



**Class ID AB1496**

# **Autodesk® Revit® Architecture – New Features**

Michael B. Zeeveld, Assoc. AIA  
Senior Application Specialist



# Class Summary

- This class covers the updates of Autodesk® Revit® Architecture 2013, from schematic design through construction documentation.
- Students will be introduced to the concepts of Building Information Modeling and the tools for parametric design and documentation.
- Learn the new features in this release with topics including Parts, Assemblies, Visual Graphics, Worksharing, Linear Dimension Splitting and Segmented Gridlines.

# Learning Objectives

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

- Become familiar with the new features, concepts and benefits of Building Information Modeling.
- Understand the fundamental concepts and features of Autodesk Revit Architecture 2013.
- Use the parametric 3D design tools to start designing projects.
- Develop an initial level of comfort and confidence with the new tools in Autodesk Revit Architecture 2013 through hands-on experience.



# Housekeeping

- 90 Minute Lecture
- Please turn your mobile device to silent mode
- Who is in the audience?
- What do you hope to get out of this class?





# Speaker Bio

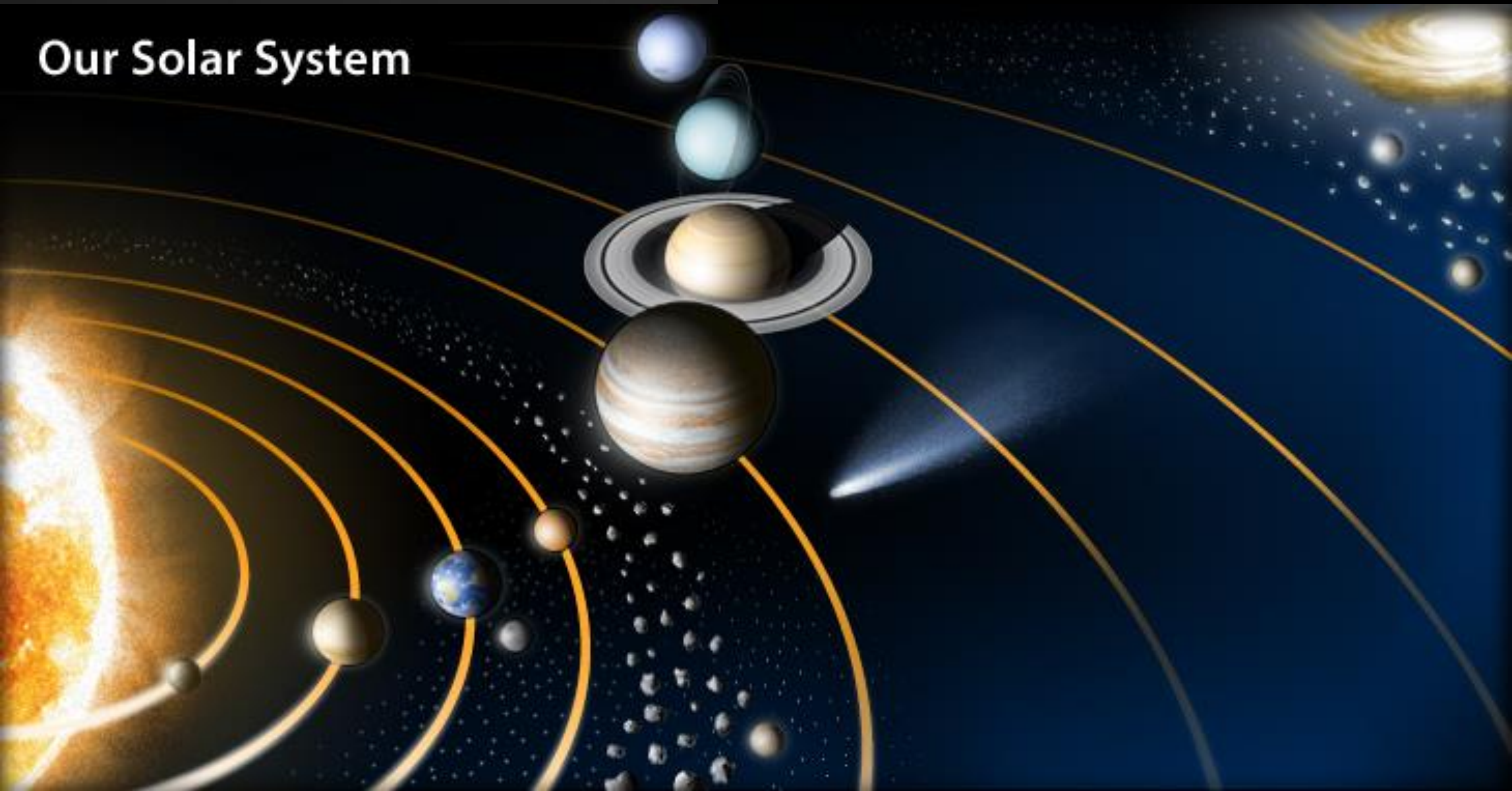
## Michael B. Zeeveld, Assoc. AIA

- Senior Application Specialist, Applied Software – Atlanta, GA
- 17 years of AEC Experience
- Autodesk Revit Certified Professional
- Autodesk Consulting Specialization
- Autodesk Structural Specialization
- Autodesk 3ds Max Design Certified Associate
- Speaker at AU 2006, 2010 and 2012
- Presenter at AUGI CAD Camp and AIA
- Speaker at RTC – Revit Technology Conference 2012
- Autodesk Certified Instructor





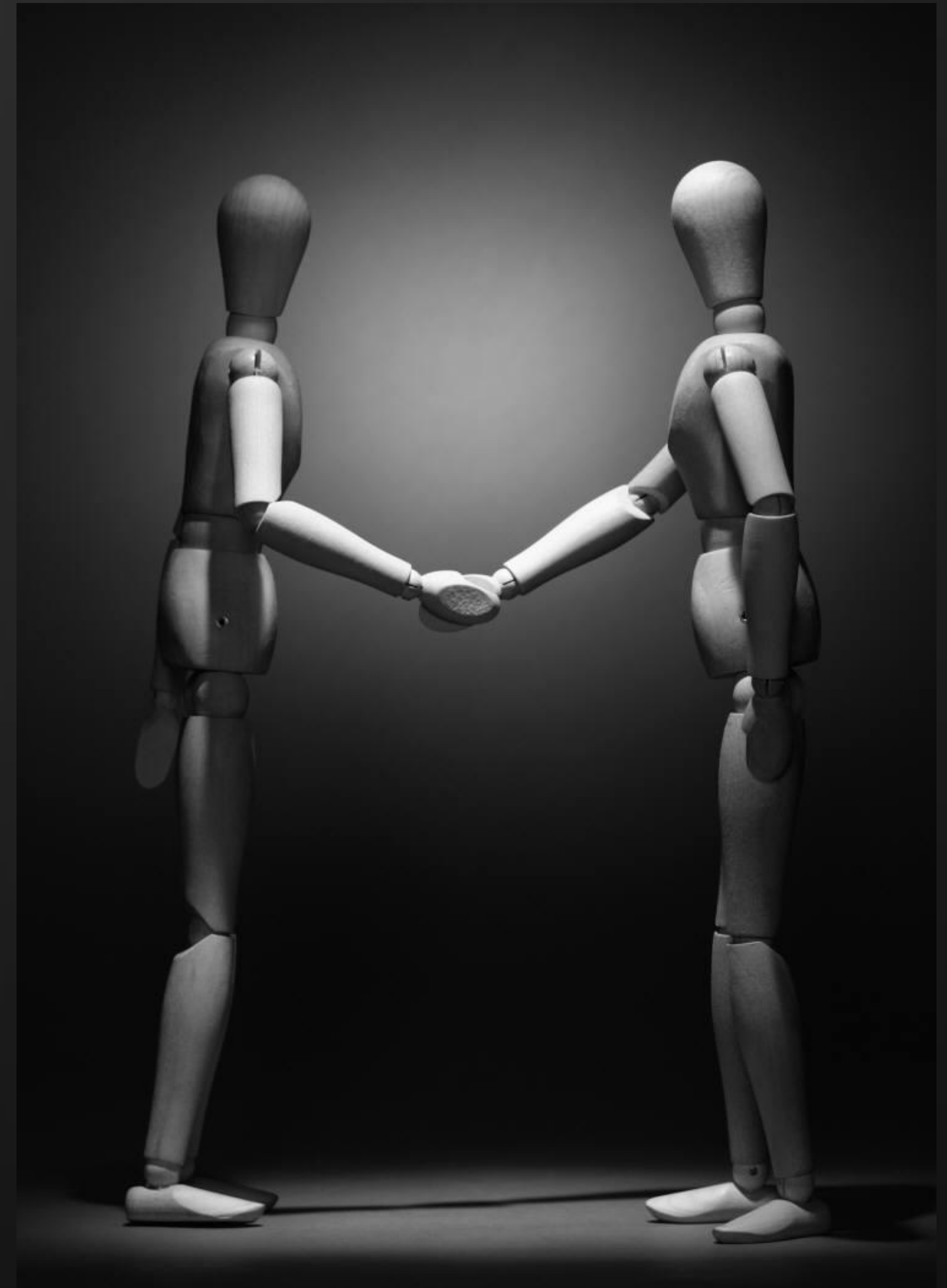
# Our Solar System





# Say Hello

- Meet your neighbor



# Topics

- General Enhancements
- Visualization Graphics
- Materials
- Interoperability
- Revit Server
- Construction Modeling
- Conceptual Design Environment
- Loop Arrow Style
- Workshare Enhancements
- Zoom to Fit
- Stairs/Railing
- Ribbon tab Changes
- Selection Set
- 3 products in 1
- UI config
- Suite Workflow
- Parts/Assemblies
- Parametric Components
- Analysis
- Exchange App Store



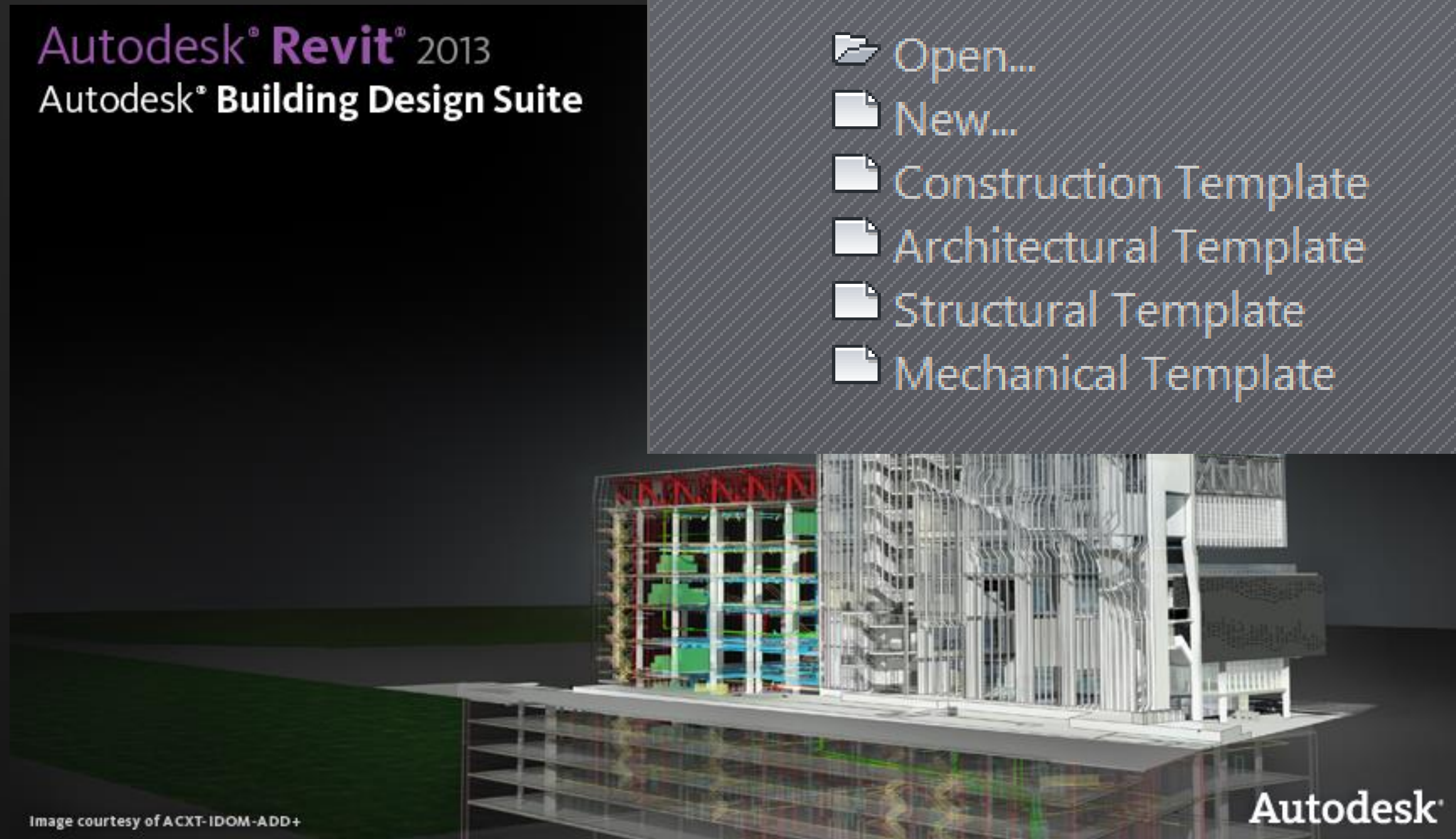
# Topics

- General Enhancements
  - Project Templates
  - Project Browser
  - View Templates
  - Filters List
  - Dimensions
  - Family Editing
- Visualization Graphics
  - Background
  - Surface Transparency
  - Hardware Acceleration
  - Anti-Aliasing
  - Realistic Visual Style
- Ray Trace Visual Style
- Materials
  - New Data model
  - UI
  - Thermal Properties
  - Structural Properties
- Interoperability
  - DGN/IFC
- Revit Server
- Construction Modeling
- Conceptual Design Environment
- Loop Arrow Style
- Workshare Enhancements
- Zoom to Fit
- Stairs
- Railing
- Ribbon tab Changes
- Selection Set
- 3 products in 1
- UI config
- Suite Workflow
- Parts
- Assemblies
- Parametric Components
- Exchange App Store



# Application

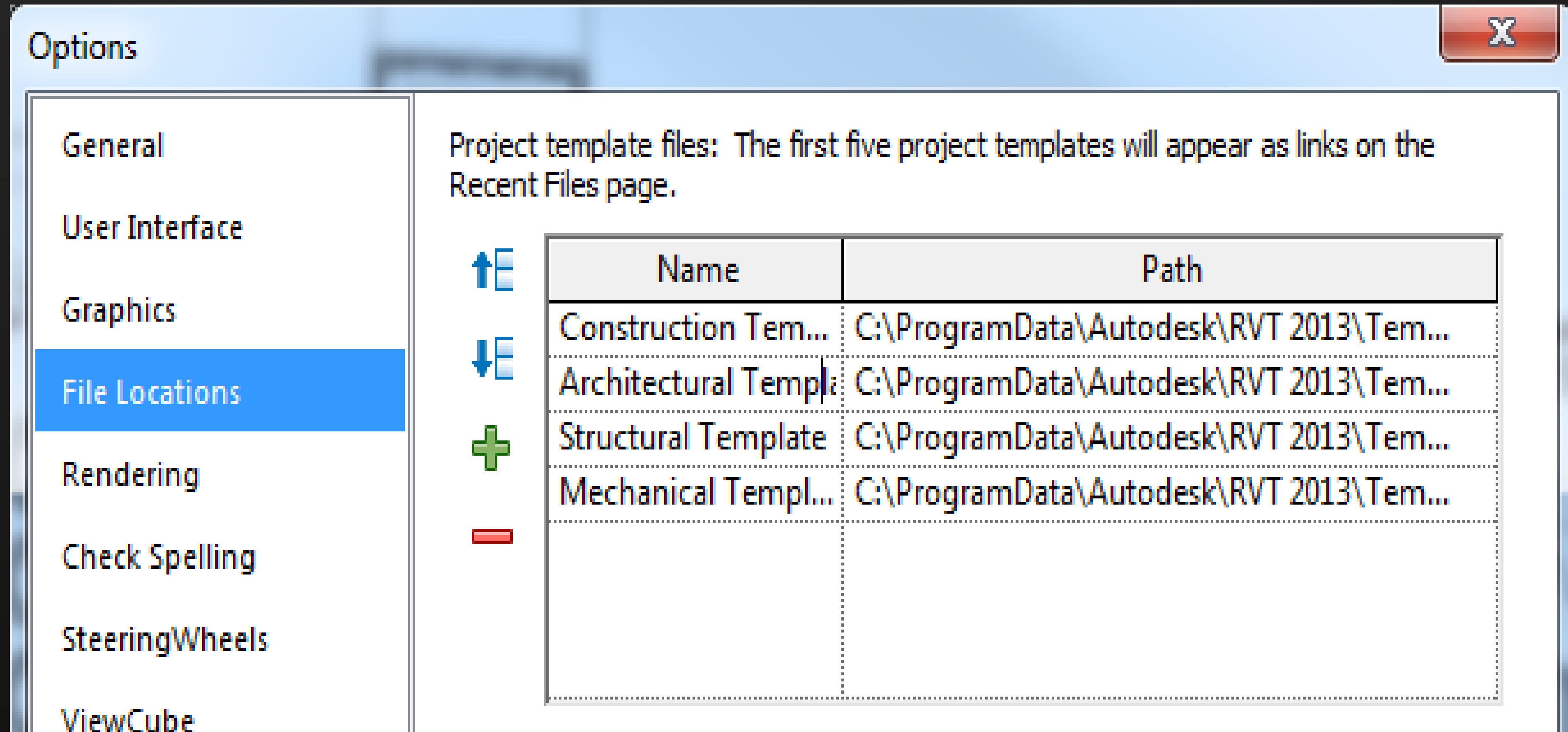
- Building Design Suite Ultimate 2013
- “One Box” concept
- Multiple Disciplines





