Modeling to Construction Documents: Creating Construction Details in Revit

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Class summary

- A good model is important in a Building Information Modeling (BIM) workflow, and equally important is generating a good set of construction documents, complete with detail drawings. After mastering basic modeling in Revit software, many users hit the wall and struggle with this vital aspect of project delivery. This class will teach you how to bridge the gap between modeling and detailing, taking full advantage of the 3D model and adding 2D embellishments combined with display modification to create your construction details. This session features Revit Architecture.

Key learning objectives

At the end of this class, you will be able to:

- Determine what to model and what not to model
- Modify detail view properties to facilitate effective communication of detail geometry
- Modify model geometry to make it usable for construction documents
- Use 2D drafting tools and keynotes to finish out the detail

Matt Dillon

- AETG Western Team Leader, Applied Software
- Autodesk Certified Instructor
- 30+ years experience with Autodesk Architectural Applications
- AU Presenter since 2000

Detail Options in Revit

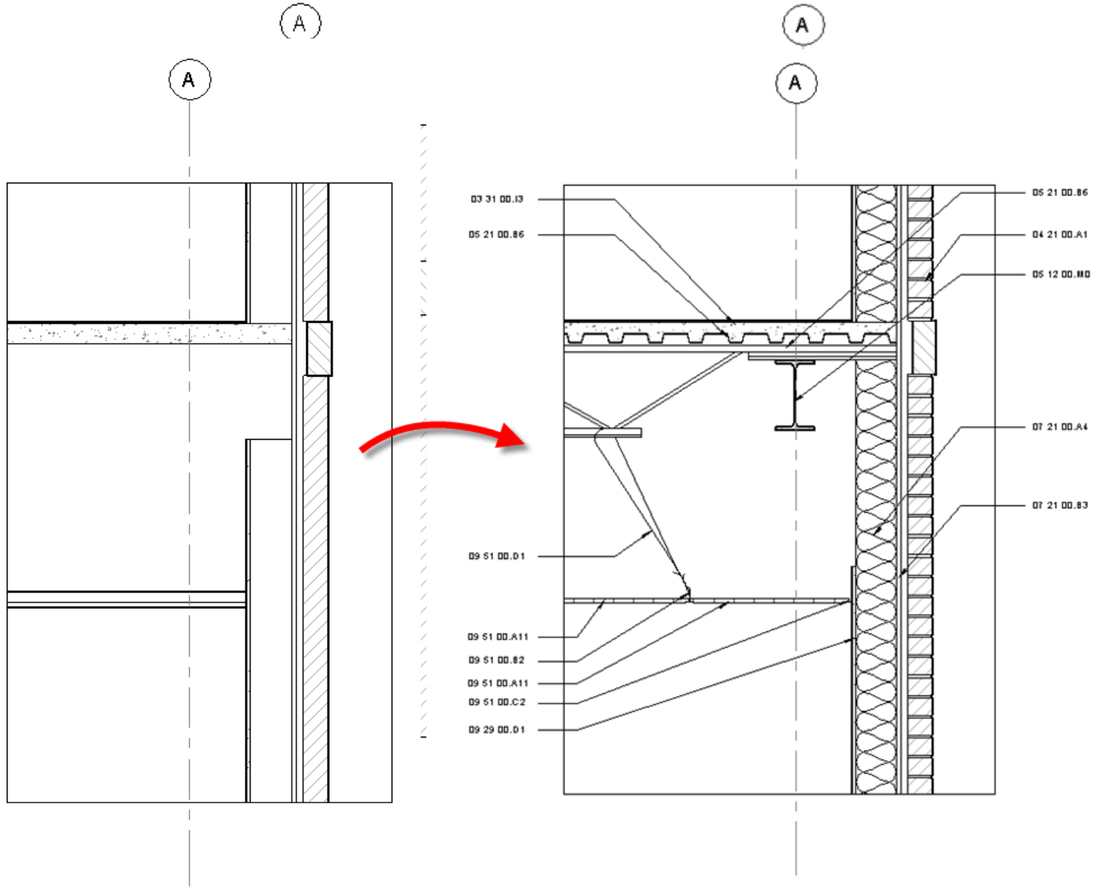
- 2D Only
- ~~Imported from AutoCAD~~
- Hybrid (Model/2D)

Hybrid Detail Process

1. Determine What to Model
   - Scale of overall floorplan
   - ROI

Hybrid Detail Process

1. Determine What to Model
2. Modify the View Properties and turn off unwanted geometry
3. Suppress/Change the display of incorrect geometry
4. Add 2D geometry and annotation to finish the detail



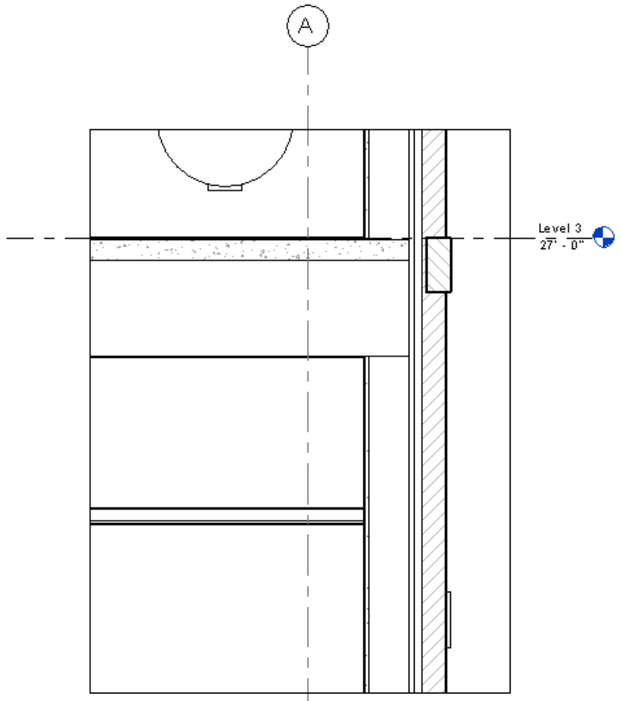
What to Model and What Not to Model – Level of Detail

Criteria for Modeling

- What is the scale of your overall plan?
- What is the Return on Investment?
  - Do you need to visualize it?
  - Do you need to quantify it?
  - How hard will it be to model?
  - How many views will it be seen in?

Modify View Properties for Construction Details

Properties for Detail Views



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Extents	
Crop View	☑
Crop Region Visible	☑
Annotation Crop	☑
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Identity Data	
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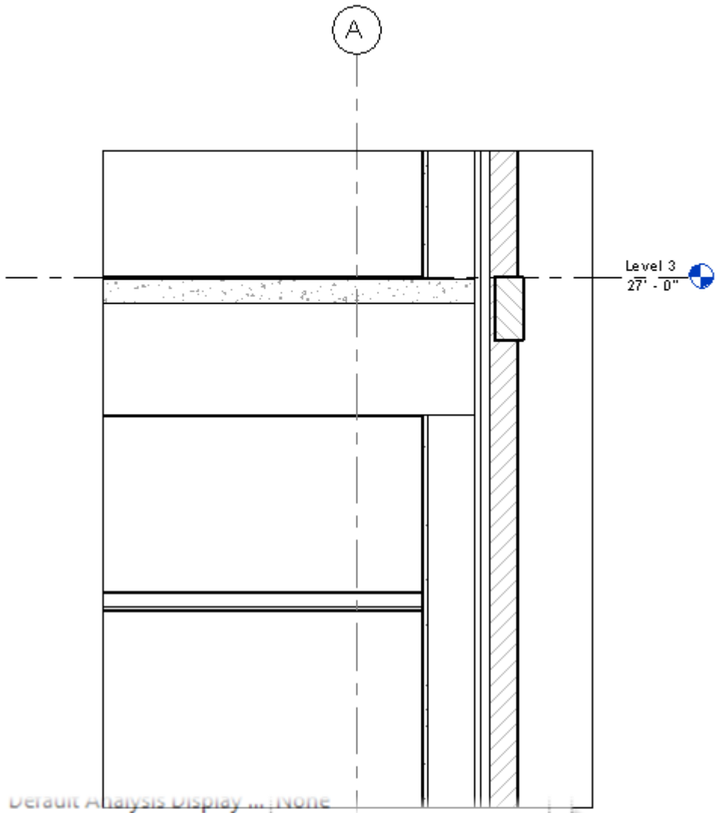

