Setting the colour (RGB) value

Click on each  button to open the Style window (Figure 19).

Click on the Color drop-down to open the colour palette.

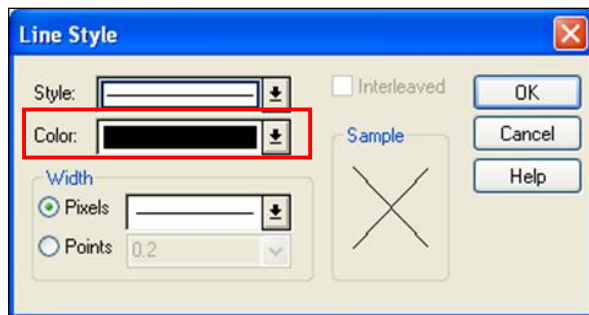


Figure 19 Style window

To set a new colour value click on the three dots in the bottom right-hand corner to open the Pick Color window and enter either the recommended values or some new values.

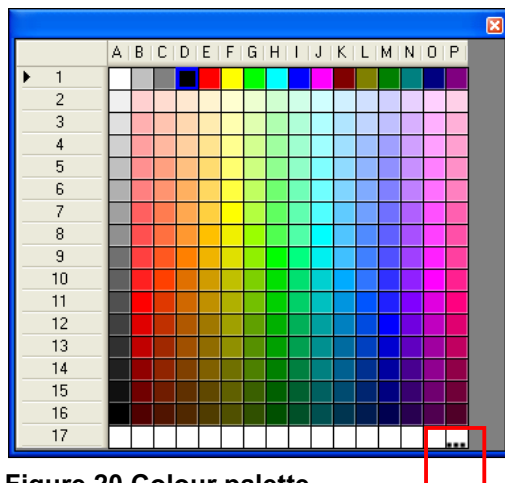


Figure 20 Colour palette

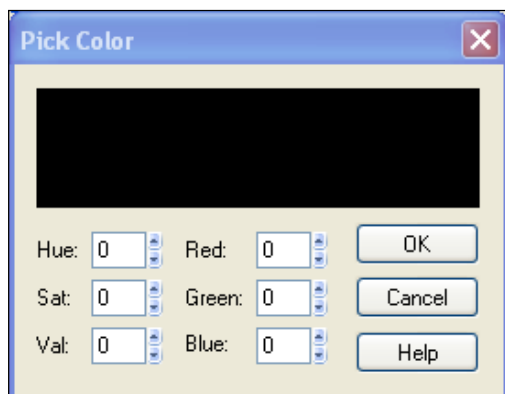


Figure 21 Pick Color window

3.3.6 How to create road casings and customise the road fills using multiple layers

The following instructions explain how to style roads with road casings. This type of styling cannot be hard coded to the data before Ordnance Survey supplies it but can be saved in the Workspace by the Customer. Two copies of each road TAB file will need to be loaded into the Workspace; one for the road casings and the other for the road fill.

On the main toolbar go to File → Open and navigate to the Meridian 2 TAB files, highlighting the road file to be opened (the one to add a casing to). From the drop-down list select Current Mapper as the Preferred View.

In the Layer Control panel, move the new road layer so it sits below the matching one that was already open in the Layer Control list ([Figure 22](#)).

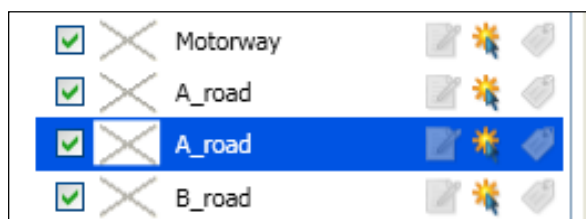



Figure 22 Multiple layers

Open the Layer Properties window for the new layer and tick the box for Style Override.

Click on the  button to open the Line Style window.

Select the desired road casing style. These are the recommended values for the casings.

Road feature	Colour (R,G,B)	Width (in pixels)
Motorway casing	112, 112, 112	7
A Road casing	144, 144, 144	6
B Road casing	144, 144, 144	5
Minor Road casing	176, 176, 176	3

Table 2 Road casing style recommended values

Click OK on the Layer Properties window and the new style will appear in the Map Window.

Repeat these steps for each of the roads layers.

Repeat these steps for the road layer that is on top in the Layer Control panel to customise as road fills.

