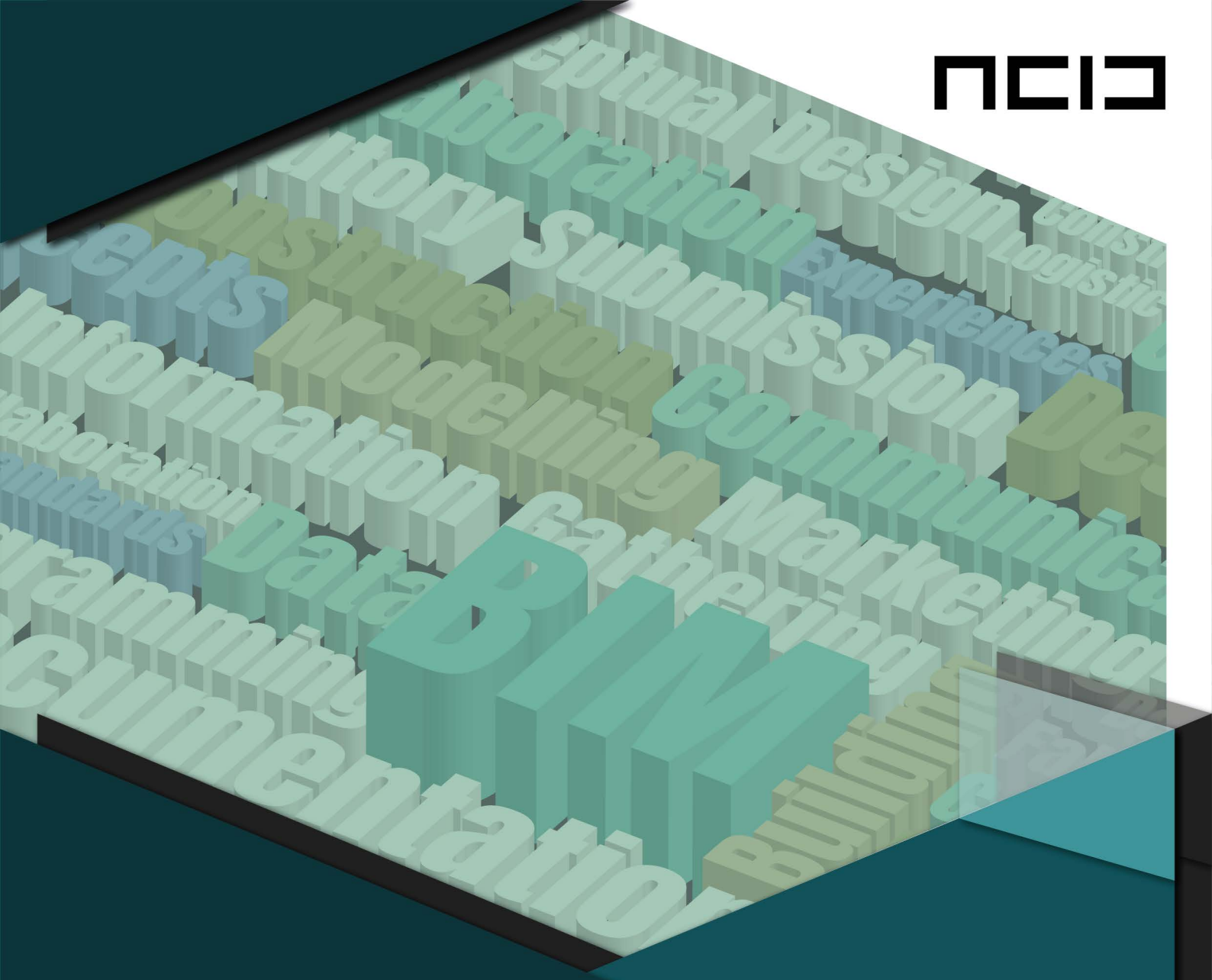


BUILDING INFORMATION MODELLING

Training Materials

Structure (Revit)

Advanced Construction Information Development Ltd.

Contents

1. Creating an Architectural Underlay

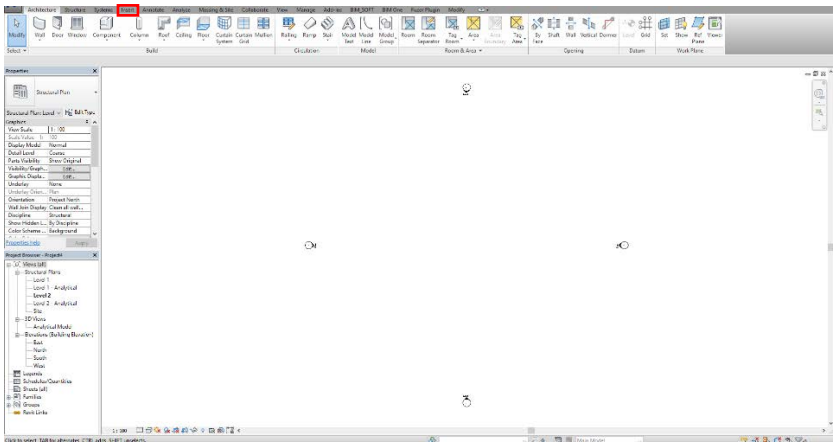
1.1 Working with Architectural Underlays