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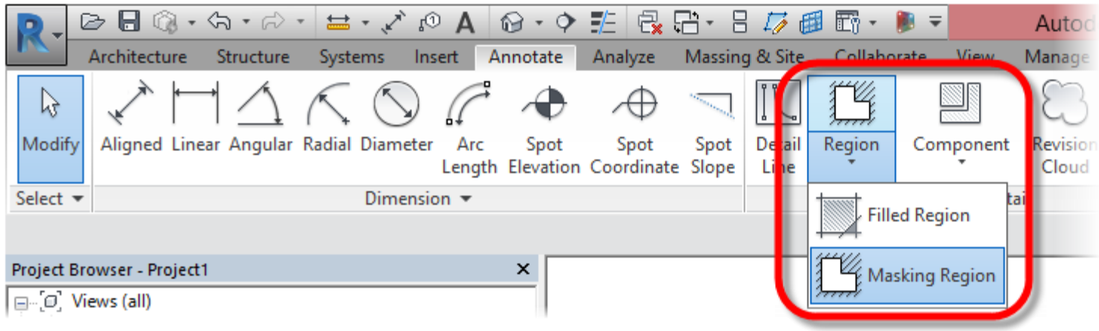
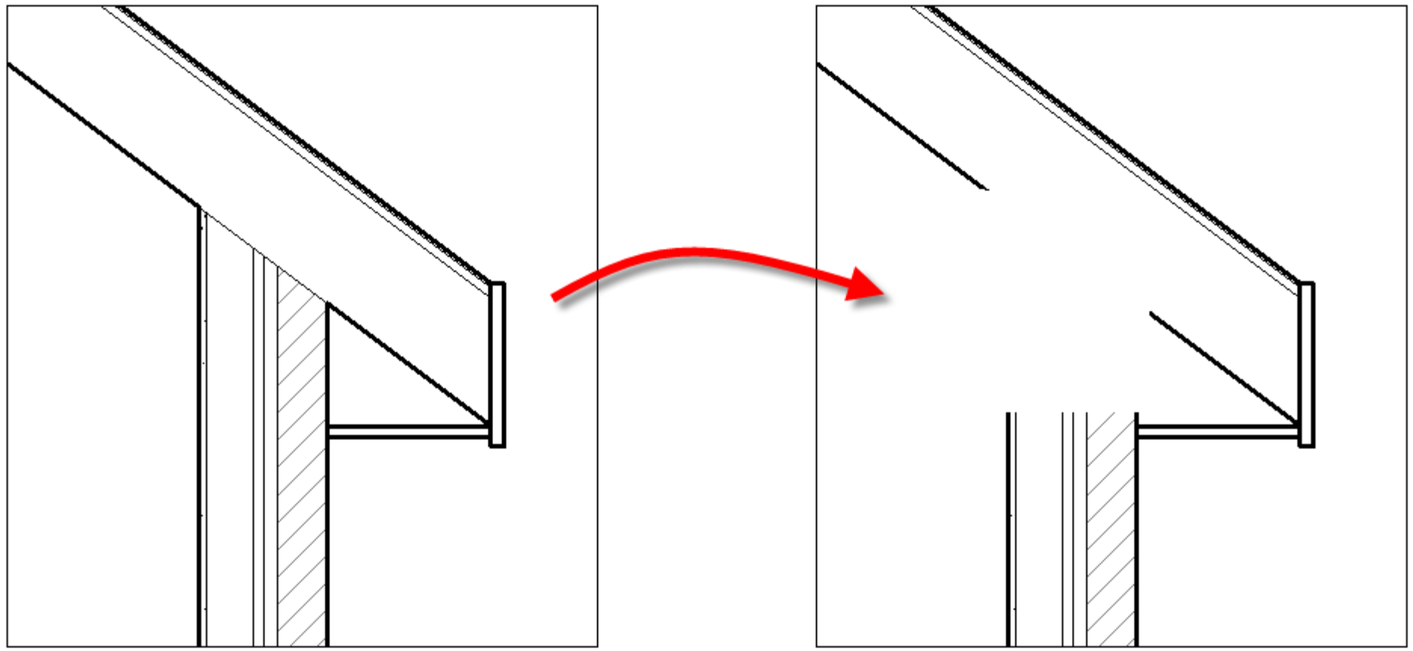
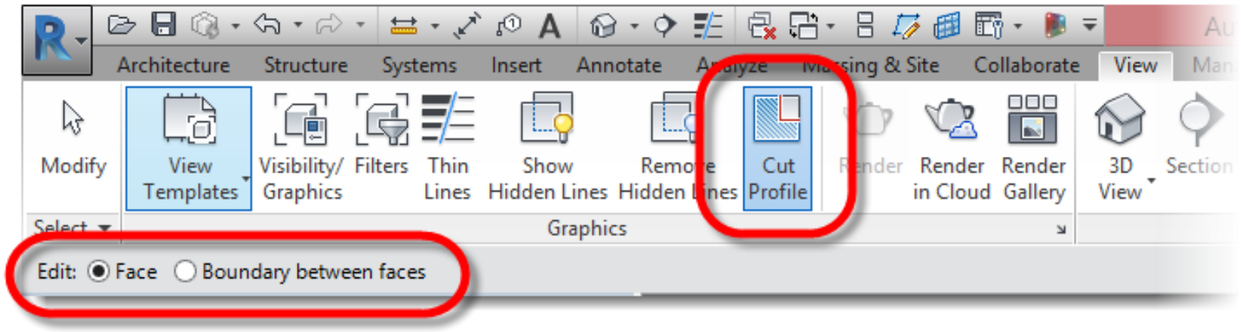
Modify the *Display* of Incorrect Model Geometry

