BES197616

Advance Steel 2019: Behind the Camera, the Secret to Easy Drawings

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Learning Objectives

- Learn when and how to use a camera
- Learn how to add camera types and link to styles
- Learn what lies behind a combined series of camera processes
- Learn about the new model view camera option

Description

A key part of and reason for using CAD and modeling systems is quick drawing production. Users frequently struggle to achieve quick arrangement drawings from the model. This class will show you how to add camera types, link to styles, and automate arrangement-drawing production. This session will feature Advance Steel software. This class is a continuation on from last year's class to show how to integrate the feature for cameras within the model views, and how to build on the foundation outline in last year's Autodesk University. We'll combine those ideas with the new features to allow for smoother overview drawing outputs.

Speaker

John Bennett has a structural engineering and fabrication background. He worked as a steelwork detailer then progressed to CAD manager and then moved into the role of application engineer/CSM for Advance Steel software training, sales, and implementation. He has recently been working with various companies for the integration of Advance Steel into plant engineering and structural markets.

AU 2019 Advance Steel -Adding a Camera Type to System

For this example, on a camera Type, creating one that is aimed at working with Staircase Elements and then using this to work with a Staircase Drawing style.
The process is the same for adding any camera type you require and linking to associated drawing style.

Camera Type creation

Within Advance Steel we have Cameras, these are present and very usefully for helping create drawings from models. It is possible to add additional camera types to the system and incorporate them within the Drawing process system to aide Arrangement drawing production.

To add the Camera Type

Firstly, you will need to access the Database System behind Advance steel, for this you can use the table Editor, within management tools. (if you have Microsoft Access the Databases can be opened direct.)

MT>Table Editor>Open Database> Use filter= Camera> AstorBase>Camera Type.
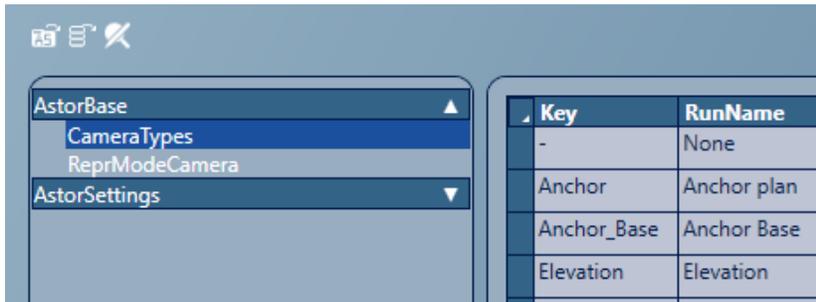
Add line entries into the table as required.

Example: Camera Stair plan.

In Key column : Stair_Plan

In RunName : Stair Plan.

Note: in the key column if you have multi words, then an Underscore "_" needs to be placed between the words.

Repeat as required to add in the required camera types and set author as required

Stair_Elevation	Stair Elevation	Author value
Stair	Stair	Author value
Stair_Plan	Stair Plan	Author Value

Note the owner text column should be filled with your own author reference.

Camera Model role

The system requires a Model role this is to provide link to the Drawing style system later.

MT>Table Editor>Open Database> Use filter= Camera> AstorBase>Model Role.
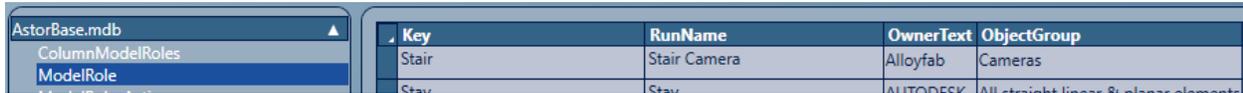
Key	RunName	OwnerText	ObjectGroup
Stair	Stair Camera	Alloyfab	Cameras
Stay	Stay	AUTODESK	All straight linear & planar elements

AstorBase.mdb
- ColumnModelRoles
- ModelRole

Note: if you add directly into this table this is in the main table, if you add via the object property editor of the MT interface, this add the model role into the Model Role Table in the AstorAddin database.

Linking Camera type to Drawing Style and Processes

To allow the Camera to process within the drawing process manager additional lines need to be added to link the camera to the process option.

Object selection rules

We need to create rules that appear in the drawing process Step.
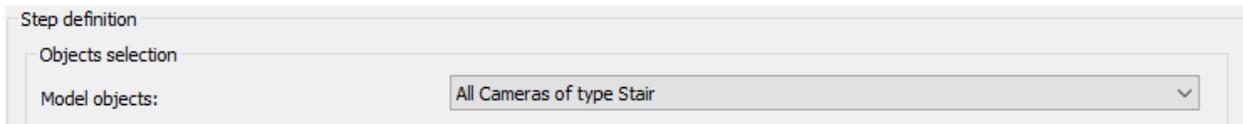
Step definition
Objects selection
Model objects: All Cameras of type Stair

To find this again use the MT and look for a Database - AstordetailBase.