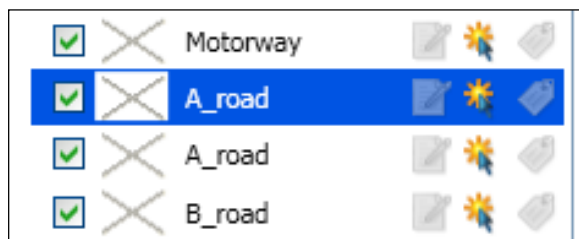


Figure 23 Style the road casing

Use these recommended values to create the road fill.

Road feature	Colour (R,G,B)	Width (in pixels)
Motorway fill	99, 200, 221	6
A Road fill	255, 187, 210	5
B Road fill	253, 211, 177	4
Minor Road fill	255, 244, 225	2

Table 3 Road fill style recommended values

The Map Window will display the new styling and the roads will have a casing.

Repeat these steps for each of the roads layers.

4 ESRI Shapefile

For ESRI Users Ordnance Survey has produced a Layer file (.lyr) which, when stored with the data enables users to drag and drop the file into ESRI ArcMap to draw up the styles automatically. This is dependent on the User storing the data together with the Layer file. If this doesn't happen the User can re-link one of the styles in such a way that the rest will re-link automatically, as long as all of the product ESRI Shapefiles are stored in the same folder.

The ESRI styles have been created using ArcMap 10 and have been made backwards compatible as far as ArcMap 8.3. ESRI ArcMap's standard labelling engine has been used rather than Maplex as this is not available in older versions of the software and users may not have this additional functionality in their GIS. Text placement has been partially controlled when designing the styles but much of it is automatically placed by the software depending on the position of other text and features.

4.1 How to load the styles

The ESRI Shapefiles for Meridian 2 and an ESRI ArcGIS Layer File called Meridian_2.lyr are in the folder called DATA.


This Layer File is compatible with versions of ESRI ArcGIS 10 back to version 8.3 (released in 2002).

ESRI ArcMap10 has been used to create the screenshots in the following instructions but the functionality will be similar in most versions.

NOTE: before loading the layer file into ArcMap please ensure the layer file is contained within the same folder as the data.

Open a new, blank map in ArcMap.

There are three ways to load the data

- 1 Double click on the layer file  Meridian_2 .
- 2 Drag the Meridian_2.lyr file into the Table Of Contents.

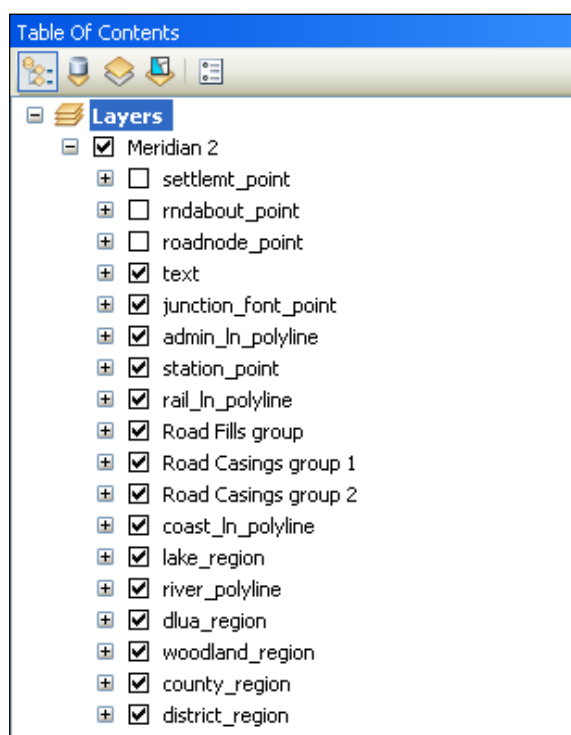


Table 4 ESRI Table Of Contents

Several layers are not displayed because they detract from the overall effectiveness of the styling. They can be displayed by checking the tick box before the layer name.

- 3 Click on the add data button and select the layer file and click Add ([Figure 24](#)).

