A DVANCED
C ONSTRUCTION
I NFORMATION
D EVELOPMENT

Annex 9 Building Information Modelling (BIM) for Landscape Architect (Part 2)

Autodesk Navisworks

Presented by

David Fung

▪ Introduction to Navisworks File System

	Autodesk Navisworks Freedom	Autodesk Navisworks Simulate	Autodesk Navisworks Manage
Project viewing	✓	✓	✓
Project Review		✓	✓
Simulation and Analysis		✓	✓
Coordination			✓
Remarks	Open NWD only	× Clash Detection	

Navisworks file types

NWC (Navisworks Cache File)

- interpreter between Navisworks and other software

NWF (Navisworks File Set)

- contain links to the original native files (as listed on the Selection Tree) together with Autodesk Navisworks-specific data, such as review markups

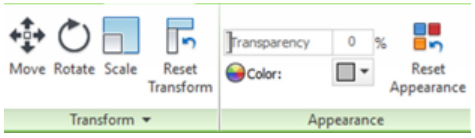
- no model geometry is saved

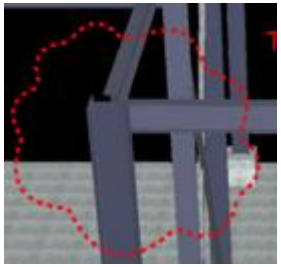
NWD (Navisworks Model)

- contain all model geometry with Autodesk Navisworks-specific data, such as review markups

▪ Navisworks file types

NWC (Navisworks Cache File)

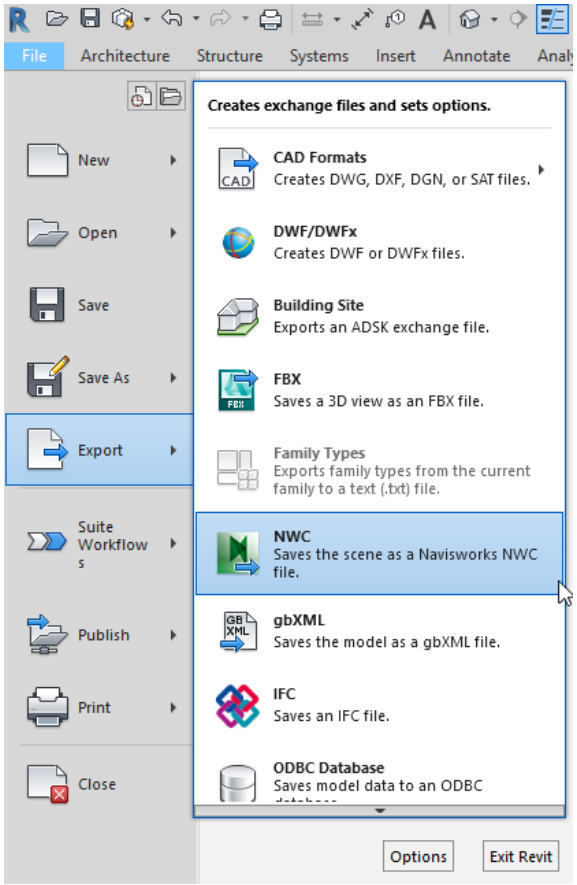


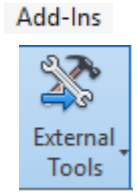


NWF (Navisworks File Set)

NWD (Navisworks Model)

▪ Export from Revit to Navisworks (NWC)





Navisworks 2018

Navisworks SwitchBack 2018

Autodesk Navisworks NWC Export Utility

Download free Navisworks 3D viewer

The distributable NWC file exporter enables project teams using Navisworks software to generate whole-project models for simulation and analysis. Team members can generate the optimised NWC file directly from design applications without the need for a licensed seat of Navisworks. The NWC exporter works with a range of products, including AutoCAD and Revit software-based products, as well as 3ds Max, Bentley MicroStation and Graphisoft ArchiCAD software. The NWC file format supports transfer of both object geometry and associated metadata.

Follow these steps to install the Navisworks NWC exporter:

