Configuring display of different Cable Tray elements in Revit MEP

Revit MEP

Filtering Objects in Revit MEP

Display Filters & View Templates

In many system drawings there is a need to differentiate between different types of Cable Tray elements in coordination and dedicated electrical drawings.

In traditional CAD this was achieved by using different Layers and although we have similar methodologies in Revit System Styles where we can set colours and patterns by category there is often a need to show basket mesh trays differently from a plain style cable tray, even though they may be of the same category. It is worth noting that although this paper is focusing on cable tray and electrical items, this process can easily be applied to any object class in any drawing discipline.

Revit users are no doubt aware of the 'cheap' trick is to override graphics in view, in the long term this practice should be avoided as those kind of overrides cannot be shown in another view or show on schedules. There is always a risk of user error or worse inconsistency between drawings of the same type. A better workflow therefore, is to utilise Revit's View Filters function, with said filters assigned to view templates for an easy transfer to other drawings. This will also enable consistency of drawing output and facilitate compliance with an office drawing standards. Revit doesn't eliminate the risk of errors, but at least you will be consistent! Should a mistake occur it is easier to change as the correction sits within the model database rather than an override on a tweaked view.

Standard display using fine settings from the default UK Electrical template

Channel Cable Tray

Ladder Cable Tray

Wire Mesh Cable Tray
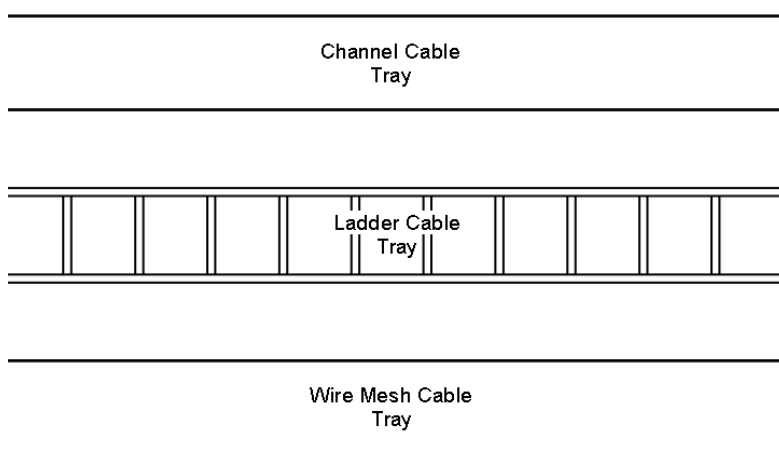
To the unaware Filters are a system that sifts elements within a revit project, sifting on category (object type) and data attached the selection set of objects. For example; if one names two cable tray systems. One as Standard, and One as Mesh then we can perform a Filter selection picking up on the System Family name that contains the word 'Mesh'. In the modern age this is very similar to performing an advanced internet search for content using any popular web search engine.

To access filters we call up the Visibility Graphics Dialogue Control, either from the properties box or a keyboard shortcut ('VG')
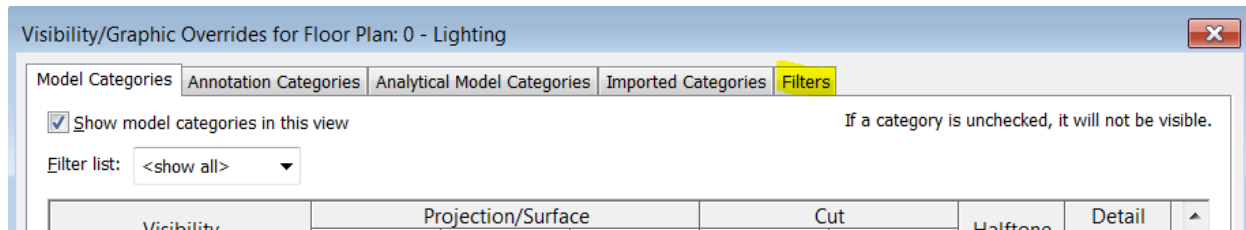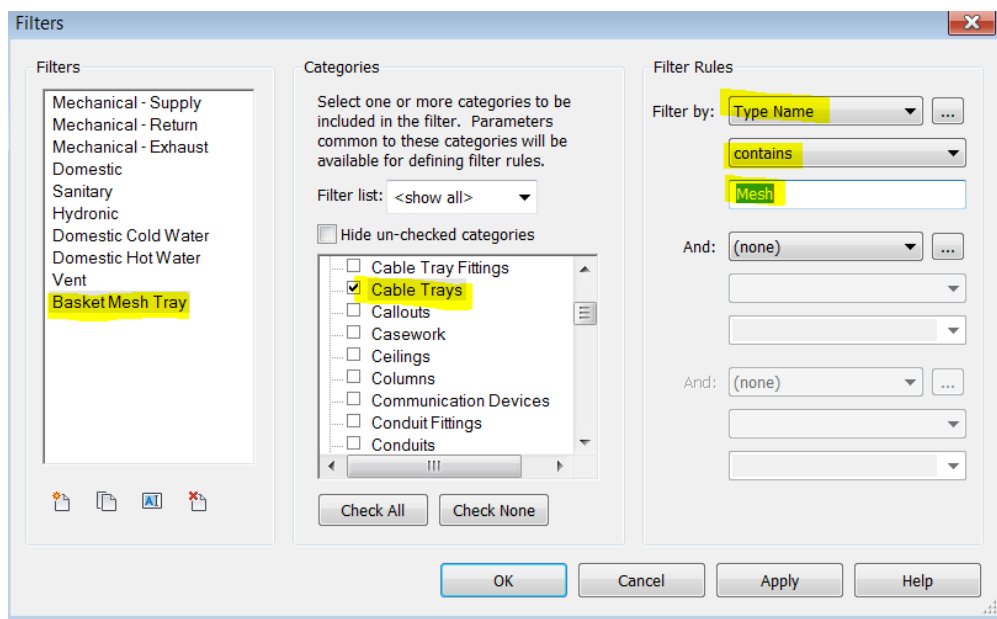