# Templates

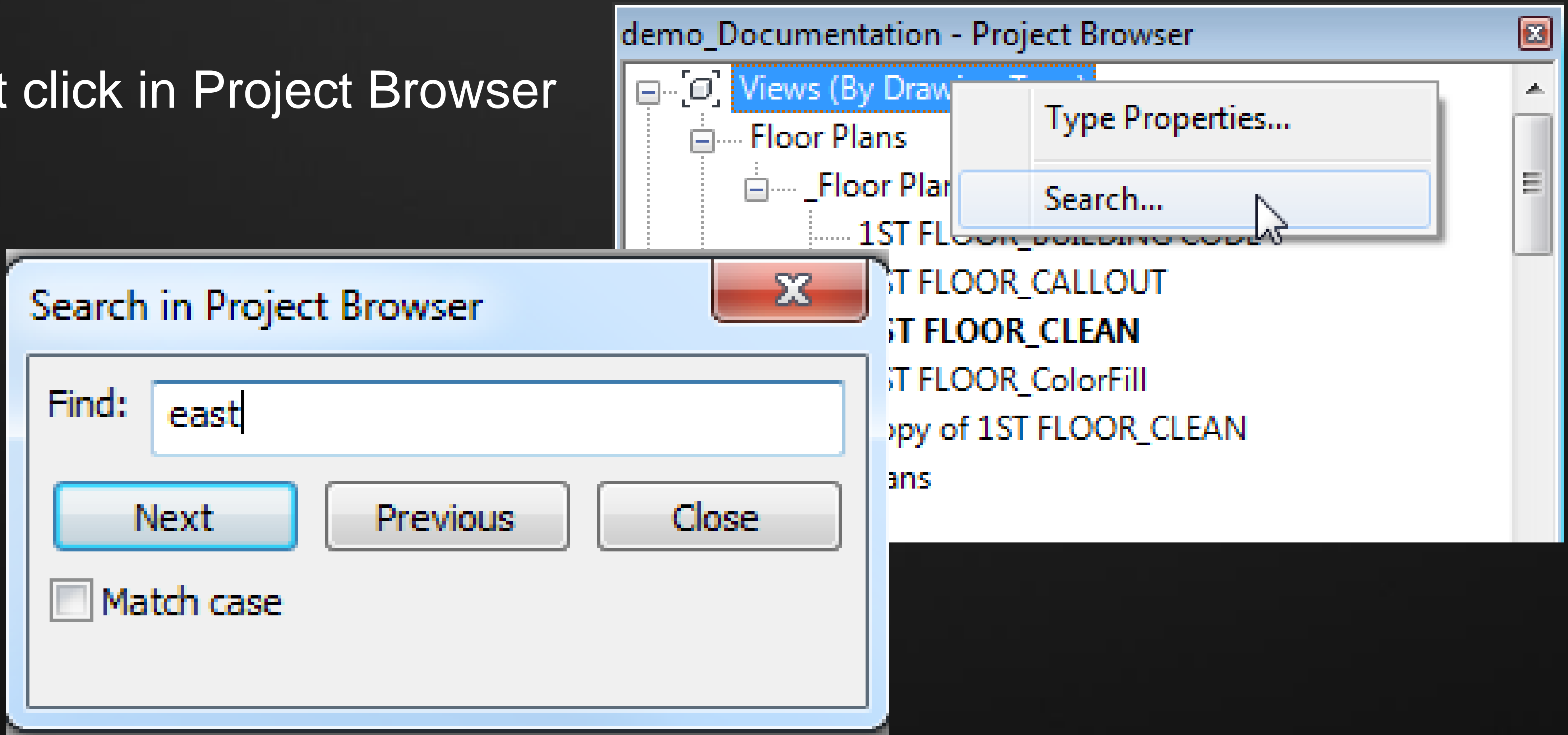
- Multiple discipline templates to choose from
- File Locations





# Searchable Project Browser

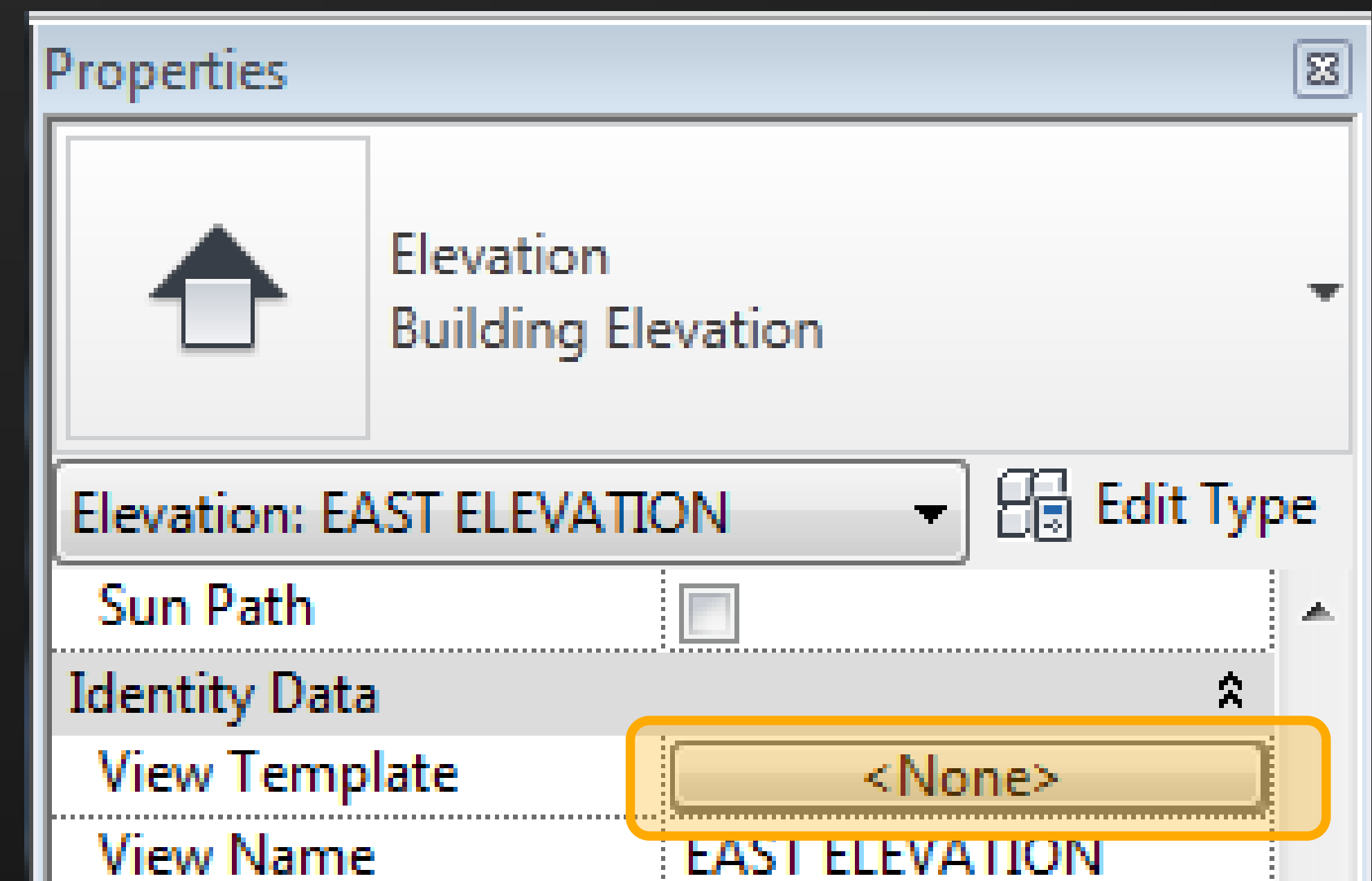
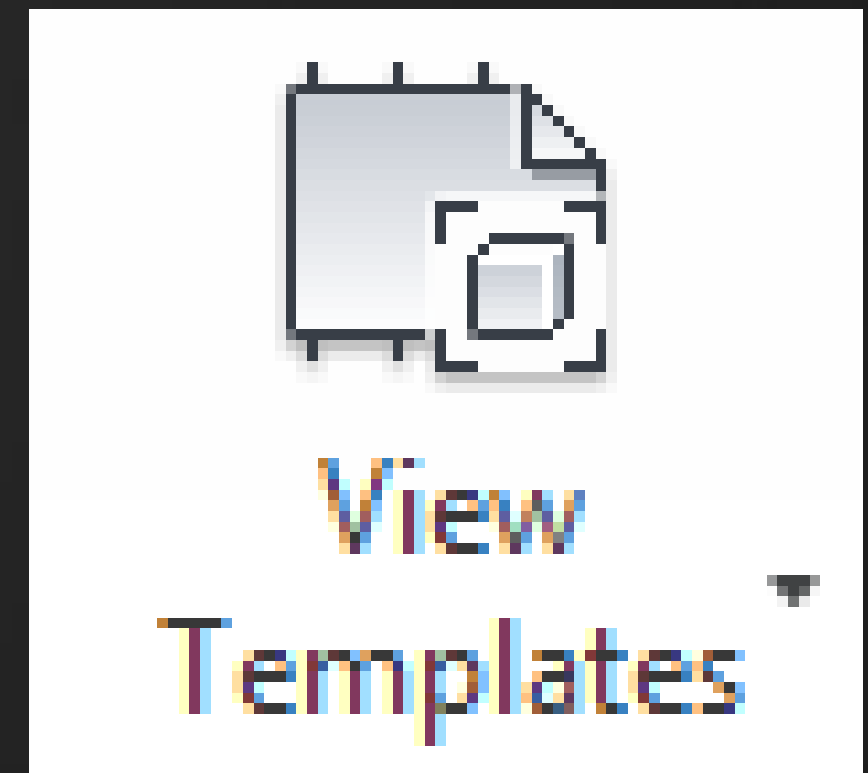
- Right click in Project Browser





# View Templates

- Assign by a view template properties
- Template to view
- Future changes to template affects views it is assigned to

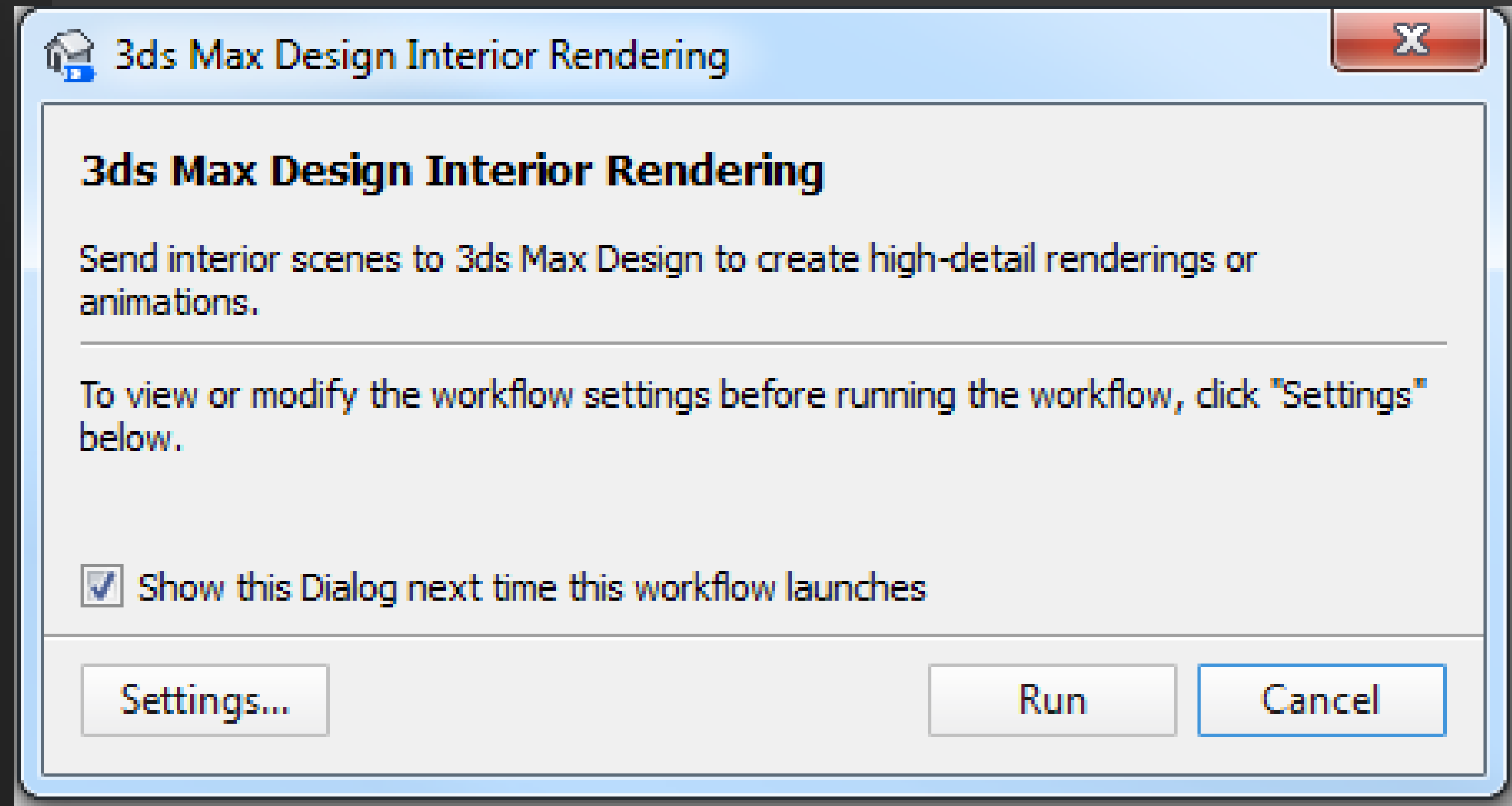


## View Properties

Number of views with this template assigned: 1

# Suite Workflow

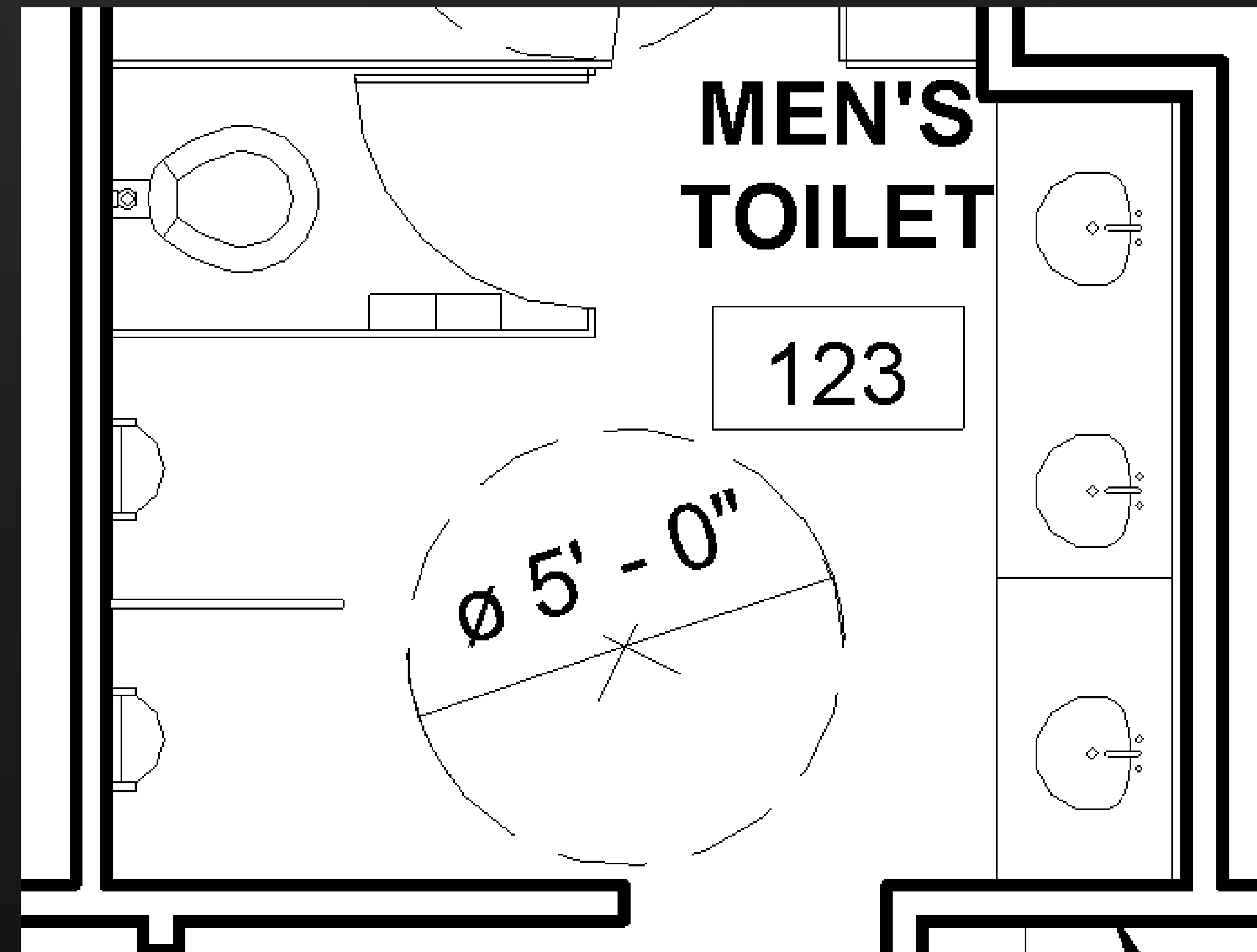
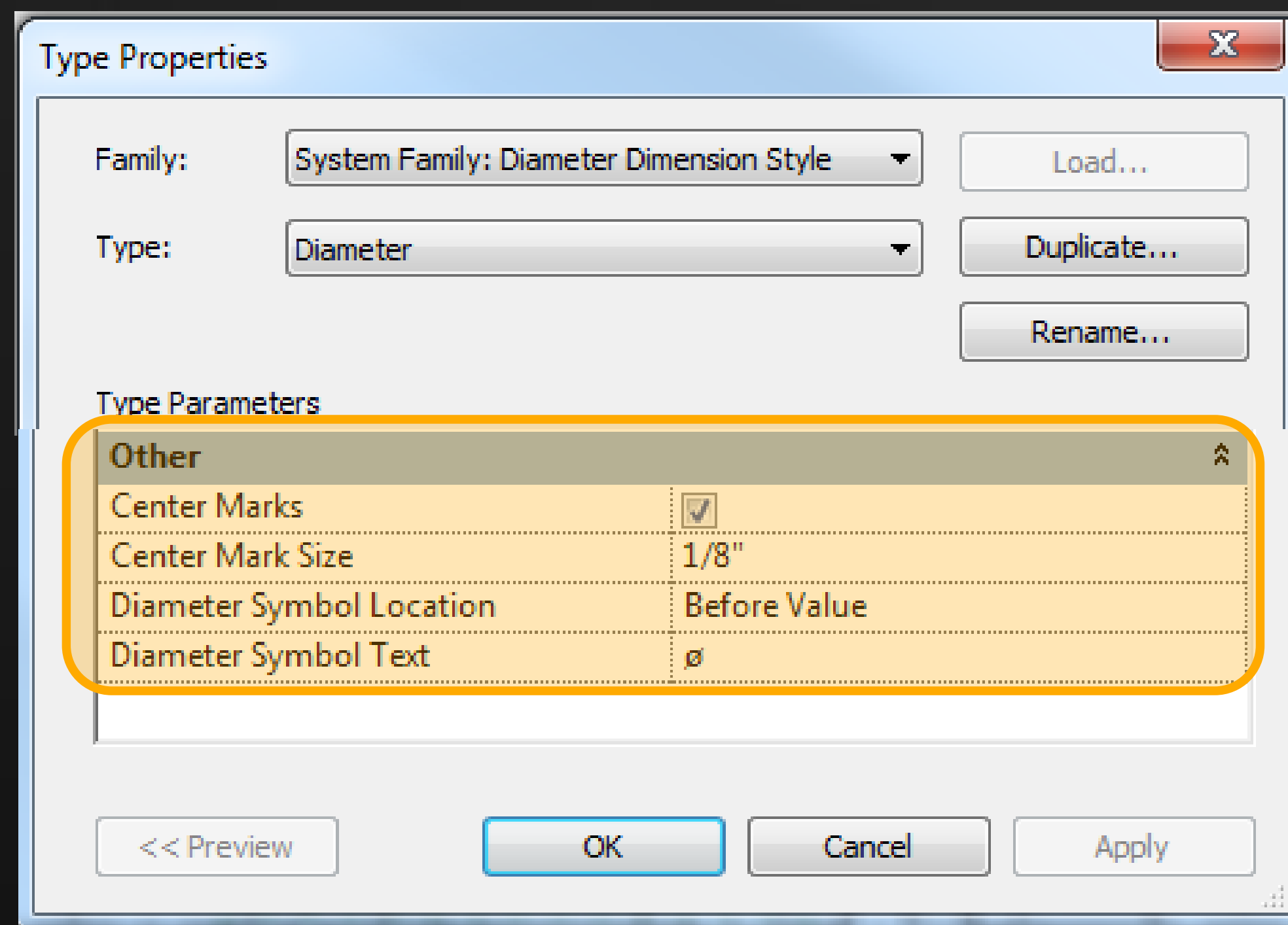
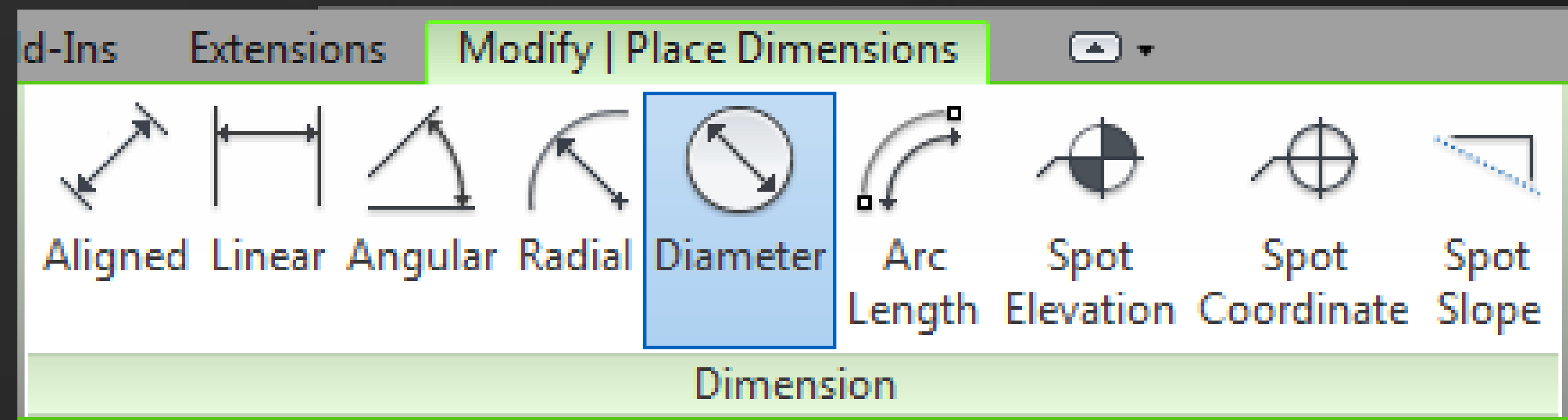
- Simplified workflow
- 3ds Max Design
- Showcase