MT>Table Editor>Open Database> Use filter= DetailprocessSelection,

With this database selected go to the table and look for line relative to cameras, See below

AstorDetailsBase.mdb
- DetailProcessScaleOverride
- DetailProcessSelection
- DetailProcessSort
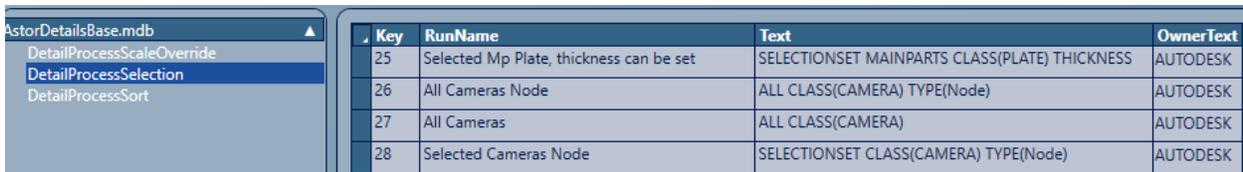
Key	RunName	Text	OwnerText
25	Selected Mp Plate, thickness can be set	SELECTIONSET MAINPARTS CLASS(PLATE) THICKNESS	AUTODESK
26	All Cameras Node	ALL CLASS(CAMERA) TYPE(Node)	AUTODESK
27	All Cameras	ALL CLASS(CAMERA)	AUTODESK
28	Selected Cameras Node	SELECTIONSET CLASS(CAMERA) TYPE(Node)	AUTODESK

We need to look for ones that Are Related to All Cameras and for Selected.

Select one of those lines and copy it, then go to last and create a new line at base of table.

Enter a key Value suitable, and then adjust to suit, in this case I changed the Type (Node) to Stair in the Runname and the Text.

30008	All Cameras of type Stair	ALL CLASS(CAMERA) TYPE(Stair)	A

We may have different types of same main camera, for example I created some extra ones for Stair plan and Stair elevation, also making sure to add in the Selected Type as well as the All

30008	All Cameras of type Stair	ALL CLASS(CAMERA) TYPE(Stair)	A
30009	Selected Cameras of type Stair	SELECTIONSET CLASS(CAMERA) TYPE(Stair)	A
30010	Selected Cameras of type Stair Plan	SELECTIONSET CLASS(CAMERA) TYPE(Stair_Plan)	A
30011	All Cameras of type Stair Plan	ALL CLASS(CAMERA) TYPE(Stair_Plan)	A
30012	Selected Cameras of type Stair Elevation	SELECTIONSET CLASS(CAMERA) TYPE(Stair_Elevation)	A
30013	All Cameras of type Stair Elevation	ALL CLASS(CAMERA) TYPE(Stair_Elevation)	A

The Reason for this is so that by having the different Camera's you can place them in the model and have different drawing styles linked to the Camera Type, so by setting a camera Stair plan, the system will produce a Stair plan drawing from the associated drawing style.

Adding Model objects for cameras.

To provide the link between the Camera object in the model and in the drawing process and style system, we need to add a Model object within the Drawing Style manager, this will provide the link to the drawing process system.

Note: assess the Drawing style manager > User Folder, Select the Model objects, now depending which country you are in, you may find the entries in different categories: General or Cameras.   For this example, they are in General
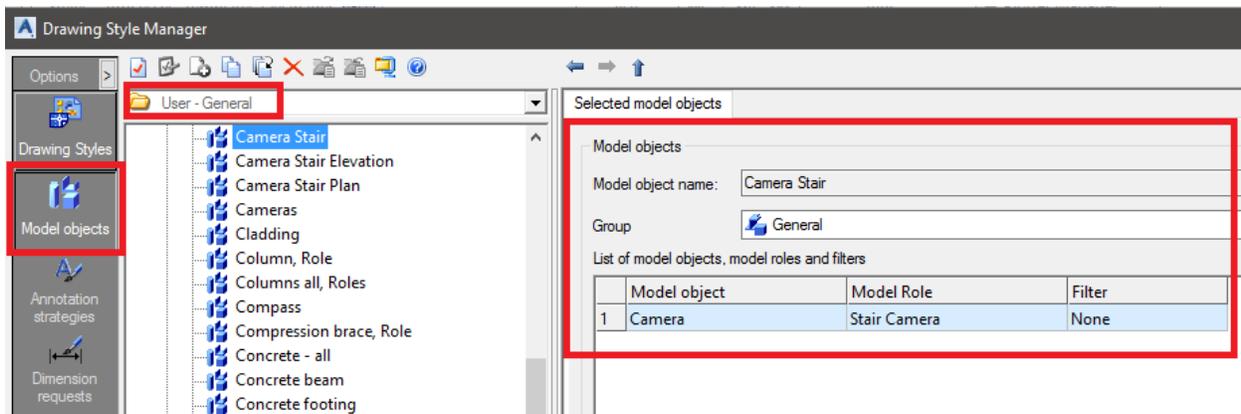
Use the normal method to Copy and existing model object and configure as required, shown above.

Model object: Set to Camera

Model role: Set to the model role Created.

Filter: None

This now links the model objects to the model roles create earlier and in turn provides the link to the Drawing process system via the Detail style map.

Creating a Style map to link camera types to drawing styles.

Within the drawing process manager, there is an element called the Detail style map, this provides the link between the two managers associated with the drawing production.