1.1.1 Creating linked architecture model

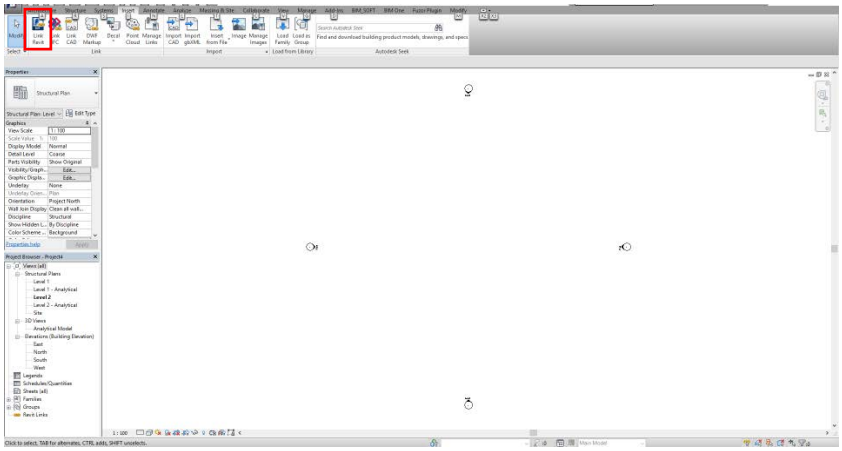
Open Revit Structure template

1st method of linking in an architectural model

1. Click on **Insert.**

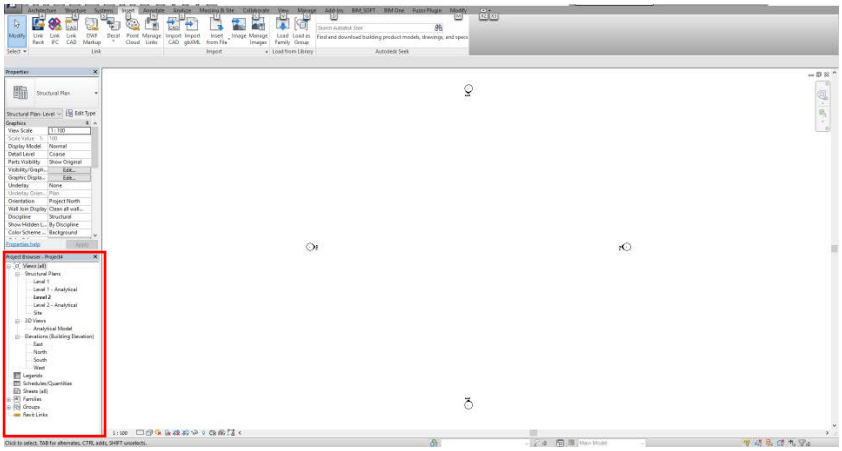


2. Click on **Link Revit.**

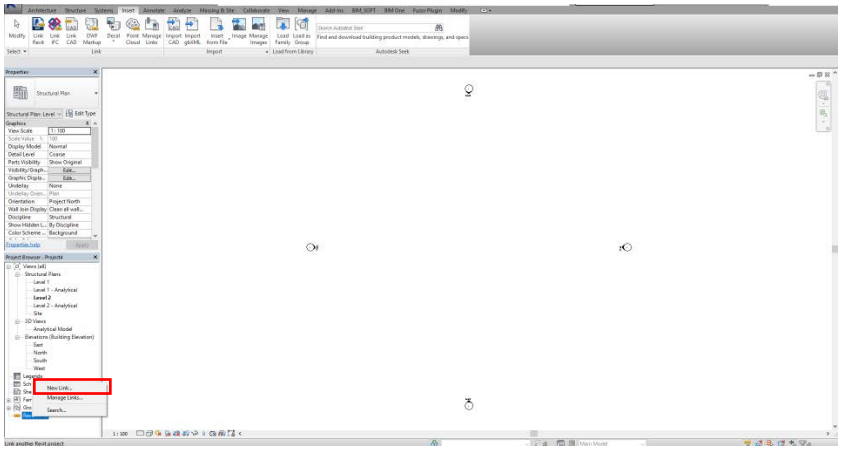


2nd method of linking in an architectural model

1. Scroll down in the **Project Browser.**

