

Revit Vs. Rhino

Anil K. Dipu & Chris Jaleco

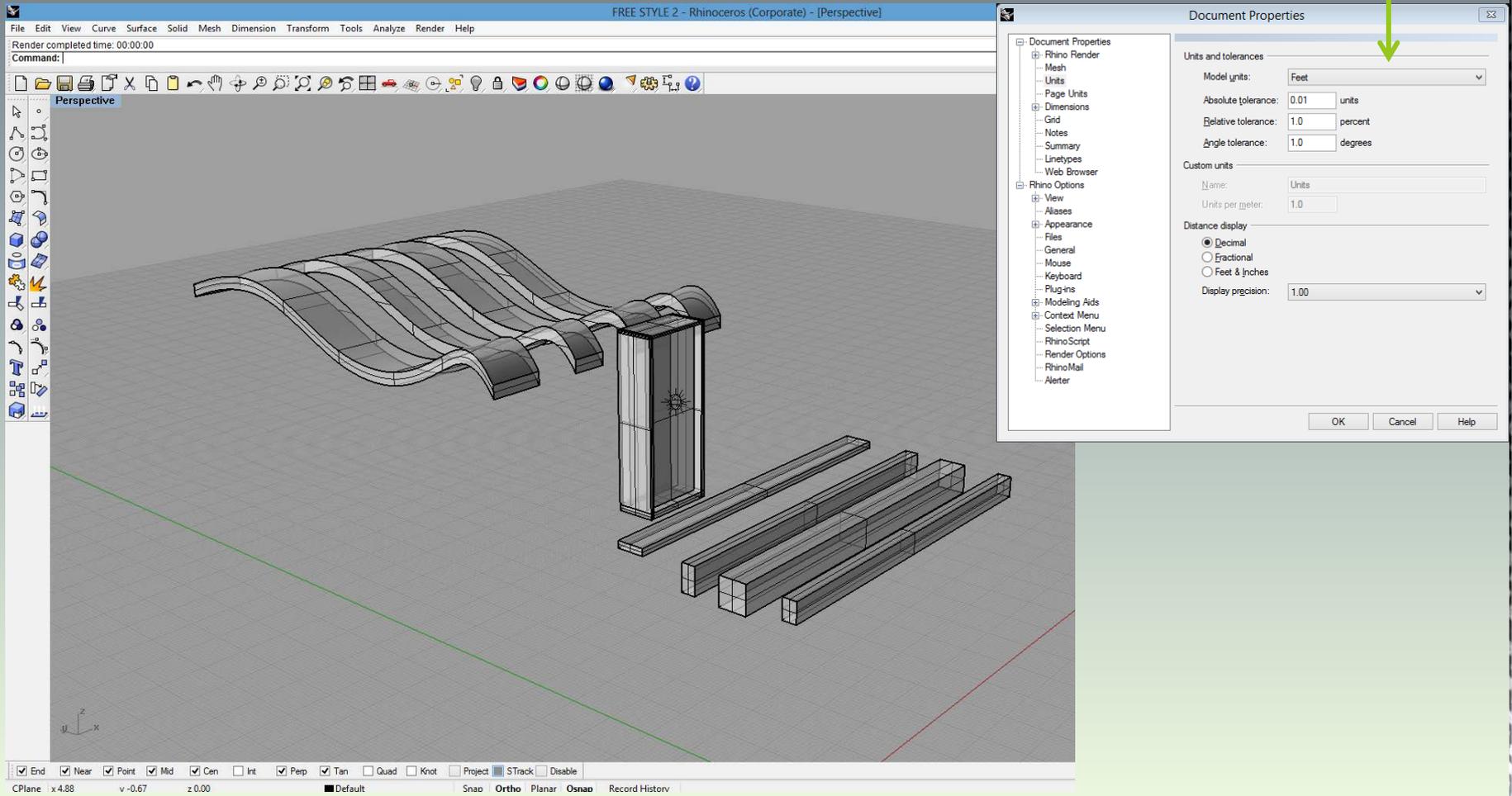
ARCH 3691
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Part 2. Rhino to Revit

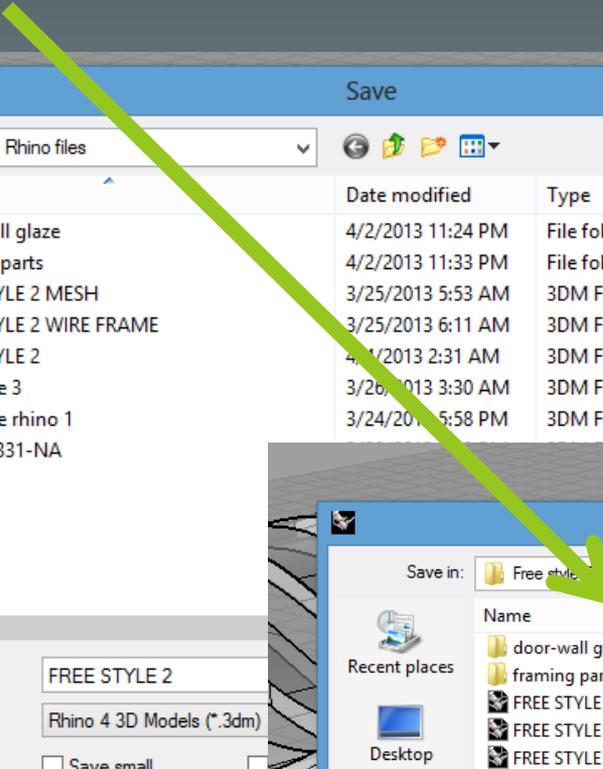
Open and create object in new rhino file.

Units preferred to set as feet.

Use a cube or any solid mass object or create any shape for solid geometry.



Saves as ACIS Solid (.sat)



Save

Save in: Free style Rhino files

Name	Date modified	Type
door-wall glaze	4/2/2013 11:24 PM	File folder
framing parts	4/2/2013 11:33 PM	File folder
FREE STYLE 2 MESH	3/25/2013 5:53 AM	3DM File
FREE STYLE 2 WIRE FRAME	3/25/2013 6:11 AM	3DM File
FREE STYLE 2	4/1/2013 2:31 AM	3DM File
Free style 3	3/26/2013 3:30 AM	3DM File
Free style rhino 1	3/24/2013 5:58 PM	3DM File
sink K-3331-NA		

Save

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Free style rhino 1	3/24/2013 5:58 PM	3DM File
sink K-3331-NA		

File name: FREE STYLE 2

Save as type: Rhino 4 3D Models (*.3dm)

Save small

File type dropdown menu:

- Rhino 4 3D Models (*.3dm)
- Rhino 3 3D Models (*.3dm)
- Rhino 2 3D Models (*.3dm)
- IGES (*.igs; *.iges)
- STEP (*.stp; *.step)
- ACIS (*.sat)**
- VDA (*.vda)
- Parasolid (*.x_t)
- AutoCAD drawing file - (*.dwg)
- AutoCAD drawing exchange file - (*.dxf)
- 3D Studio (*.3ds)
- Adobe Illustrator (*.ai)
- Wavefront (*.obj)
- POV-Ray Mesh (*.pov)
- Raw Triangles (*.raw)
- RenderMan (*.rib)
- Stereolithography (*.stl)
- Moray UDO (*.udo)
- VRML (*.vrl; *.vml)
- Windows Metafile (*.wmf)
- DirectX (*.x)
- Object Properties (*.csv)
- Points File (*.txt)
- SLC (*.slc)
- ZCorp (*.zpr)
- GHS Geometry file (*.gf)
- GHS Part Maker file (*.pm)
- WAMIT (*.gdf)
- MotionBuilder (*.fbx)
- XGL (*.xgl)