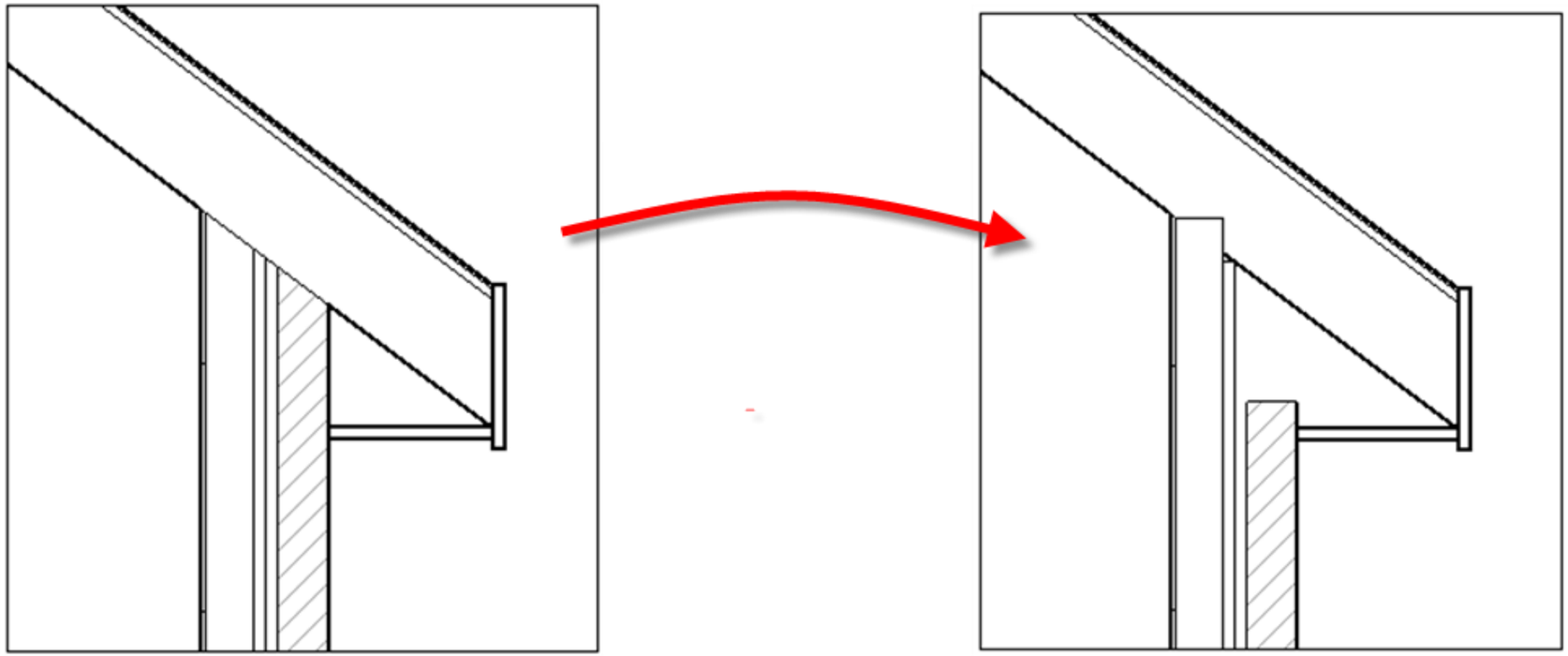
Masking Regions





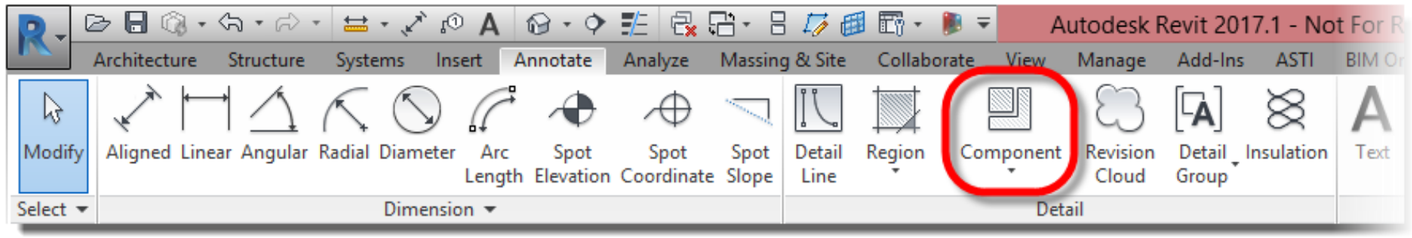
Edit Cut Profile

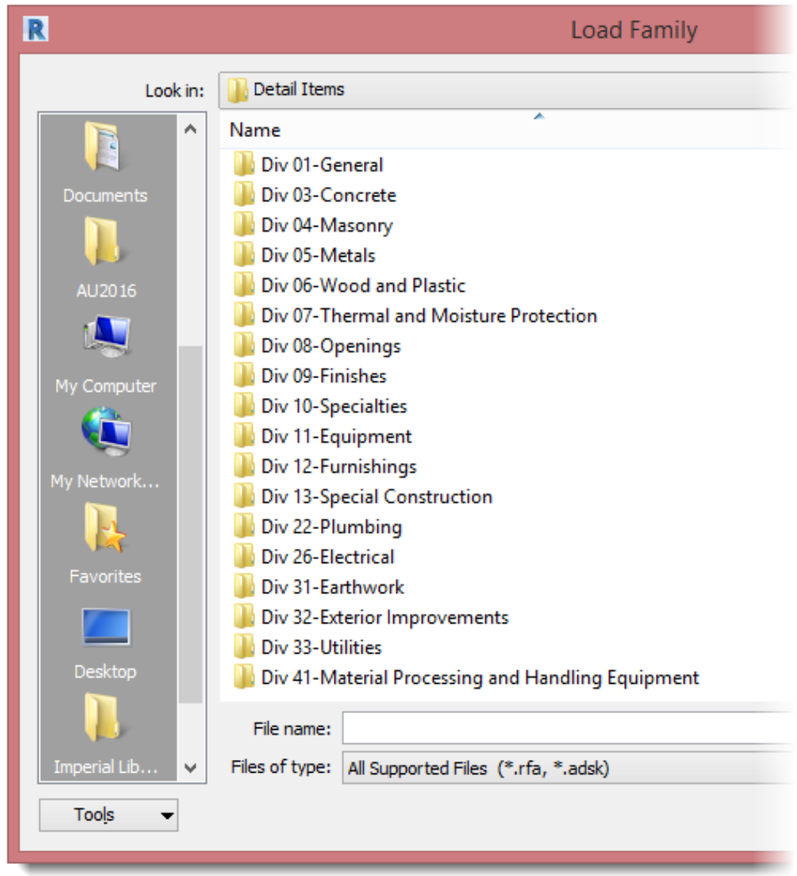


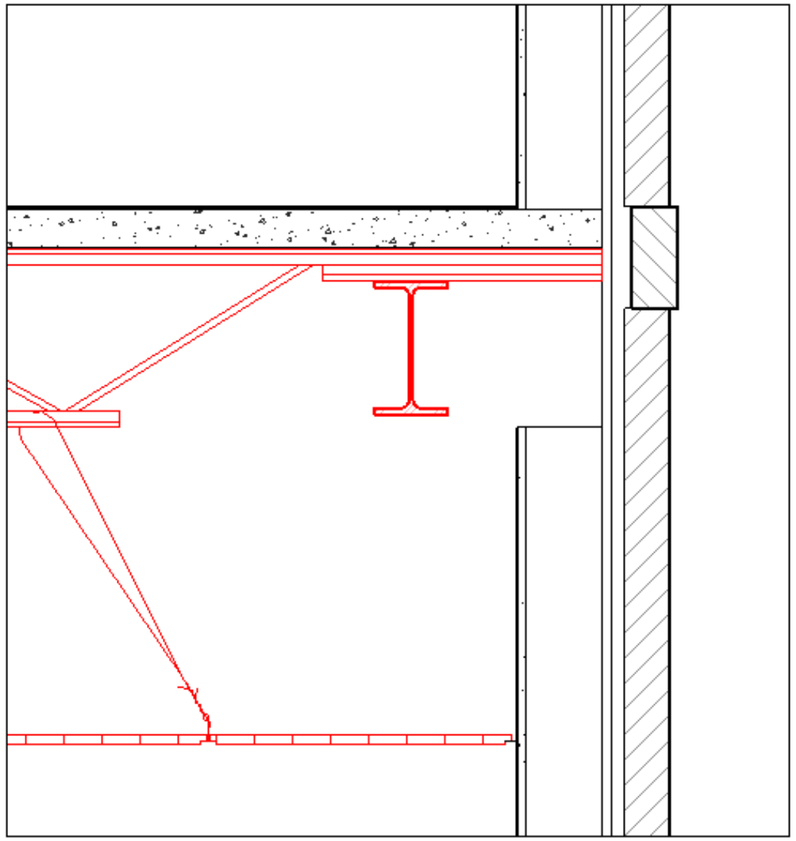


Add 2D Geometry and Annotation

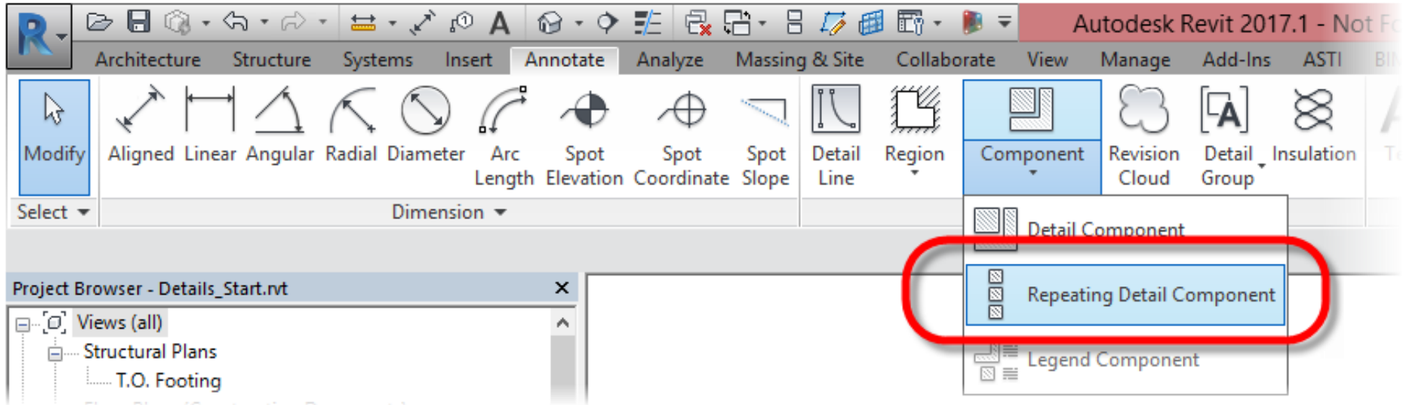
2D Detail Components

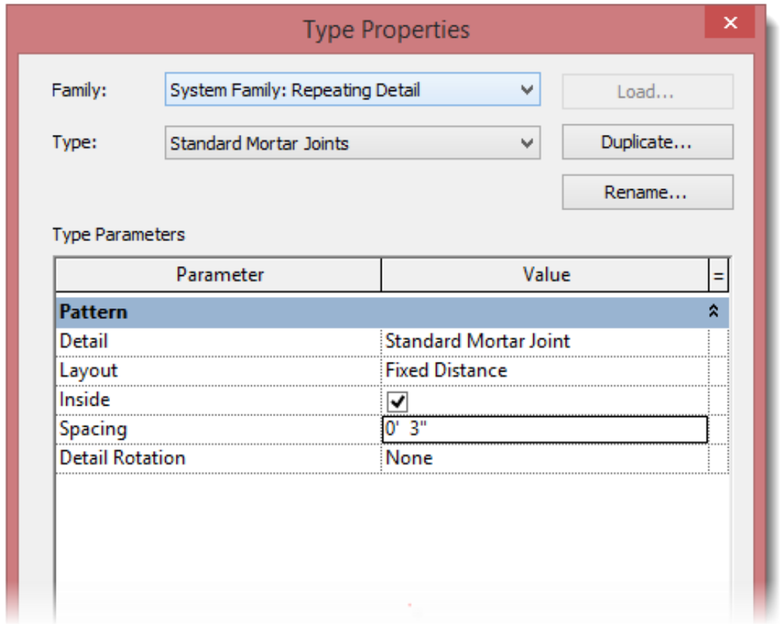


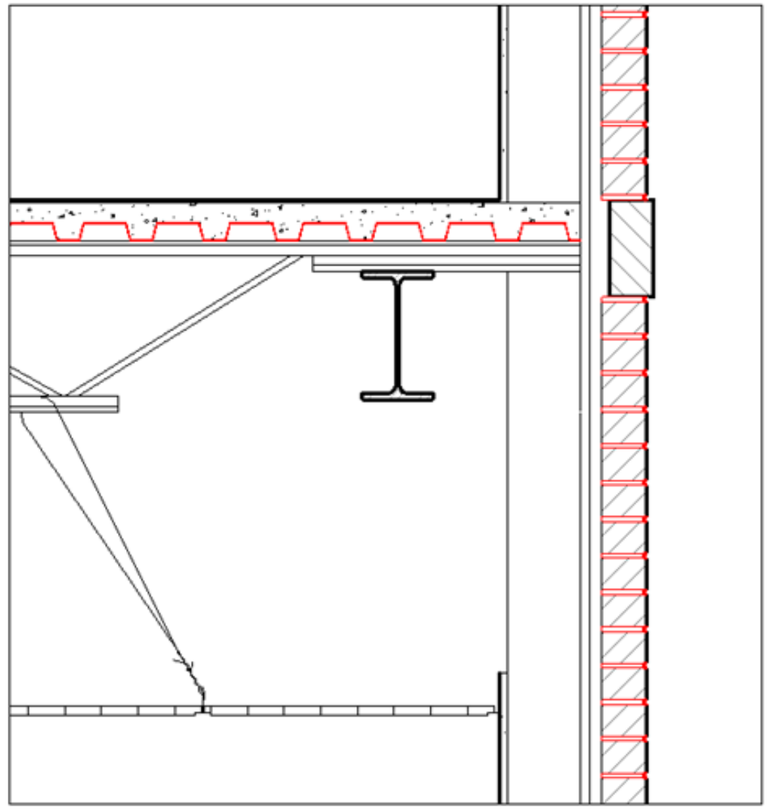




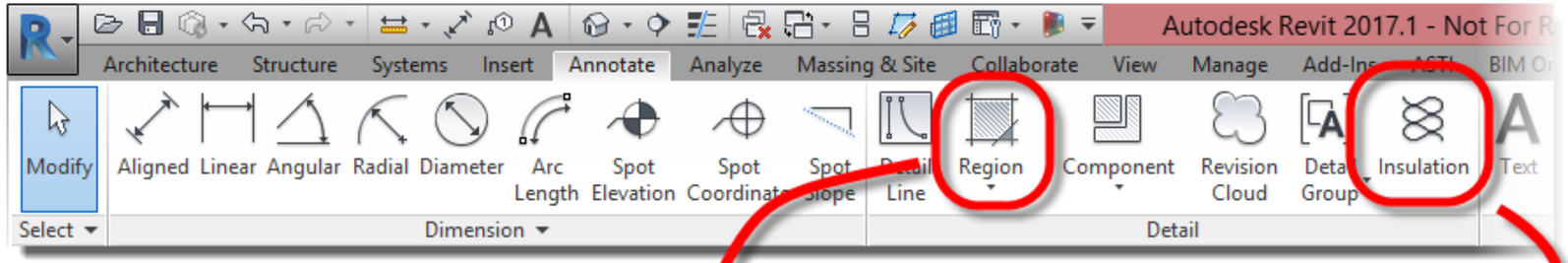
Repeating Detail Components

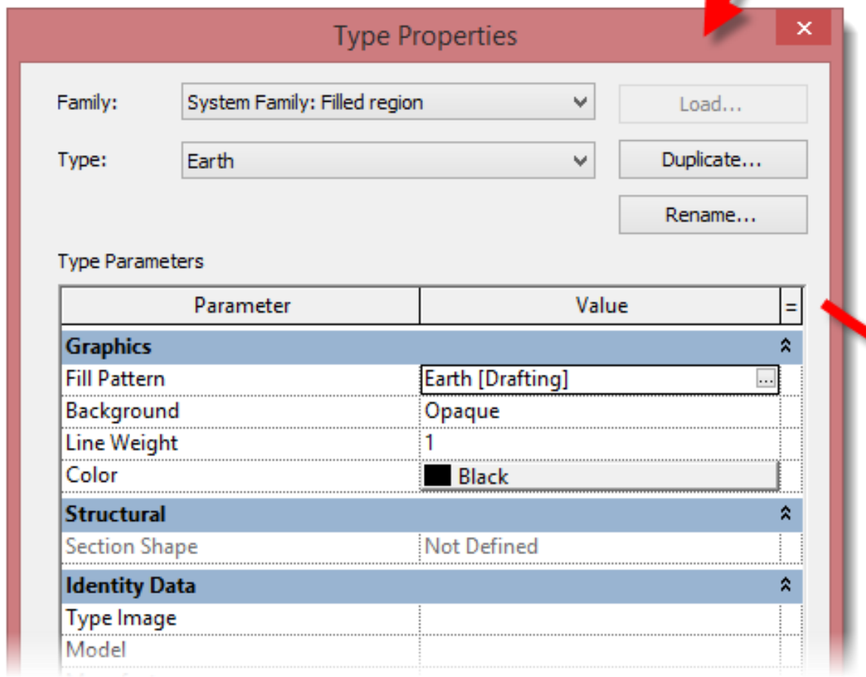


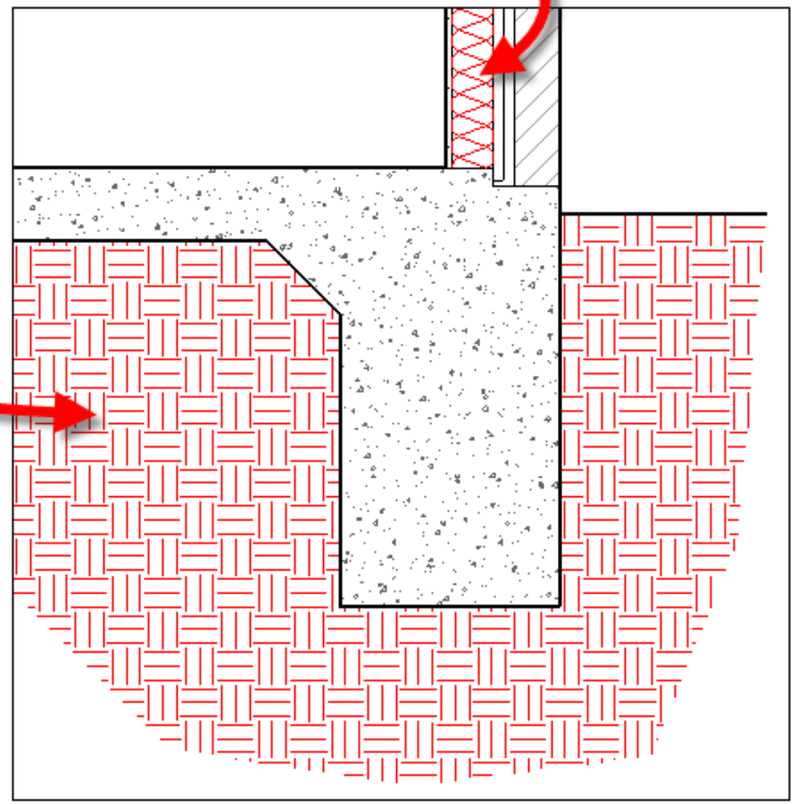




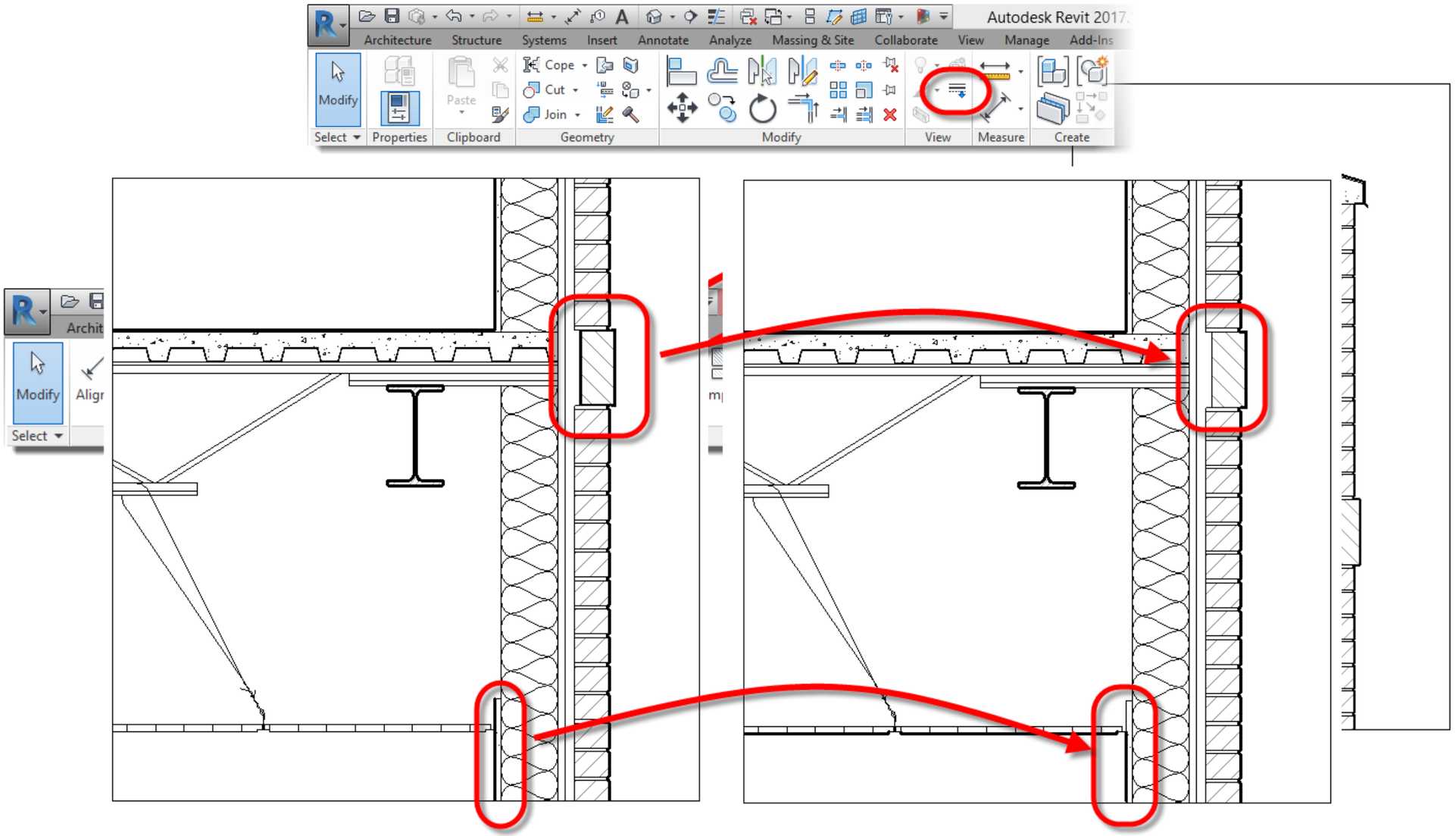