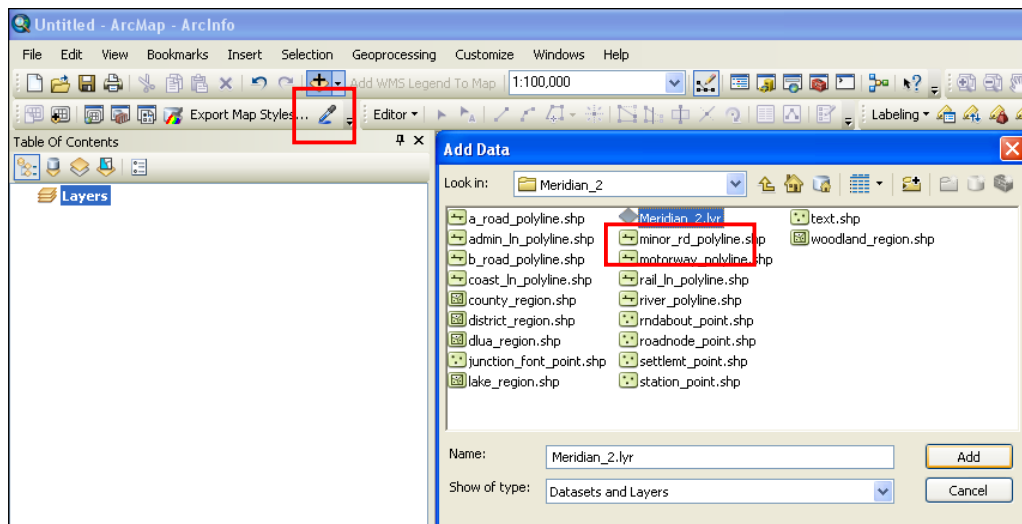


Figure 24 Add data button

NOTE: if the layers do not automatically link to the data, re-link to the data source by following the next instructions.

To fix broken links to multiple layers right click on the layer name next to the red exclamation mark. Click on Data → Repair Data Source.

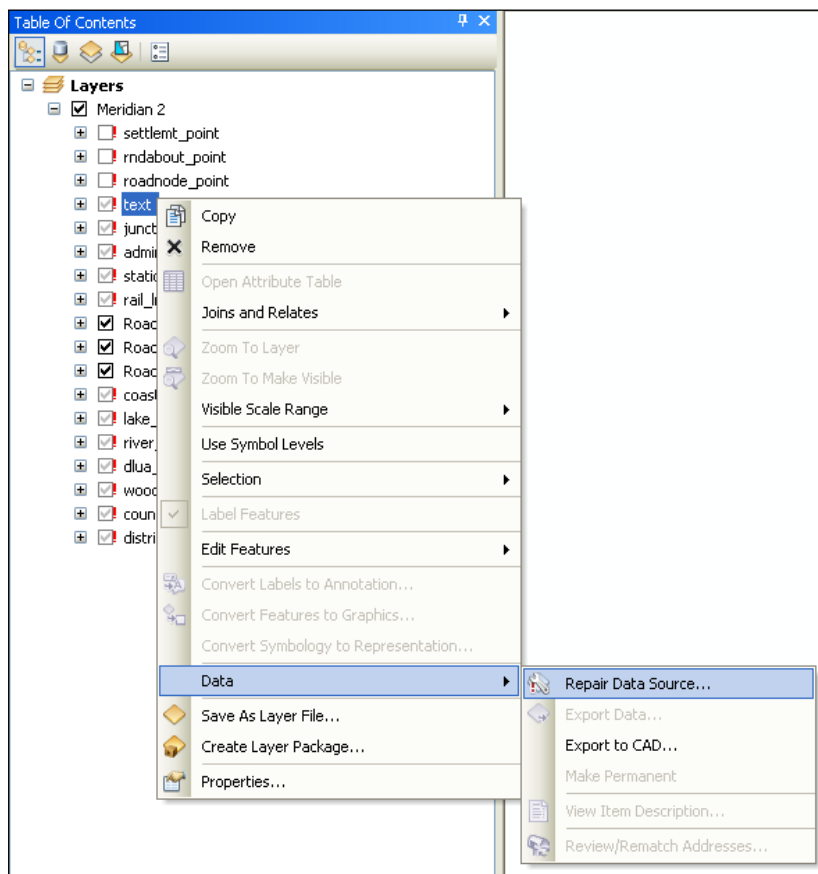


Figure 25 Repair data source

In the Data Source window browse for the relevant ESRI Shapefile and click Add.