1. Download Autodesk Navisworks NWC File Export Utility

2019: NavisworksExporters2019.exe

2018: NavisworksExporters2018.exe

2017: NavisworksExporters2017.exe

2016: NavisworksExporters2016.exe

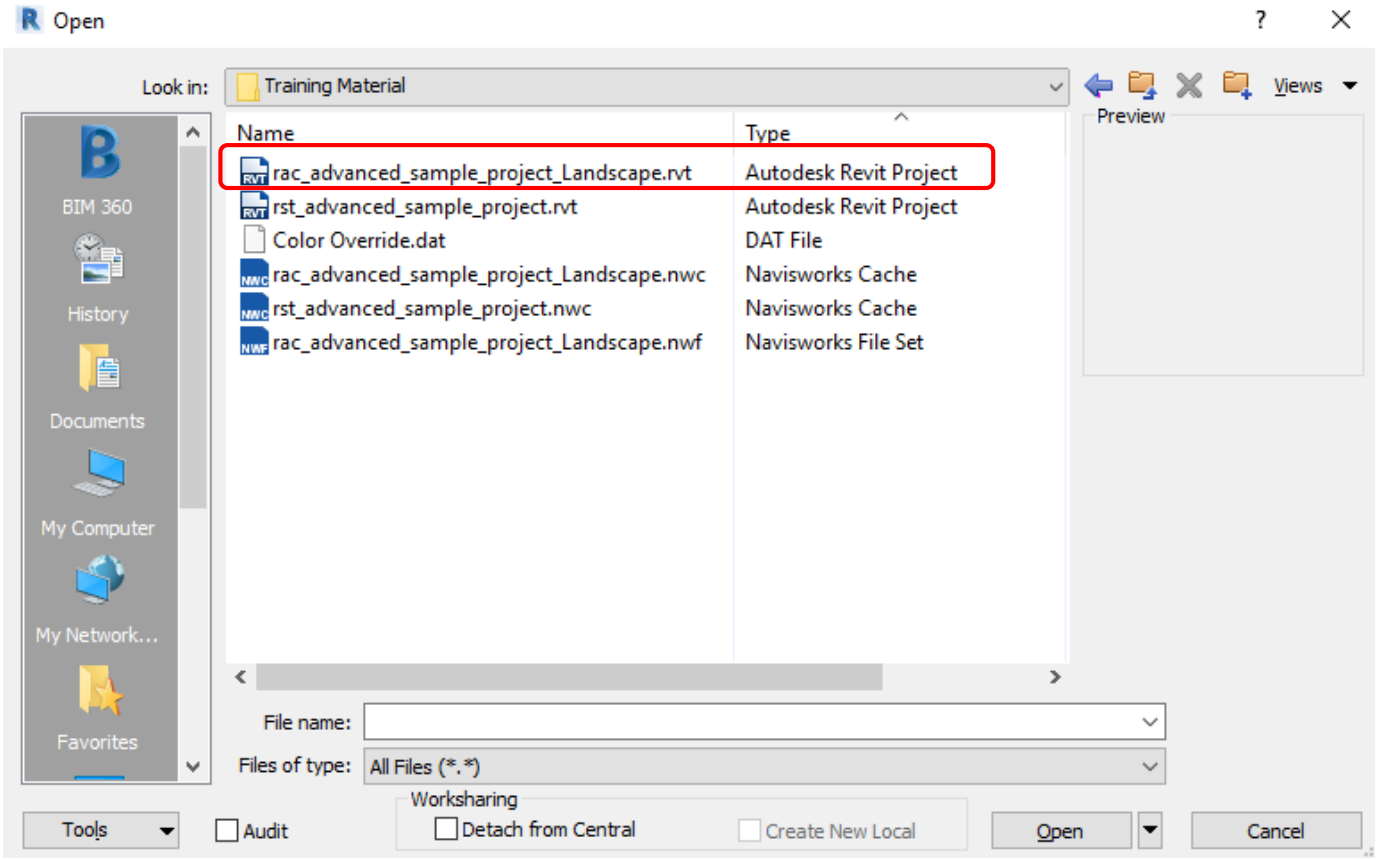
2015: NavisworksExporters2015.exe

2014: NavisworksExporters2014.exe