Click on the Filters tab to access the Filter Controls and click Edit/New to create a new filter type
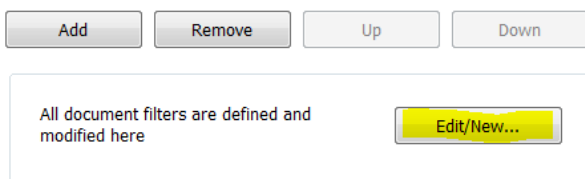

Choose 'New' , and name it accordingly.

Then we can specify the catagories we wish to 'filter' and set a filtering rule.

In this example I am picking up any **cable tray** that has a type name **contain**ing the word **Mesh**.

Once the Filter has been created we can then apply it to the view within the Filter Tab on the Visibility Graphics interface.

By choosing Add and then select the named filter that has been created
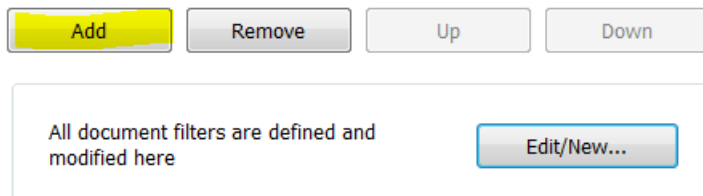
Nothing will seem to happen as Revit has 'selected' these items but we haven't told Revit what to do with them!
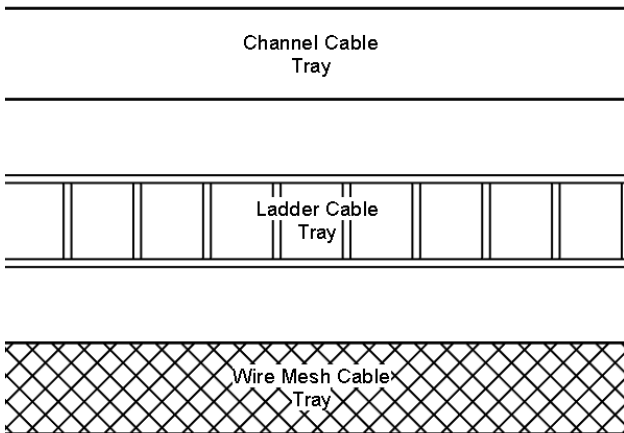
But by clicking on the indicated items will permit the user to alter certain elements that match the filters criteria. Options include unticking the Visibility control, overriding line weights, line types, hatch patterns and transparencies etc.