We need to create a Style map relative to cameras, make sure you are in the User folder and at the bottom of the tree folder structure (the number of maps will appear different depending upon which country you are in)
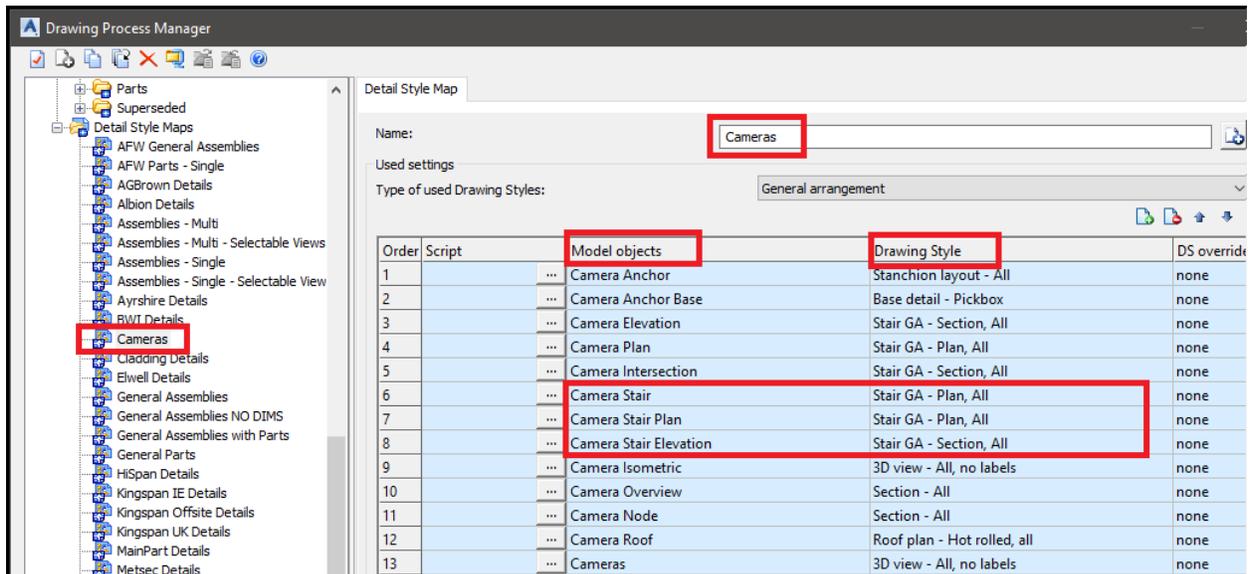
Note: camera map shown has a lot of additional Cameras shown, this is to aide production of drawing for another camera type created.

Within the Style map, set the Drawing style to either one you have created or suitable style to start with, this can be changed and updated later if so required.

using the Style map and the object selection rules

to bring this together we need to now create a Drawing Process Step and then a Drawing Process to produce the Drawing from the Camera.

For this there are several other elements within the step that need defining, the file name selector and the Scale rule, but these are normal covered as part of drawing styles course. They are simple really, the file name selector, allows you to set a Prototype file (The Drawing size and border) along with the name of the file when you create it, The Scale allow the process to try different types of scale to fit the within the border/Prototype.

Also, we link in the Detail style map that was created in previously.
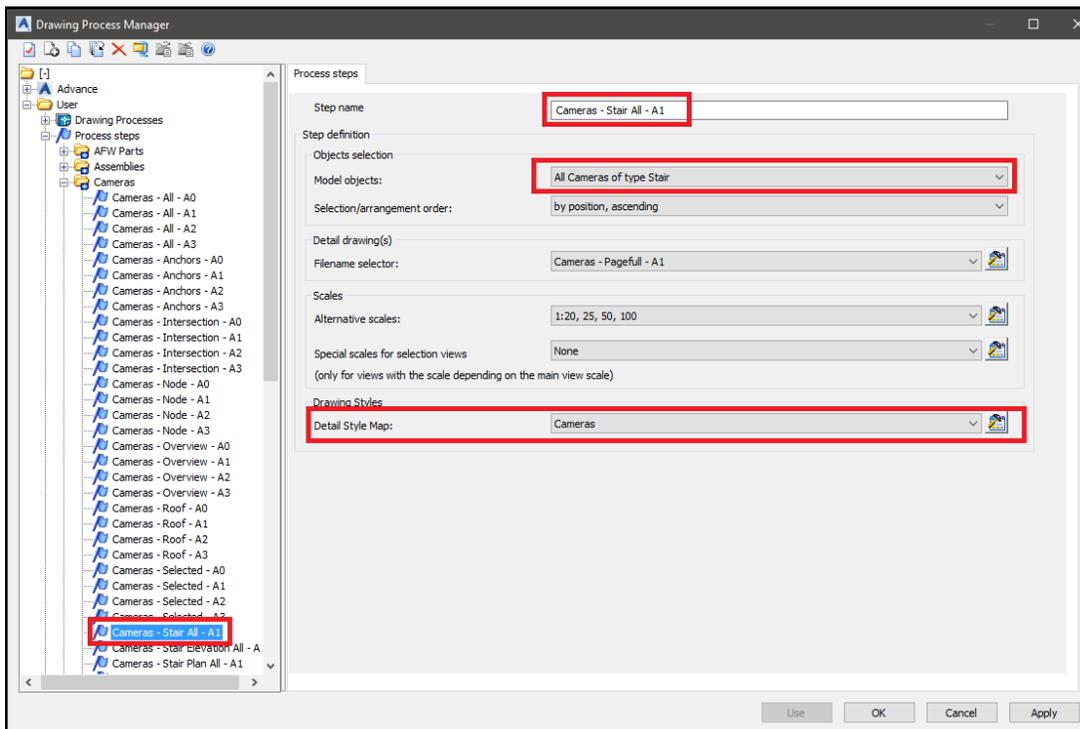
Create Drawing Process Step.

Look for a folder Cameras and create new Step. To do this copy and existing one, use the mouse, hover over and existing process and right mouse click and select copy, then follow instructions below:

To create a new Step, copy and existing one and name it accordingly.
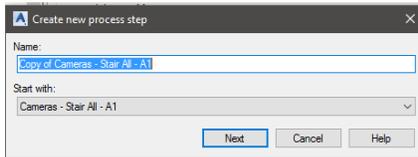
Select the Model objects, one of the new ones we created in the "DetailProcessSelection" table.