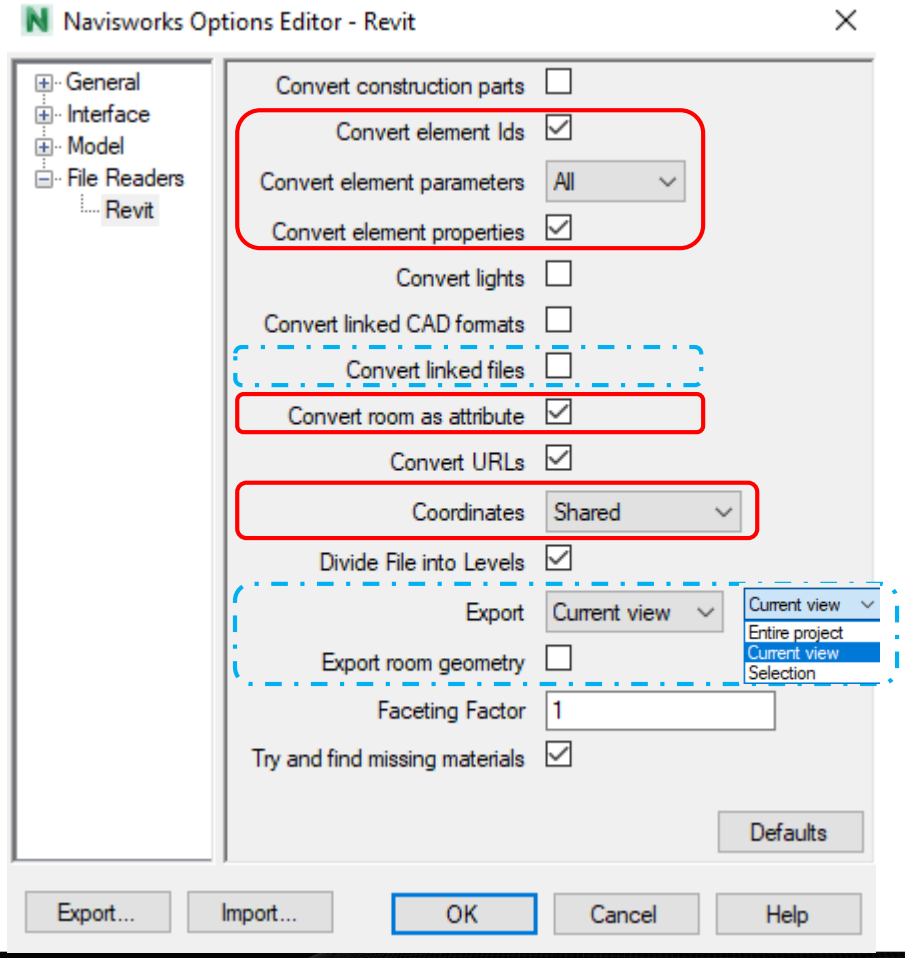
2013: NavisworksExporters2013.exe

https://www.autodesk.co.uk/products/navisworks/autodesk-navisworks-nwc-export-utility

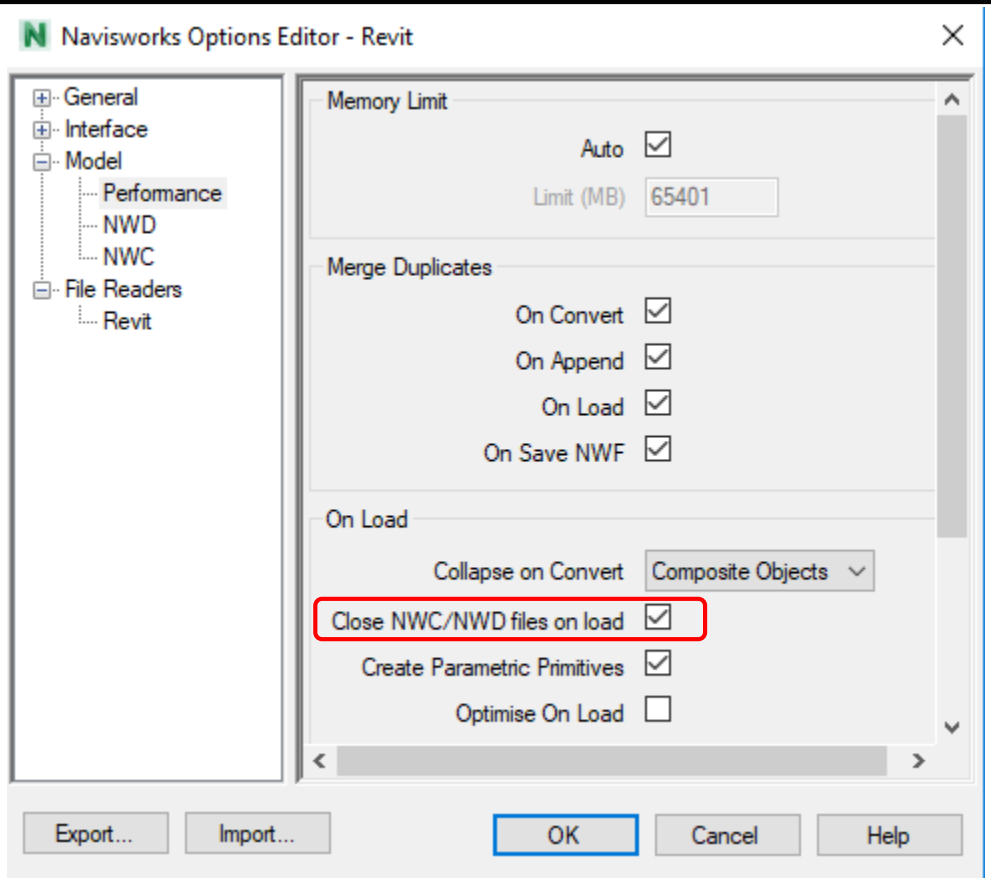
▪ Export from Revit to Navisworks (NWC)



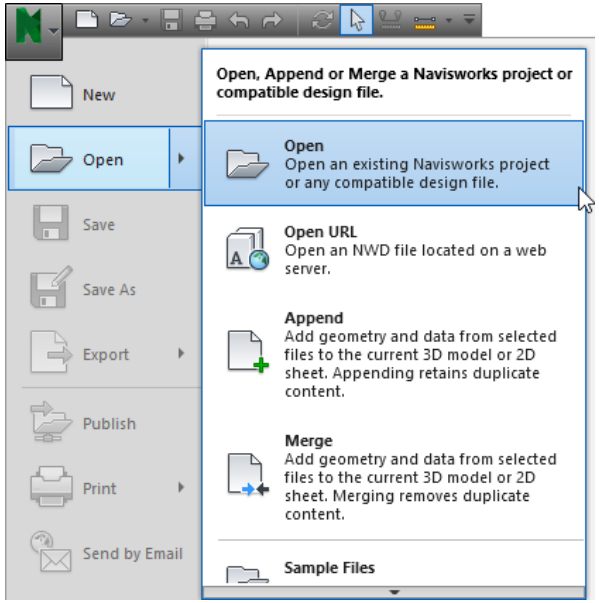
▪ Export from Revit to Navisworks (NWC)