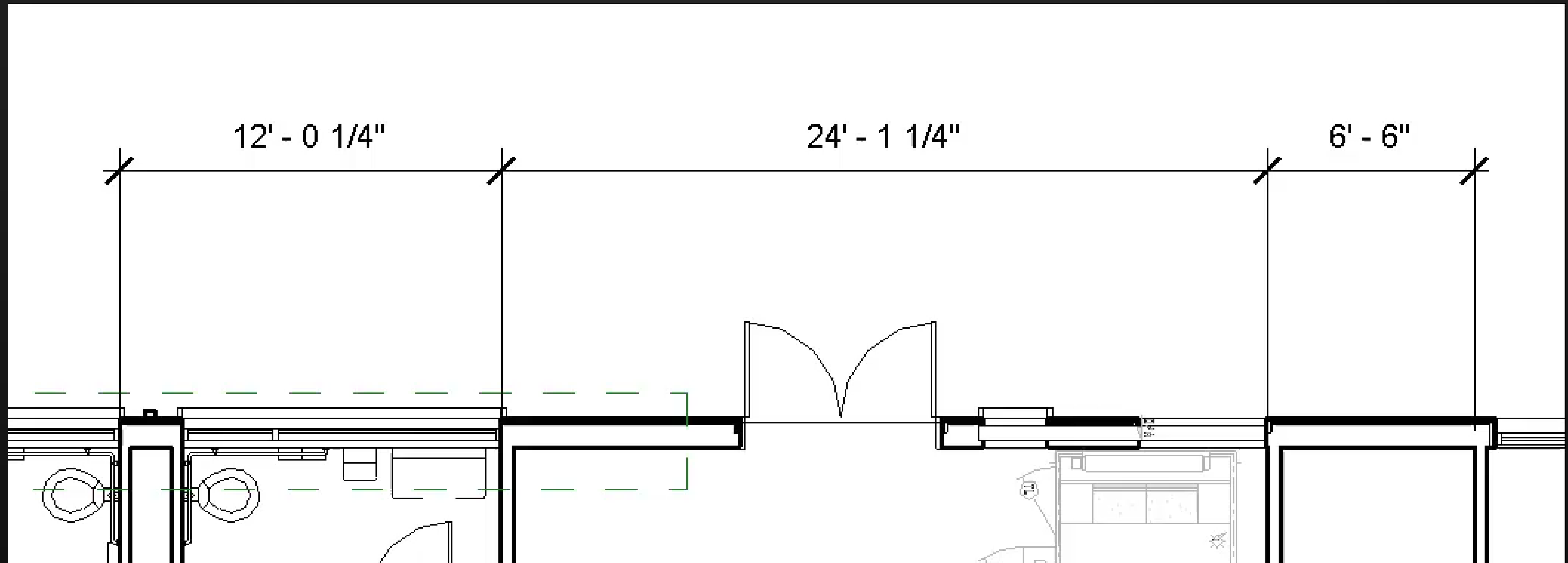
# Dimensions

- Diameter Dims



# Dimensions

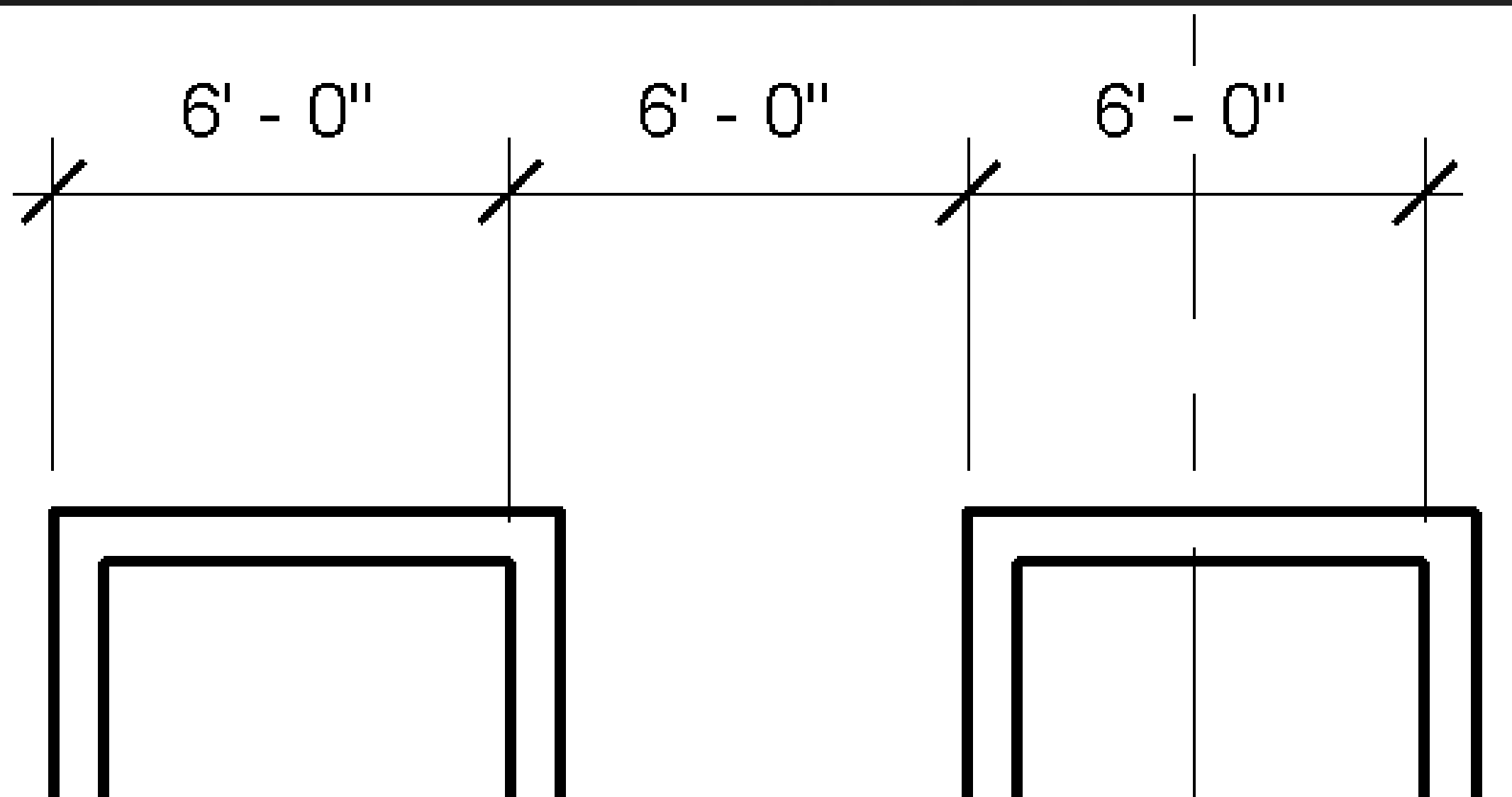
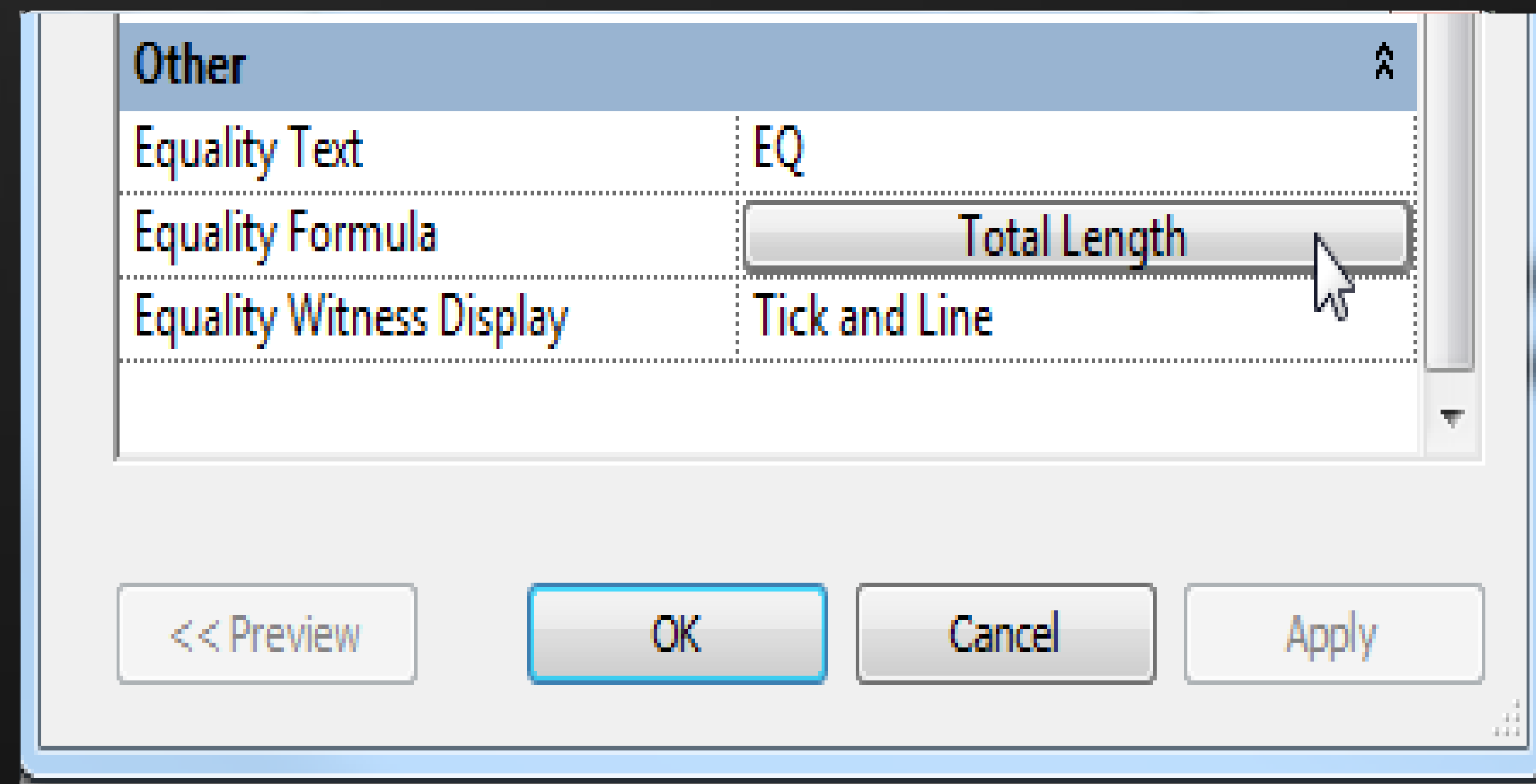
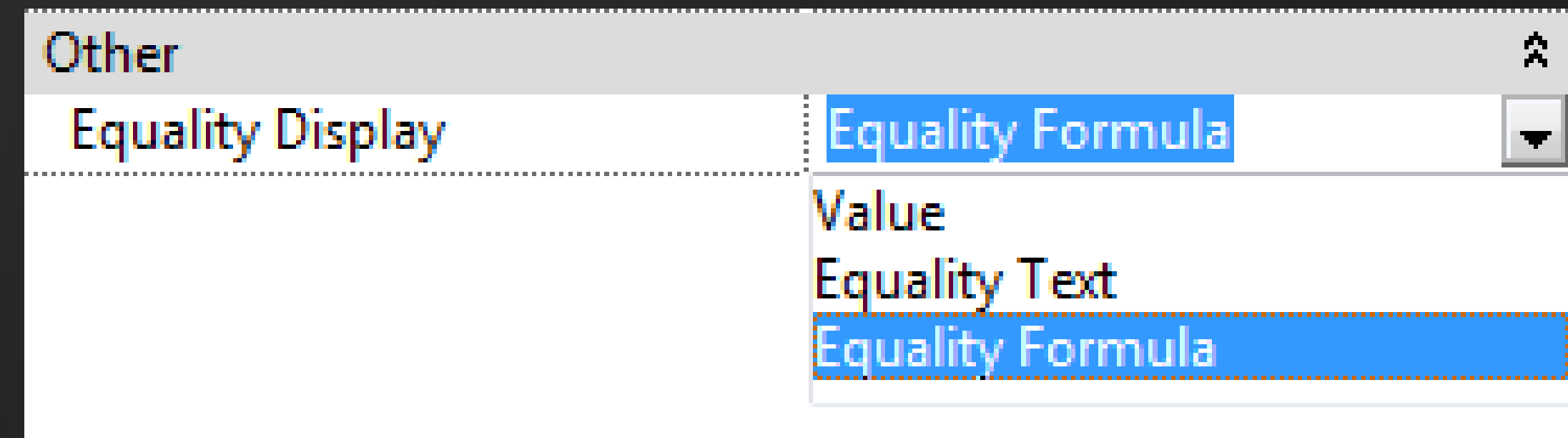
- Delete Dim segments
- Tab - Delete