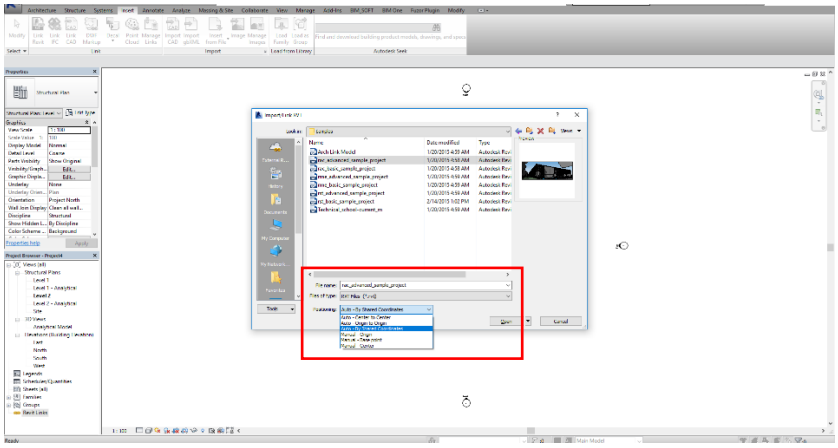


2. Right click on **Revit Links** and select **New Link.**

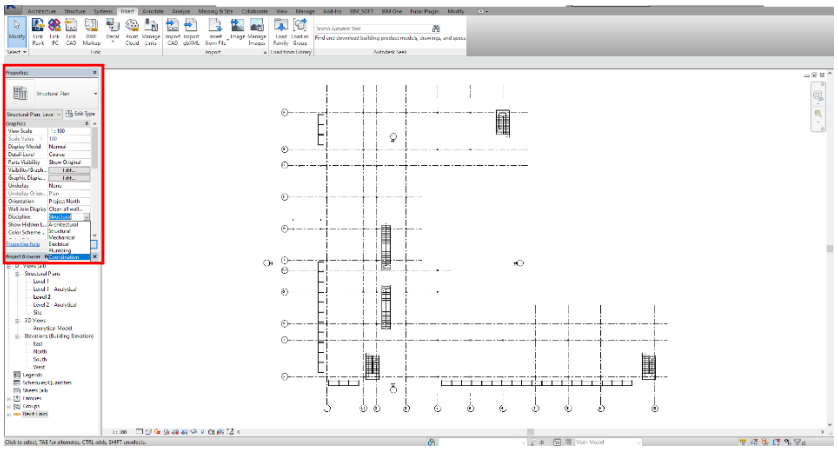


1.1.2 Loading links

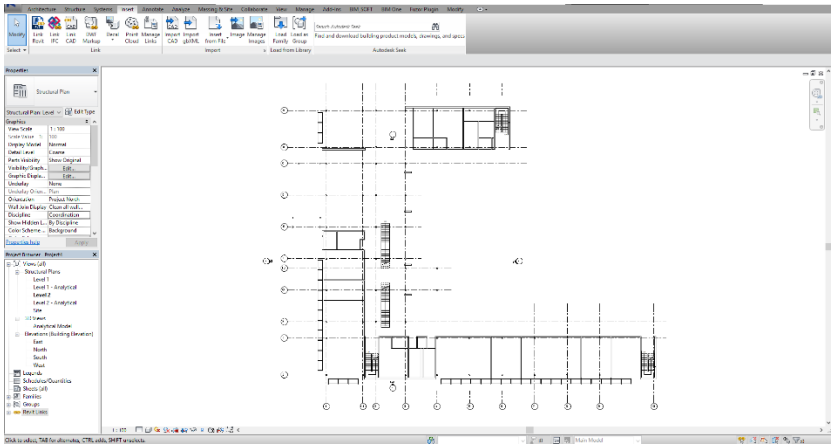
1. Always check **Positioning** to be **Auto – By Shared Coordinates.**



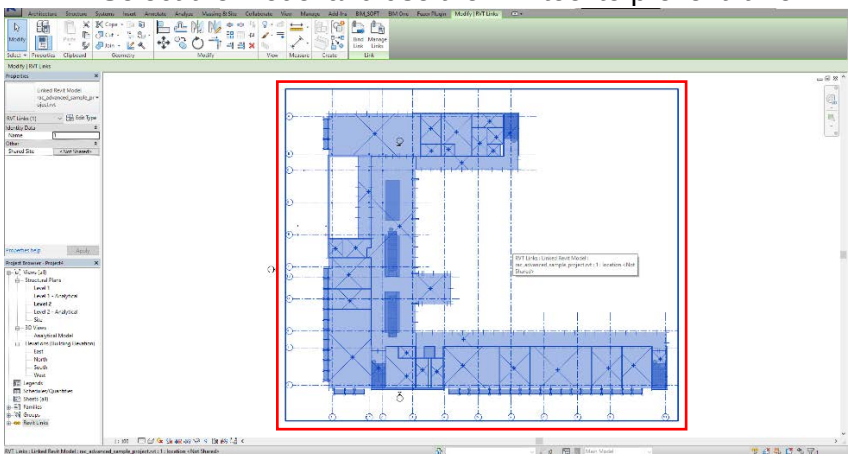
2. Change **Discipline** in **Properties** from **Structure** to **Coordination.**