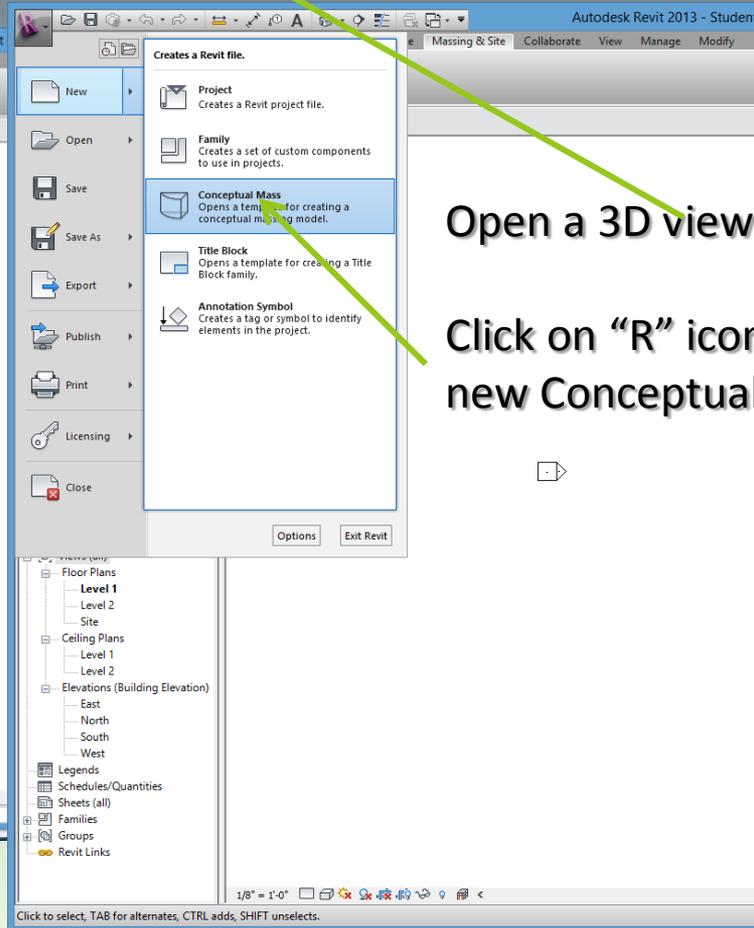
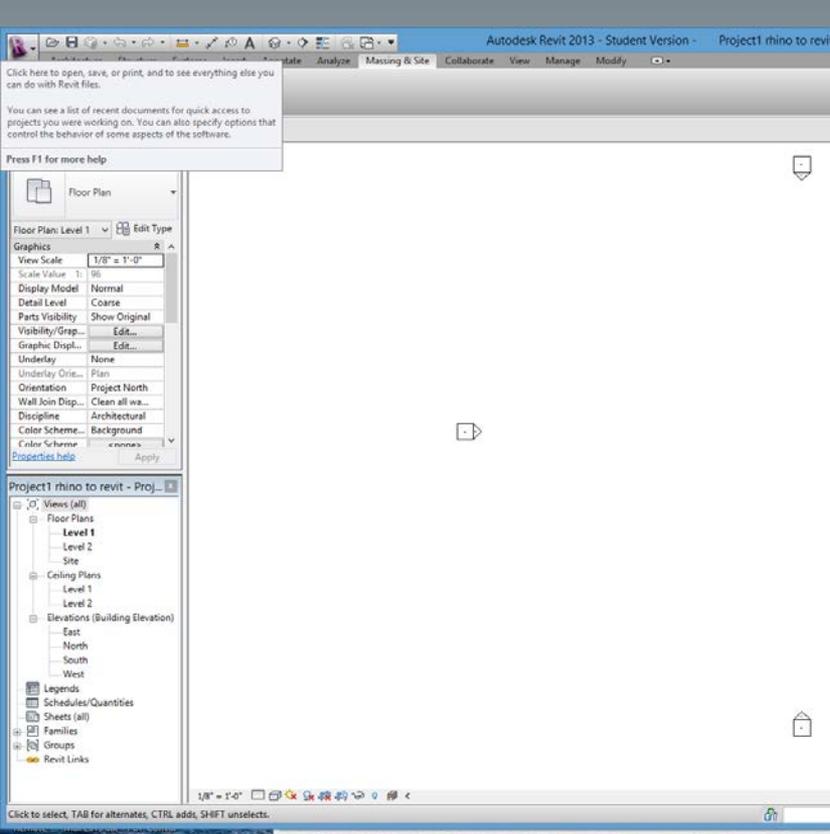
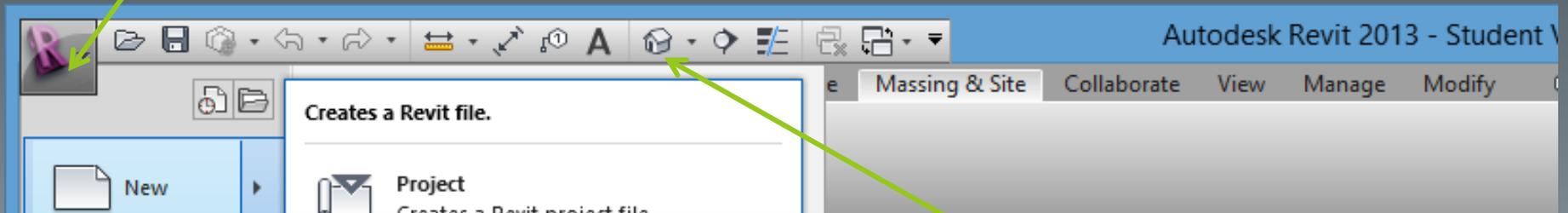
File name: FREE STYLE 2

Save as type: Rhino 4 3D Models (*.3dm)

Save small Save geometry only

Save Cancel

Open Revit. Open a project to be used in Revit or create new project as Architectural Template.