In this example I wish to change the Mesh Cable Tray to a Net crosshatch appearance.
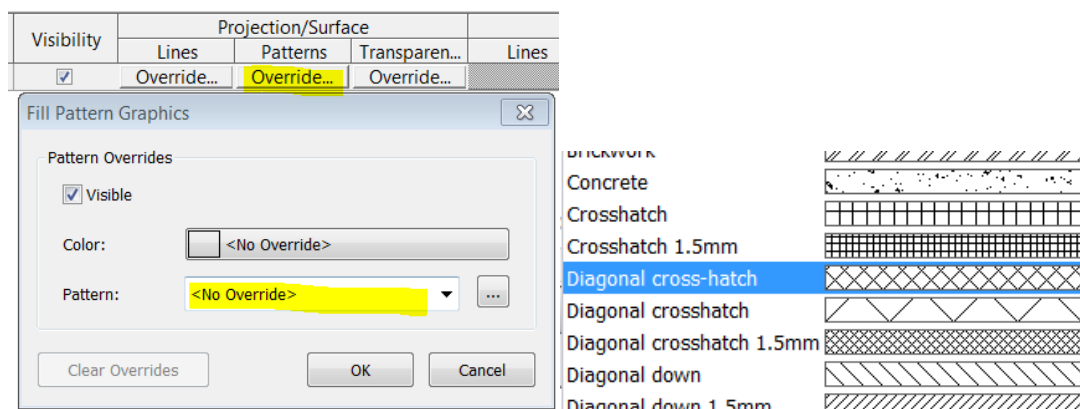
Click OK to apply the change.
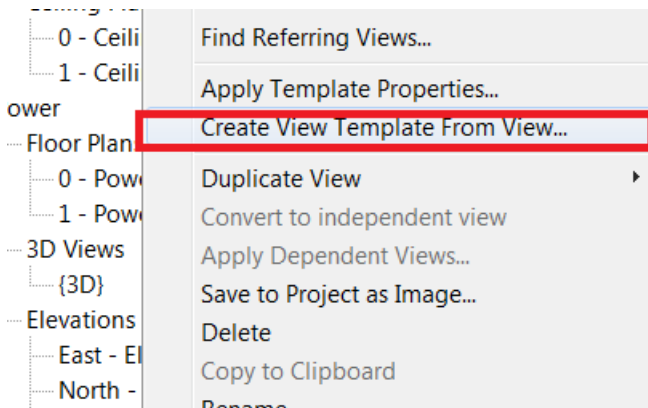
The filtered view

Like any visibility graphics function this only impacts on this view. But we'd liked to be able to apply this display control to other electrical drawings in our project.

To achieve this we can use **View Templates**.

This is very easy to do

Right mouse click on the Filtered View in the Project Browser

Choose Create View Template from View

Review the settings you wish to store. Revit accepts, visibility category overrides, filters etc. These View Templates should be saved into a Revit Project Template which ensures users follow established standards and work practices laid down by your Cad Manager. View templates can also be introduced to existing projects where standards have not been applied by using the Transfer Projects Standards function.
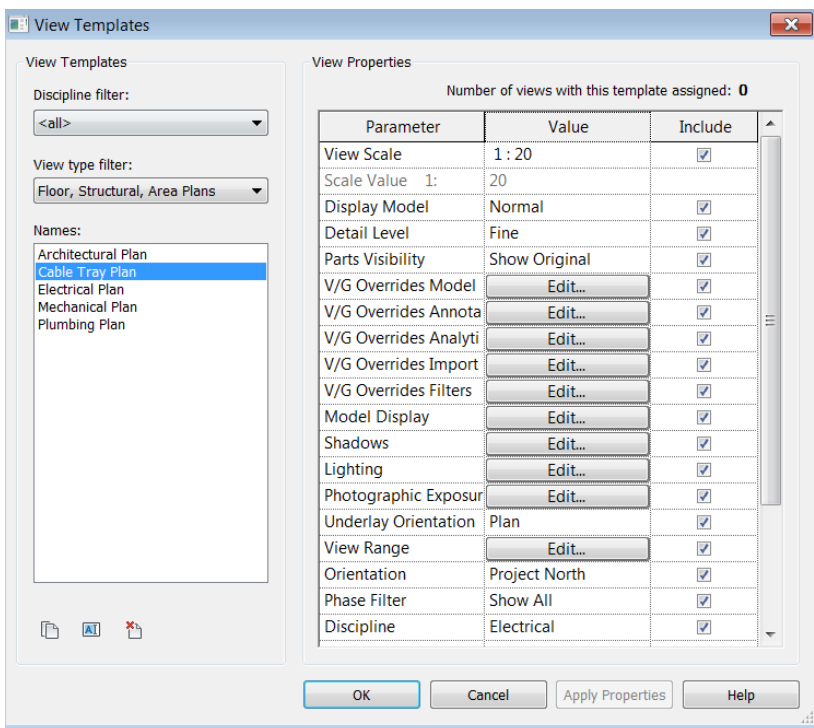
View Template Configuration Dialogue

Later on in the project should a view type need to be set to a consistent standard. All that is required is to right click on the relevant view. Choose Apply Template Properties and select the desired View Template to apply from the list. Click apply and you're done! View Templates can also be applied to multiple views so that you can have standard looking drawings across multiple floors at the click of a button.

View templates coupled with filters are very useful therefore to quickly and consistently apply a constant standard to Revit Views, especially within larger teams when view displays tend to be altered and changed a lot within the setting up and editing of a project. It saves a lot of time and saves users having to remember which categories to turn on or off and to get a consistent display.

Revit MEP benefits particularly from filters and View Templates due to the large number of required drawings and the different amount of information that needs to be displayed. However Filters and View Templates can also be useful in Architecture (with fire rating compartments) and at times in Structures.