Filled Regions and Insulation



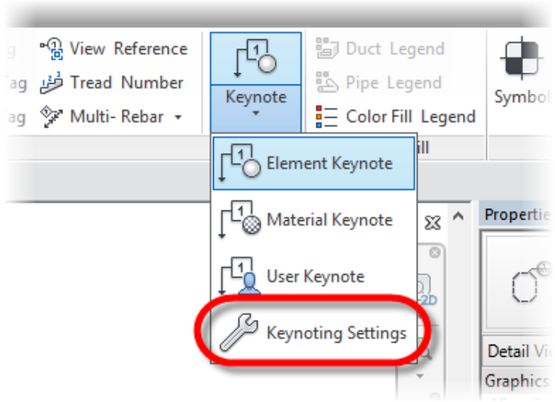


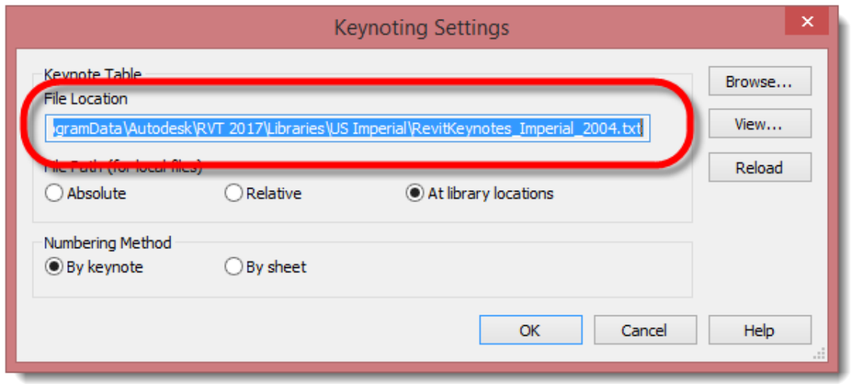


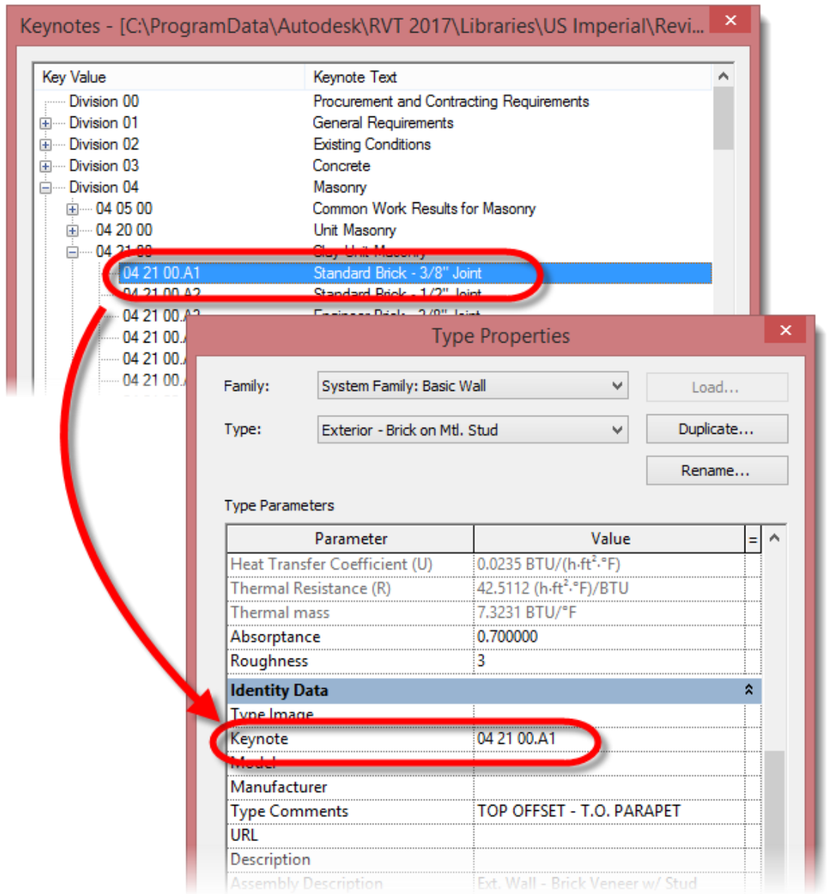
Detail Lines and Linework Overrides

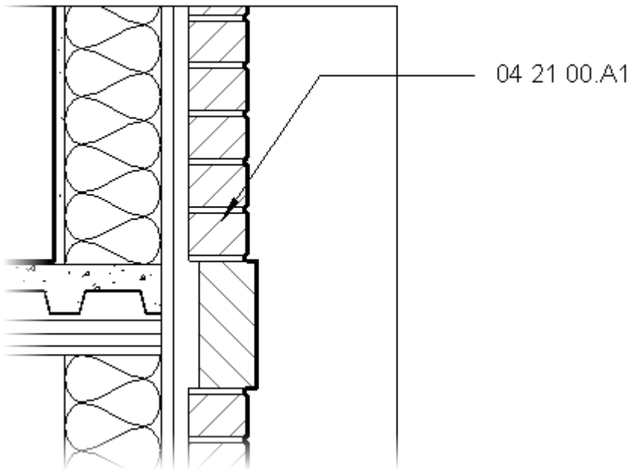


Keynotes – Keynote Settings and Tags

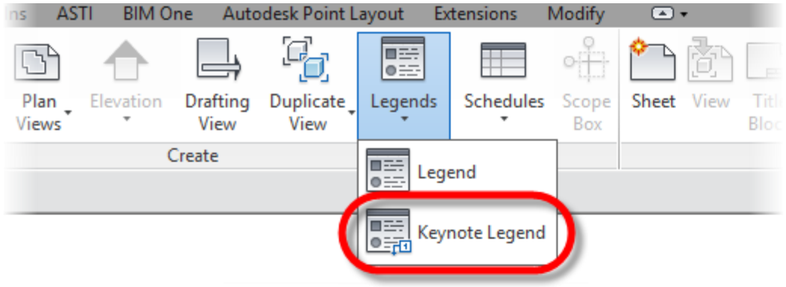


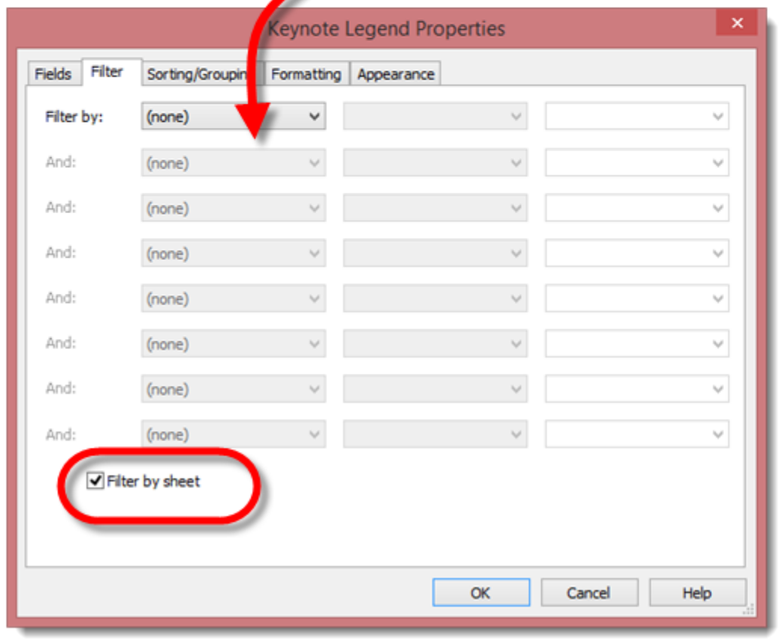


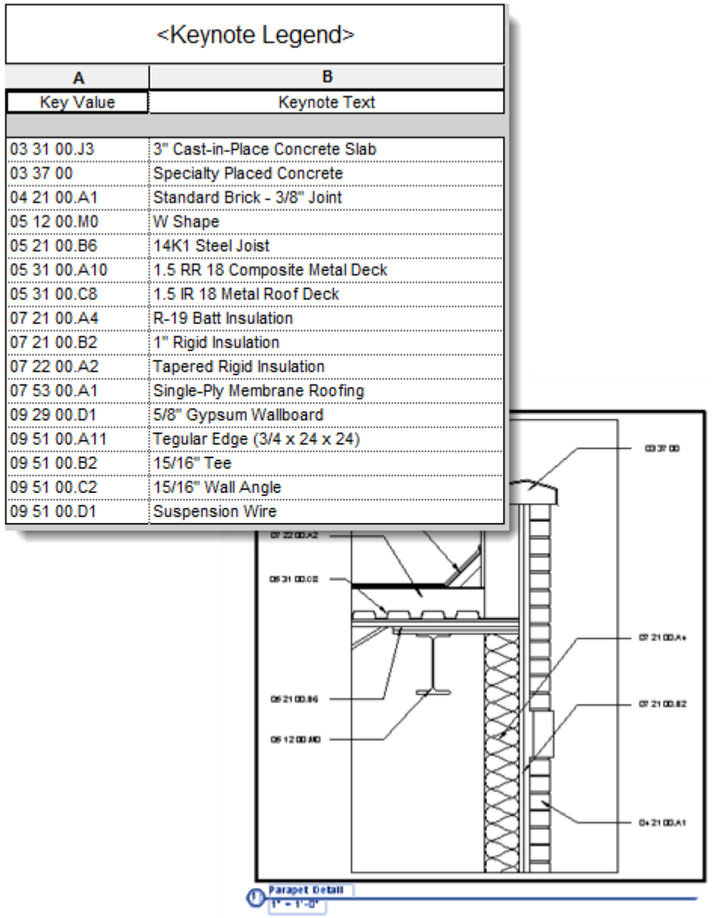


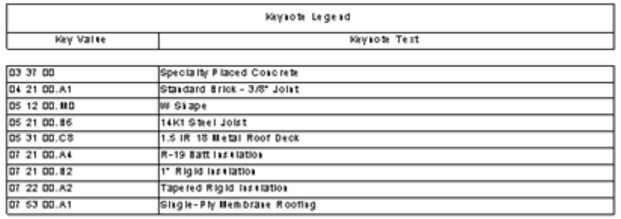


Keynote Legends

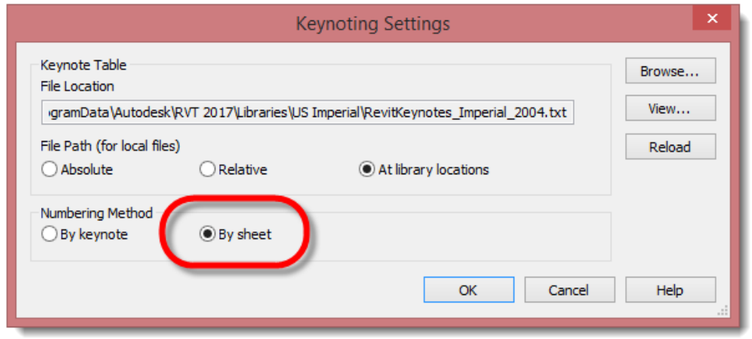


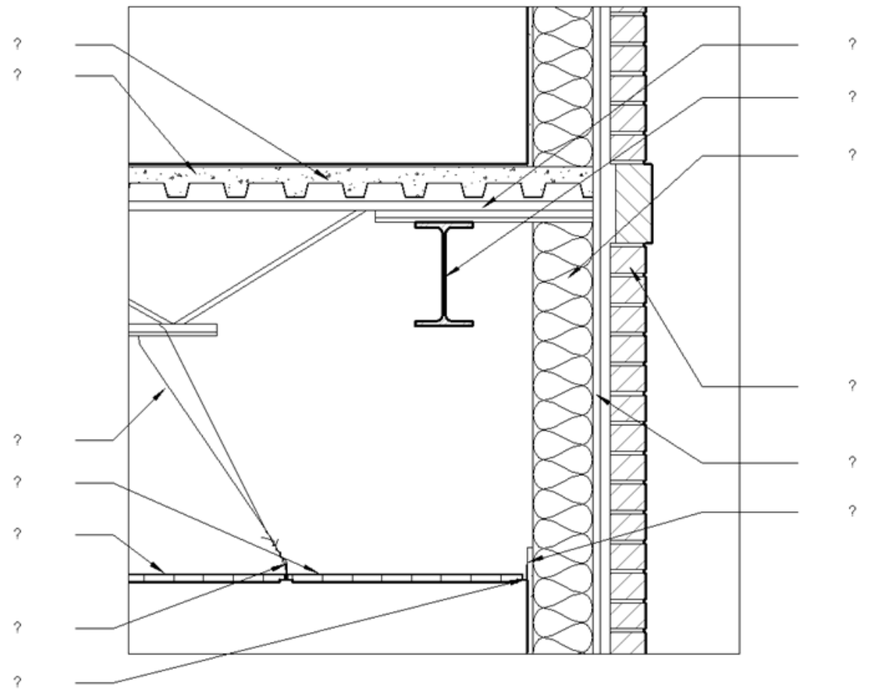