Select the Detail Style Map we created "Cameras"

Set these elements and then apply them.

Create Drawing Process

Above the step items, is a folder for Drawing Processes, within this we need to repeat and create a drawing process to link in the step, this is the process that will be seen in the drawing process palette and used to create a drawing from the camera object in the model.

So, copy and existing Camera process, same method as above, name it and then under the main step tab set it to the Camera step just created, this then brings in all the details of the step previously created.
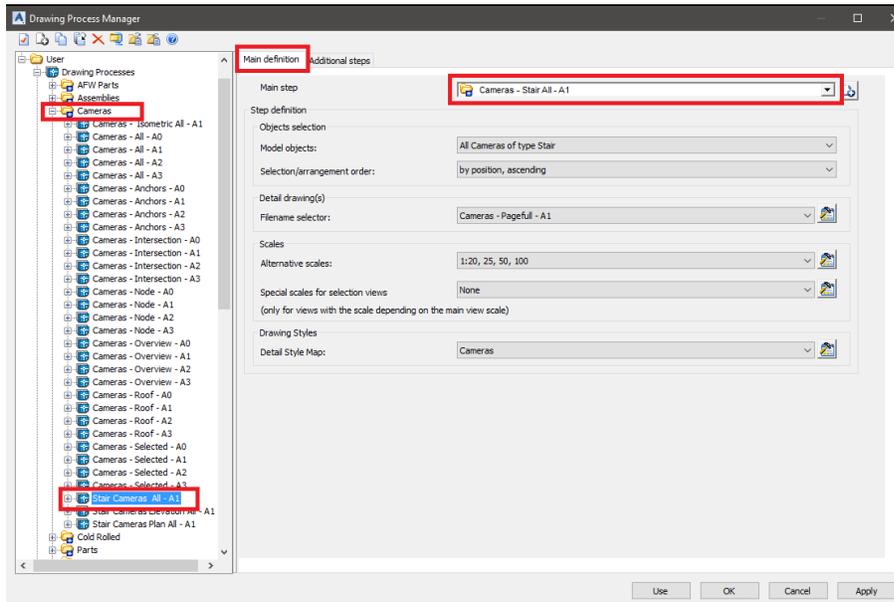
 Just make sure that the new drawing process is selected to appear on the palette, this is the check box at the start of the process, to see this select the Camera folder and then the display changes on the right, make sure check box is ticked.
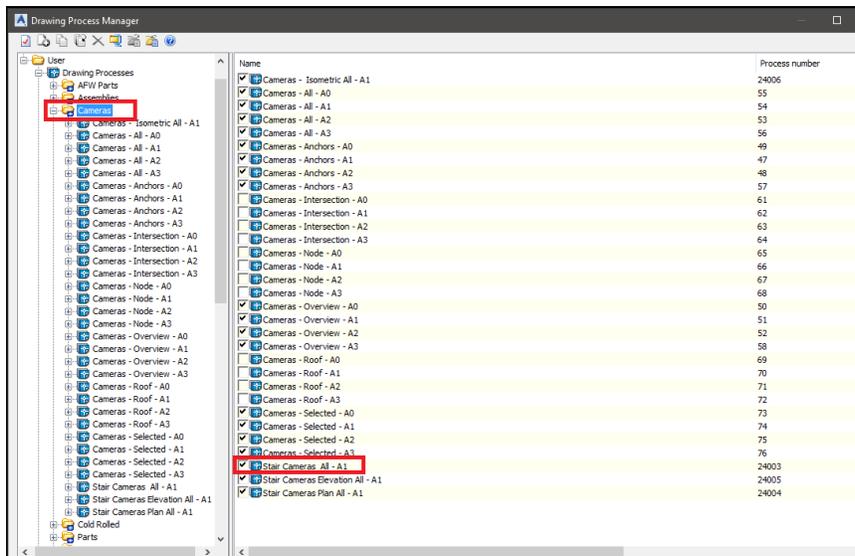

Select the apply button to confirm everything.

You can run a test from the DPM,or exit and then use from the palette.

Drawing process palette

For the new process to show in the palette, it is necessary to close the existing palette and then also to exit advance steel session, then relaunch Advance Steel and then reopen the palette. This Recreated the user XML file that the palette is generated from.   Select the User palette.
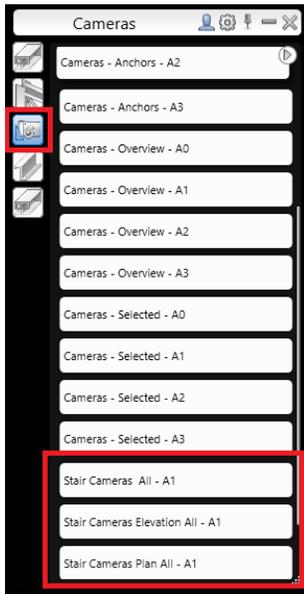
Using Camera Stair in model

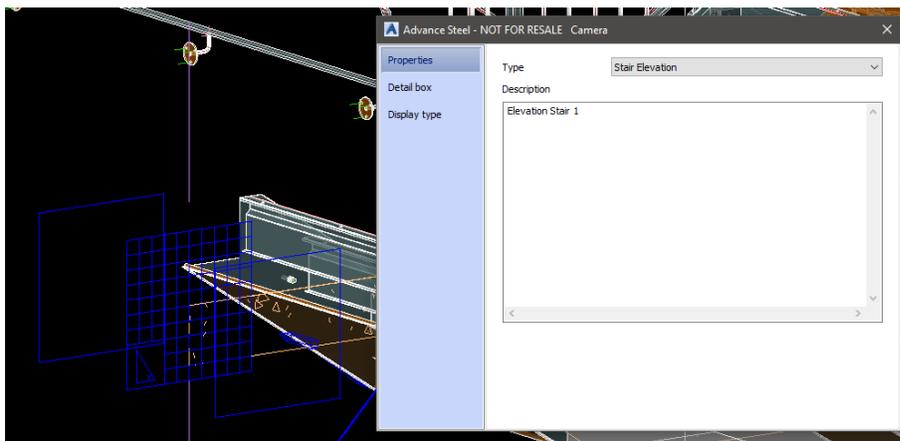The use of this is the same as any other camera object.