4.1.1 Set a reference scale

In the Table Of Contents panel right click on Layers and choose Properties to open the Data Frame Properties window (Figure 26).

In the General tab type 1:50 000 in to the Reference Scale box then click OK.

The optimum viewing scale for Meridian 2 is 1:50 000 and our recommended viewing range is 1:25 000–1:75 000 although there are no minimum and maximum scale restrictions set in the layer file.

Viewing the data at scales larger than 1:25 000 works reasonably well but when viewing it at scales smaller than 1:75 000 the styles start to degrade.

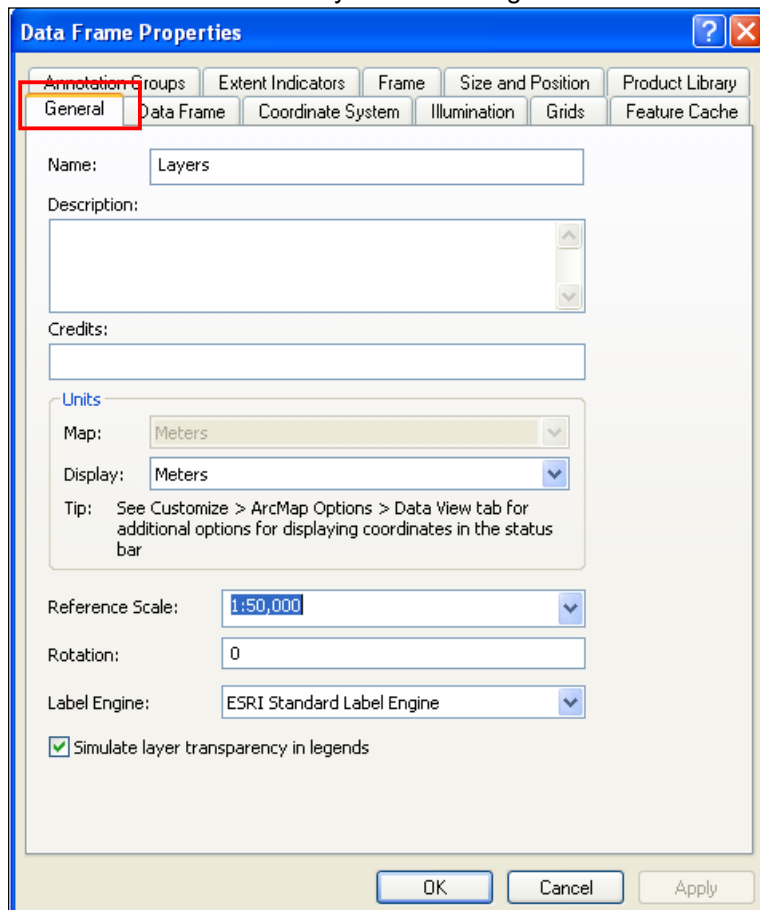


Figure 26 Data Frame Properties to set the Reference Scale

4.1.2 Define a background colour

To add a colour for the sea, define a background colour for your Data Frame.

In the Table Of Contents panel right click on Layers and choose Properties to open the Data Frame Properties window (Figure 27).

In the Frame tab choose a background colour to input new colour values using the drop-down Color button.

Ordnance Survey recommends **R228 G244 B247** which matches the lake colour.

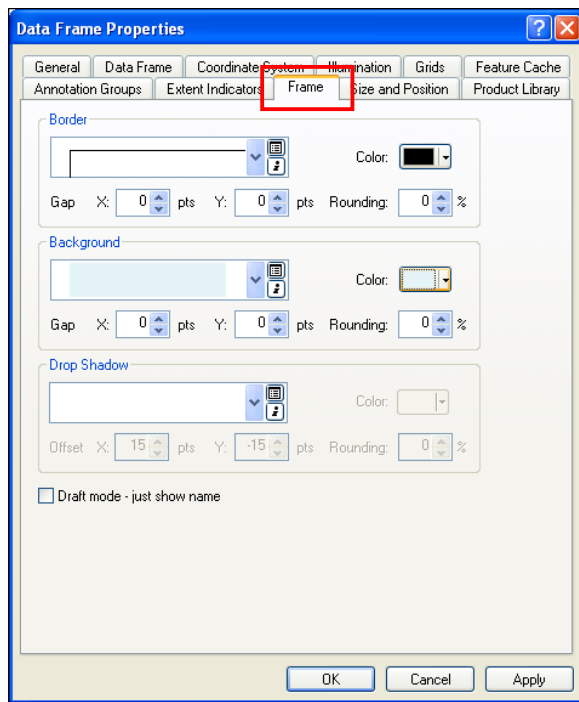


Figure 27 Data Frame Properties for sea colour

4.1.3 Ordering the ESRI layers

When the Layer file is loaded there are layers that have been turned off and some that have grey ticks next to them.