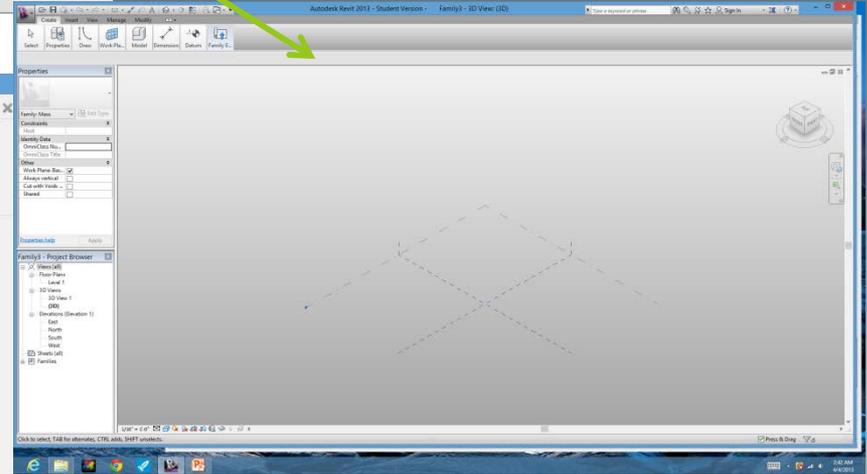
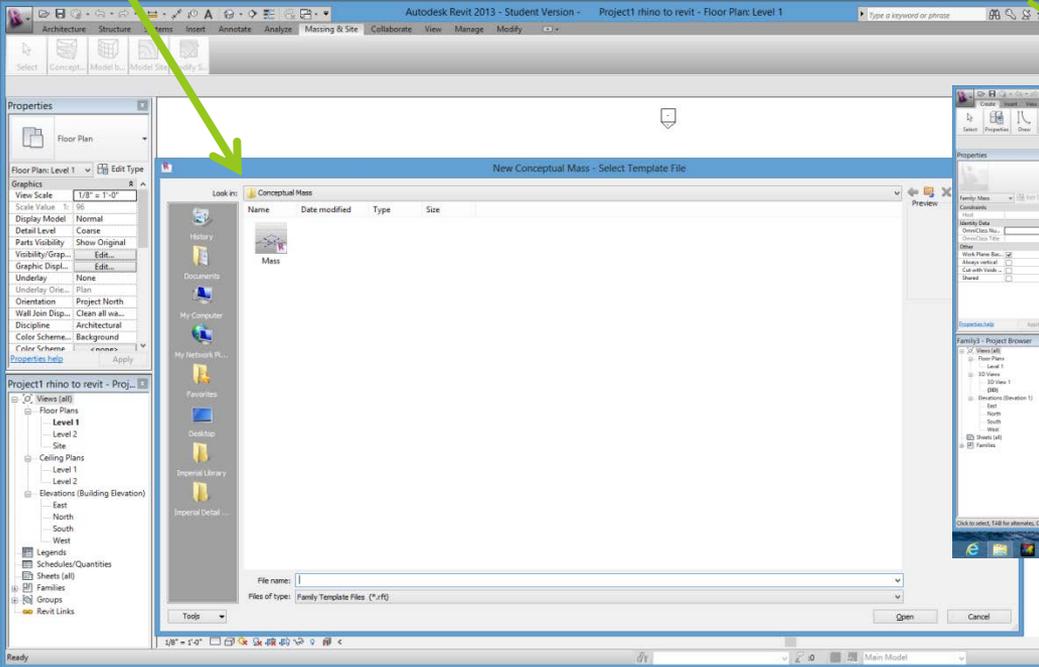


Open a 3D view.

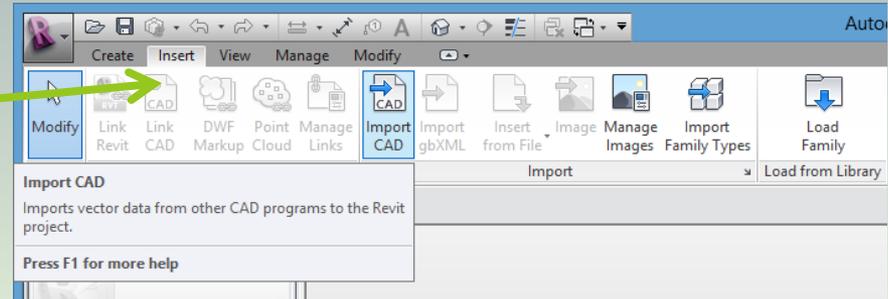
Click on "R" icon and go to new Conceptual Mass.

Open Mass rft. File.

A grey screen will appear with an x & y plane and z axis

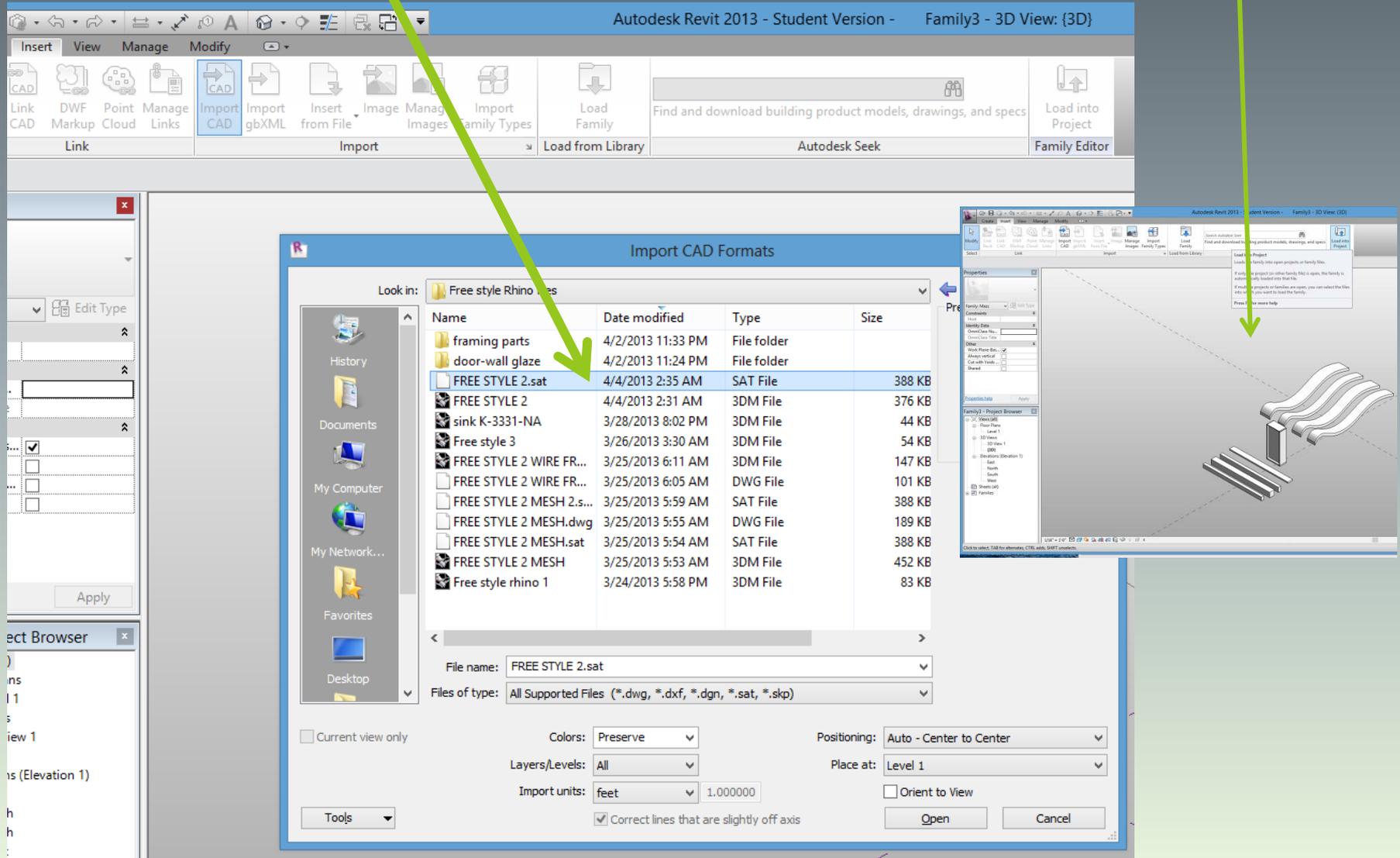


Then go to the "insert tab" Import CAD.