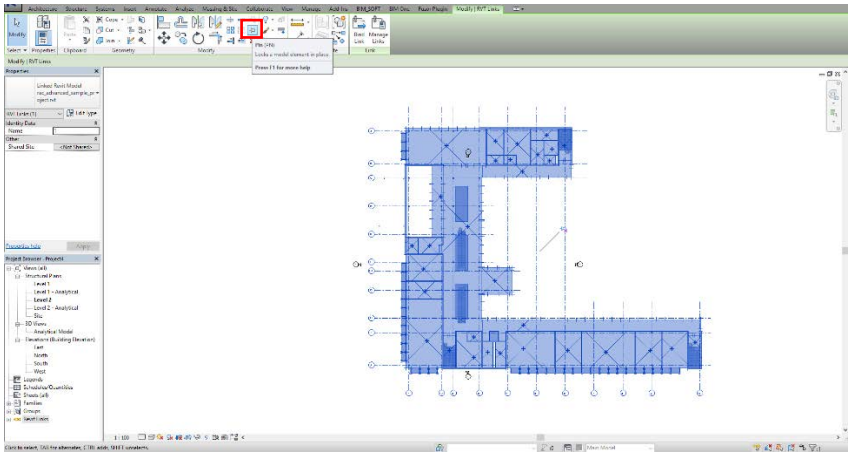


3. This allows the model to be more revealing.

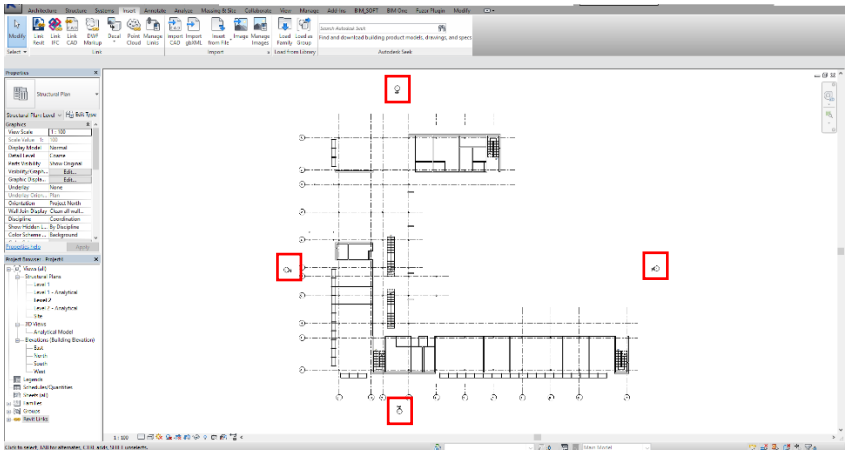


4. Select the model and use the **Pin** tool to prevent it from moving.

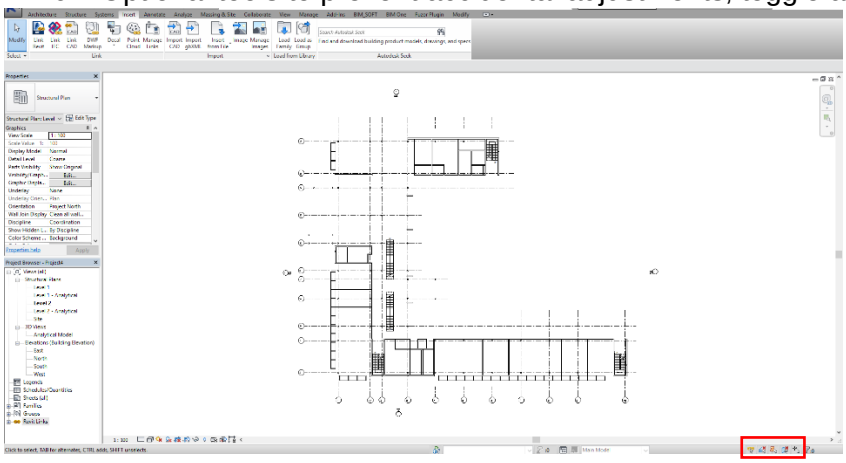




5. Make sure the **Elevation Marks** are outside of the model

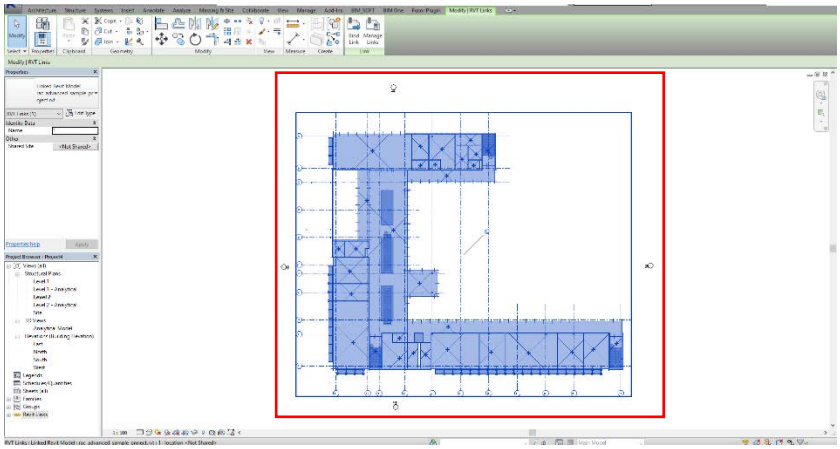


6. Optional tools to prevent accidental adjustments, toggle as user's preferences.

