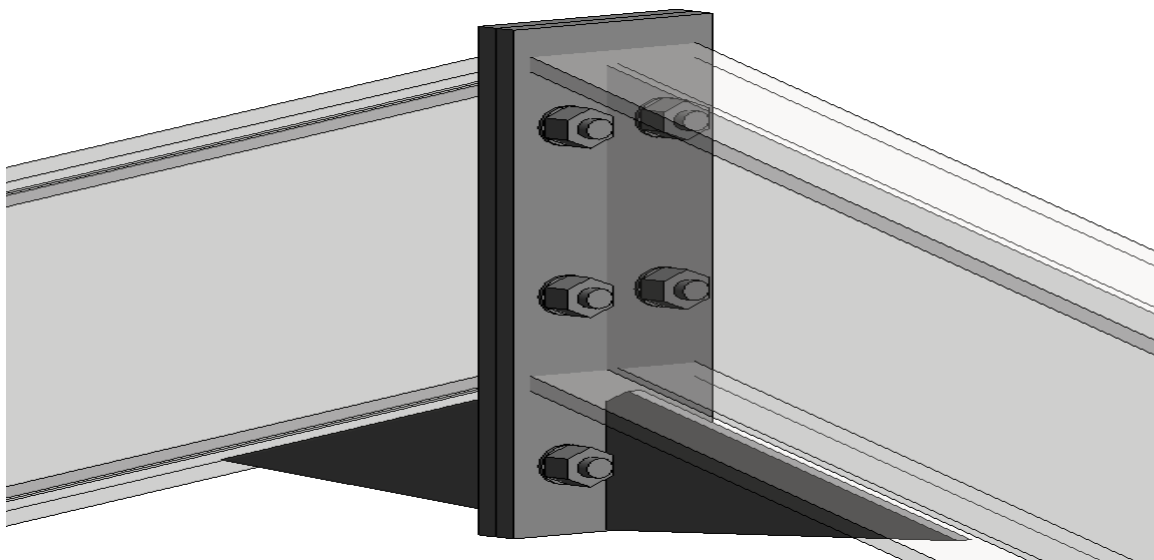# AutoCAD Structural Detailing Steel Connections in to Revit 2015

Using ASD 3D Connection details for Revit 2015

Autodesk structural detailing (ASD) is an often overlooked tool as part of the Building design suite. ASD is used to detail the connections between members of the steel frame. ASD is built on the AutoCAD platform and so is similar to AutoCAD in look and feel.
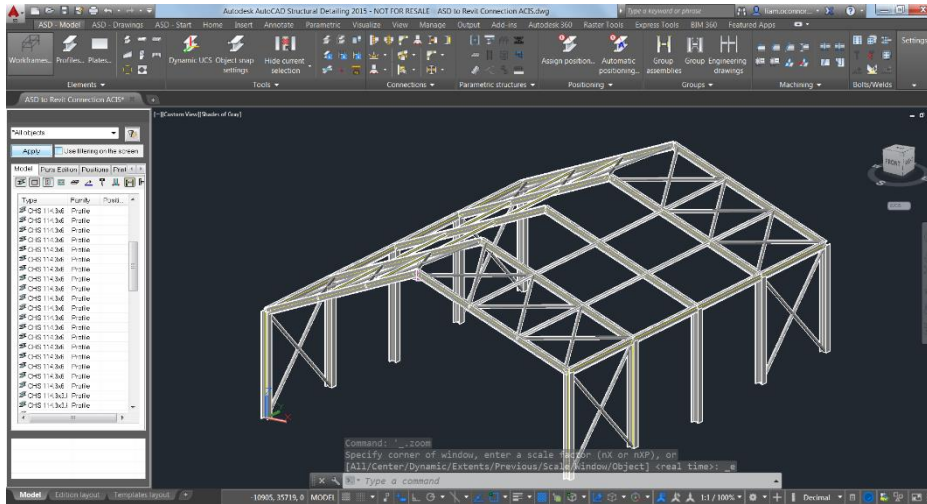