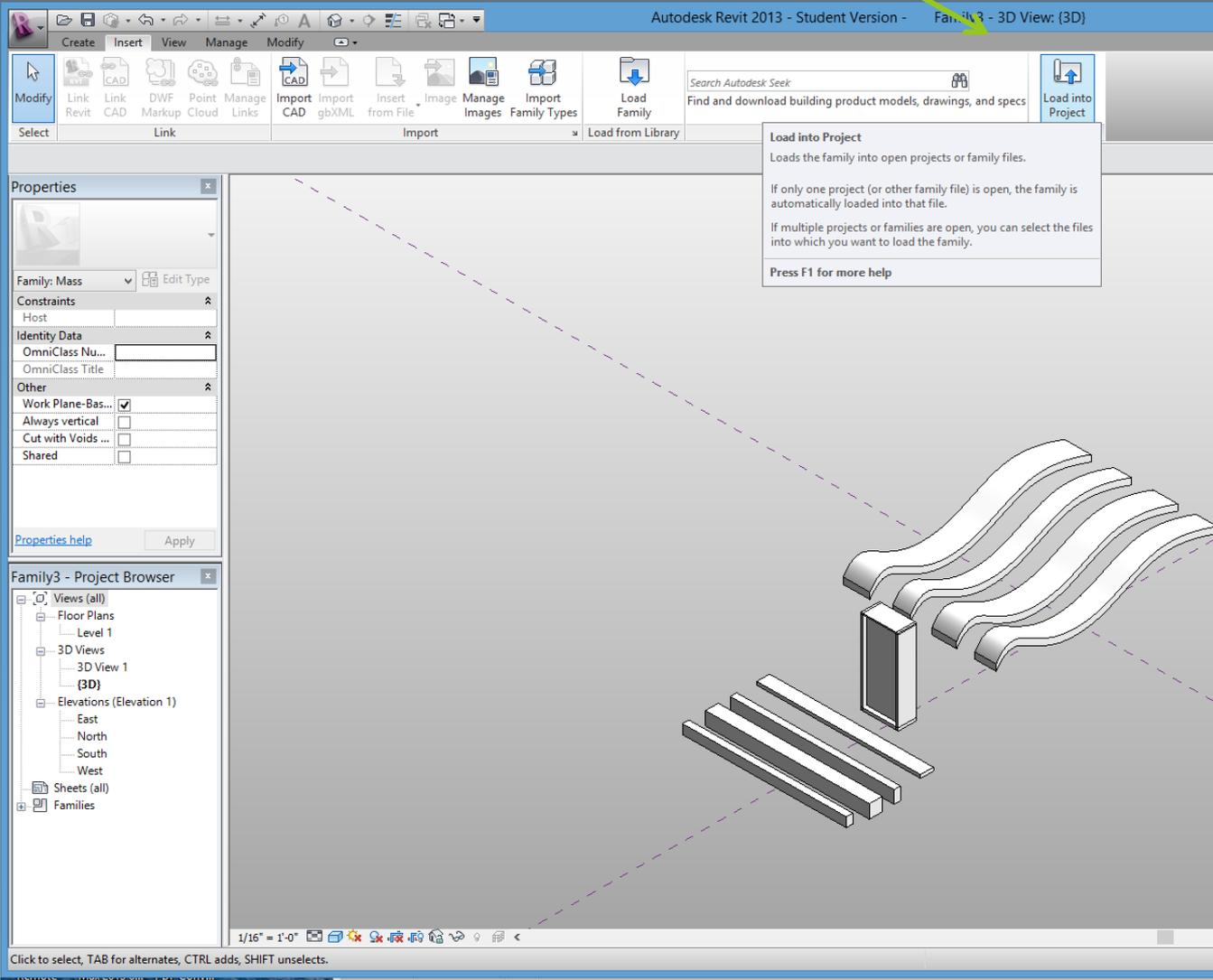


Search for ACIS file. Set Dimension to the unit used in Rhino (feet preferable since Revit uses feet).

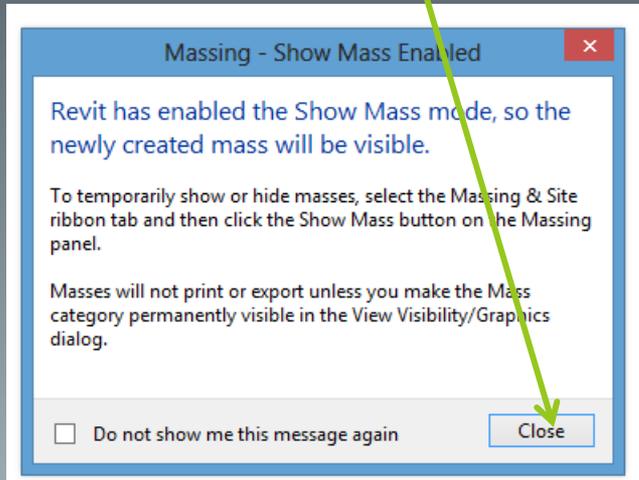
This where we will view the .sat file that was converted from Rhino.