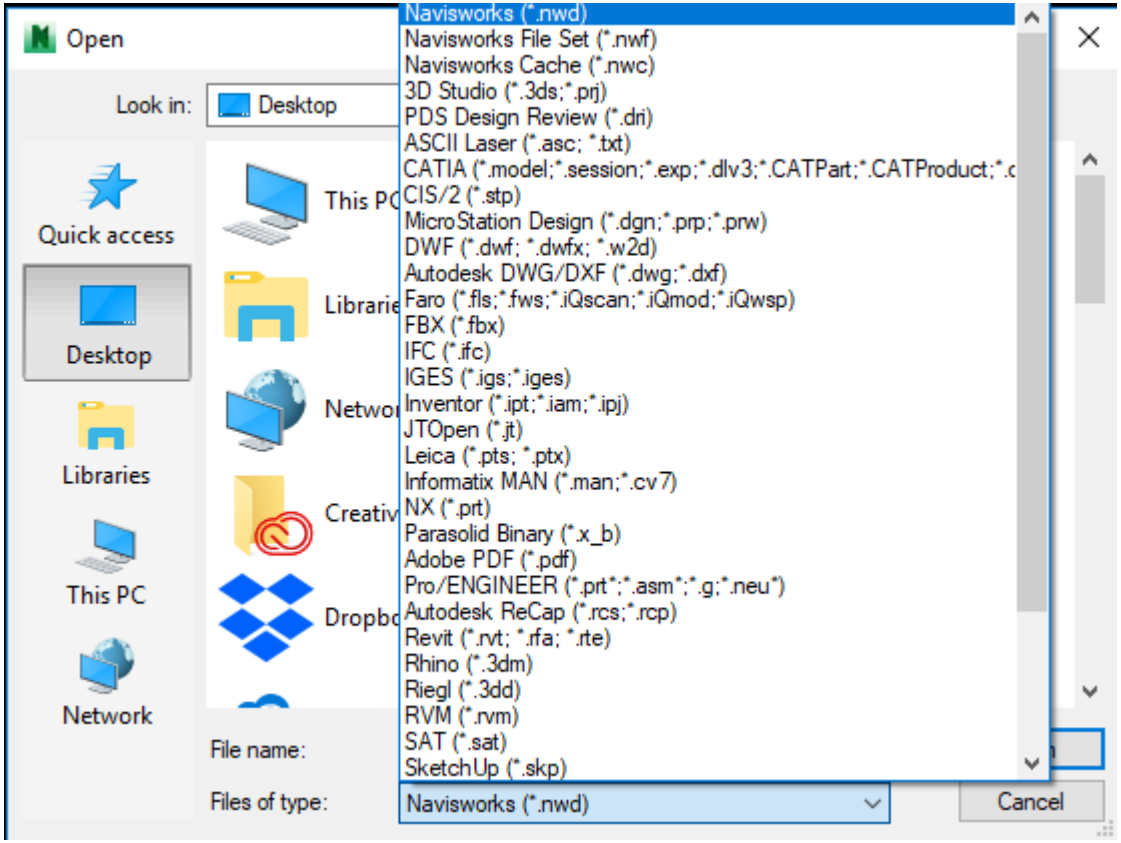


▪ Export from Revit to Navisworks (NWC)