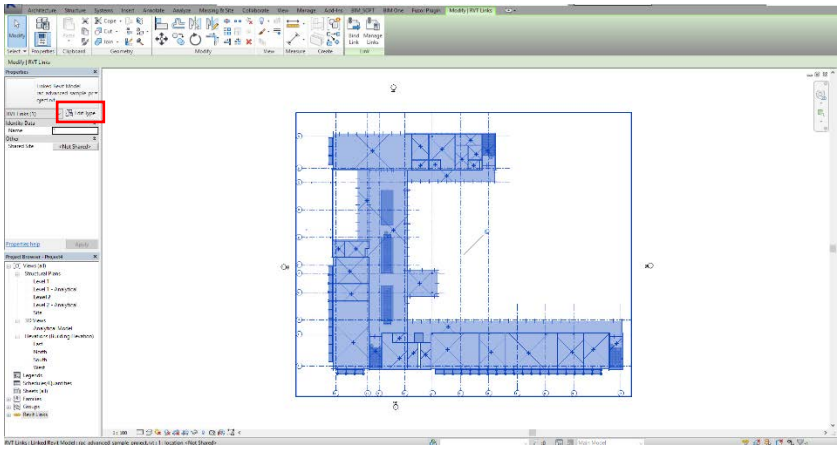


1.1.3 Set Up

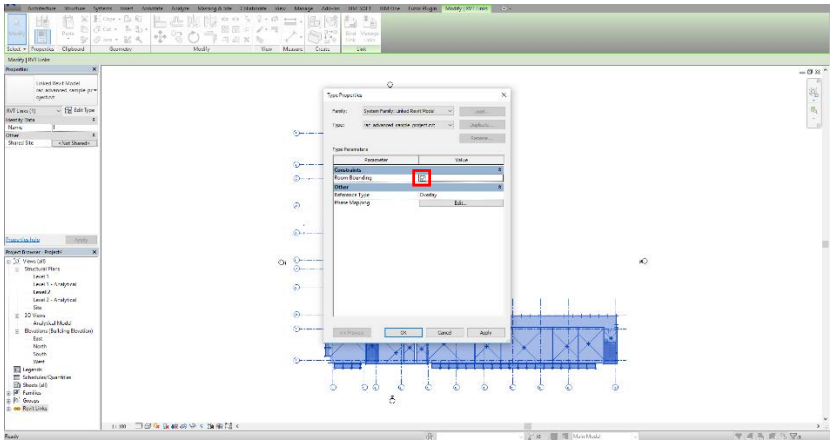
1. Select the linked model.



2. Go to **Properties** and select **Edit Type.**



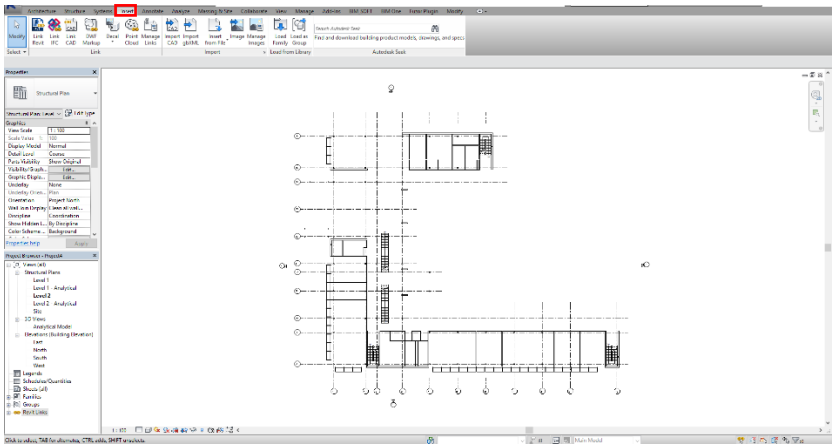
3. Tick the **Room Bounding** box.



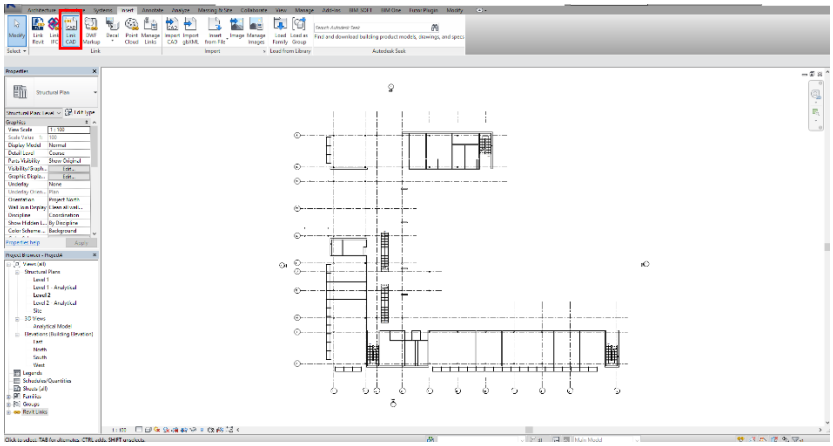
4. Click **Apply** then click **Ok.** This allow rooms to be seen.