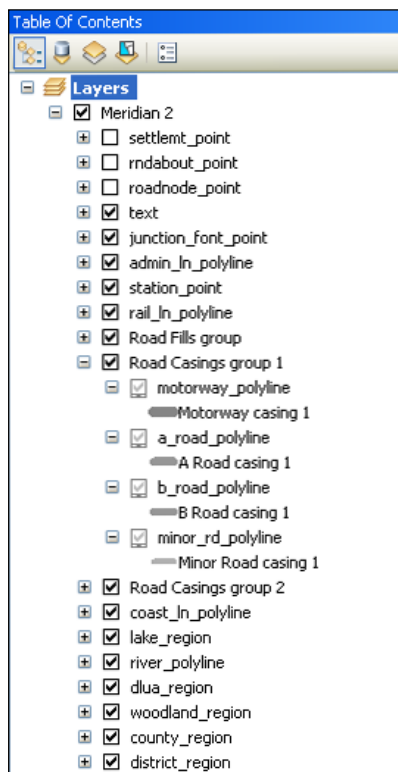


Figure 28 Layer ordering

The layer order and visibility of the layers have been set to suit Ordnance Survey's recommended viewing scales of 1:25 000–1:75 000. This is only a recommendation and each customer's requirement for layer order and layer visibility may differ.

The layers with grey ticks have scale ranges set. These layers will turn on and off automatically depending on the viewing scale.

These scale ranges can be changed or turned off by navigating to the General tab within the Layer Properties window (Figure 29).

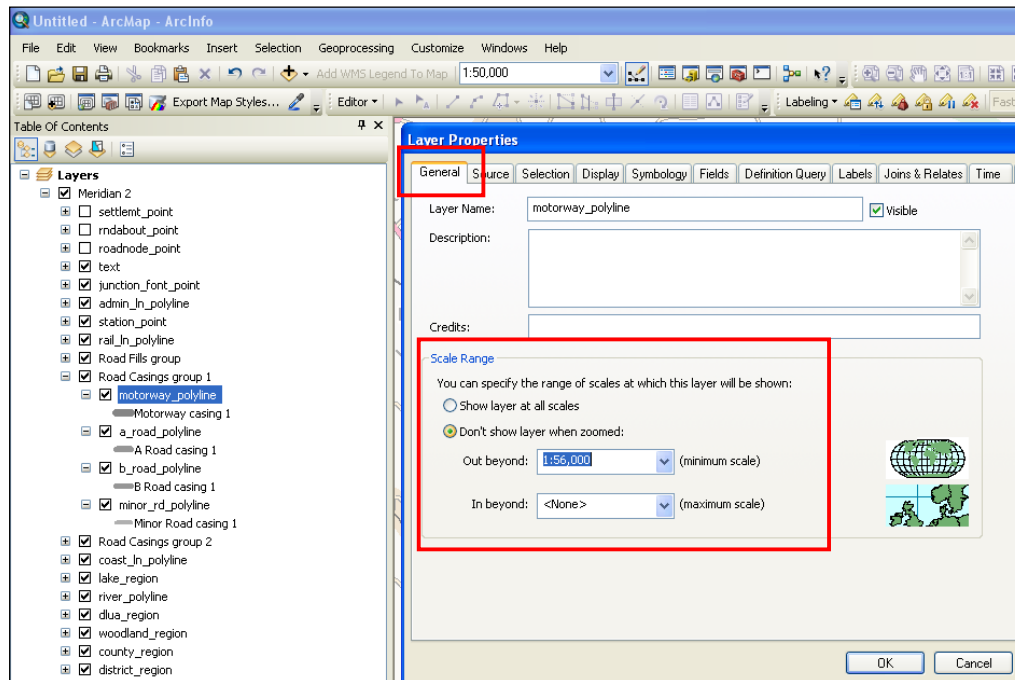


Figure 29 Altering scale ranges

4.2 How to customise the styling

4.2.1 How to add labels

In the Table Of Contents panel right click on the layer that you want to label and choose Properties.