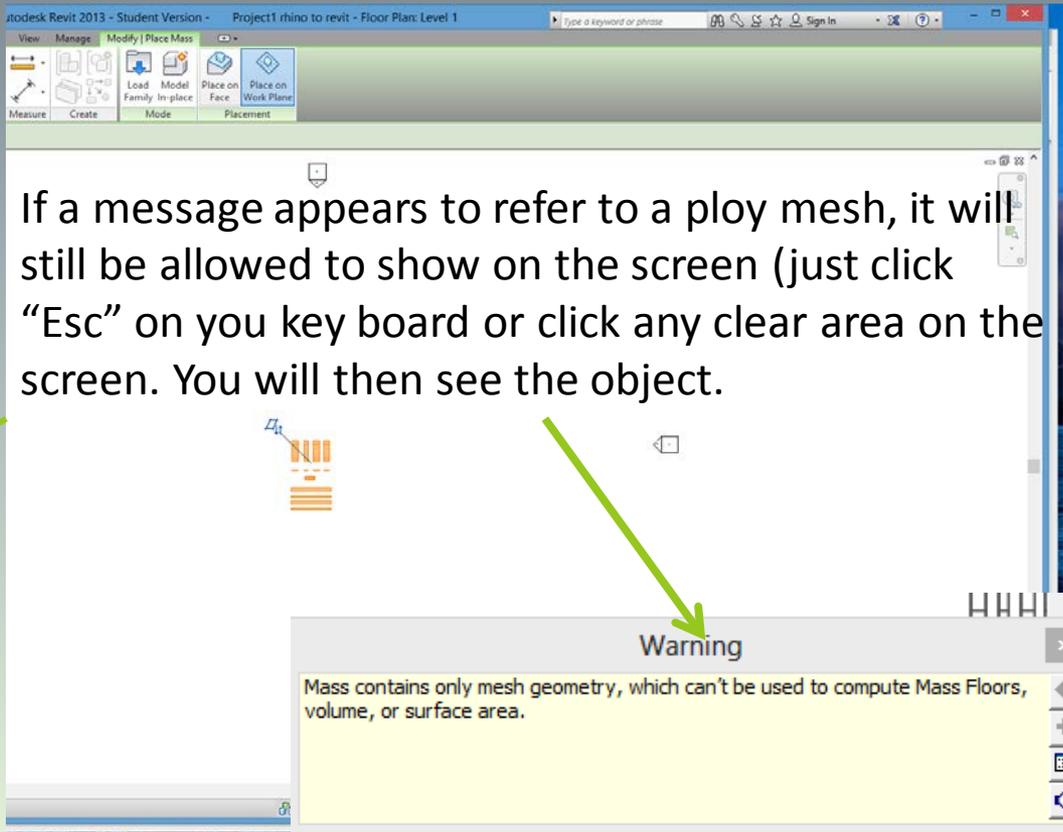
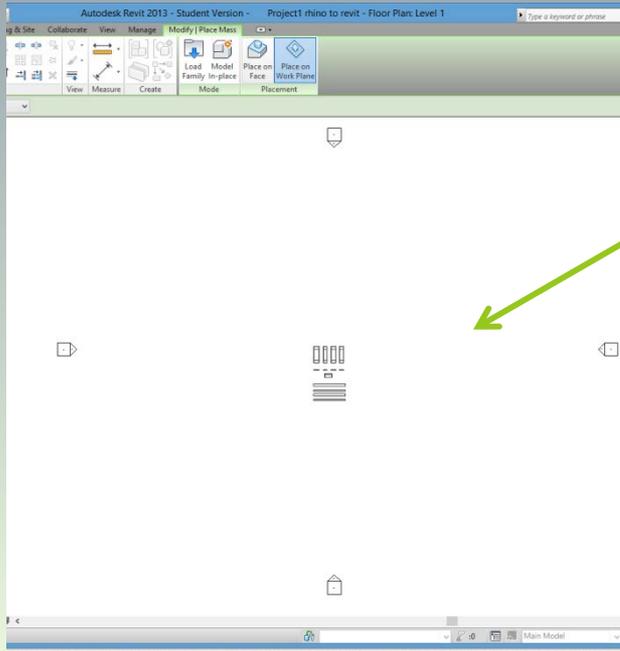
Then click on Load into Project from the "Insert Tab".



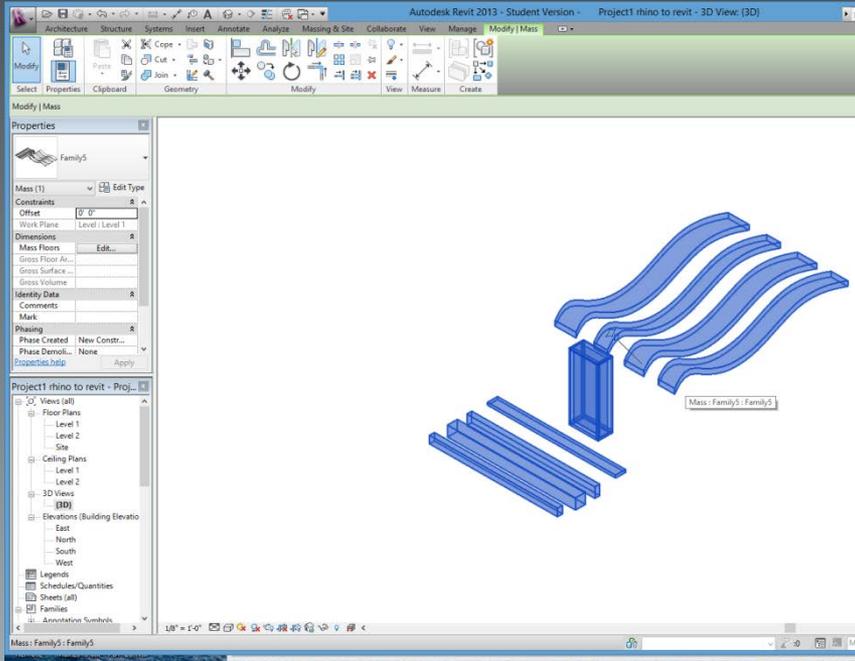
A message will appear, and then click close. (this will allow the mass to show o the screen.)



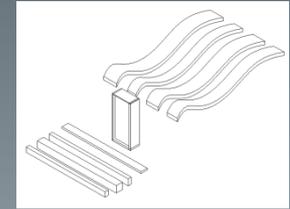
When placing the object, select an area in 3D view (which should appear automatically if a 3D view was opened before model was inserted.) Make sure the Show Mass is set to on from Massing and Site Tab.



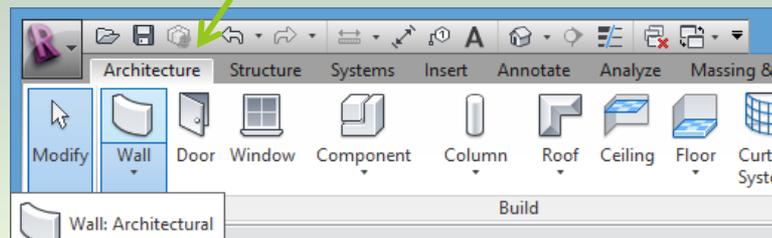
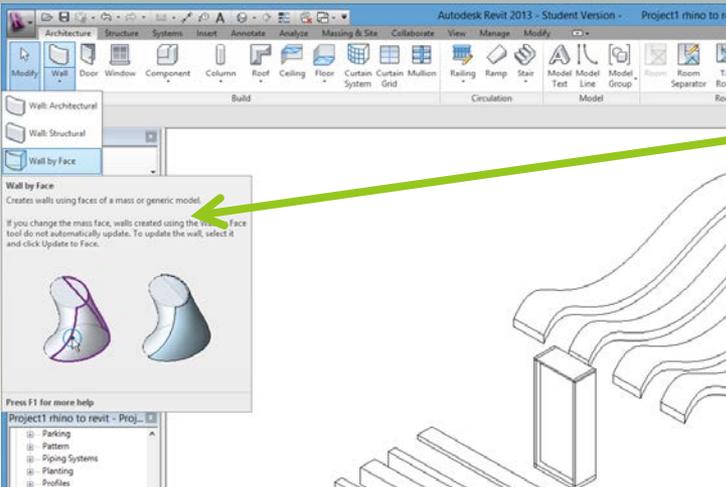
If a message appears to refer to a ploy mesh, it will still be allowed to show on the screen (just click "Esc" on you key board or click any clear area on the screen. You will then see the object.