Using the Connection Macro dialog box wizards used in ASD you can produce the varies connection details in 3D ready to produce the 3D/2D fabrication drawings. Using the option to save as ".ACIS" in ASD you can export the connections out and load them in to Revit Family template (shown above).
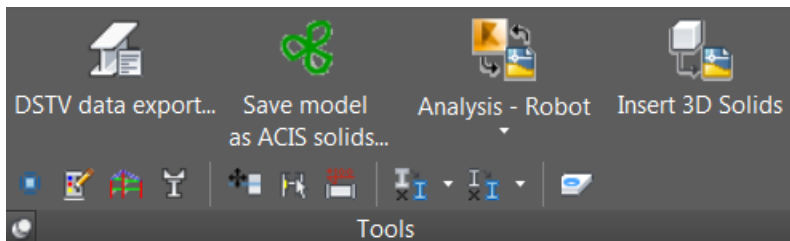
By then end of this example you will be able to:-

- Create a connection in ASD and save as a .ACIS file
- Add ACIS file to a Revit faced based template and change the category

This white papers assumes some basic understanding of the terms and functions used in Autodesk Revit & Structural detailing
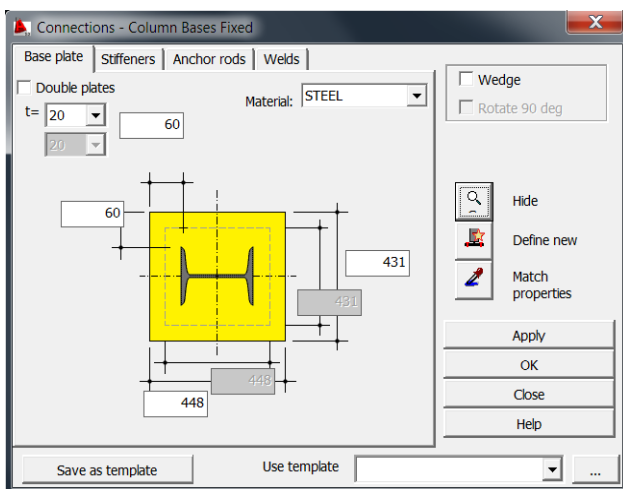
Creating a Connection in ASD and save as .ACIS file

Open an ASD file, I have already created some model geometry already, in this example I used the link from Revit 2015 to Autodesk Robot Structural analysis 2015 (RSA) and then opened RSA file directly from ASD via the drop below the Tools panel. You can create the model geometry directly using ASD also.
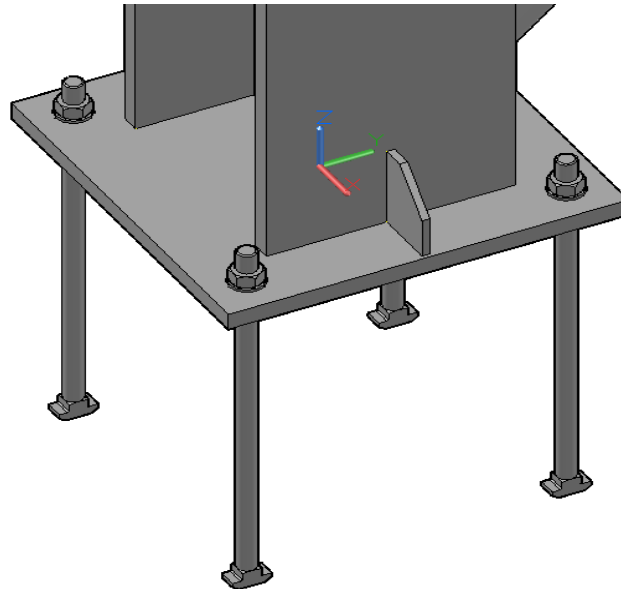