In the Layer Properties window click on the Labels tab (Figure 30).

Tick the box for Label features in this layer, set the Method and select the attribute field for labelling from the Label Field drop-down list.

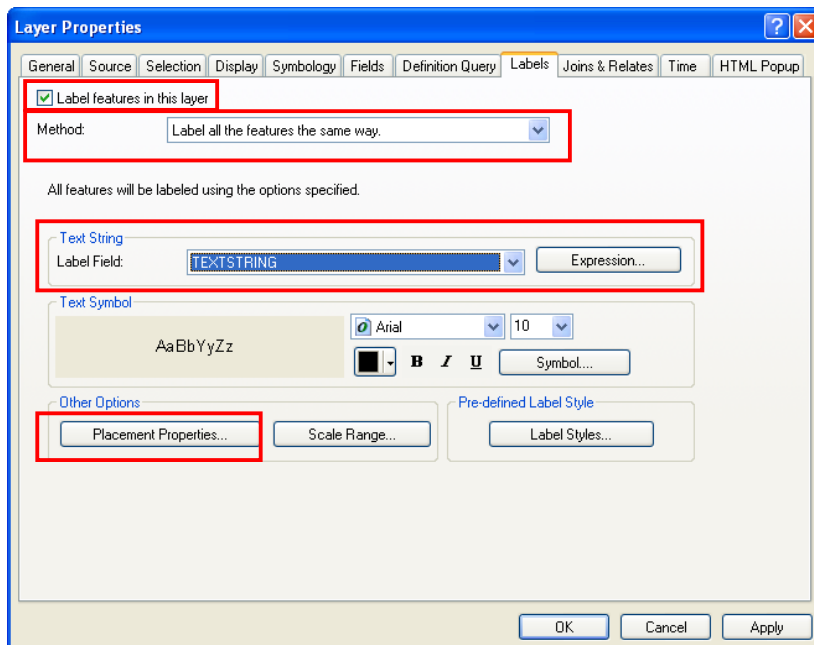


Figure 30 Labelling features

Use the Text Symbol options to set your label styles and click on the Placement Properties button to set your placement rules.

You can search for help on labelling text here: <http://webhelp.esri.com/arcgisdesktop>

4.2.2 How to style the data

These instructions use a point feature as an example but the same steps can be followed to style a line or polygon.

In the Table Of Contents panel expand the layer for styling and click on the symbol to be changed.

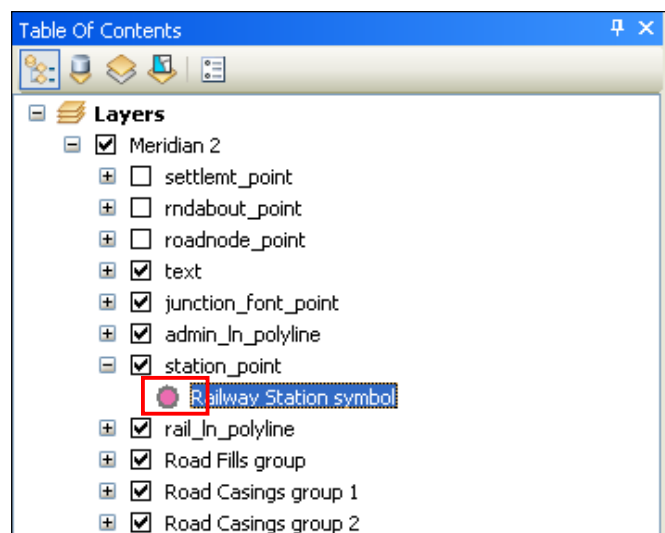


Figure 31 Customising a point feature

This will open the Symbol Selector window (Figure 32).