Set the UCS to view direction.

Select camera button from palette
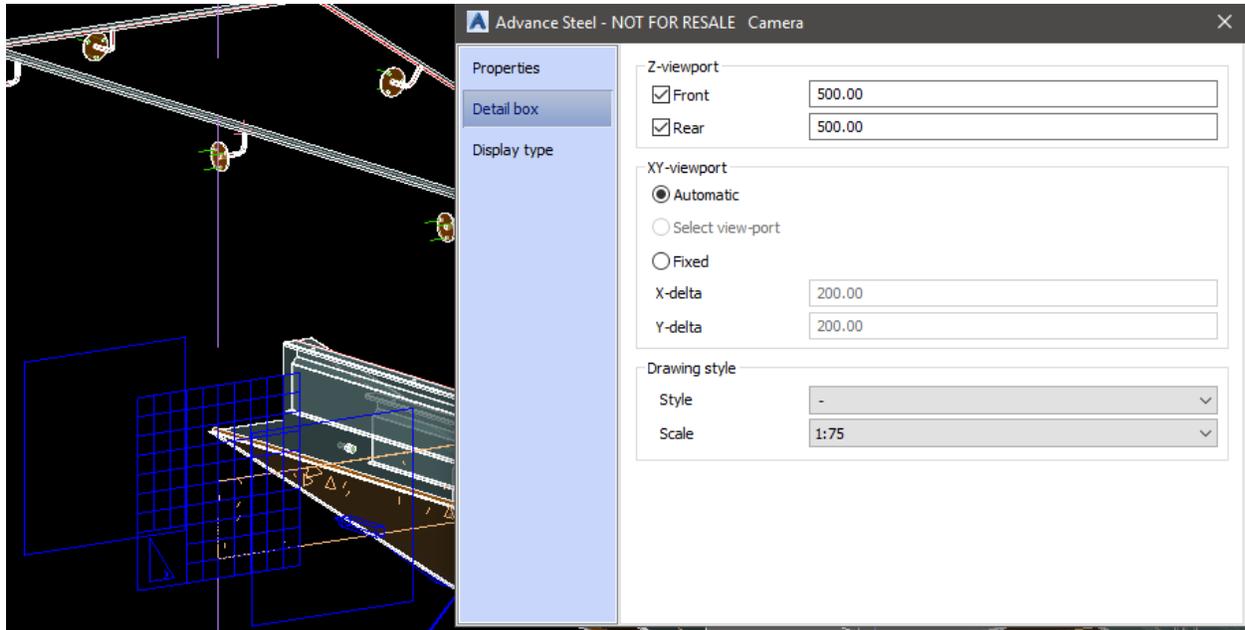
Place at required position in the model

Set the Type as required

Enter the drawing view title in the Description field.

Additionally, you can alter the Drawing style by selecting one from the drop down list, or leave as -, this will use one from the Detail style map setting.
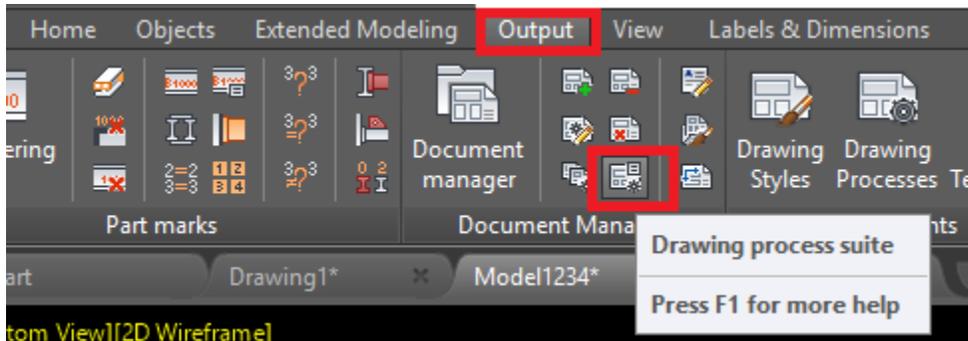
Scale - I would possible set this, as I tend to know the required scale to fit paper size being used.

Drawing process suite option

Additional tool that is sometimes overlooked is the drawing process suite, this tool allows you to create a series of drawings from one button click I a sequenced order.

Look for it in the output ribbon tab, under the document panel

Within that tool are options to create a new suite, this is done under the user part of the system.