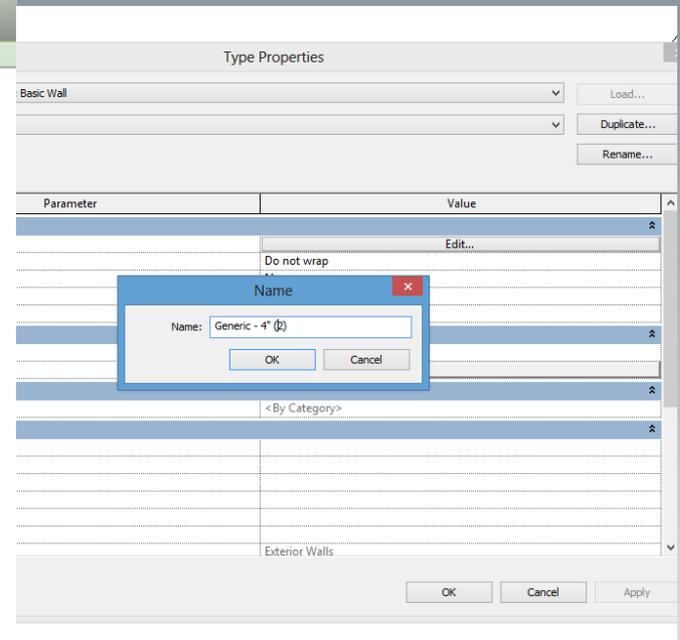
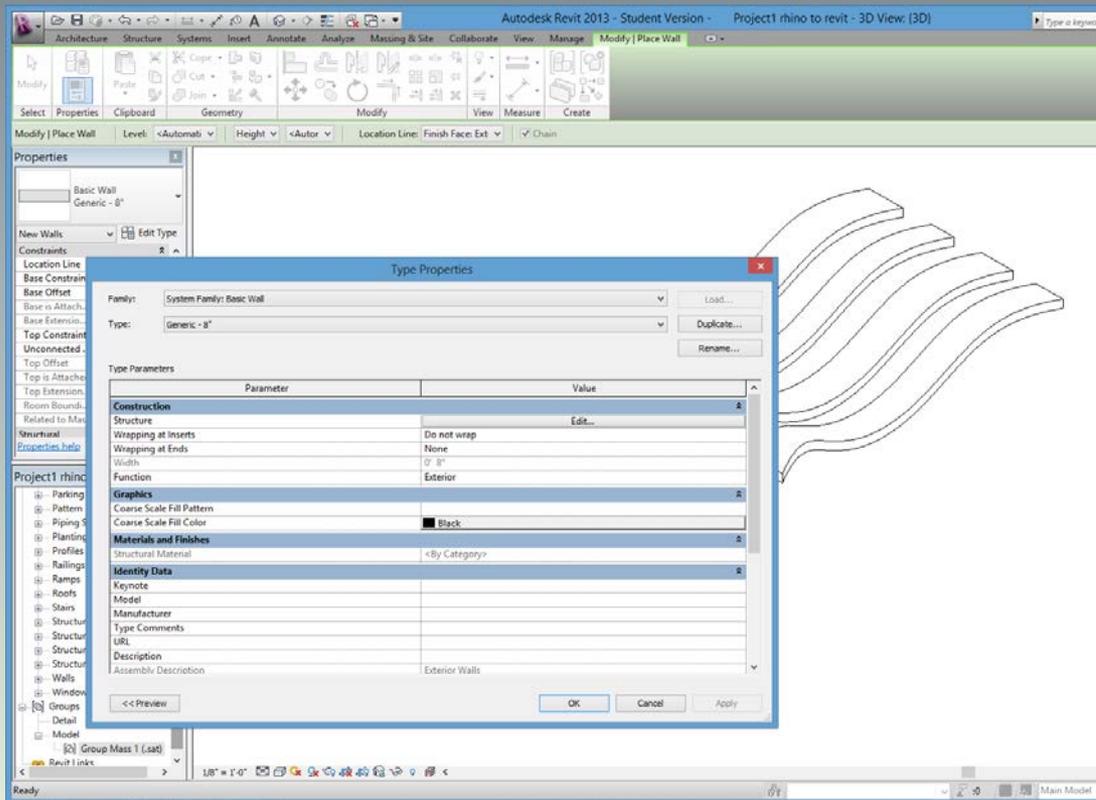
Objects that are saved as a set instead of as individual objects may result as poly mesh when importing into Revit from rhino with .sat (ACIS solid file).



For the purpose of Applying Material to Poly mesh objects, we can use “Wall by face” from Architectural Tab for “Wall”



To change a Poly Mesh object material. We first need to use the “Wall by Face” from Architectural Tab. Then go to the properties section and duplicate a generic Wall.



Click on the "Edit" tab to access the edit mode to change dimension of the wall and material.

Family: System Family: Basic Wall
Type: Generic - 8"

Parameter	Value
Construction	
Structure	Edit...
Wrapping at Inserts	Do not wrap
Wrapping at Ends	None
Width	0' 8"
Function	Exterior
Graphics	
Coarse Scale Fill Pattern	
Coarse Scale Fill Color	Black
Materials and Finishes	
Structural Material	<By Category>

Autodesk Revit 2013 - Stu

Structure Systems Insert Annotate Analyze Massing & Site Collaborate View Manage Modify

Geometry Modify View Measure Create

<Automati Height <Autor Location Line: Finish Face: Ext Chain

Edit Assembly

Family: Basic Wall
Type: Generic - 4" (2)
Total thickness: 0' 4"
Resistance (R): 5.4426 (h·ft²·°F)/BTU
Thermal Mass: 3.8959 BTU/°F

Sample Height: 20' 0"

EXTERIOR SIDE					
Function	Material	Thickness	Wraps	Structural M	
1 Core Boundary	Layers Above Wrap	0' 0"			
2 Structure [1]	Plywood, Sheathing	0' 4"		<input checked="" type="checkbox"/>	
3 Core Boundary	Layers Below Wrap	0' 0"			

INTERIOR SIDE

Insert Delete Up Down

Default Wrapping
At Inserts: Do not wrap At Ends: None

Modify Vertical Structure (Section Preview only)
Modify Merge Regions Sweeps
Assign Layers Split Region Reveals

View: Section: Modify type Preview >>

OK Cancel Help

Material Browser - Plywood, Sheathing

In Document Materials: All

Name	Category
Phase - New	System
Phase - Temporary	System
Plastic	Plastic
Plywood, Sheathing	Wood
Piche	System
Render Material 255-255-255	Unassigned
Rigid Insulation	Generic