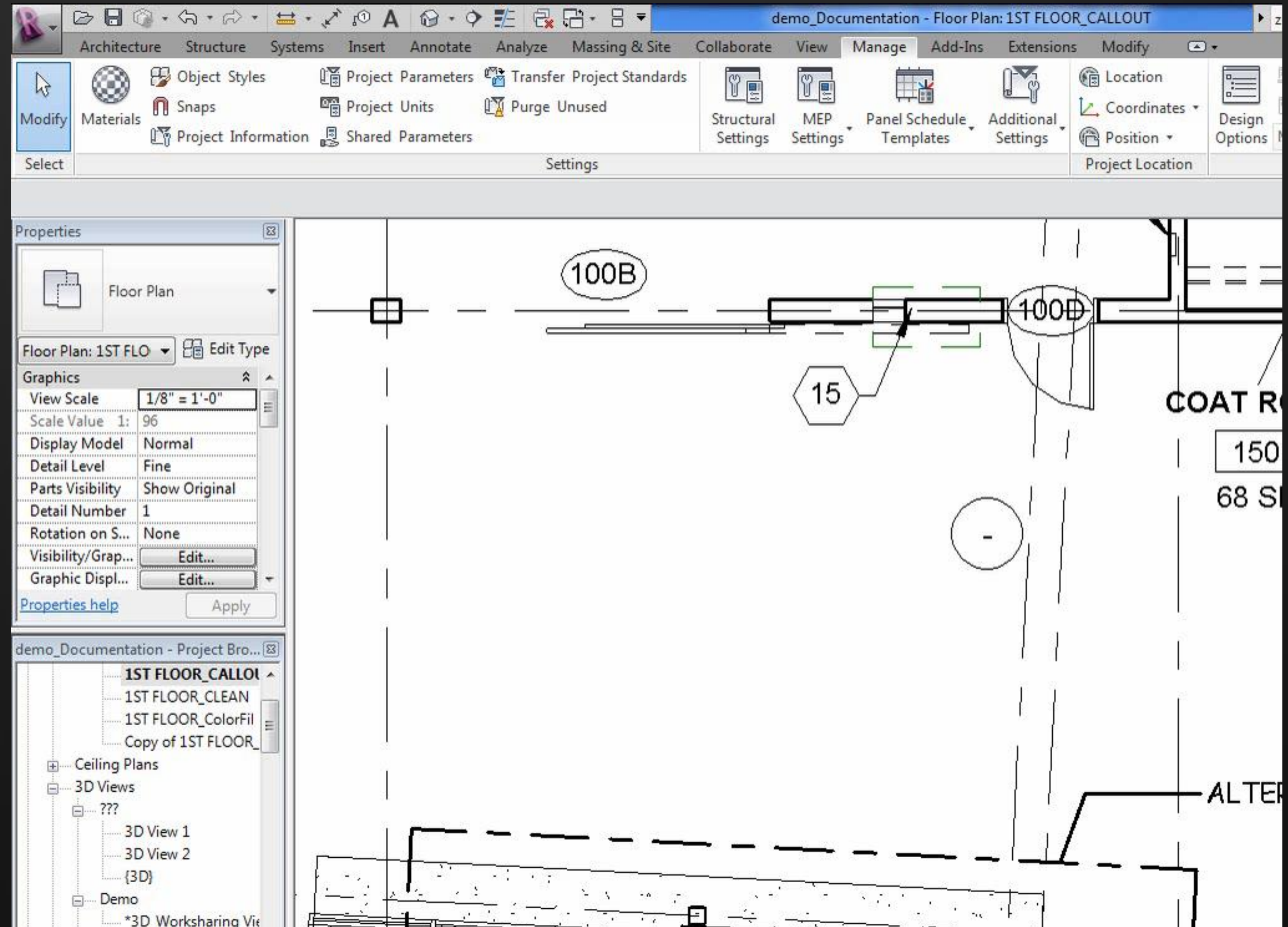
# Dimensions

- Dim Display
  - segment values, equality text, or the equality formula string



# Arrowhead

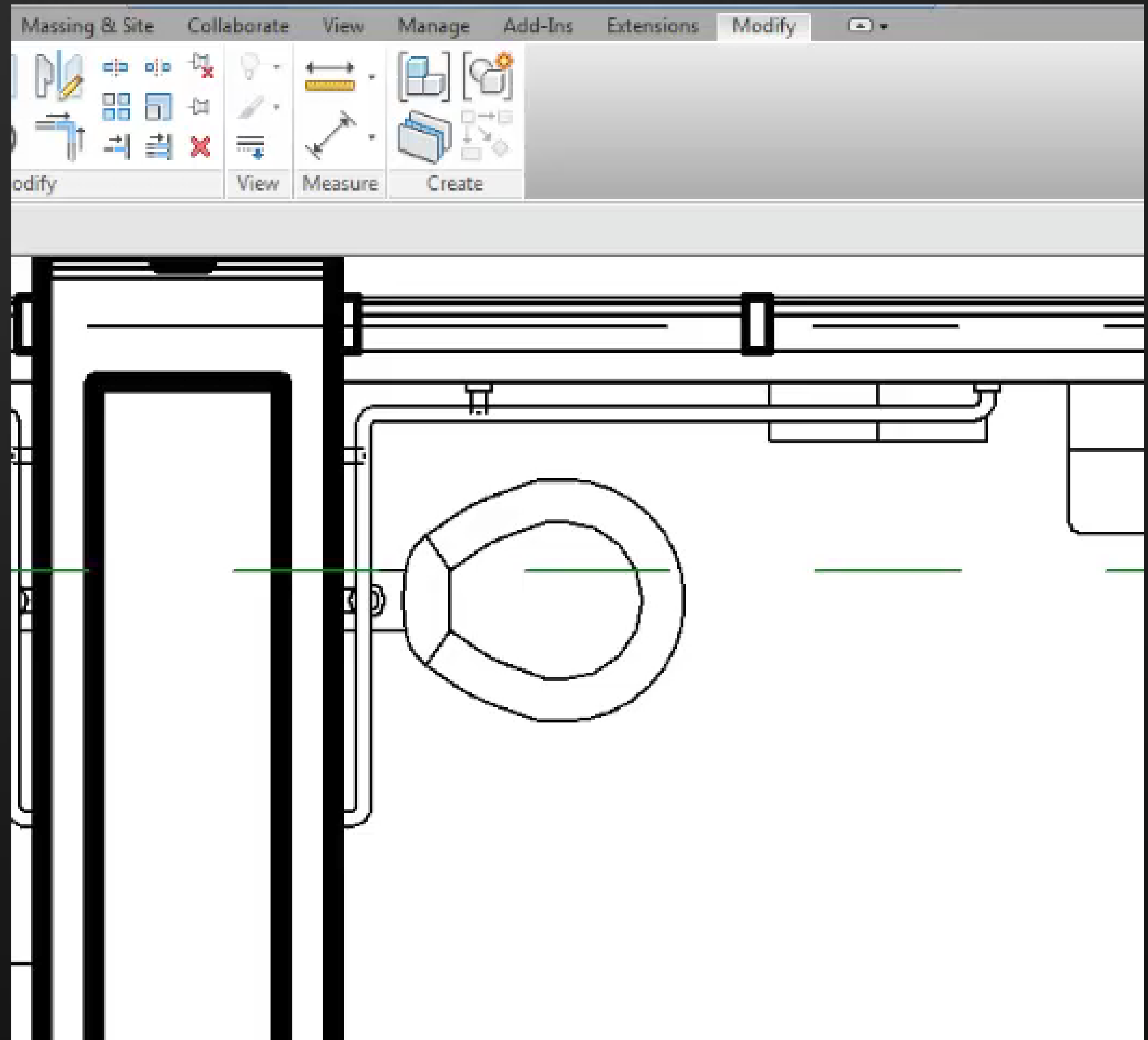
- Loop





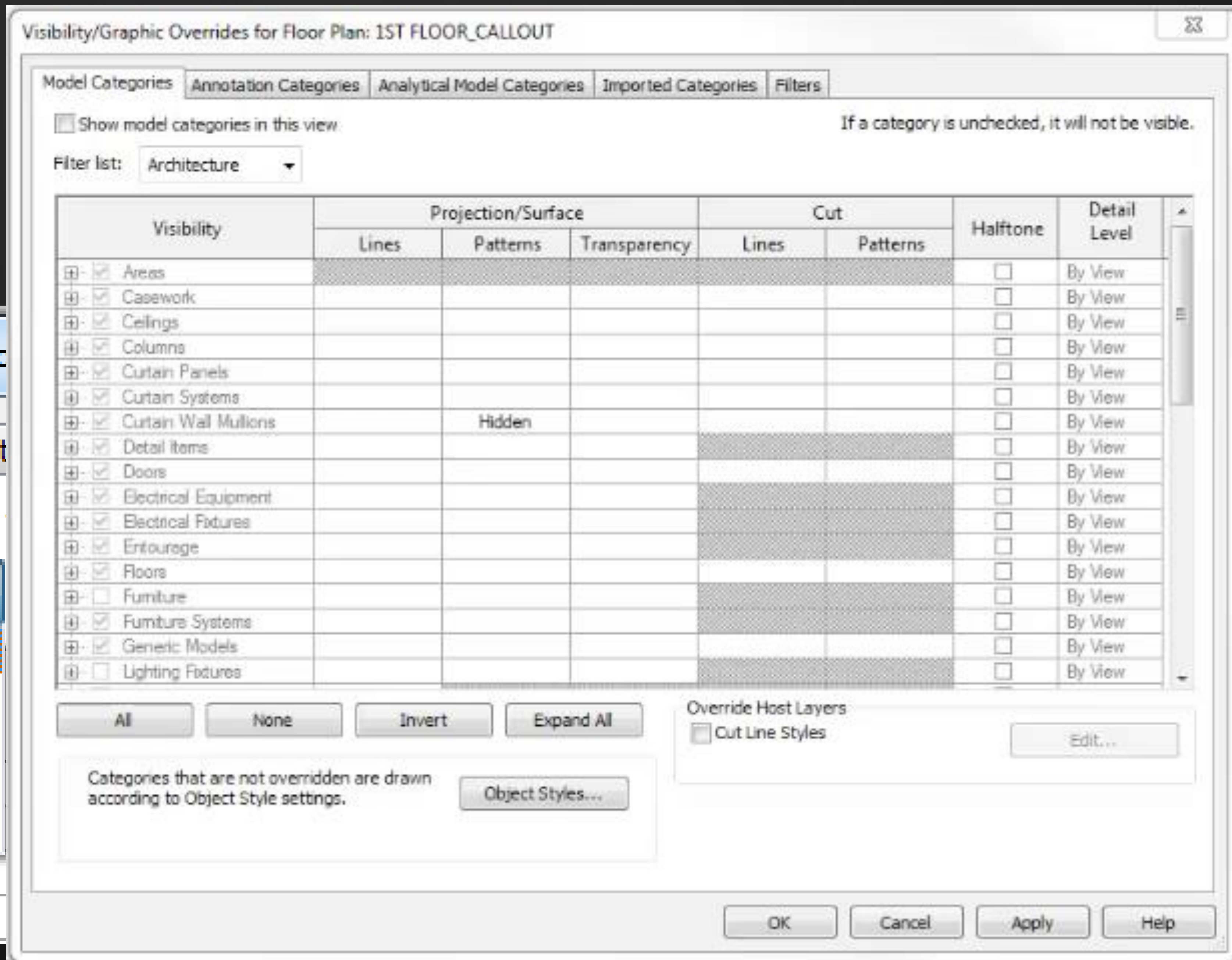
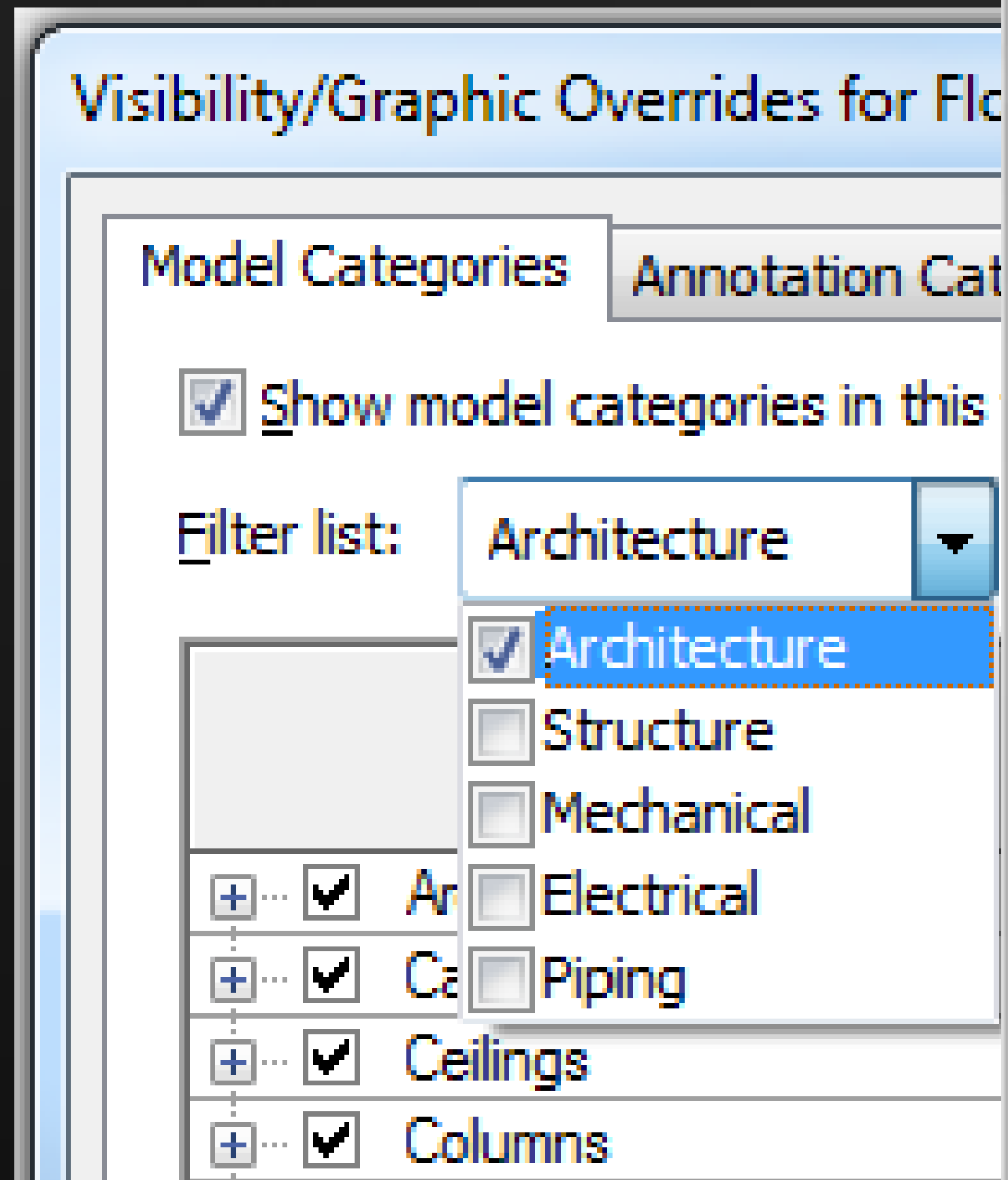
# Families

- Double click editing



# Filters List

- Multi-discipline





# Surface Transparency Slider

- Replaced Ghost Surfaces



# Hardware Acceleration

**Improved Performance:**  
realistic mode  
ambient occlusion  
surface transparency  
anti-aliasing





# Parts

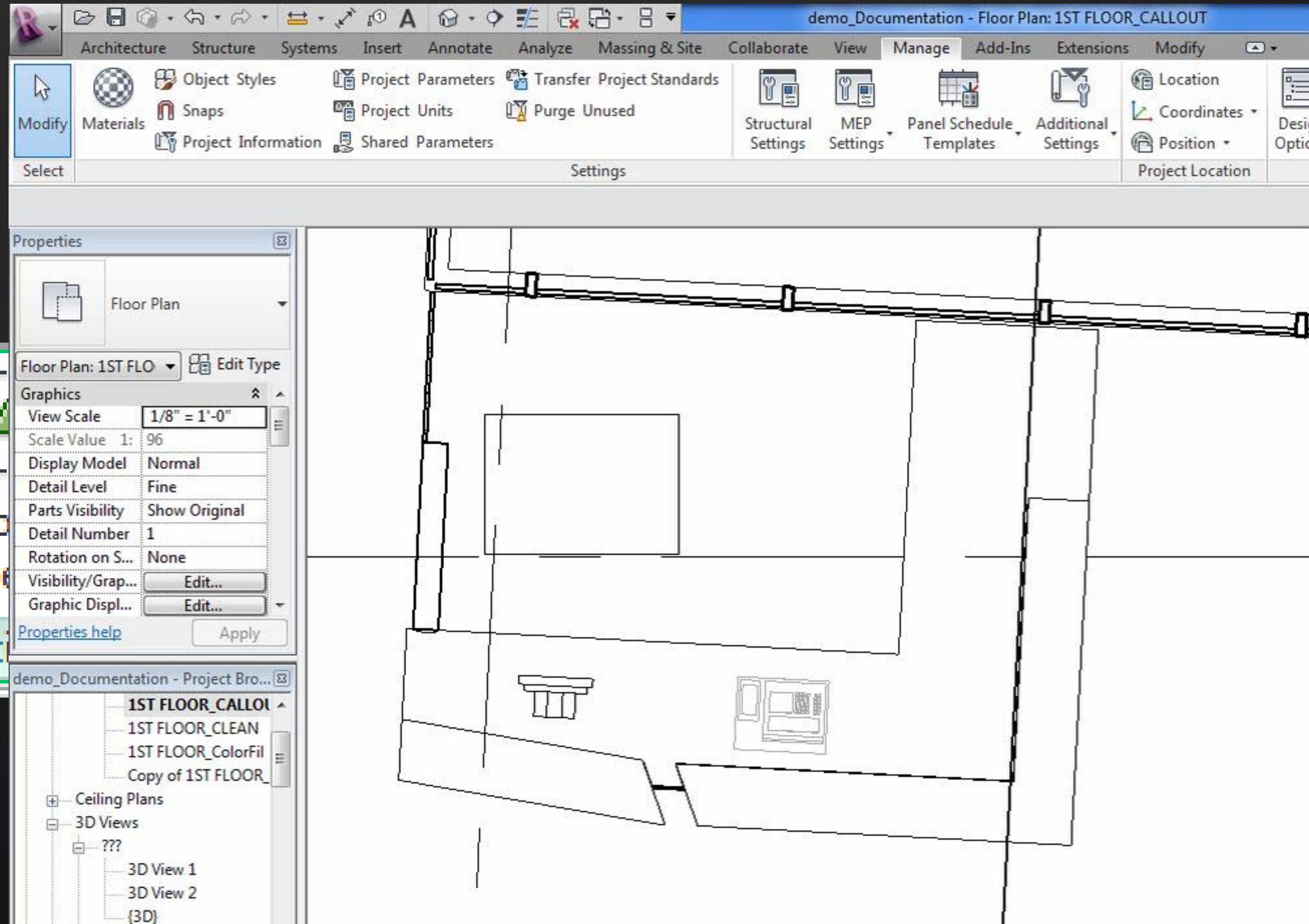
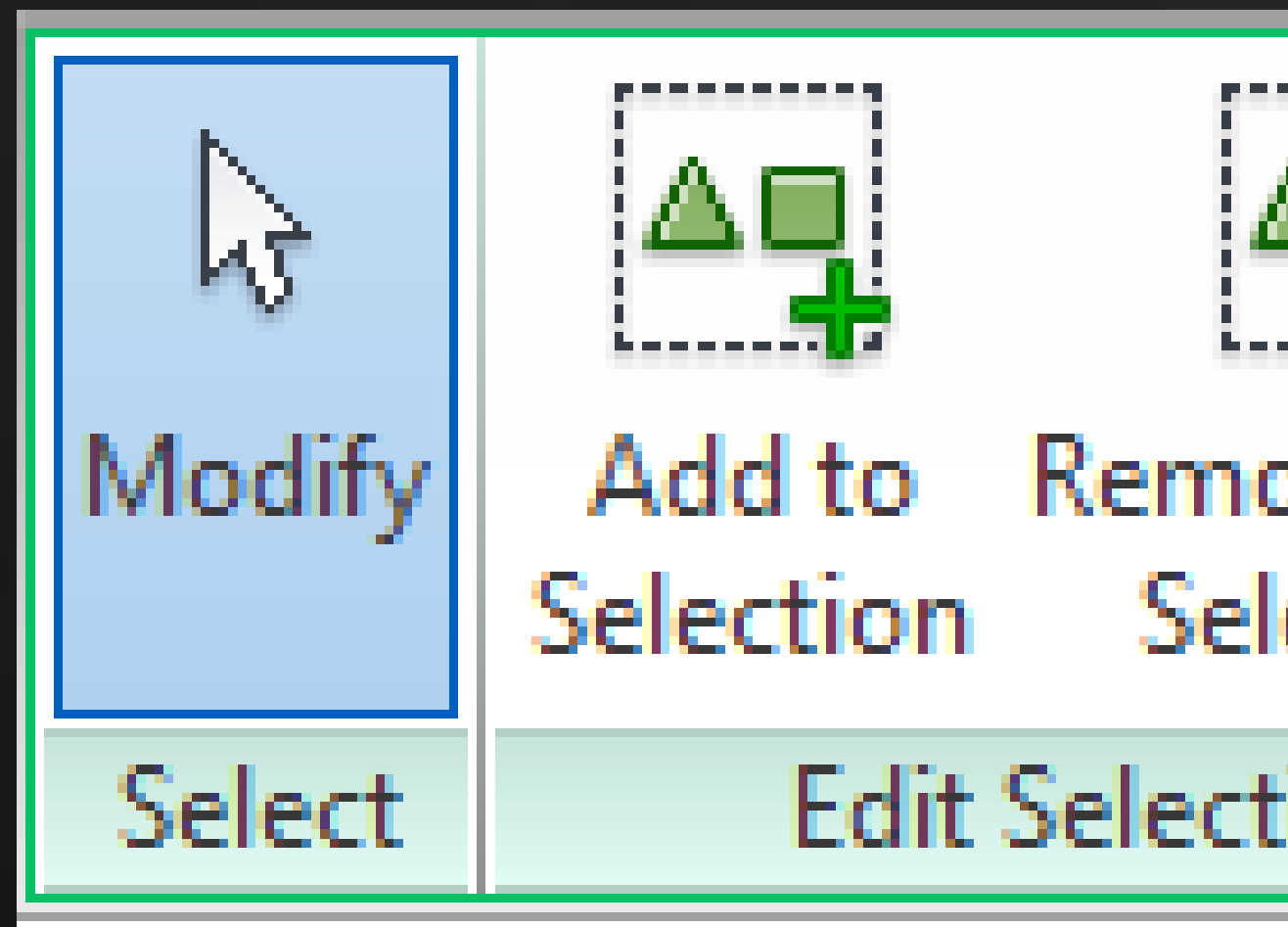
- Merge parts
- Part project excluded
- Divider offset for part divisions
- Parts from loaded families