Use the New Button to add the suite and name accordingly.
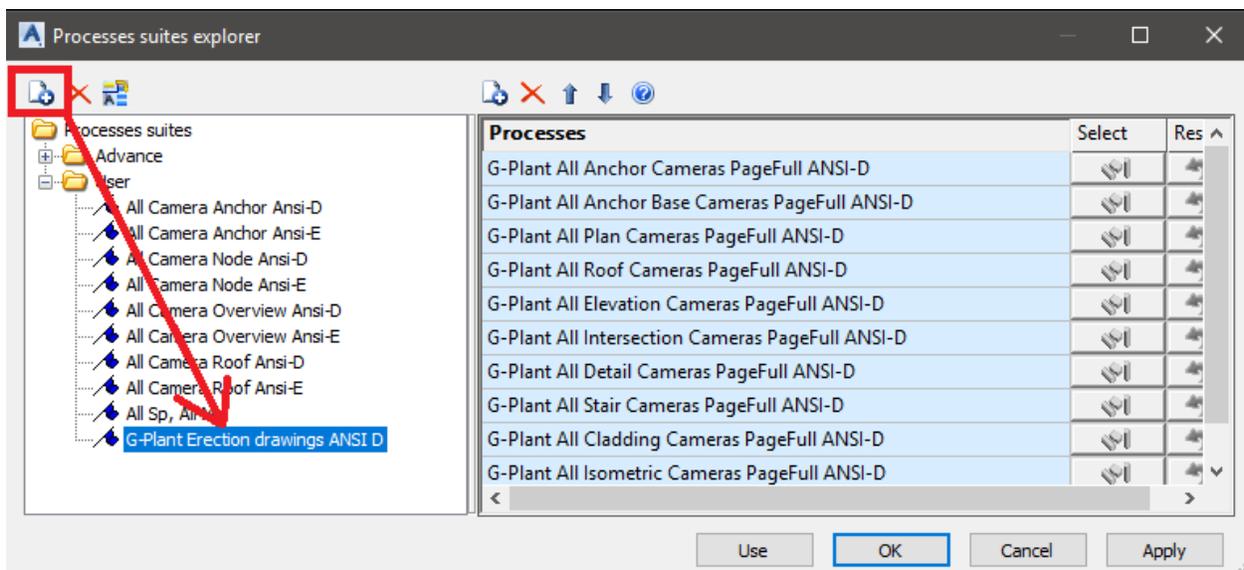
Using this tool, we can create a series of drawing based upon a series of camera types. So to make this work we need to have create all the process step prior to the creation of the suite (You can add more of these to the suite at any time)