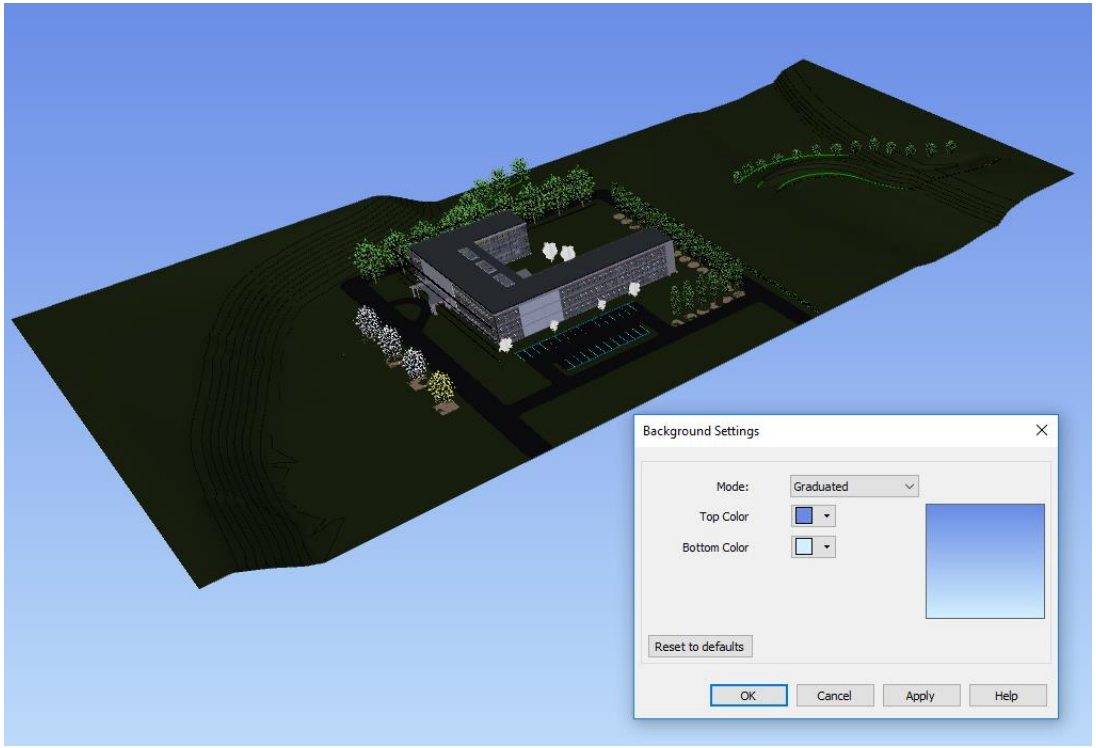


▪ Open File

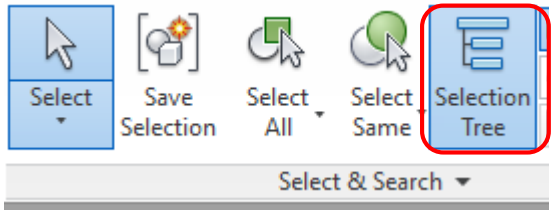

New
Open
Save
Save As
Export
Publish
Print
Send by Email
Open, Append or Merge a Navisworks project or compatible design file.
Open
Open an existing Navisworks project or any compatible design file.
Open URL
Open an NWD file located on a web server.
Append
Add geometry and data from selected files to the current 3D model or 2D sheet. Appending retains duplicate content.
Merge
Add geometry and data from selected files to the current 3D model or 2D sheet. Merging removes duplicate content.
Sample Files

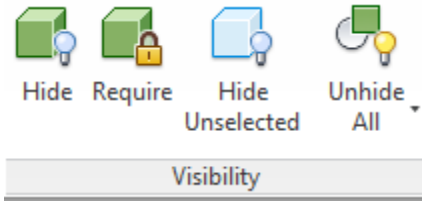

Open
Look in:
Desktop
Quick access
Desktop
Libraries
This PC
Network
File name:
Files of type:
Navisworks (*.nwd)
Cancel
Navisworks (*.nwd)
Navisworks File Set (*.nwf)
Navisworks Cache (*.nwc)
3D Studio (*.3ds;*.prj)
PDS Design Review (*.dri)
ASCII Laser (*.asc; *.txt)
CATIA (*.model;*.session;*.exp;*.dlv3;*.CATPart;*.CATProduct;*.c
CIS/2 (*.stp)
MicroStation Design (*.dgn;*.prp;*.prw)
DWF (*.dwf; *.dwfx; *.w2d)
Autodesk DWG/DXF (*.dwg;*.dxf)
Faro (*.fls;*.fws;*.iQscan;*.iQmod;*.iQwsp)
FBX (*.fbx)
IFC (*.ifc)
IGES (*.igs;*.iges)
Inventor (*.ipt;*.iam;*.ipj)
JTOpen (*.jt)
Leica (*.pts; *.ptx)
Informatix MAN (*.man;*.cv7)
NX (*.prt)
Parasolid Binary (*.x_b)
Adobe PDF (*.pdf)
Pro/ENGINEER (*.prt*;*.asm*;*.g;*.neu*)
Autodesk ReCap (*.rcs;*.rcp)
Revit (*.rvt; *.rfa; *.rte)
Rhino (*.3dm)
Riegl (*.3dd)
RVM (*.rvm)
SAT (*.sat)
SketchUp (*.skp)