1.2 Importing and Linking CAD Files

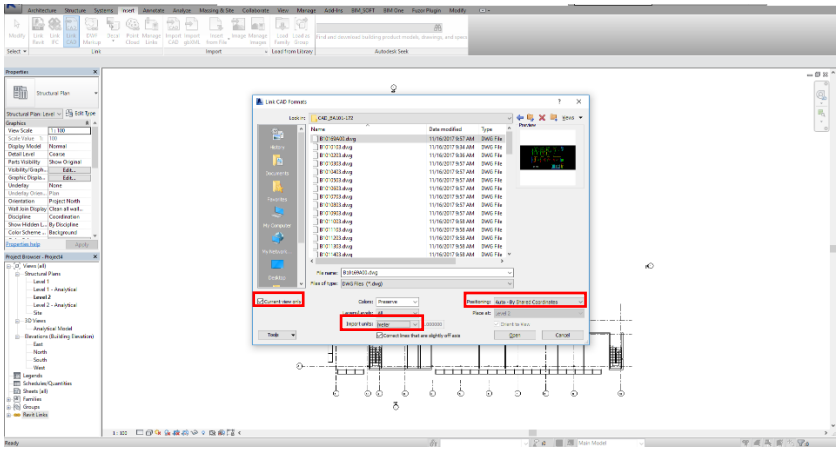
1. Click on **Insert.**



2. Click on **Link CAD.**



3. Select desired file. Be sure to check **Current view only** box, this prevents the CAD file to appear in every layer. Select Import units according to CAD files and switch **Positioning** to **Auto – By Shared Coordinates**

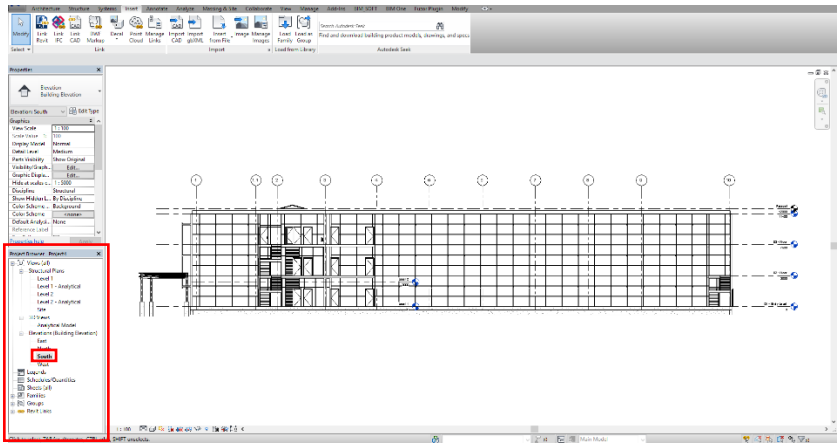


4. Adjust to match the Structure model.

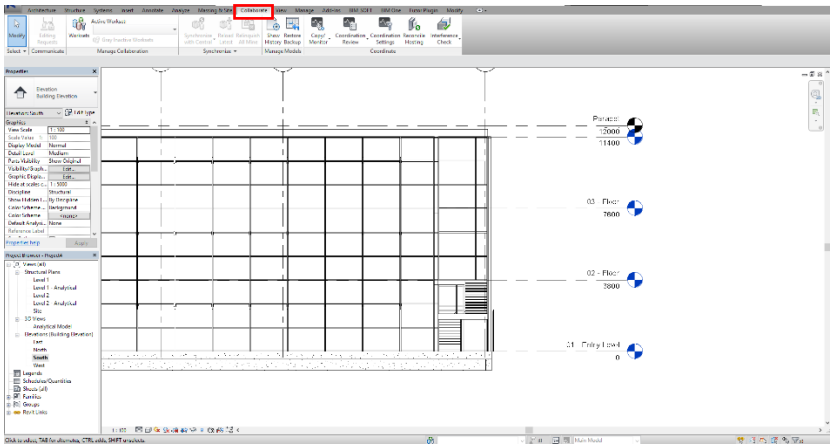
1.3 Copying and Monitoring Elements

With the Copy/Monitor function, it is possible to track the architect's indecision by keeping a live monitor on their level.

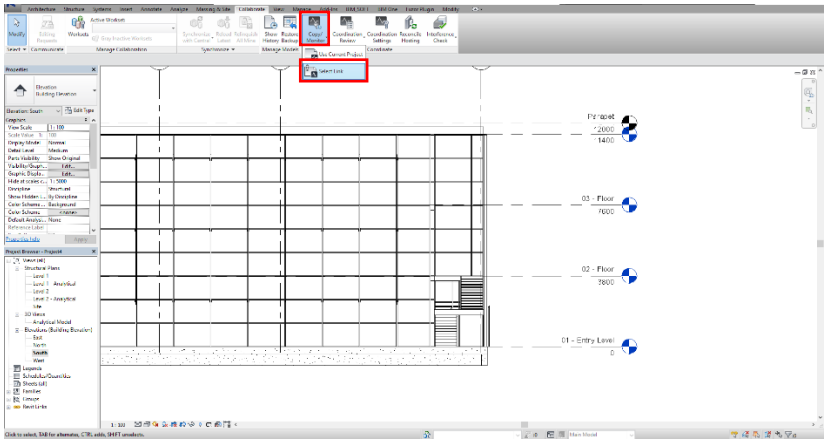
1. Go to the **South Elevation** in the **Project Browser.**