# Assemblies

- New view options
- Assembly views placement
- Element edit assembly mode
- Origin
- Local coordinate system

# Selection Sets

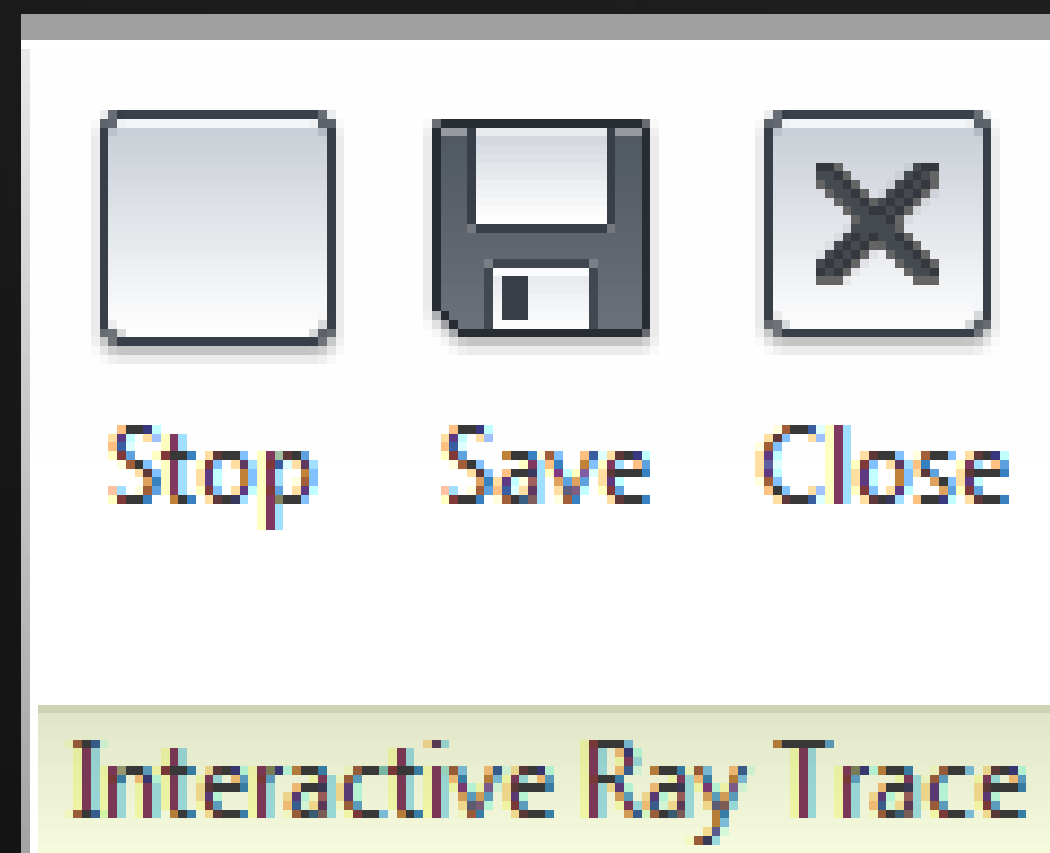
- Previous only in Revit Structure





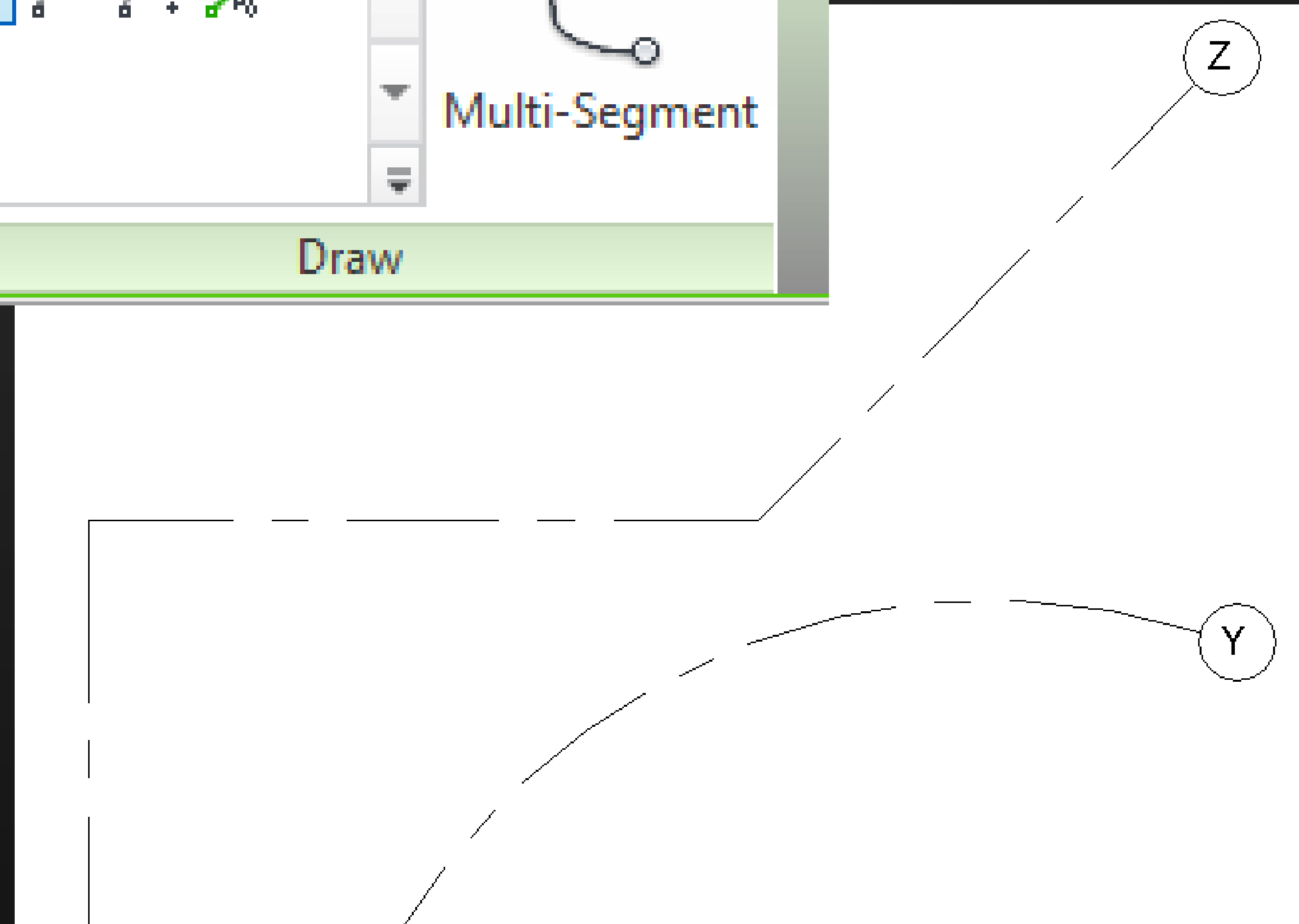
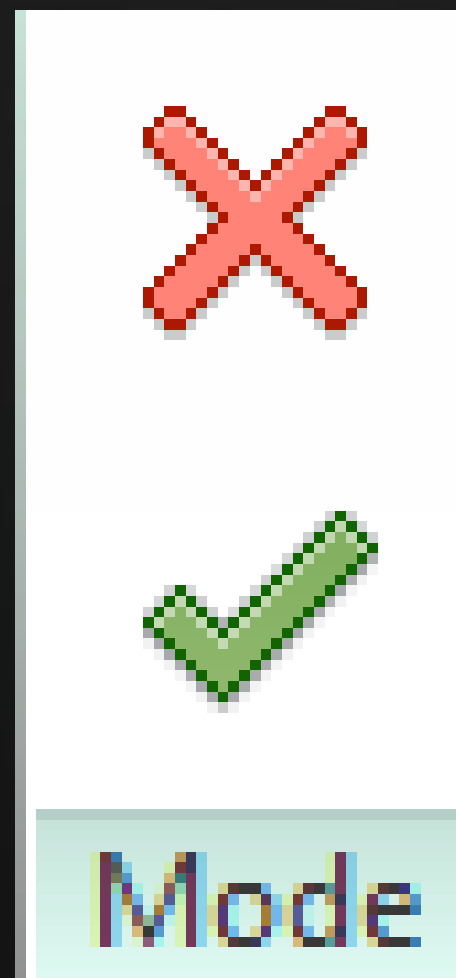
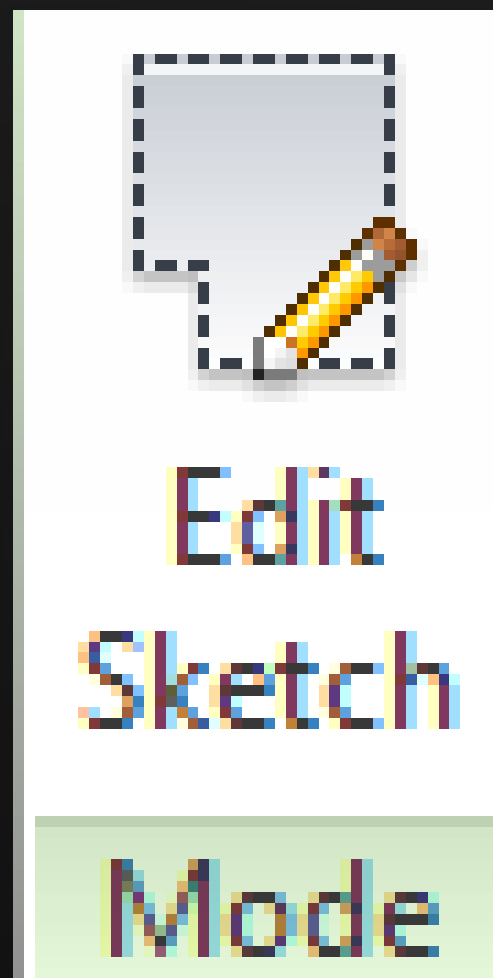
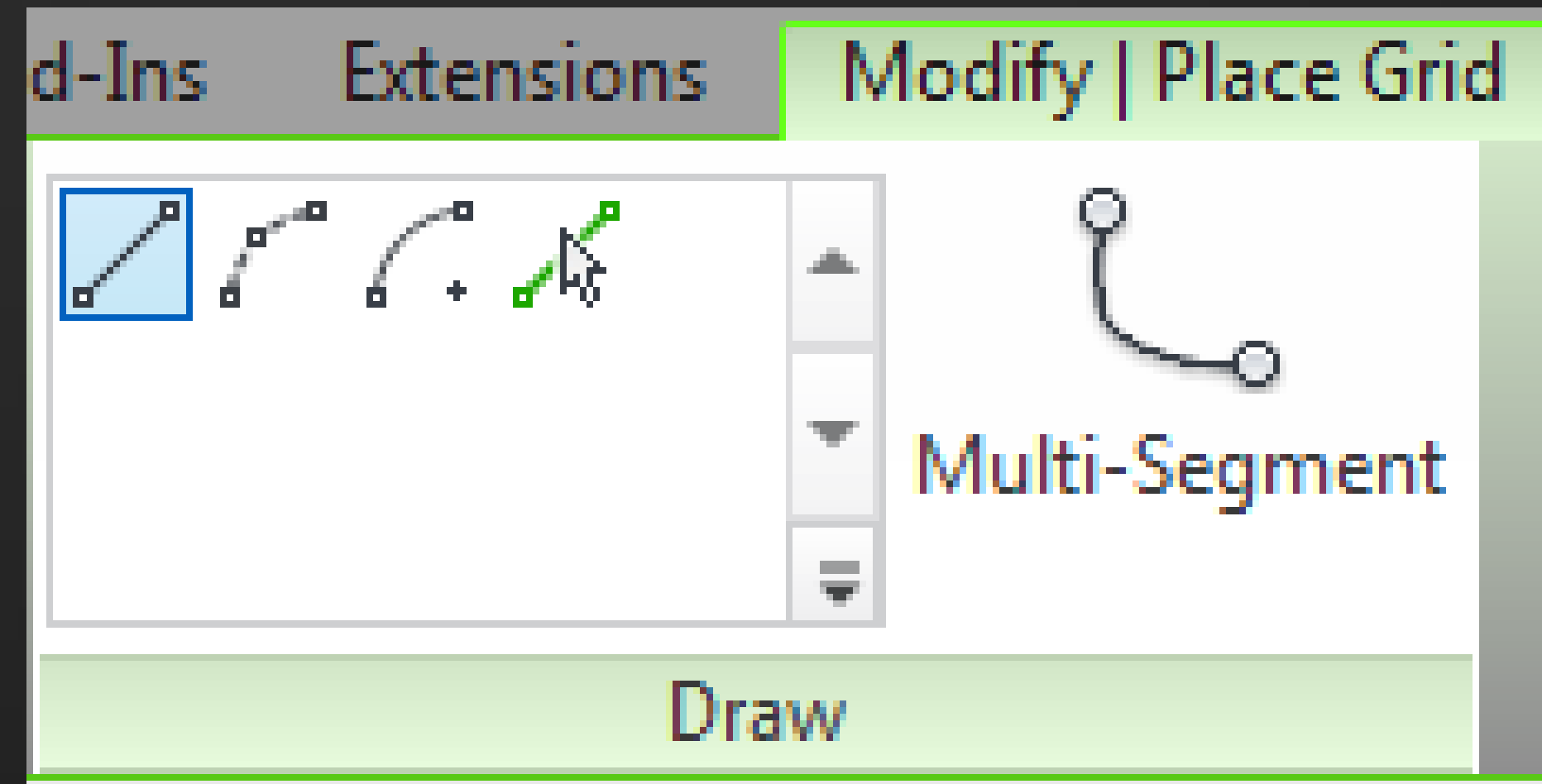
# Visual Style