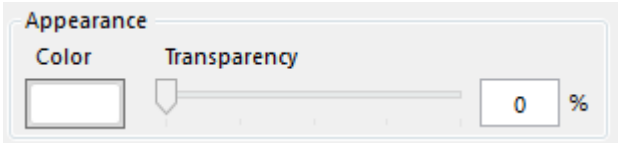
Background Setting



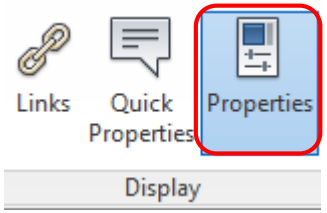
▪ Dealing with Objects

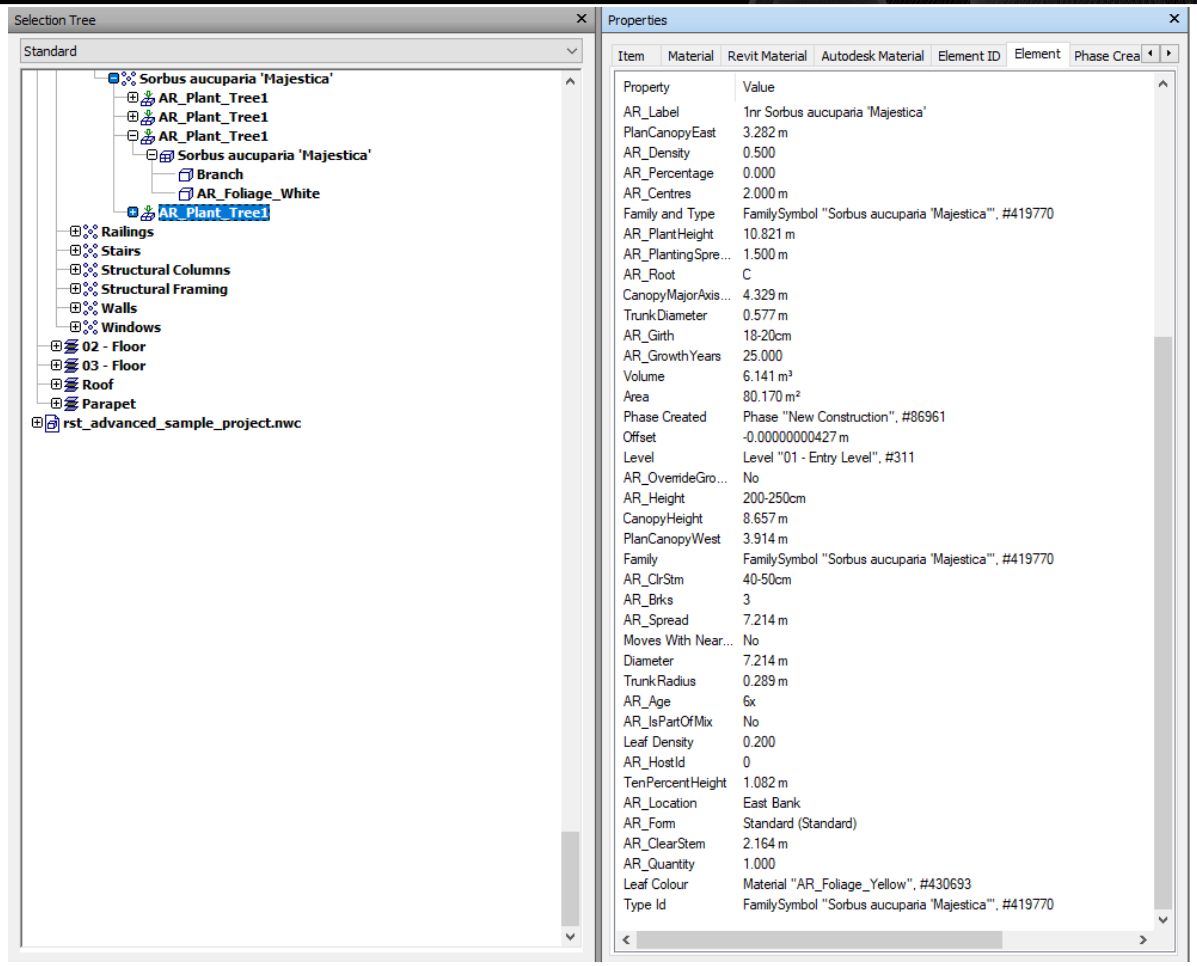




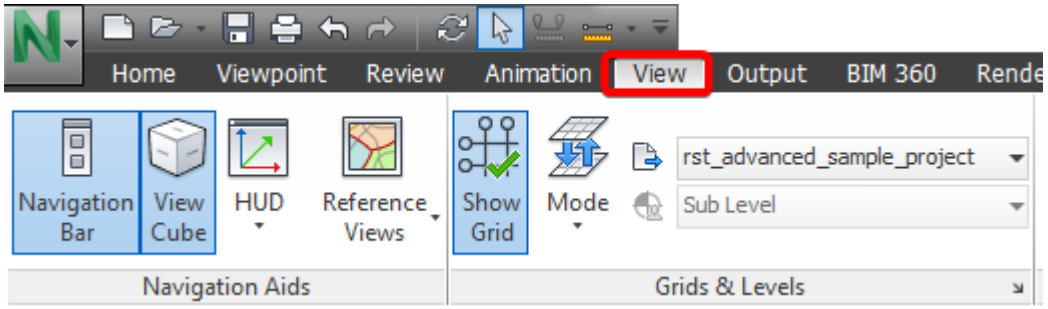


▪ Dealing with Objects