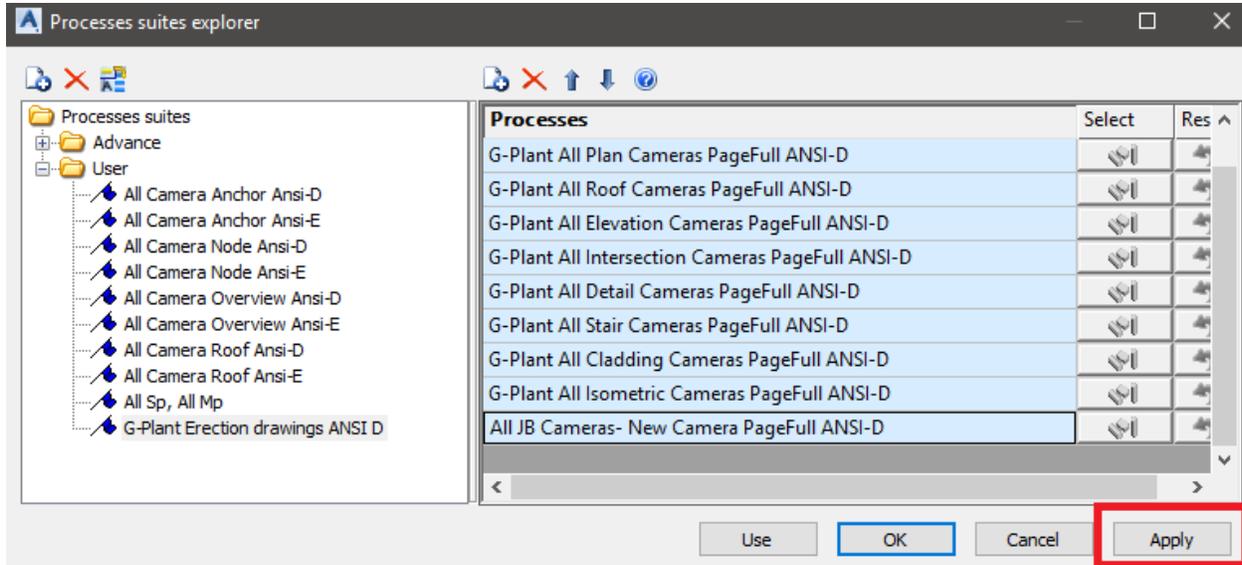
To add lines to the suite just use the plus button at the top.
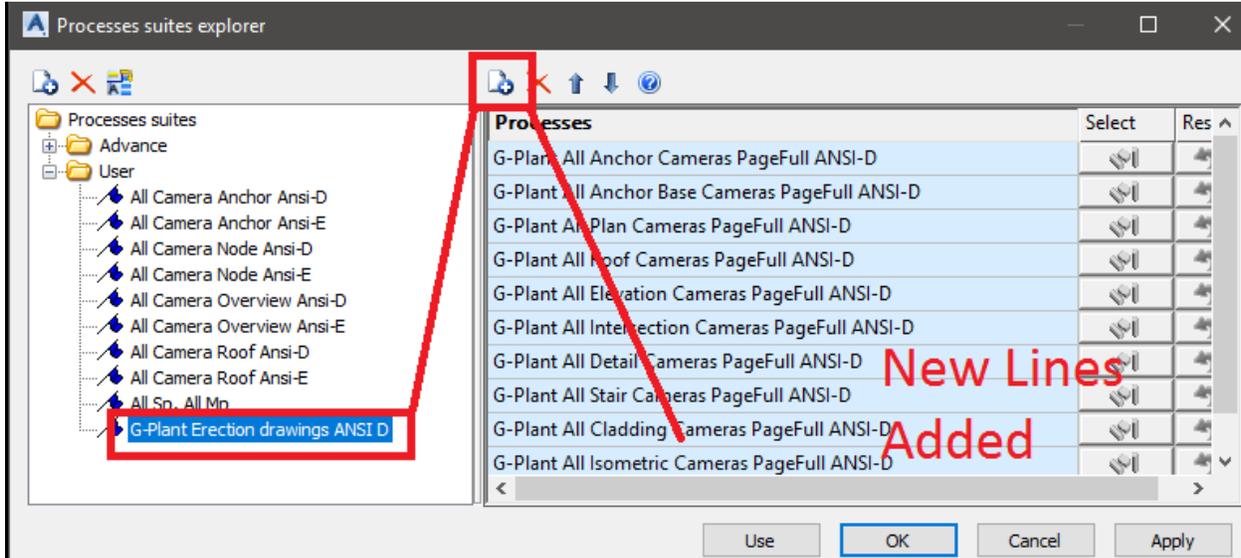
To order them use up and down arrows. This will sequence the drawings in order.
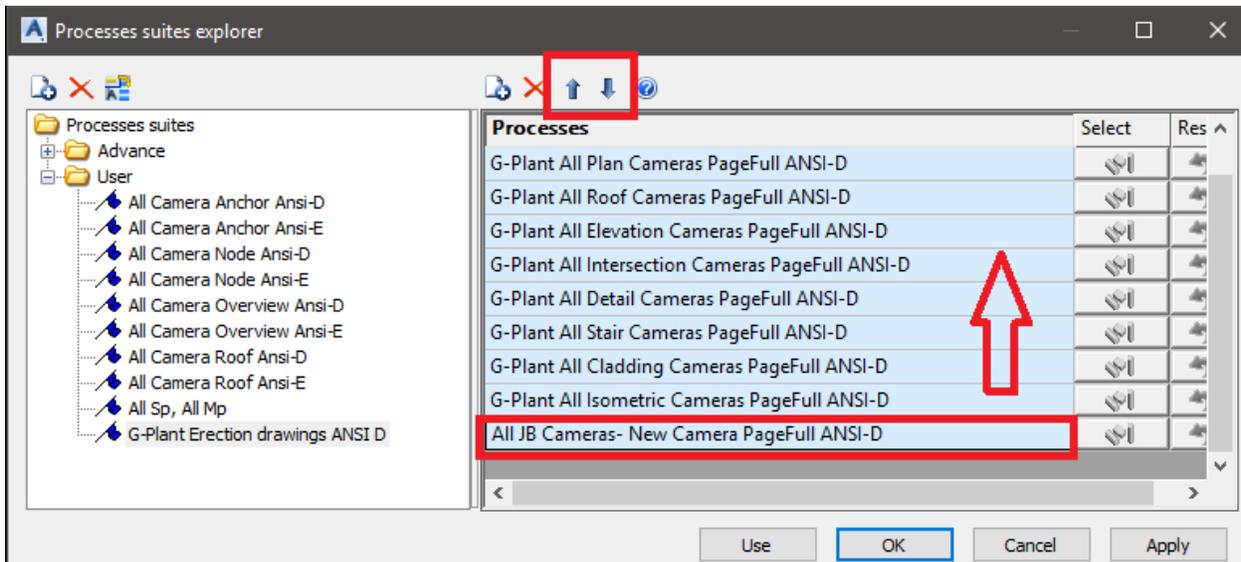
Remember to apply all the changes.