- Ray Trace
- Interact with Camera in real time
- 64 bit systems only



# Segmented Gridline

- Multi-segment



# Stairs

- Component based

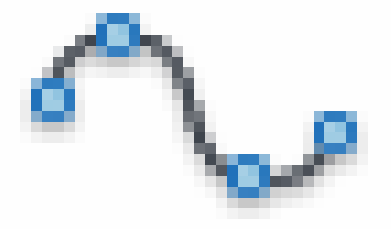
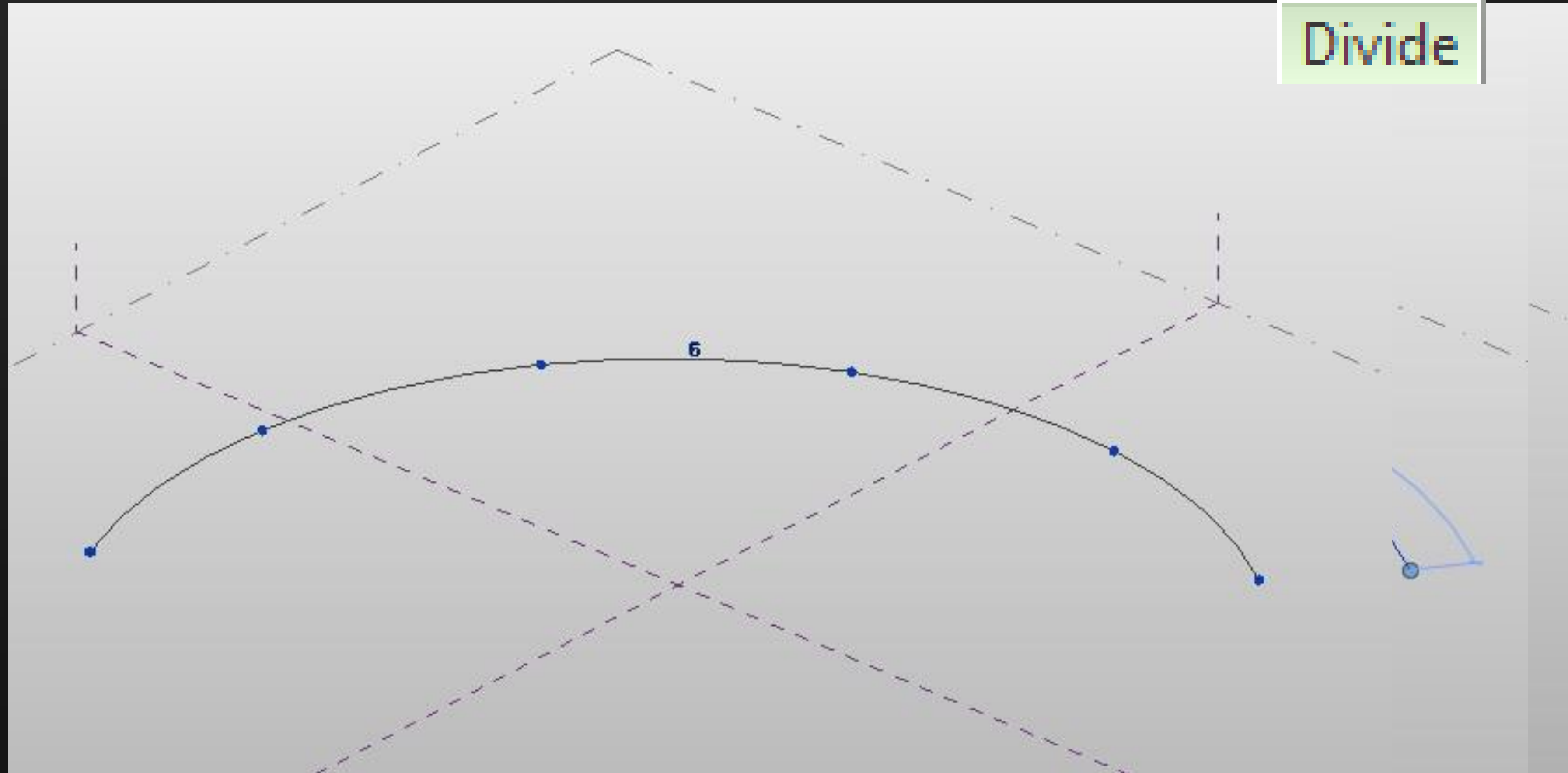
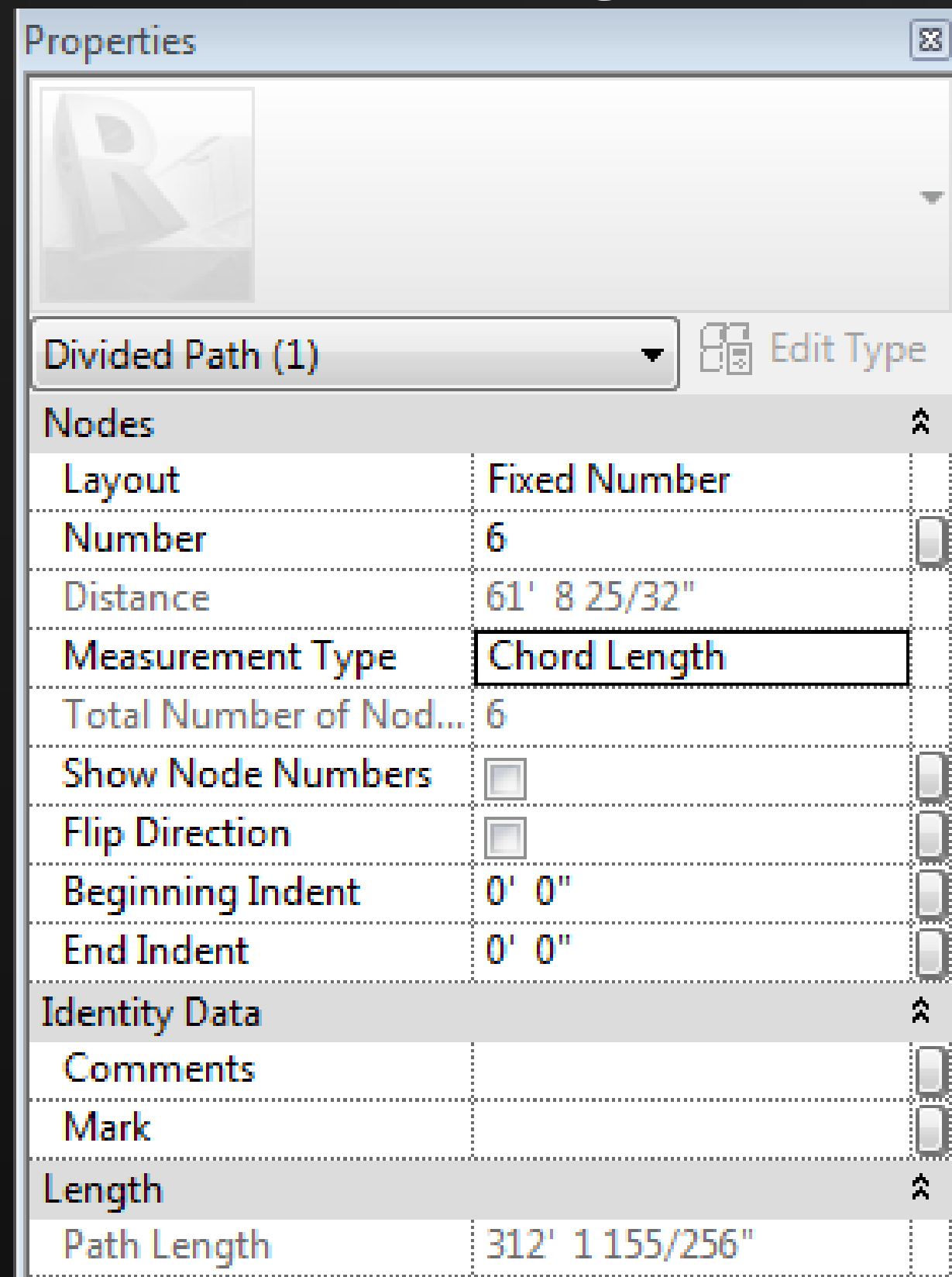


# Railings

- Handrail transitions
- Extensions

# Conceptual Design Environment

- Division placement
- Node edges

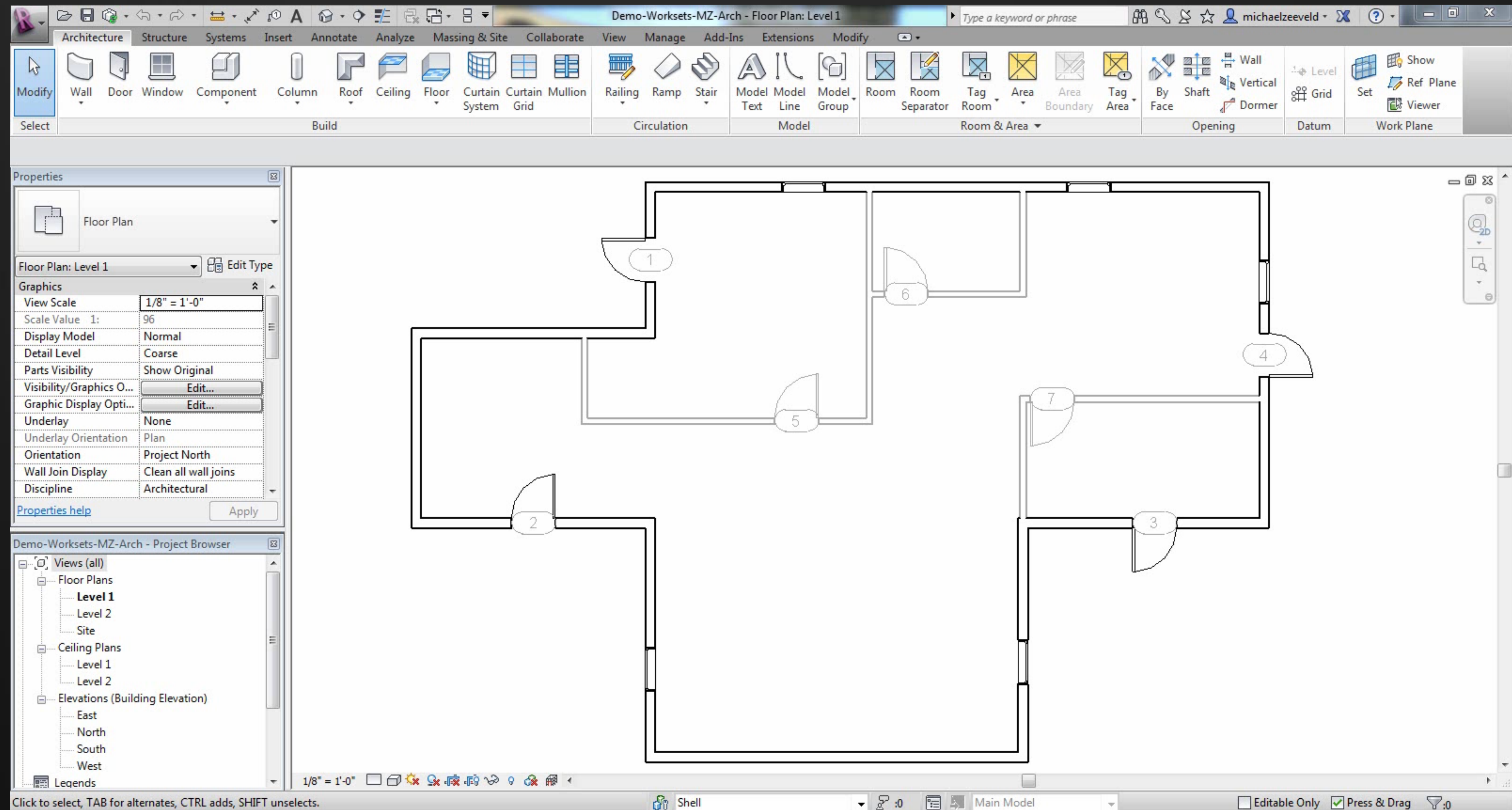


Divide  
Path

Divide

# Worksharing Enhancements

- Edit request
- Dynamic Interactive Notifications





# Import

- DGN
  - V8 support



Import  
CAD

File name: demo\_Documentation-FloorPlan-1STFLOOR\_CALLOUT

Files of type: DGN Files (\*.dgn)

Colors: Preserve

Positioning: Auto - Center to Center

Layers/Levels: Specify...

Place at: FIRST FLOOR

Import units: Auto-Detect 1.000000

☒ Correct lines that are slightly off axis

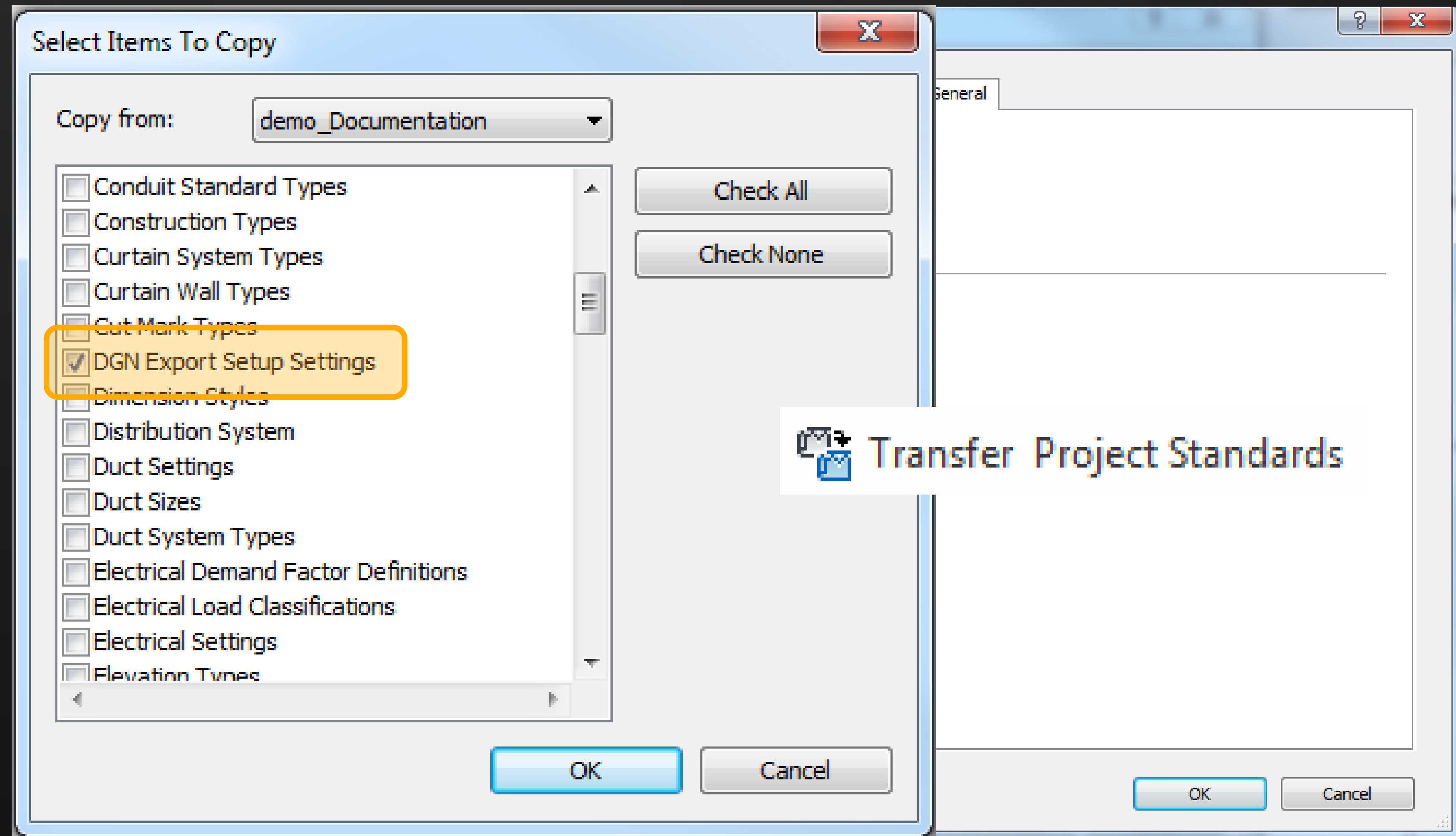
☒ Orient to View

Open Cancel

# Export



- DGN
  - Additional Mapping Functionality
  - V8 Support
  - Save Setups
  - Project Transfer





# IFC: Import / Export

- Reduced surfaces
- Better Performance
- More elements supported
- Reduced file size

## Supported Elements:

Assemblies

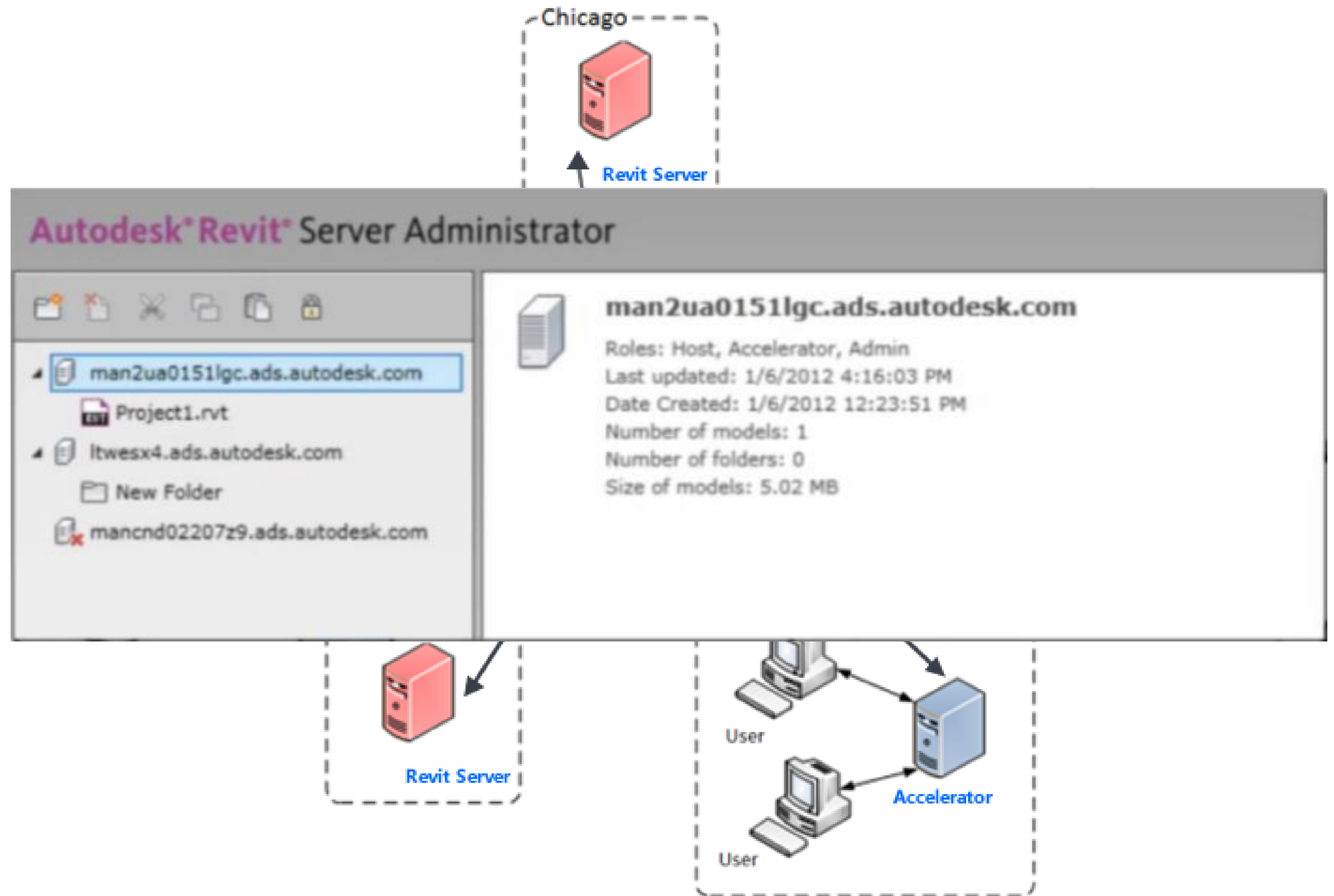
Parts

Curtain walls on  
massing elements

Name	Type	Size
 demo_Documentation	Revit Project	37,428 KB
 demo_Documentation	IAI Industry Foundation Classes File	27,784 KB

# Revit Server

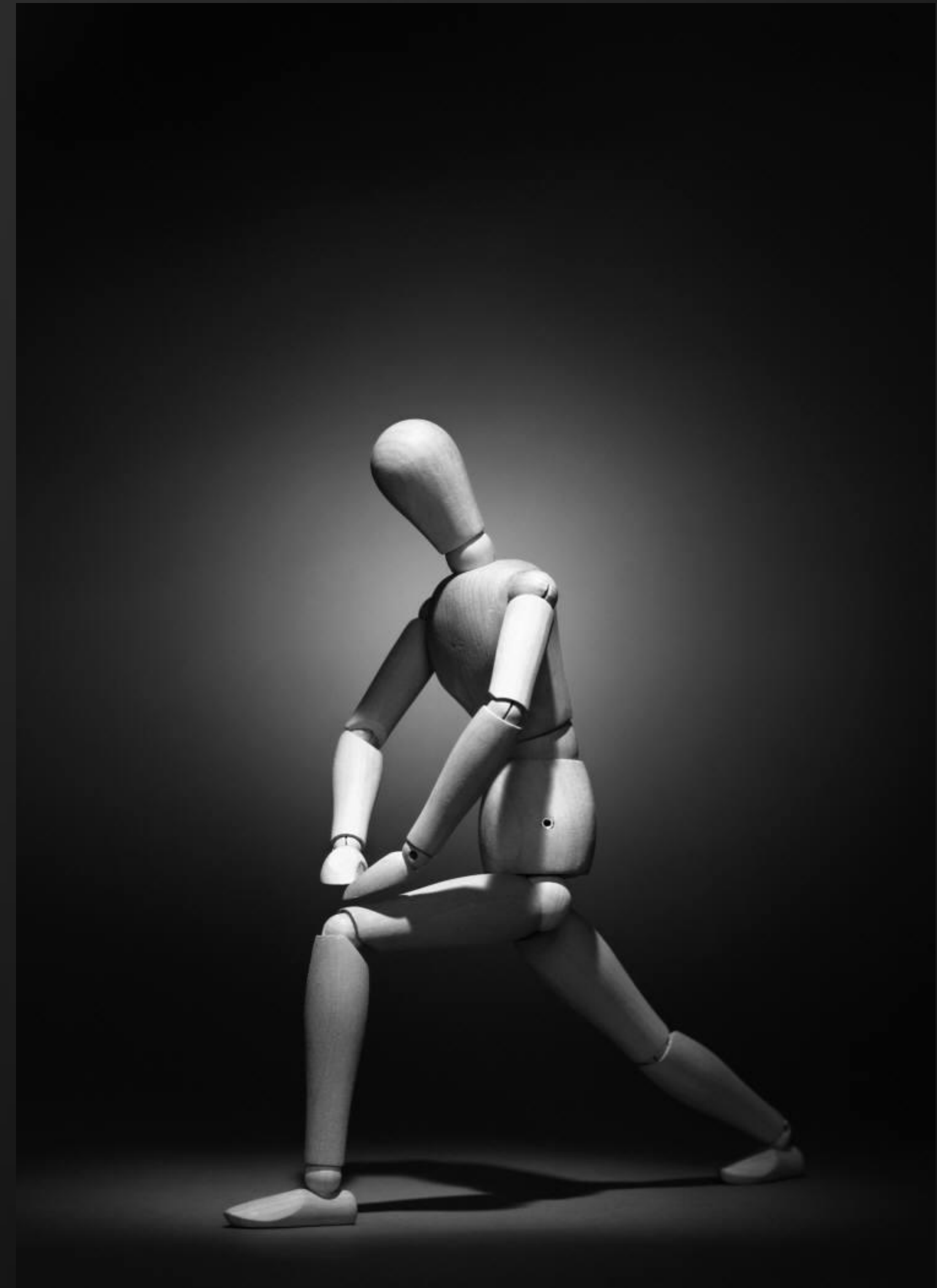
- Multiple Host Servers
- Administrator tools
- Reduced locks
- Vault