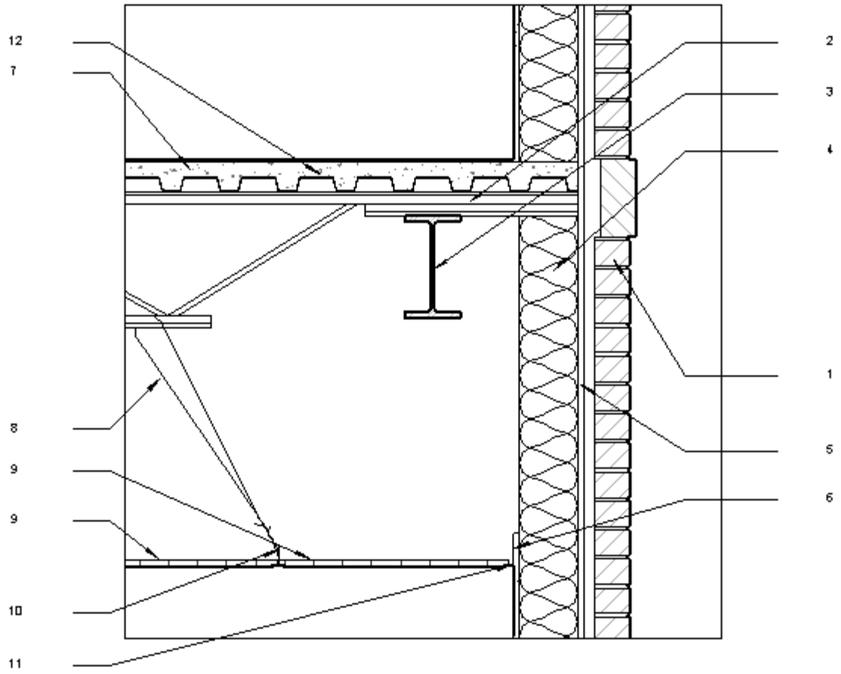




Keynote Numbering





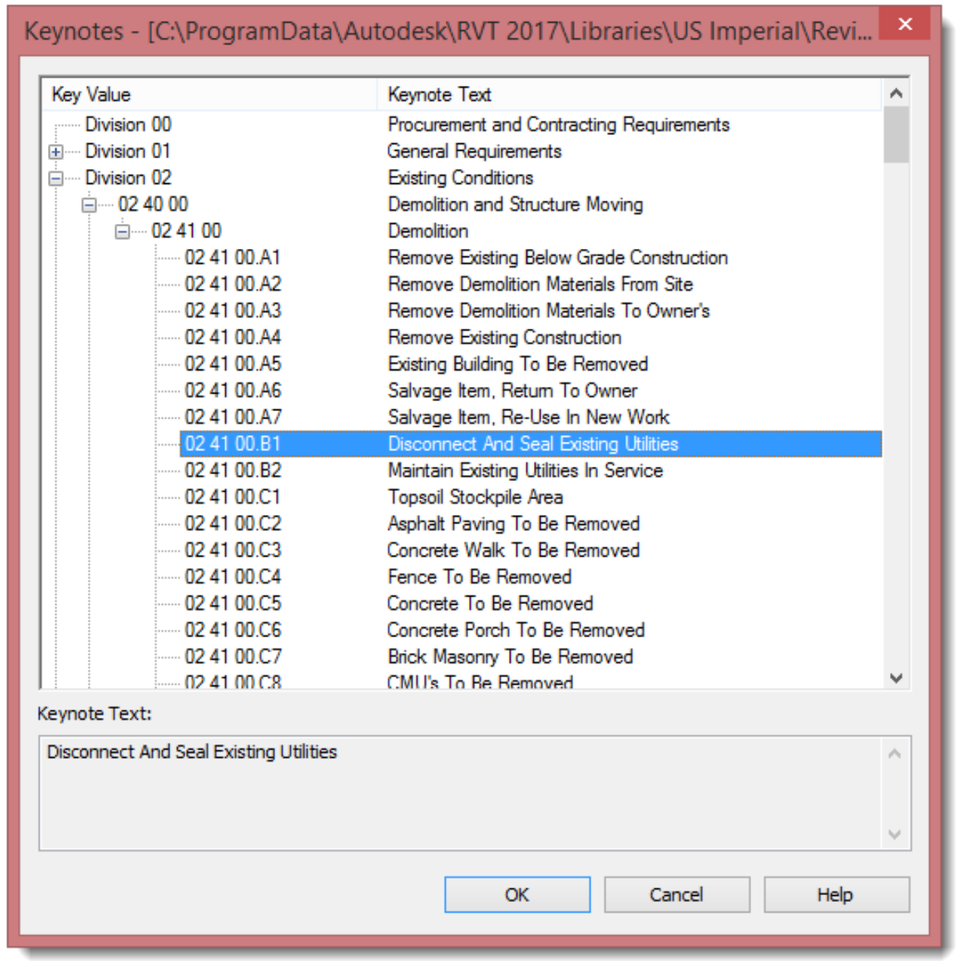


1 Typical Floor @ Wall
1" = 1'-0"

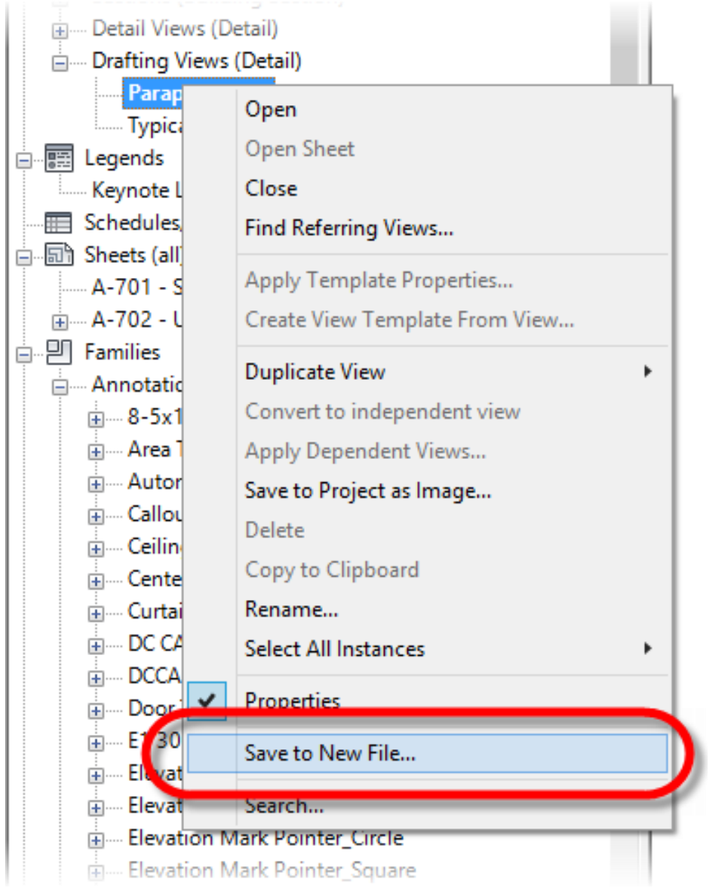
Keynote Legend	
Key Value	Keynote Text
1	Standard Brick - 3/8" Joint
2	14K1 Steel Joist
3	W Shape
4	R-19 Batt Insulation
5	1" Rigid Insulation
6	5/8" Gypsum Wallboard
7	3" Cast-in-Place Concrete Slab
8	Suspension Wire
9	Tegular Edge (3/4 x 24 x 24)
10	15/16" Tee
11	15/16" Wall Angle
12	1.5 RR 18 Composite Metal Deck

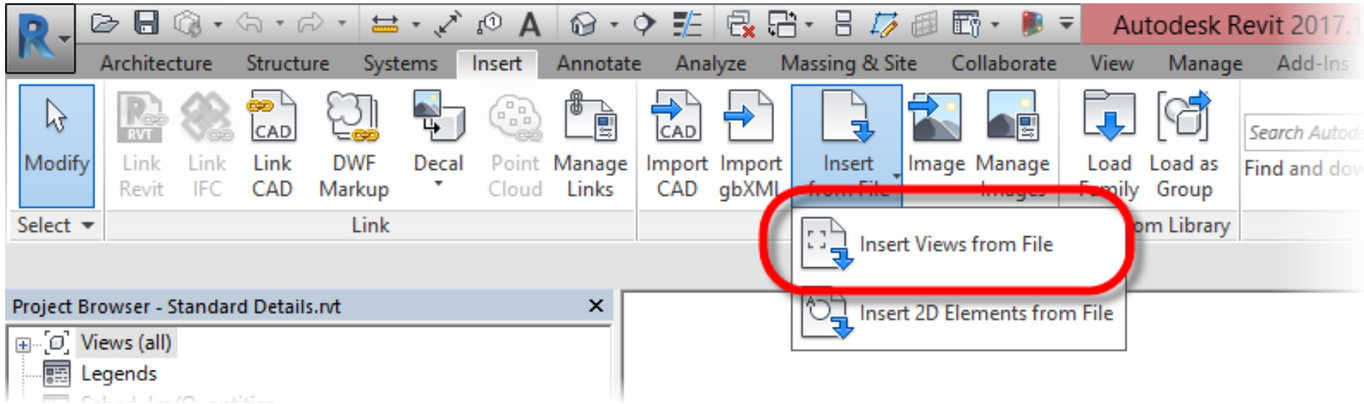
Custom Keynotes