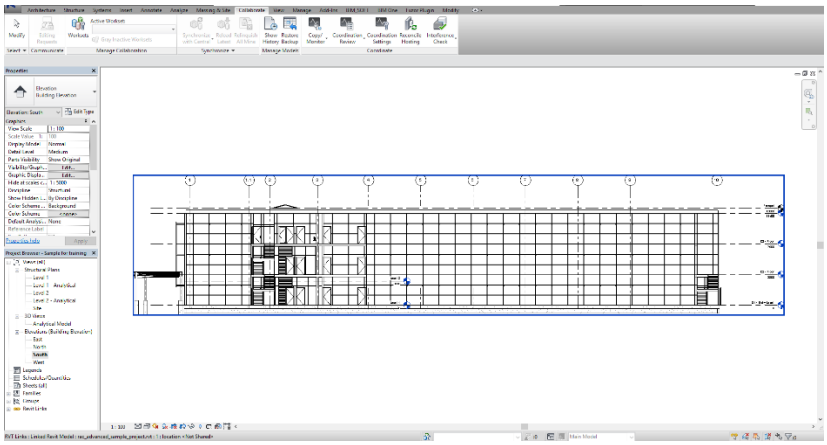
2. **Zoom in** with **Scroll Wheel** to the **Levels**. Click on the **Collaborate** tab.



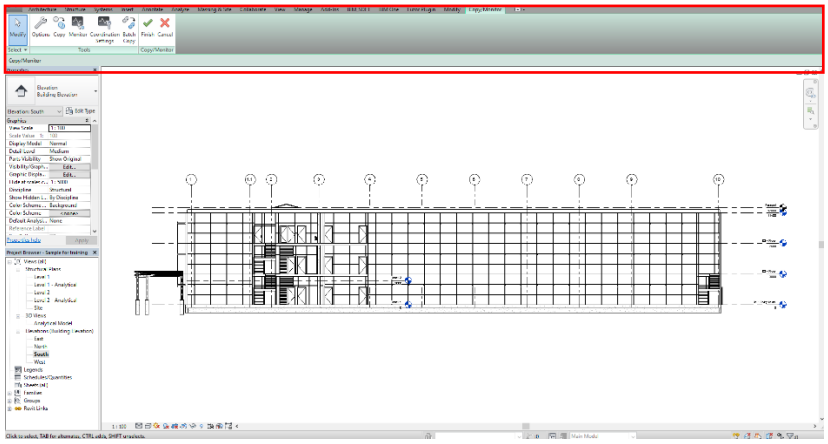
3. Click on Copy/Monitor and click Select Link.



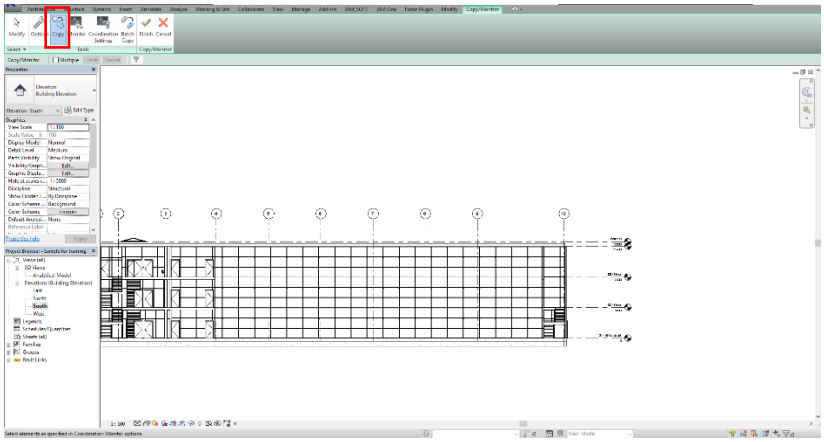
4. When you hover over the **Grids** or **Levels** a blue box will appear.



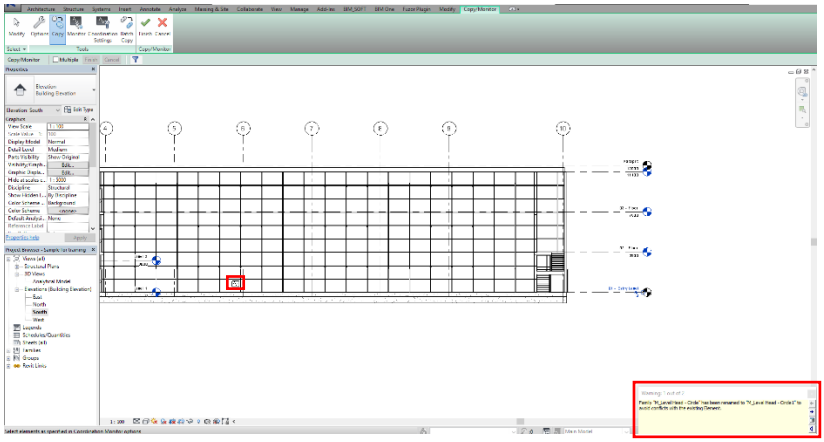
5. Click on the model, the **Ribbon Tab** should change color and 5 tools will appear.