Autodesk Materials

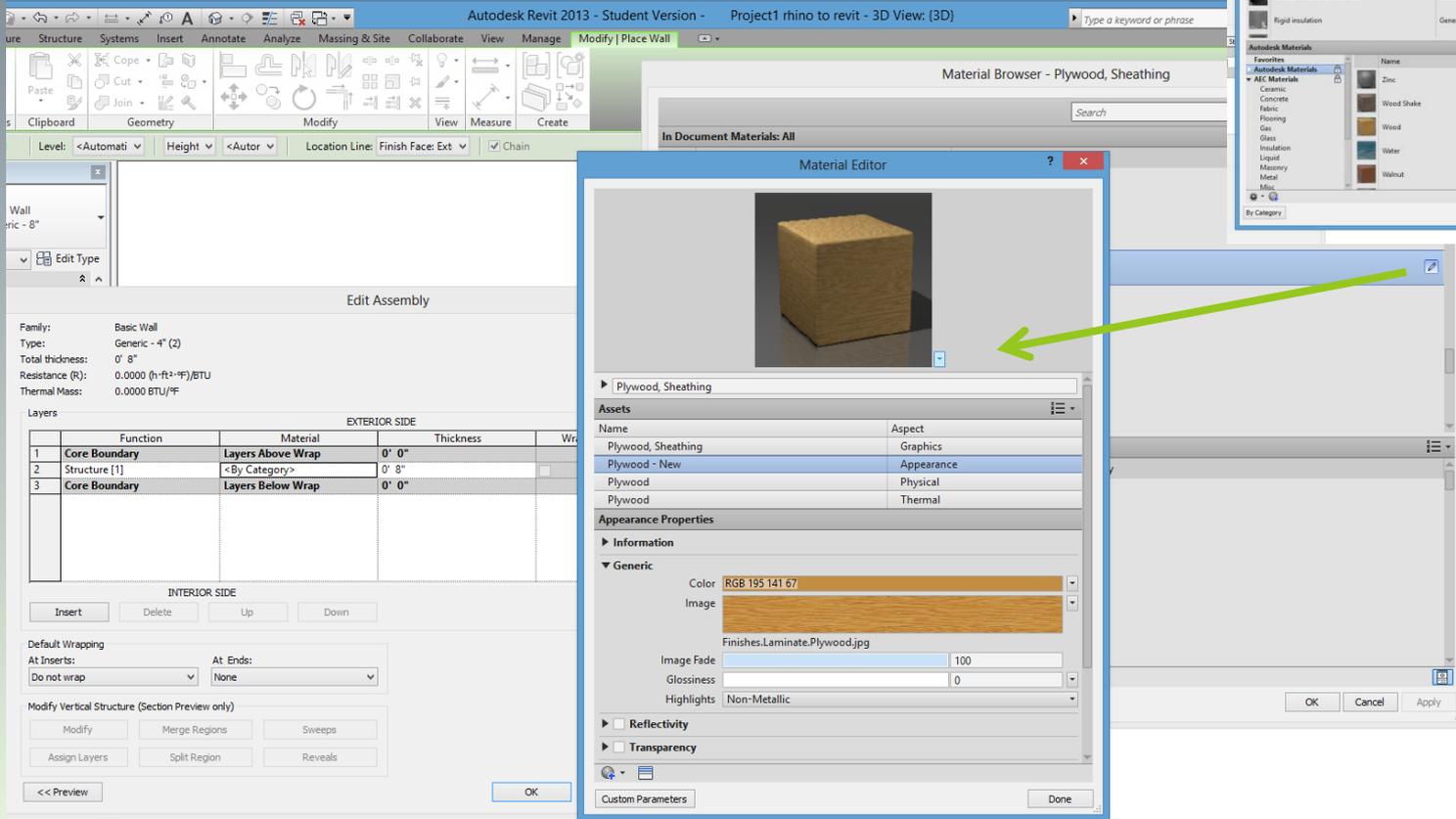
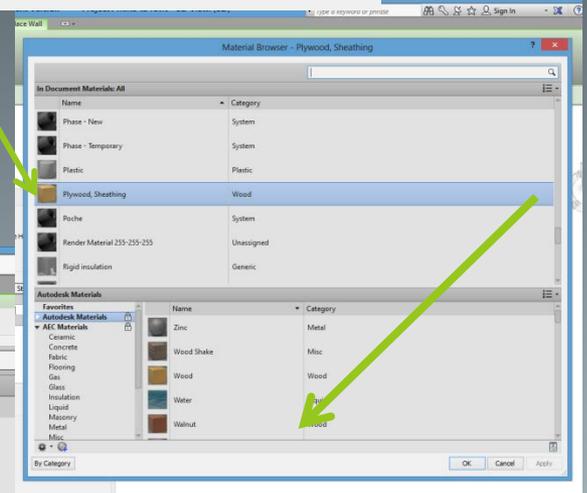
Name	Category
Zinc	Metal
Wood Shake	Misc
Wood	Wood
Water	Liquid
Walnut	Wood

By Category OK Cancel Apply

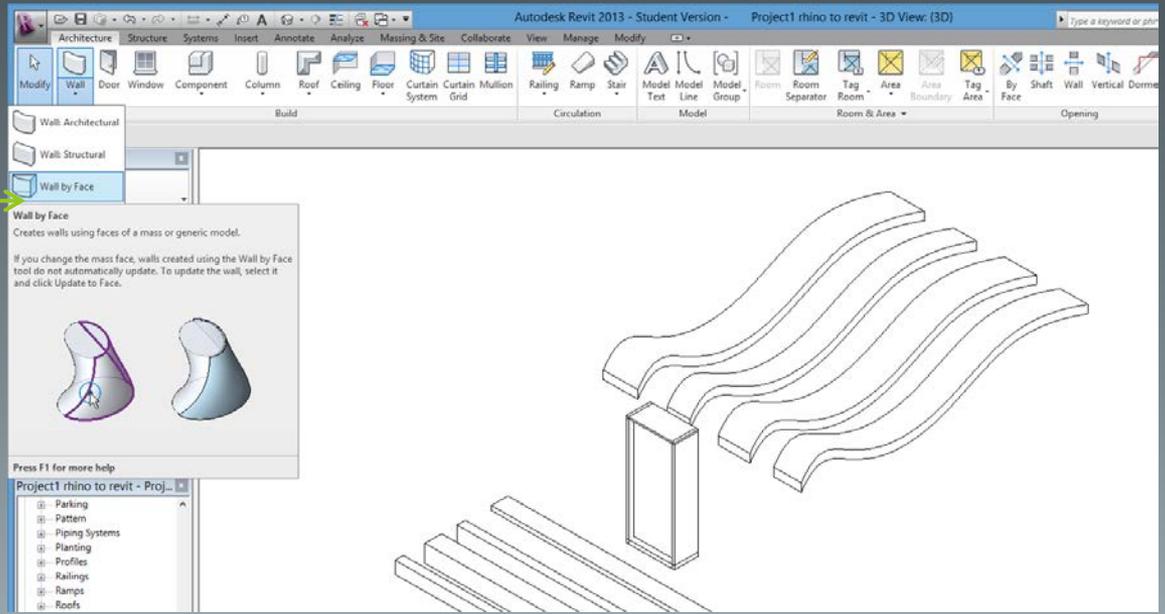
Click on the material type after accessing the material menu. We can then duplicate, or create a new material if needed.