# Stretch

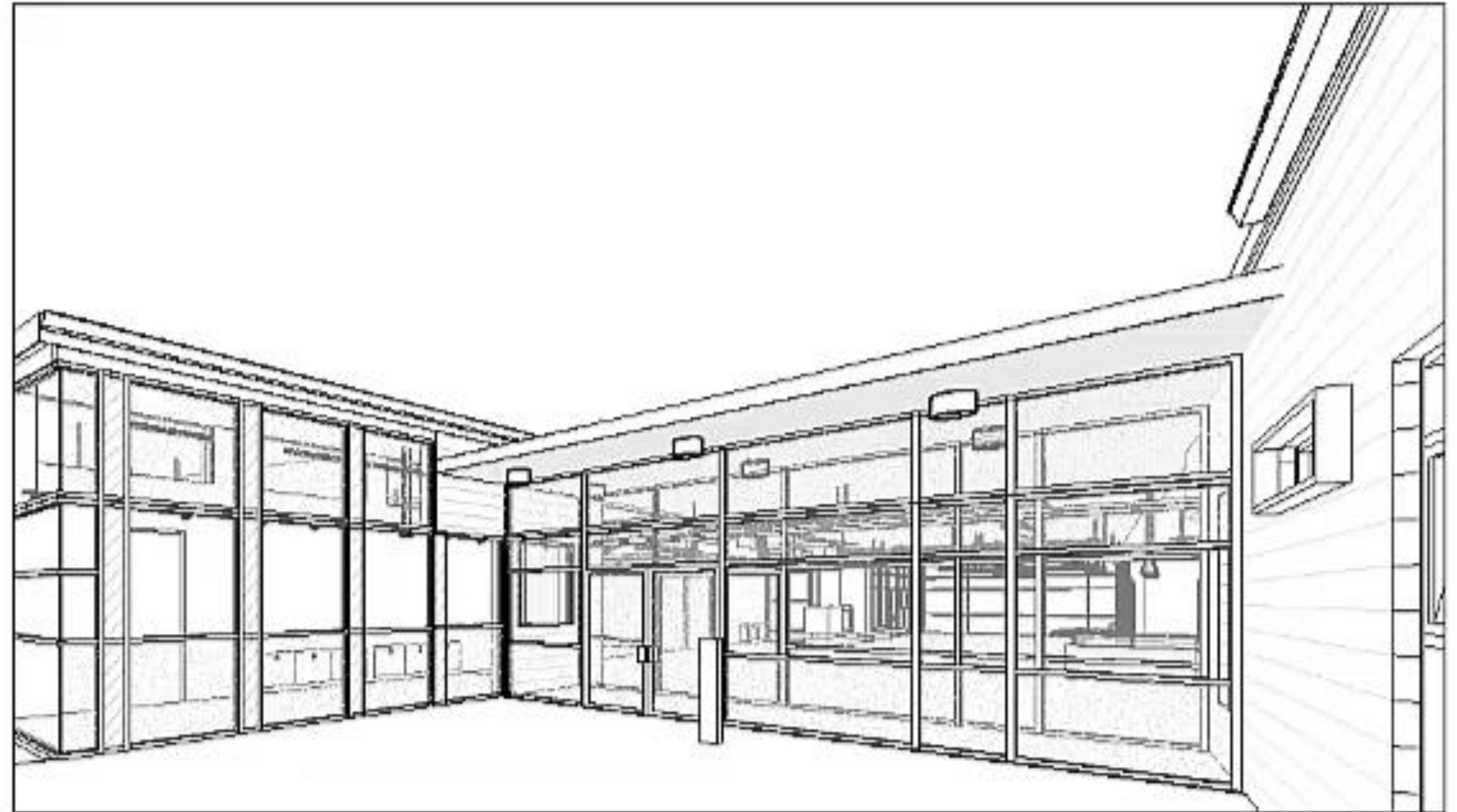
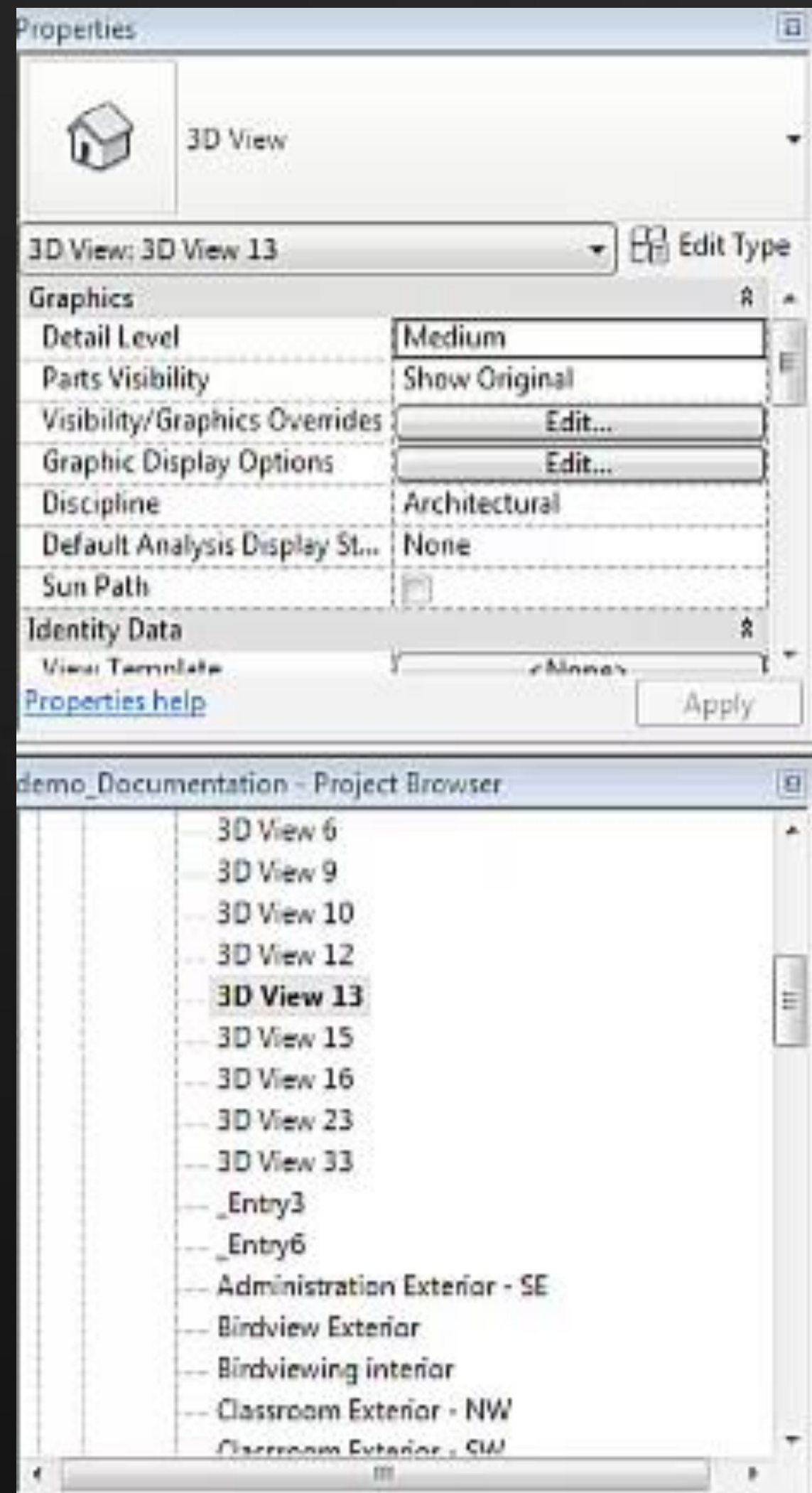
- Get up and stretch out!