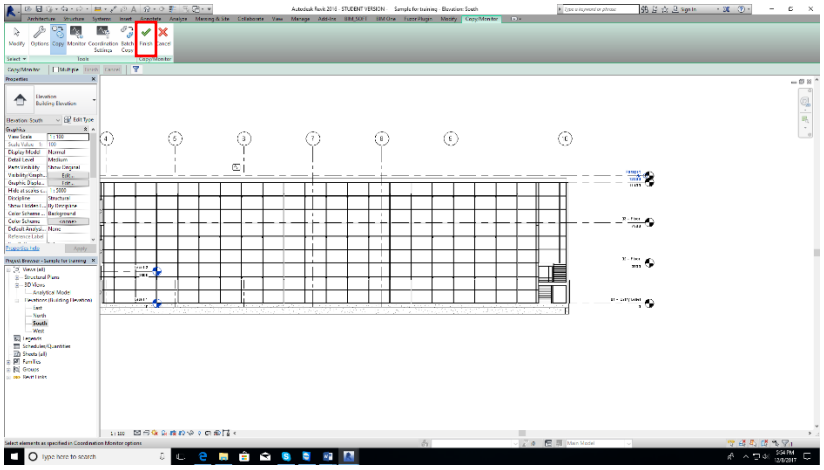
6. Click on **Copy.**



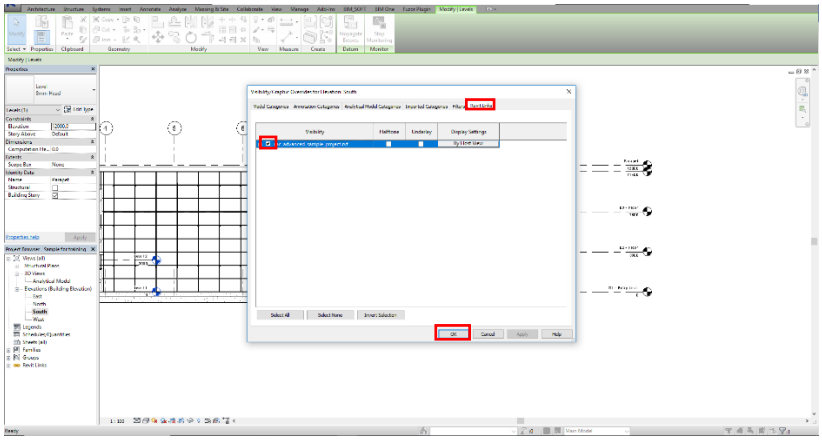
7. Click on different **Levels** to **Copy** to **Live,** edit names as desire, yellow box warnings are ignorable. All small icon should appear on the **Copied Level** line



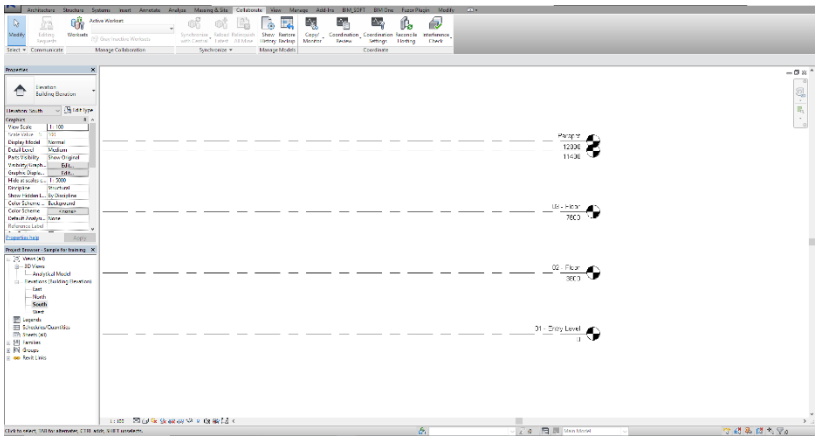
8. Click **Finish**



9. To check the **Live Levels**, press **(vv/vg)** to open **Visibility/Graphic Overrides for Elevation.** Click on **Revit Links** and uncheck the **Linked File** then click **Ok.**



10. **Live Levels** should remain.



2. Adding Structural Columns and Walls

2.1 Placing Structural and Slanted Structural Columns

Placing **Columns** and **Walls** are much easier with a **Grid**. Open a **Structural Model**

2.2 Drawing and Modifying Walls

3. Adding Foundations

3.1 Strip Footings

3.2 Step and Spread Footings

3.3 Piers and Pilasters

3.4 Structural Slabs

4. Structural Reinforcement

4.1 Cover Depth

4.2 Adding Rebar

4.3 Area and path reinforcement

5. Beams and Framing systems

5.1 Adding Beams and Beam Systems

5.2 Modifying Beams

5.3 Labeling Framing

6. Brace Frames

6.1 Framing Elevations

6.2 Adding Bracing

7. Floors, Shafts and Stairs

7.1 Creating Floor Systems

7.2 Creating and Framing Shaft Openings

7.3 Understanding Stairs and Ramps

8. Annotation

8.1 Selecting Elements for Editing