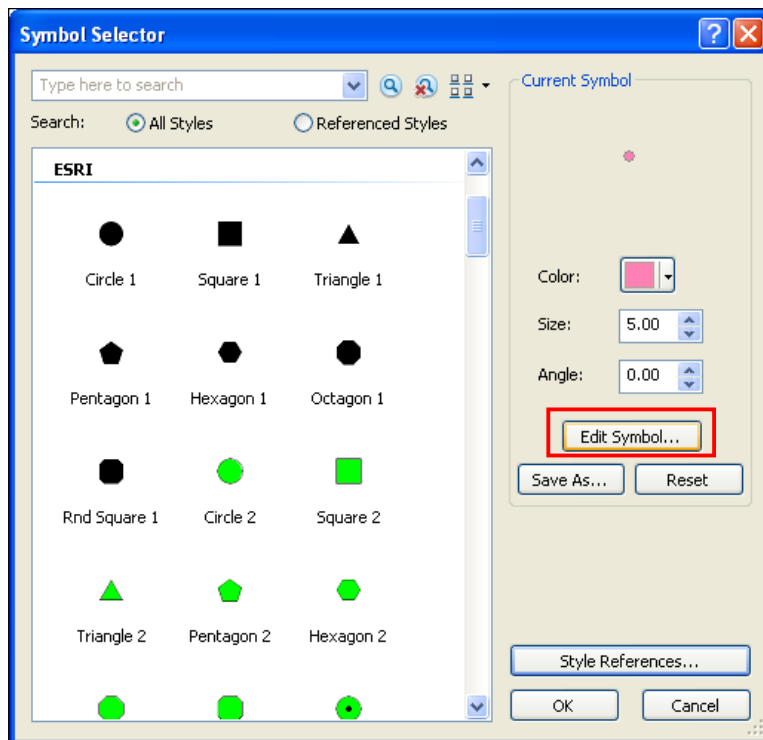


Figure 32 Symbol selector

In this window the Customer can select a desired style by changing the colour, size and angle.

The customer can use pre-defined styles or create their own. To further edit the feature click on the Edit Symbol button to open the Symbol Property Editor window (Figure 33).

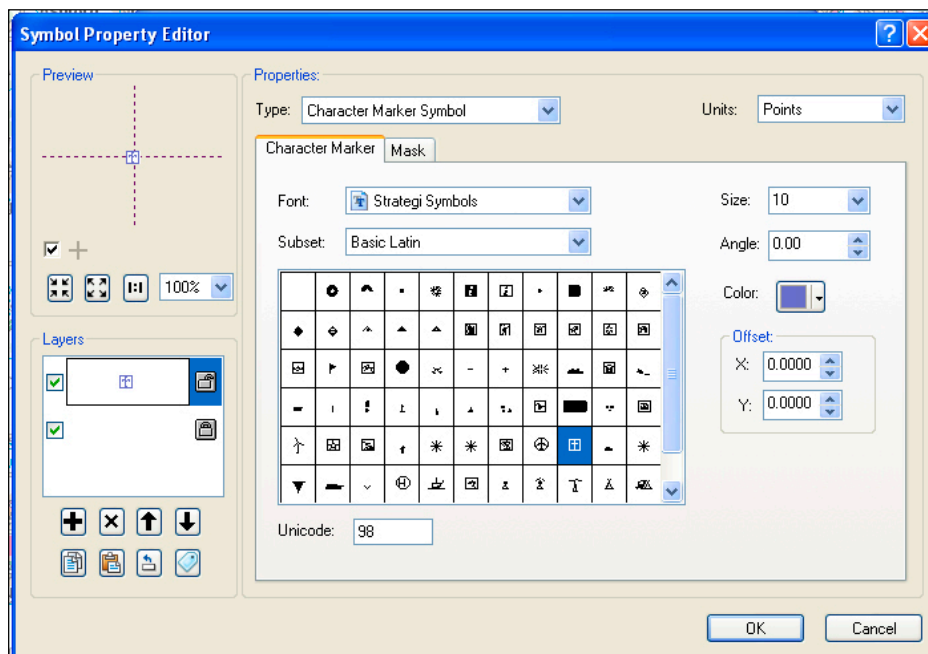


Figure 33 Symbol Property Editor

Additional changes to the style can be made here, including adding masks.

4.2.3 How to save a Layer File or MXD

There are two ways to save the Layer file.

Layer File

One of the main features of a layer file is that it can exist outside a map as a file on disk. This makes it easy for others to access the layers that have been built.

When a layer is saved to disk, everything about it is saved, such as the symbolisation and labelling. When a Layer file is added to a workspace it will draw exactly as it was saved. Other Users can drop these layers onto their maps without having to know how to access the database or classify the data.