With the geometry created navigate to the Connection panel located in the ASD –Model tab and select the type of connection needed. In this example I used the "Column Bases Fixed" Connection Macro dialog box.
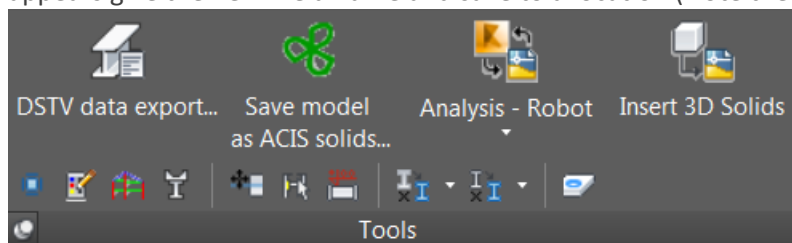

I filled each tab working from right to left to create the base plate dimensions. The dimensions don't have to right first time just selecting the connection again after allows you to open and modify the dimensions as needed.

Once complete select apply and close the Macro dialog box. You can save the settings to a template to be used again.

Your connection should be complete and the geometry is added to the section member in 3D as shown below.

Next, back in the tools panel in the drop down select the "Save model as ACIS solids". When the Save as dialog box appears give the new file a name and save to a location (Note the .DWG file extension). Next you need to select the

connection making sure you create your selection window from left to right.

Next you'll be asked if you want to "SAVE AS A SIMPFLIED SOLID" In this example I selected no. If you select yes you include the bolts/washers.
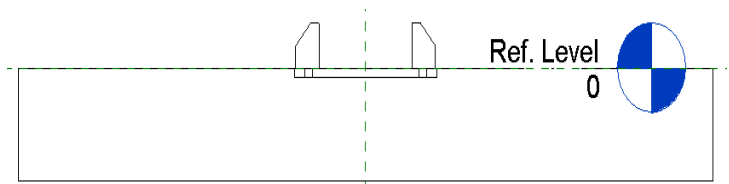
You can now close ASD and open Revit 2015

Take note - I had a <u>few</u> examples where the bolts seem to exploded out of position when add to the Revit Family template.

Add ACIS file to a Revit faced based template and change the category

With Revit open you need to navigate to the "Generic faced based" family template and open the Template. Using the Import CAD tool navigate to the file location of the recently saved file and insert in to the template.

Then locate the import model and fully explode. Move into position using the reference lines and the move tool along with the Align tool.
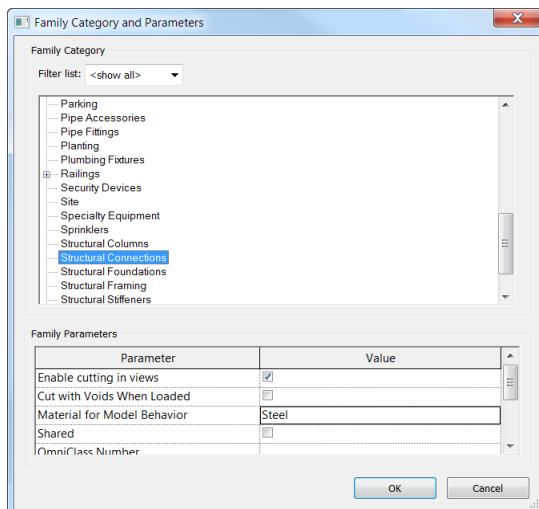
Taking into account the face in which will be the point of connection in the model.

I added some reference planes across the hole centres to help place dimensions later in the model and made them "strong references". I then added attributes and shared parameters as needed.

I adjusted the "Family Element Visibility settings to shown only in Medium and Fine detail and then I added Symbolic Lines "Over" the new connection model and set them to on show in course detail only.

Select the geometry and change the material as needed also adding any subcategories. Select the Family category and parameters icon and change the template to "Structural Connections".

Save the file and open a Revit .RVT file. Load the new family in to the project file and then position in to place.