# Visualization

# Image background

- Sky

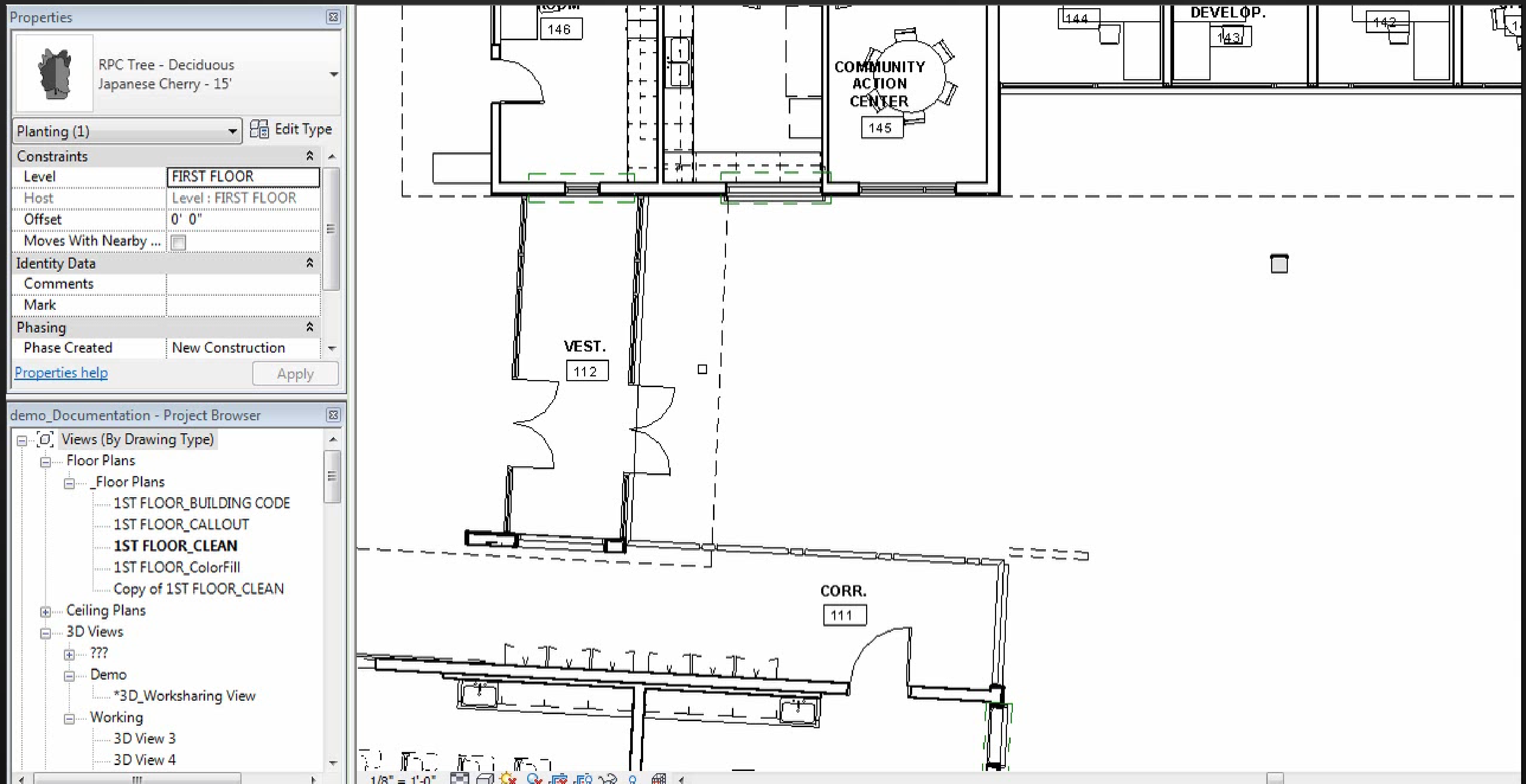


Perspective



# Realistic Foliage Display

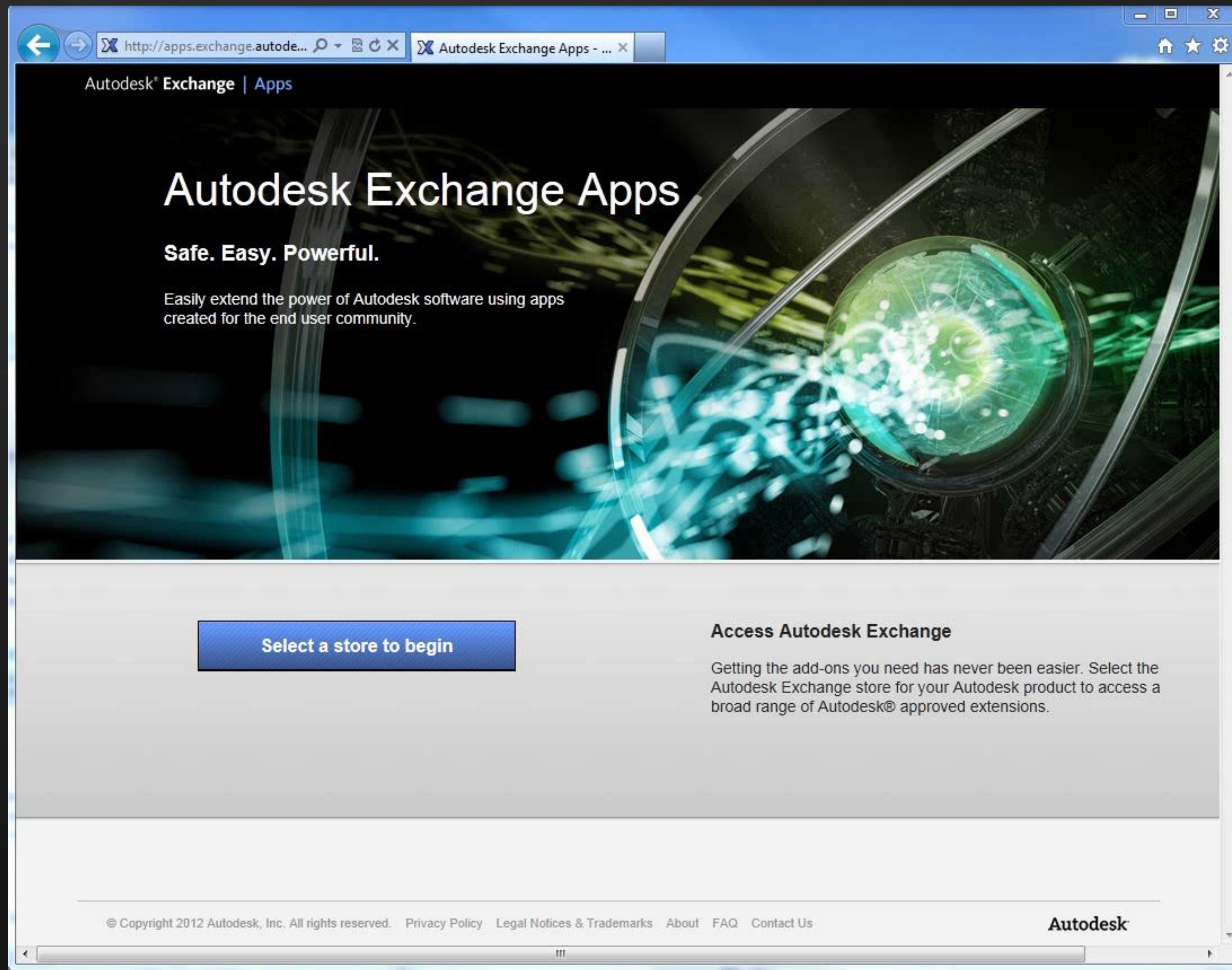
- RPC





# Exchange Apps

- <http://apps.exchange.autodesk.com>





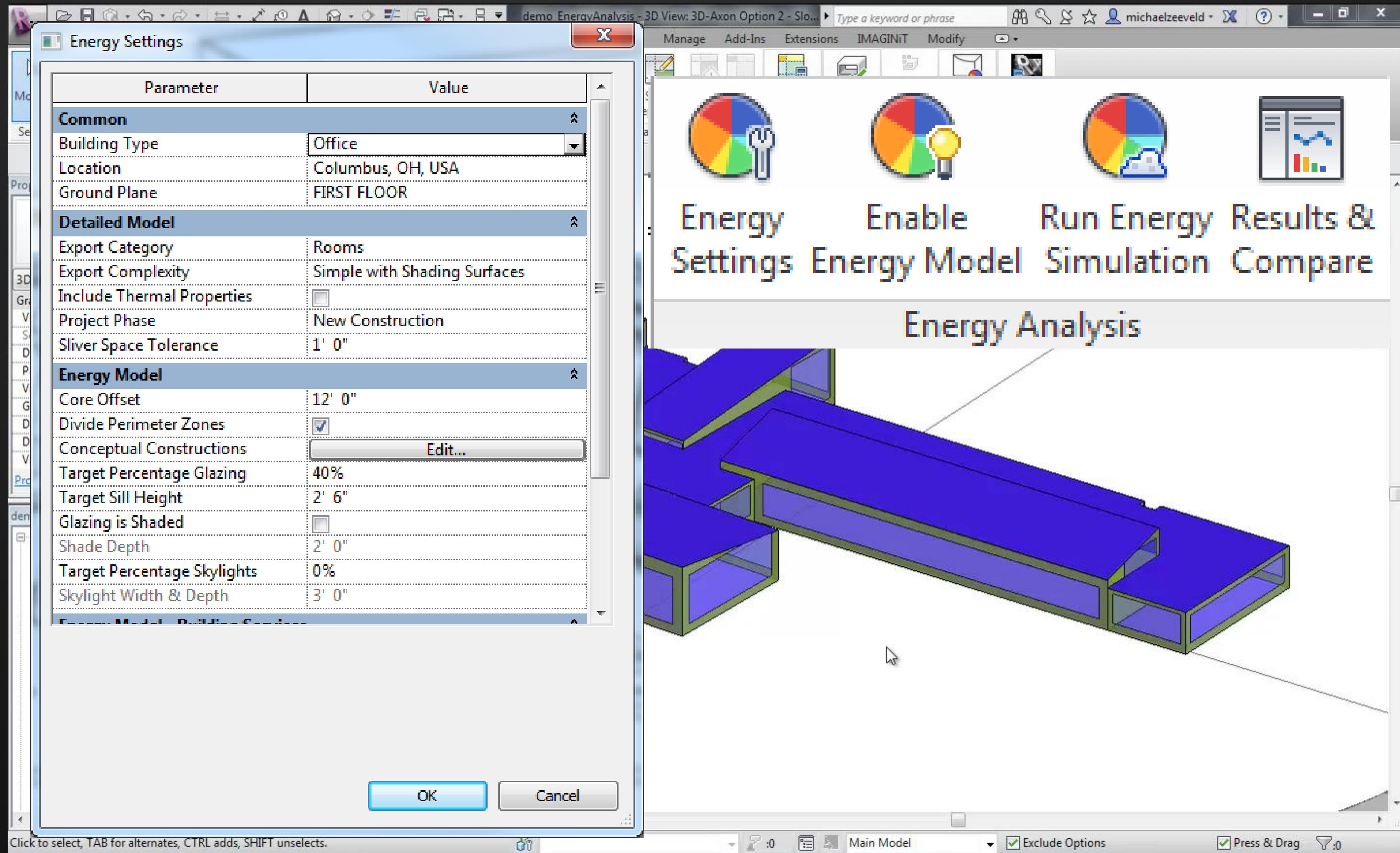
# Autodesk 360 ~ Cloud





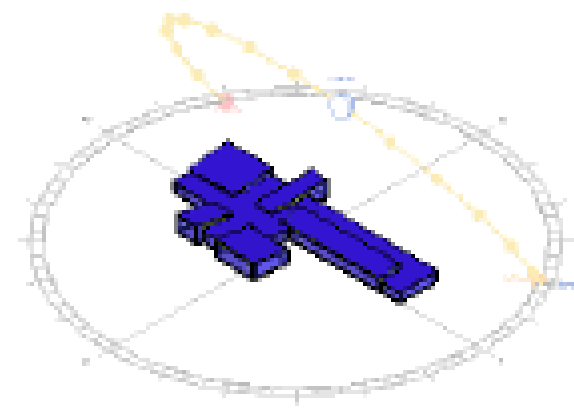
# Analysis

- Energy



# Analysis

- Energy
- Reporting



## Building Performance Factors

Location:	Atlanta, GA, USA
Weather Station:	41715
Outdoor Temperature:	Max: 95°F/Min: 17°F
Floor Area:	19,308 sf
Exterior Wall Area:	15,208 sf
Average Lighting Power:	1.01 W / ft²
People:	63 people
Exterior Window Ratio:	0.58
Electrical Cost:	\$0.09 / kWh
Fuel Cost:	\$1.05 / Therm

## Energy Use Intensity

Electricity EUI:	14 kWh / sf / yr
Fuel EUI:	21 kBtu / sf / yr
Total EUI:	69 kBtu / sf / yr

## Life Cycle Energy Use/Cost

Life Cycle Electricity Use:	8,156,526 kWh
Life Cycle Fuel Use:	119,648 Therms
Life Cycle Energy Cost:	\$393,097

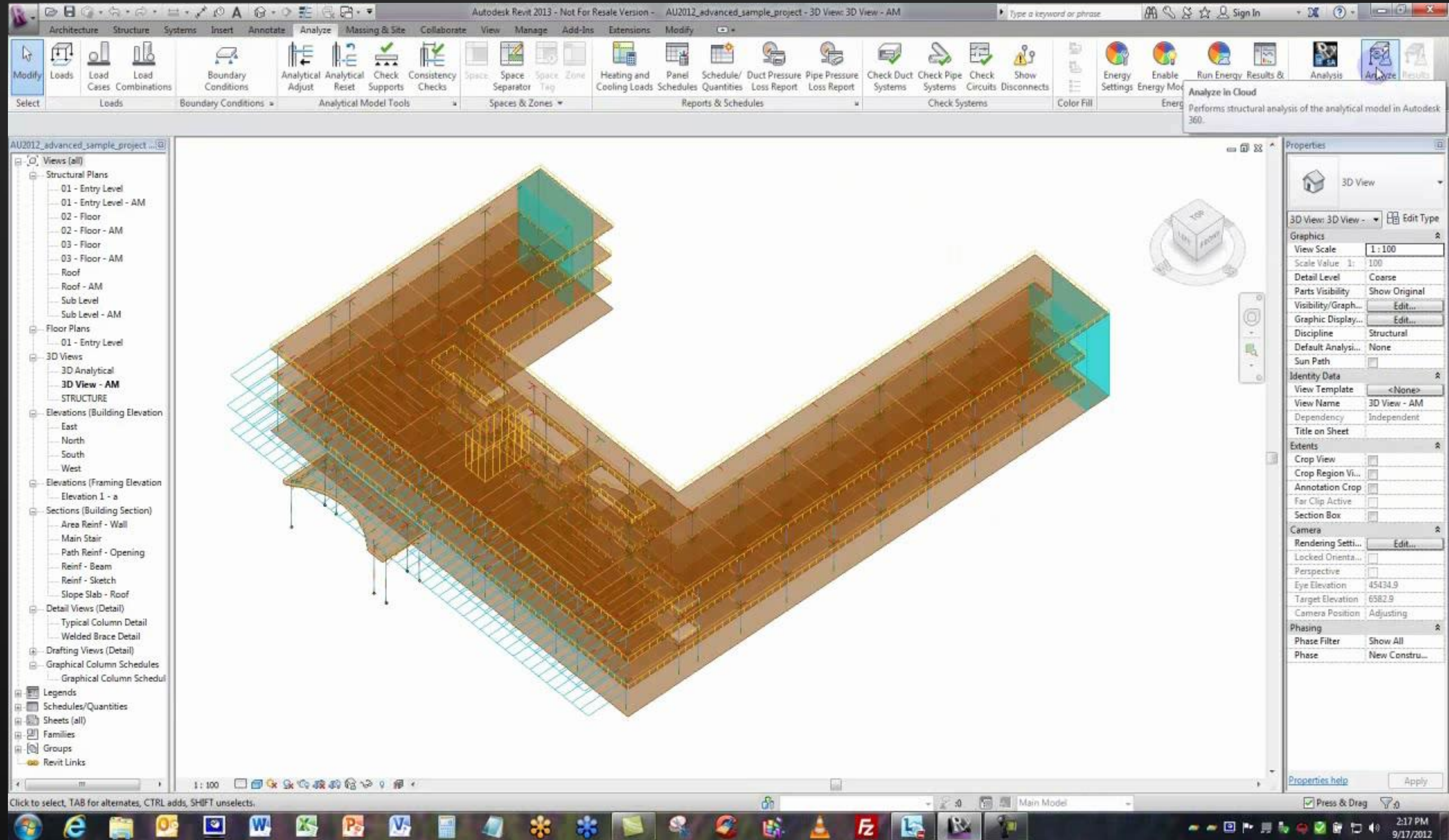
\*30-year life and 6.1% discount rate for costs





# Analysis

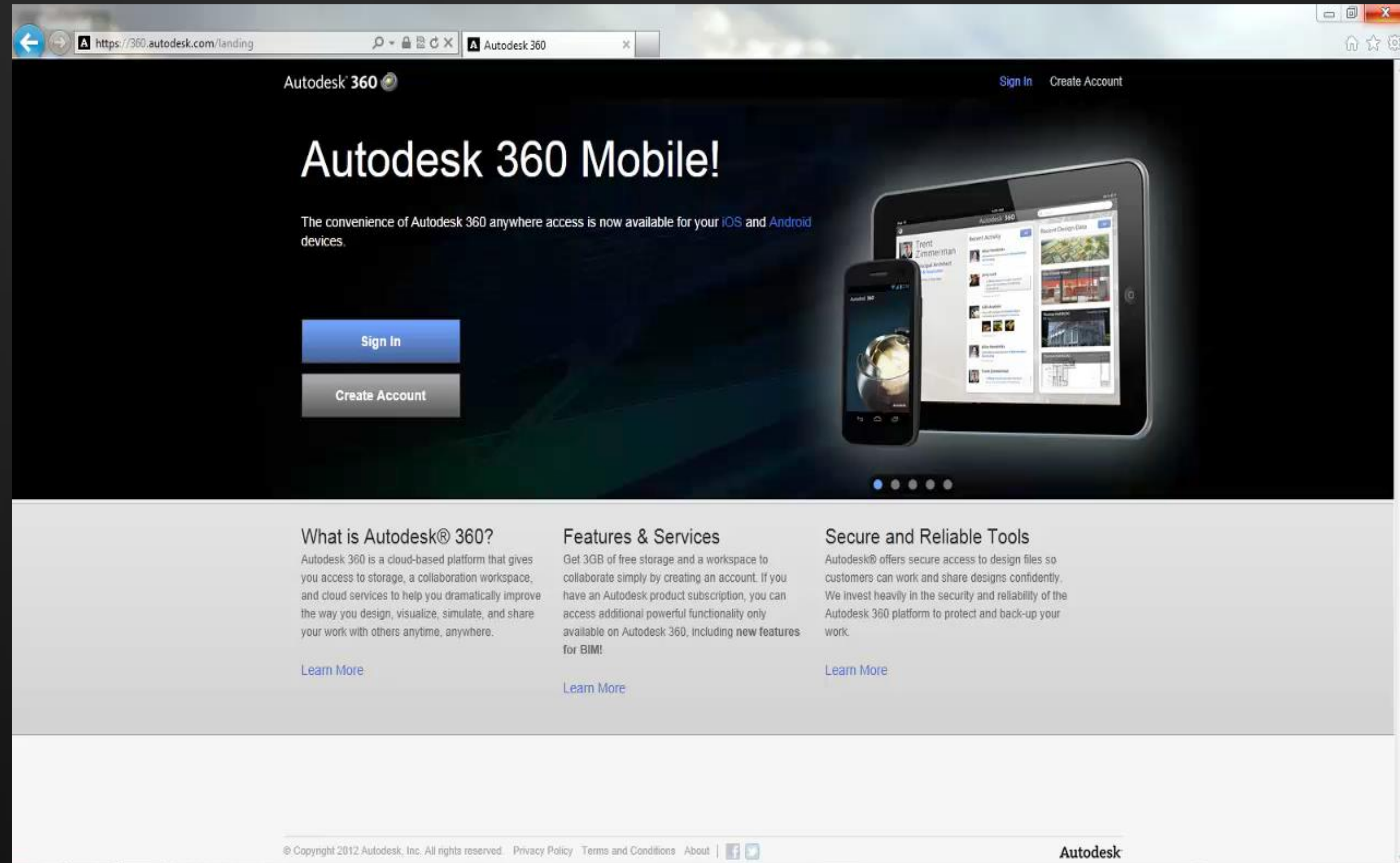
- Structural





# 360 Cloud

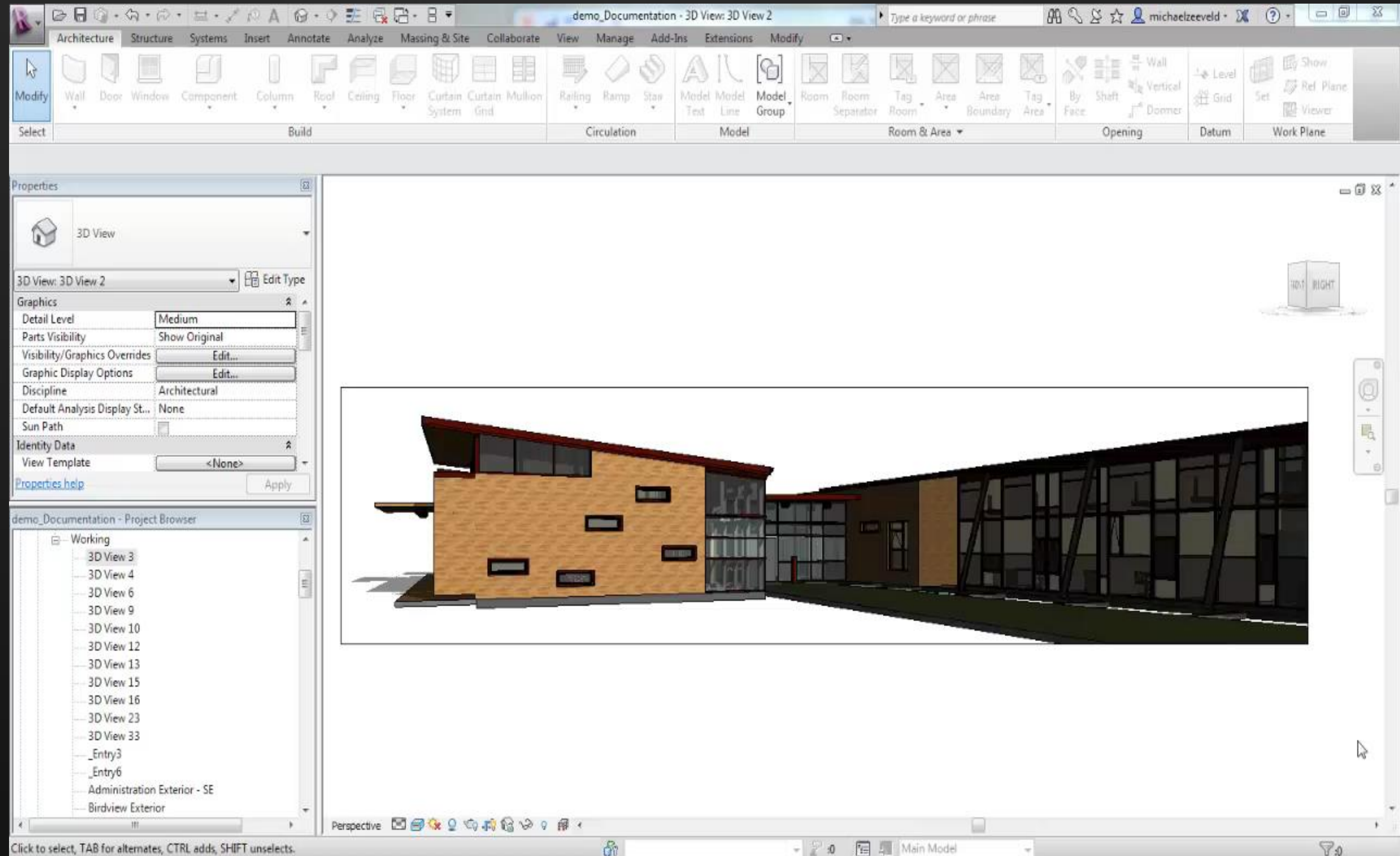
- Collaboration
- Sharing
- Editing





# 360 Cloud

- Rendering



# Summary

You will be able to:

- Be familiar with the new features, concepts and benefits of Building Information Modeling.
- Understand the fundamental concepts and features of Autodesk Revit Architecture 2013.
- Use the parametric 3D design tools to start designing projects.
- Develop an initial level of comfort and confidence with the new tools in Autodesk Revit Architecture 2013 through hands-on experience.



# Additional Resources

- F1 Help
- Autodesk Wikihelp
  - <http://wikihelp.autodesk.com/Revit/enu/2013>
- Autodesk Channel
  - <http://www.youtube.com/user/autodesk>

Support Knowledge Base

Revit Web Content Library

[Autodesk.com/revit](http://Autodesk.com/revit)

The image shows two screenshots side-by-side. The left screenshot is a YouTube channel page for 'Revit Essential Skills Videos' by Autodesk Building Solutions. It features a list of five videos: 'Autodesk Revit: Getting Started' (1:24), 'Autodesk Revit: Managing View Windows' (1:26), 'Autodesk Revit: Controlling Visibility and Graphic Display' (2:17), 'Autodesk Revit: Creating Section Views' (0:58), and 'Autodesk Revit: Creating Elevation Views' (1:16). The right screenshot is the Autodesk Wikihelp website for Revit 2013. It includes a search bar, a 'Community Learning' section with two steps (Find and share information, Contribute knowledge), a 'Browse Help' section with links to Revit Help, New in Revit 2013, Technical Support, Video Galleries, More Information, API Developer's Guide, and Creating Loadable Families. It also has an 'Add Knowledge' section with links to Articles, Curriculum, Examples, Links and Resources, Sandbox, Tips and Tricks, Troubleshooting, Tutorials, and Videos. A 'Most Popular' section lists various topics and their view counts, such as 'Tutorials' (99139 views) and 'New in Revit 2013' (77610 views).

YouTube

Revit Essential Skills Videos  
by Autodesk Building Solutions

87 videos 2:38:22 duration 14,822 views

Like Share Hangout 26 likes, 0 dislikes

Autodesk Revit: Getting Started  
by AutodeskBuilding 26,032 views 1:24

Autodesk Revit: Managing View Windows  
by AutodeskBuilding 3,935 views 1:26

Autodesk Revit: Controlling Visibility and Graphic Display  
by AutodeskBuilding 3,945 views 2:17

Autodesk Revit: Creating Section Views  
by AutodeskBuilding 4,357 views 0:58

Autodesk Revit: Creating Elevation Views  
by AutodeskBuilding 7,129 views 1:16

About Autodesk Building Solutions

29 playlists by Autodesk Building Solutions  
View all videos  
2,021,673 views  
7,754 subscribers

Subscribe

Featured Playlists

Autodesk BIM 360  
by Autodesk Building Solutions 24 videos

BIM for Construction  
by Autodesk Building Solutions 10 videos

Design with Insight  
by Autodesk Building Solutions 12 videos

Revit 2013  
Online help for Revit, Revit Architecture, Revit Structure, and Revit MEP

Community Learning

1 Find and share information.

2 Contribute knowledge.

How to add your knowledge

Browse Help

- Revit Help
- New in Revit 2013
- Technical Support
- Video Galleries
- More Information
- API Developer's Guide
- Creating Loadable Families

Add Knowledge

- Articles
- Curriculum
- Examples
- Links and Resources
- Sandbox
- Tips and Tricks
- Troubleshooting
- Tutorials
- Videos

Most Popular

Tutorials	99139 views
New in Revit 2013	77610 views
Tips and Tricks	38587 views
Building a Revit Template	28622 views
Autodesk® Revit® System Requirements and Recommendations	26564 views
Placing Duct	26234 views
2011 Revit Architecture - Video Tutorials 1/3 - Getting Started (ENU)	21363 views

# Questions





# Thank you!

- Please remember to fill out your surveys