Right-click the layer (or group of layers) in the Table Of Contents panel and click Save As Layer File. In the Save Layer window, navigate to where the file is to be saved and give it a name.

In the Save as type drop-down list specify which versions of ArcMap it should be compatible with. If the User chooses Layer files (the option without a version number – [Figure 34](#)) the layer will be saved in the version of the software that is being used.

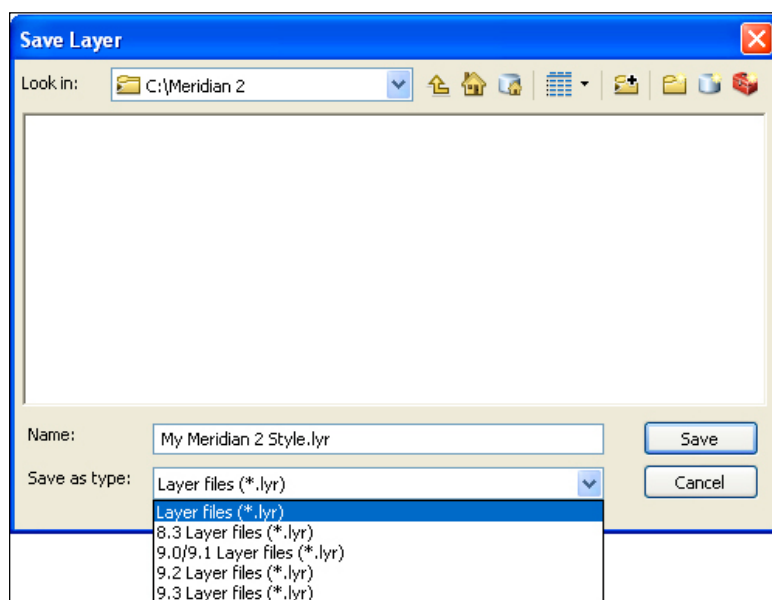


Figure 34 Saving Layer files

Click Save.

MXD

An MXD allows Users to save a map as a document and store it on a hard disk. ArcMap automatically appends a file extension (.mxd) to the map document name.

The data displayed on a map is not saved with it. Map layers reference the data sources in a GIS database. This helps keep map documents relatively small in size.

To save the map as an .mxd click on File and then Save as. In the Save As window, navigate to where the file is to be saved and give it a name.

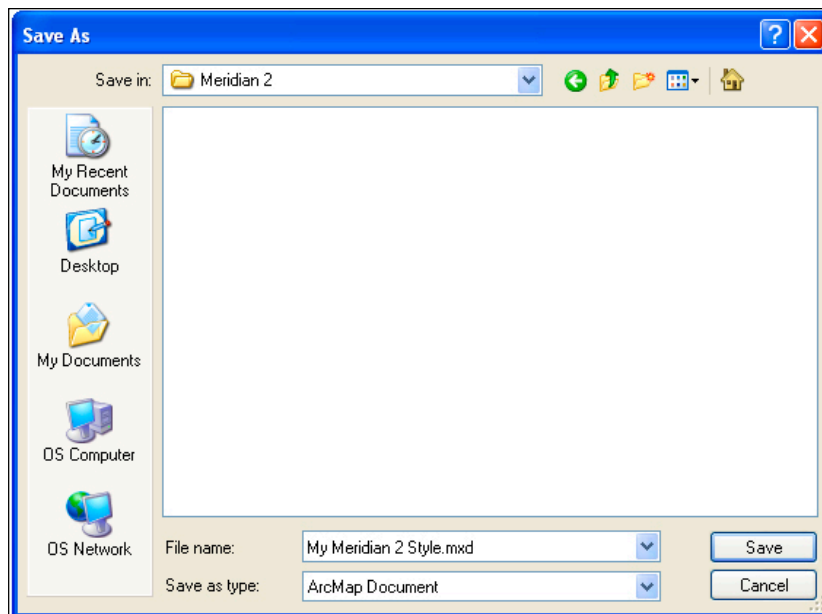


Figure 35 Saving a .mxd

Click Save.

5 Future plans

For the first release of styles Ordnance Survey has focused on supplying them in two major software formats in the backdrop styles familiar to users of OS VectorMap data.

Ordnance Survey will continue to investigate and develop the styles where appropriate and notice of this will be published on the [Product pages](#).