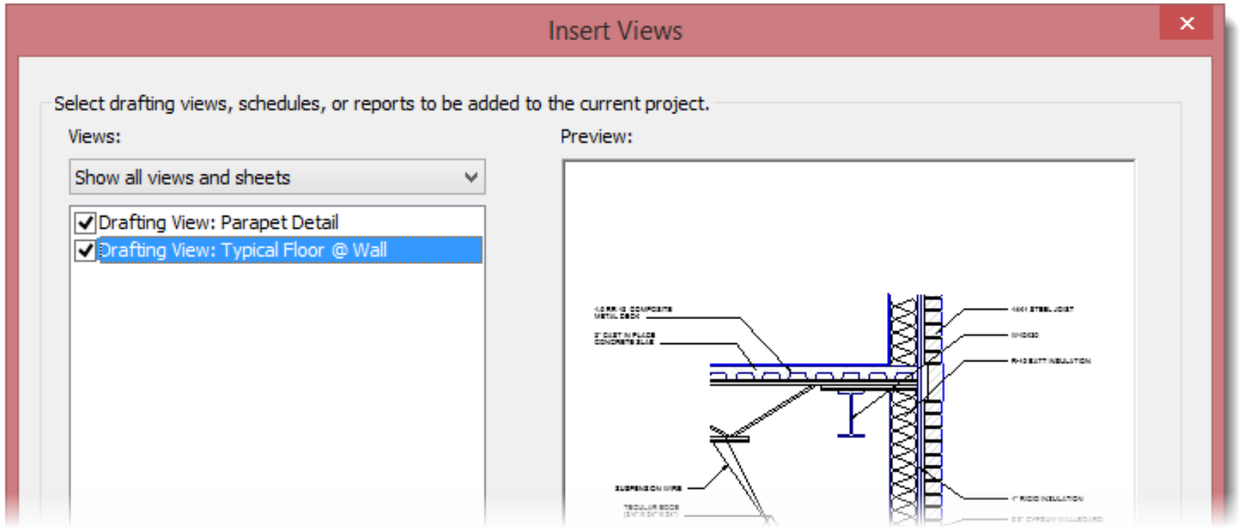
1	Division 00	Procurement and Contracting Requirements	
2			
3	Division 01	General Requirements	
4	01 50 00	Temporary Facilities and Controls	Division 01
5	01 53 00	Temporary Construction	01 50 00
6	01 53 13	Temporary Bridges	01 53 00
7	01 53 16	Temporary Decking	01 53 00
8	01 53 19	Temporary Overpasses	01 53 00
9	01 53 23	Temporary Ramps	01 53 00
10	01 53 26	Temporary Runarounds	01 53 00
11			
12	01 70 00	Execution and Closeout Requirements	Division 01
13	01 73 00	Execution	01 70 00
14	01 73 23	Bracing and Anchoring	01 73 00
15	01 73 23.A1	Bracing	01 73 23
16			
17	Division 02	Existing Conditions	
18	02 40 00	Demolition and Structure Moving	Division 02
19	02 41 00	Demolition	02 40 00
20	02 41 00.A1	Remove Existing Below Grade Construction	02 41 00
21	02 41 00.A2	Remove Demolition Materials From Site	02 41 00
22	02 41 00.A3	Remove Demolition Materials To Owner's	02 41 00
23	02 41 00.A4	Remove Existing Construction	02 41 00
24	02 41 00.A5	Existing Building To Be Removed	02 41 00
25	02 41 00.A6	Salvage Item, Return To Owner	02 41 00
26	02 41 00.A7	Salvage Item, Re-Use In New Work	02 41 00
27	02 41 00.B1	Disconnect And Seal Existing Utilities	02 41 00
28	02 41 00.B2	Maintain Existing Utilities In Service	02 41 00



Revit Standard Details







Review Key Points

- Don’t over-model
- Understand View Properties
- Utilize Cut Profile and Mask Regions
- Master Annotation Tools
- Keynotes
- Standard Details
  - Stop importing AutoCAD drawings
  - Convert AutoCAD Details to Revit Details and save in a “Standard Details” library project

Thank you for attending – please do
not forget to complete your surveys.

Questions??

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