EXTERIOR SIDE					
	Function	Material	Thickness	Wraps	Structural Material
1	Core Boundary	Layers Above Wrap	0' 0"		
2	Structure [1]	Plywood, Sheathing	0' 4"		<input checked="" type="checkbox"/>
3	Core Boundary	Layers Below Wrap	0' 0"		

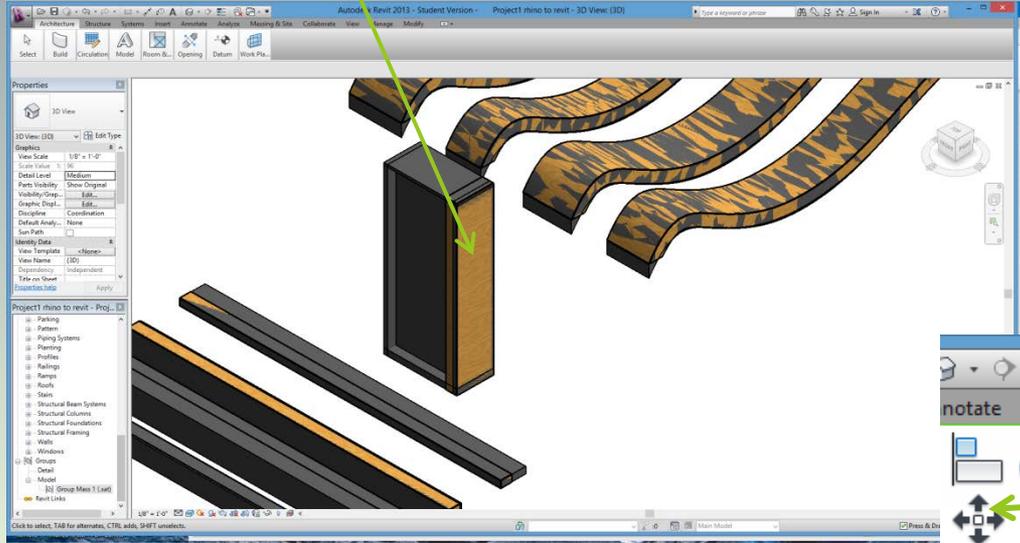
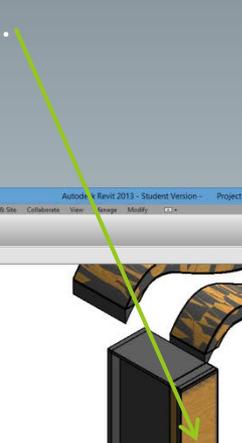
INTERIOR SIDE



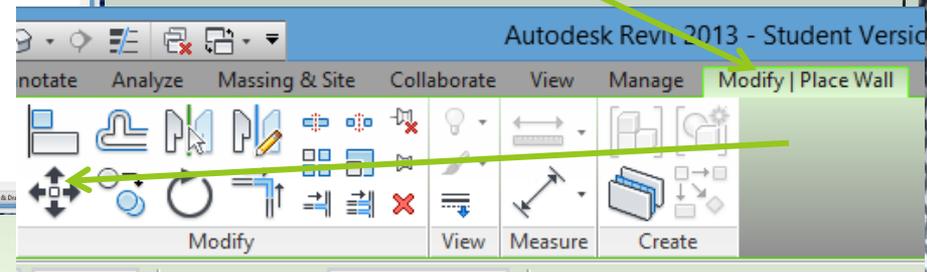
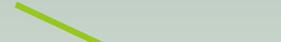
Use the Wall by Face after a new material has been created.



Click on face of poly mesh and the material with a new wall will be applied.



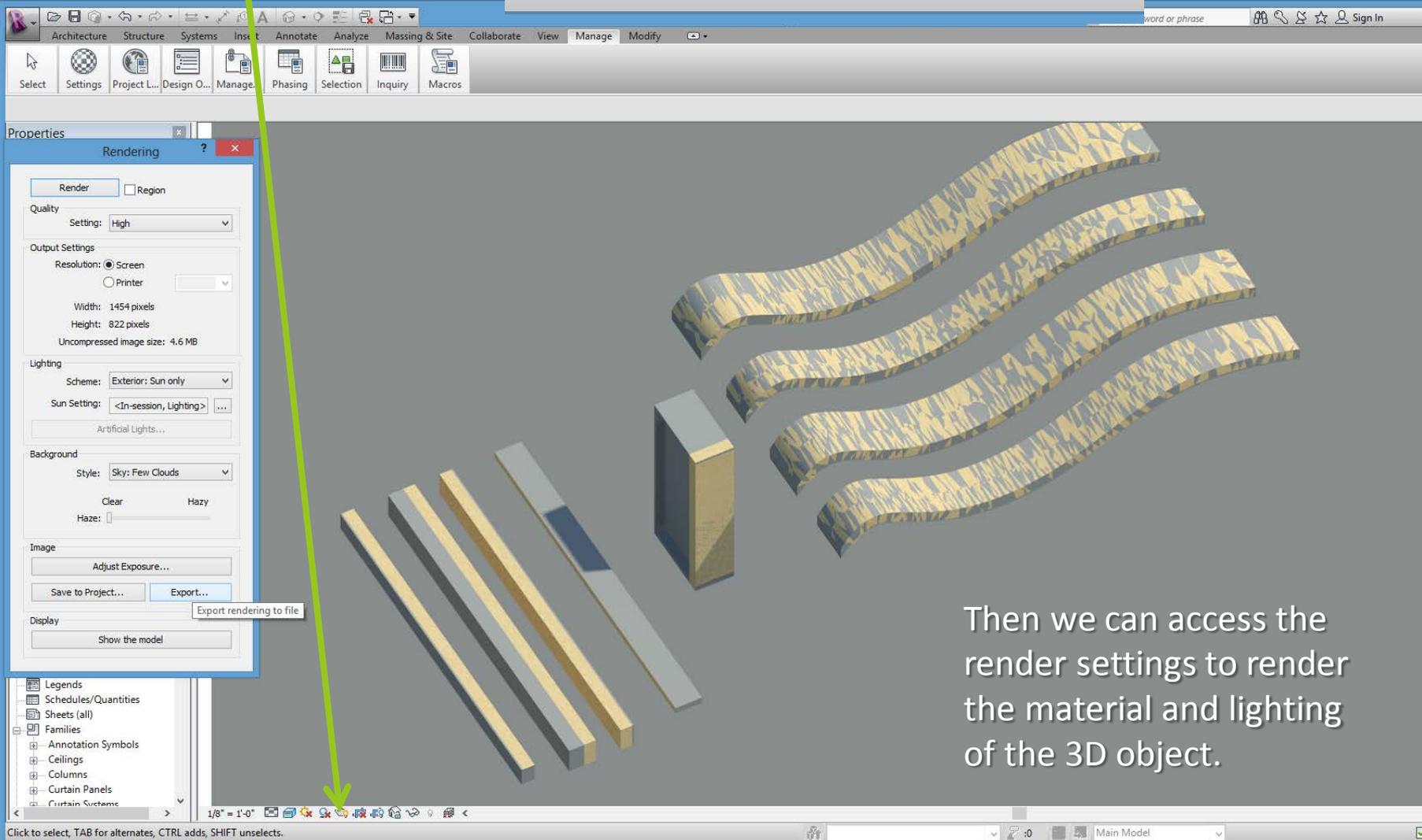
The properties menu can be used to offset the material and we can also use "move" from Modify Tab to adjust the how it will appear on the poly mesh object.



Click on the light bulb with the “Tea-Pot-Kettle” at the bottom menu



Clicks, SHIFT unselects.



Then we can access the render settings to render the material and lighting of the 3D object.