The sequence can be changed to suite the required production of the drawings in a set sequence.

REMEMBER, THIS IS AN AIDE TO CREATING THE DRAWINGS, YOU CAN STILL CAN STILL ADD VIEWS TO DRAWINGS CREATED, ALTER THE CONTENT OF THE DRAWINGS. MANUALLY CUT VIEWS CAN BE ADDED TO THE SAME DRAWINGS. ALSO ALL NORMALLY AUTOCAD ELEMENTS CAN BE ADDED TO THE DRAWINGS TO GIVE THE FINAL TOUCH TO THE FINISHED DRAWING.

Drawing Styles

The drawing style that is linked to the camera via the detail style map option, this is an element on its own, and if you need a different style in the drawing, this part of the system should be edited.
You can create several different styles if required, using the drawing styles manager.

Also, if needed you can always change the actual style used by the camera in the Detail tab, so variation of the camera style is possible.
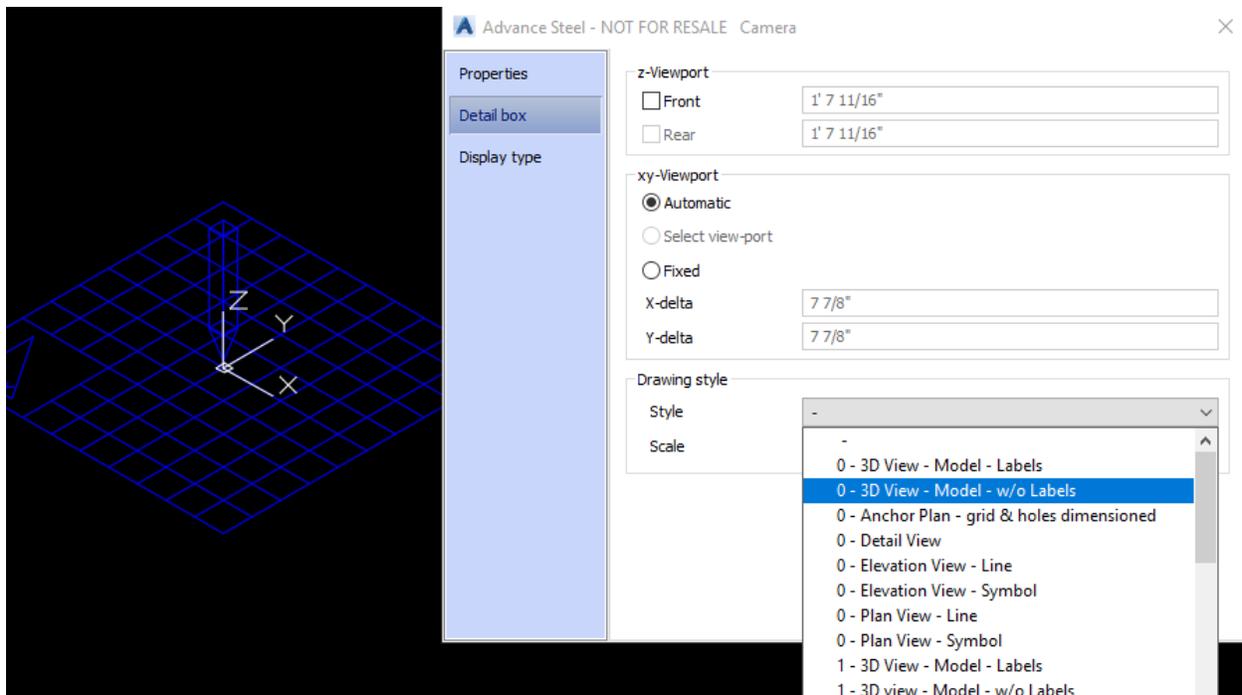
AS2017 FAQ tips over Camera and drawings options

Below are some hyperlinks:

- Create a general arrangement view using camera through a process - with a Drawing Style set for the camera
- Create a general arrangement view using camera through a process - with no Drawing Style set for the camera
- Example: Use the Modified Prototype in a Camera Detail Drawing
- FAQ: How to set the detail filename into any detail type header?

Screencast link
Link to screencast video of the process

http://autode.sk/2ebNtYG

Camera's in Model Views 2018/9

In the Versions 2018/9 we see the introduction of the Camera into the Model view, and from there the camera can be turned on and follow the constraints of the model view.
This allows the user to create model views with a foresight to structuring the model views in line with the required principle outputs from the AS System.

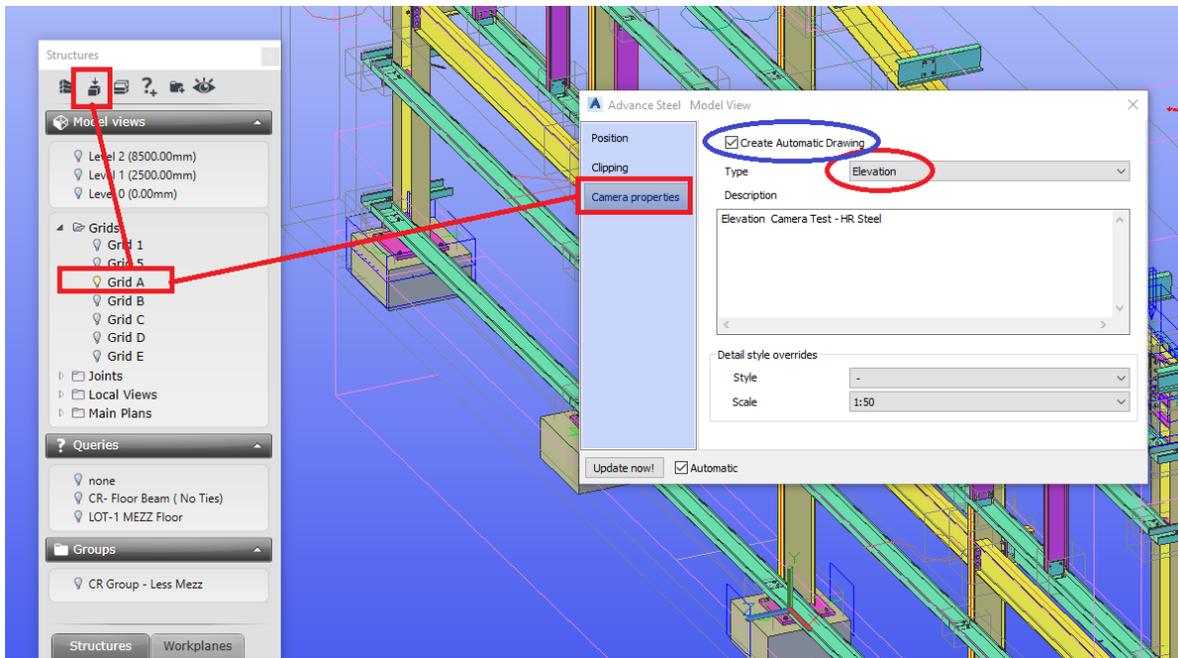Link to the Camera model view video.

AS Camera's in model views

Link to Help page on Camera in Model Views.

Help page on Camera's in model views

Cameras in model views – Activating

Create the model view from one of the methods outline, then go to the Cameras properties tab and check the Tick box to activate the Camera tab, set the camera Type as normal, type in the Description and set scale if required.

The camera can be run from a Camera Type process.

Model view with Camera Set