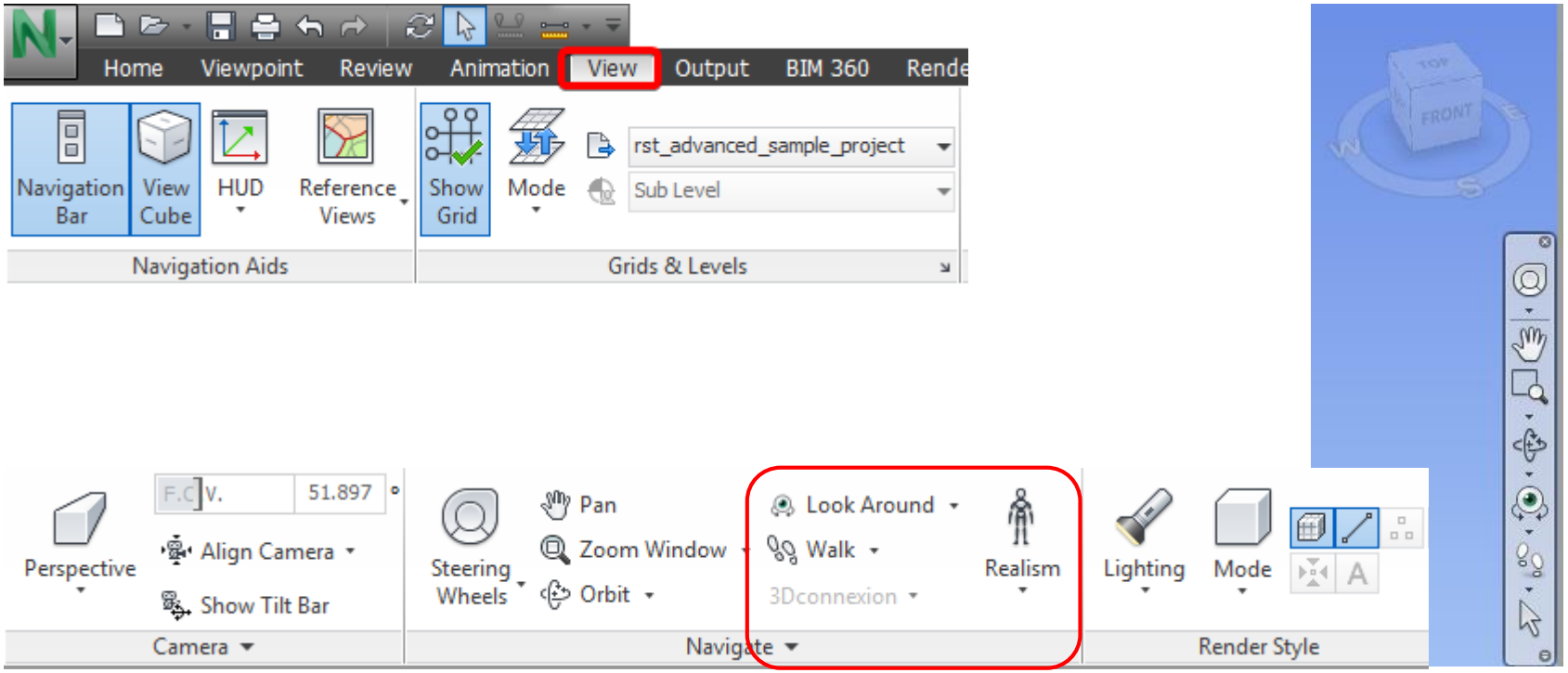




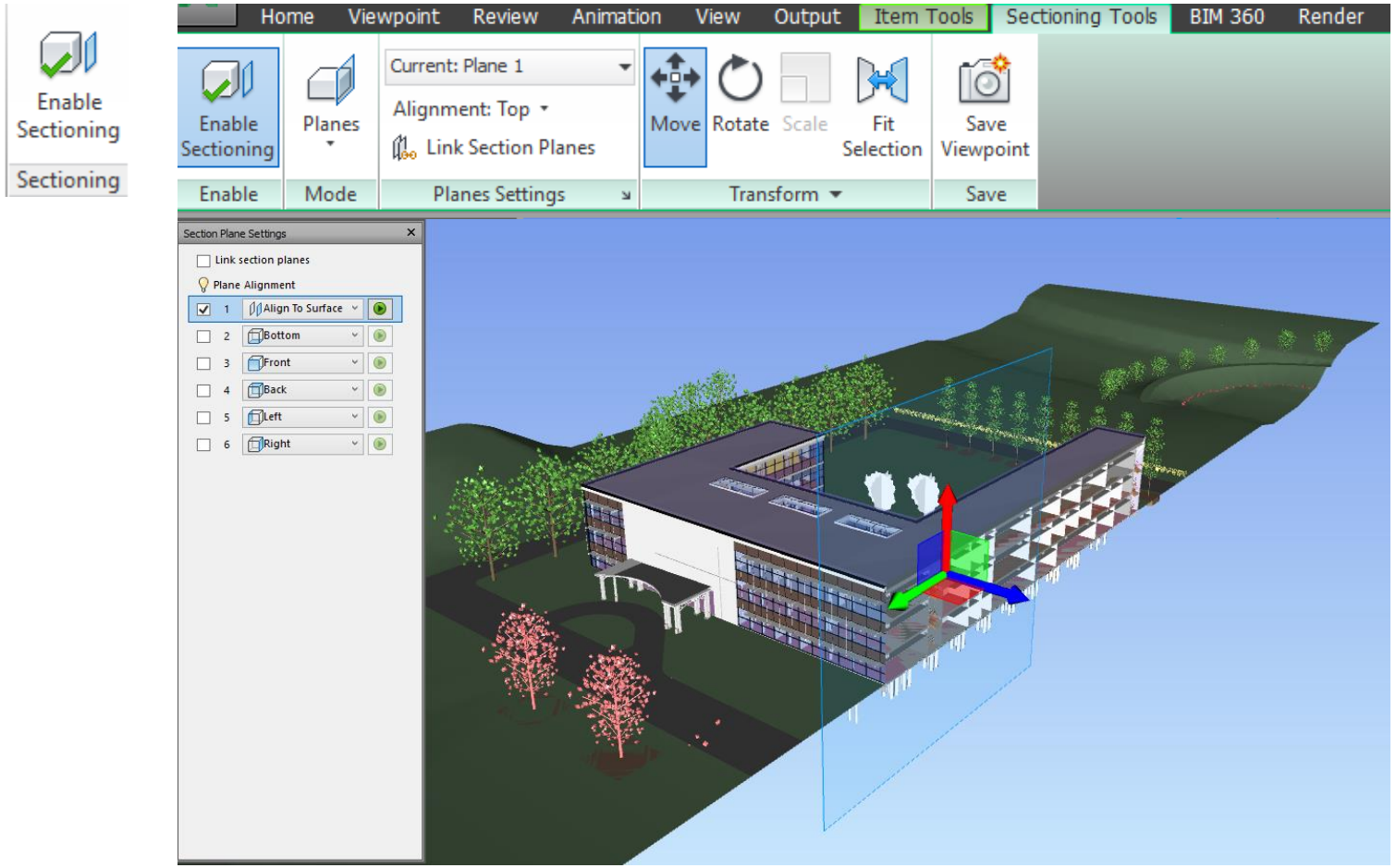
▪ Render Style



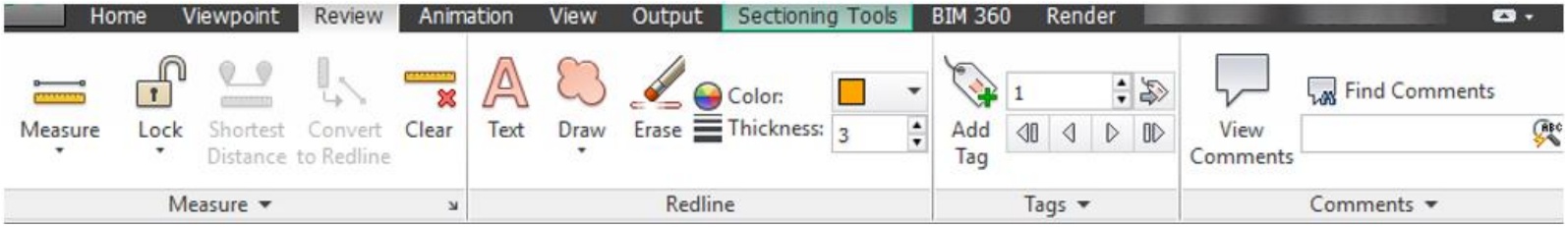
▪ Navigate 3D Model



Section View



▪ Mark-up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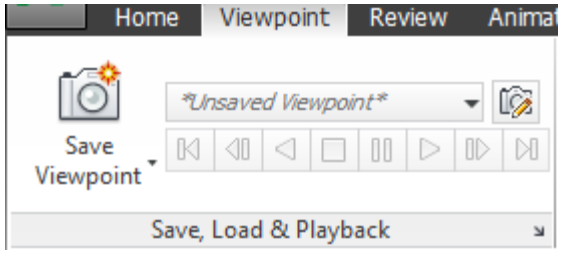
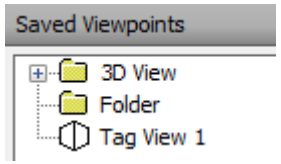
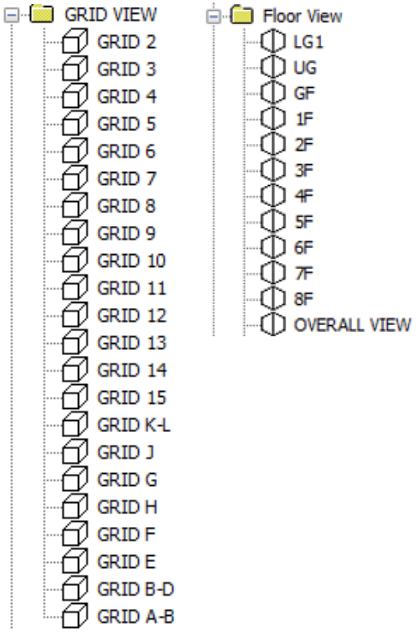
Viewpoint
Review
Animation
View
Output
Sectioning Tools
BIM 360
Render
Measure
Lock
Shortest Distance
Convert to Redline
Clear
Text
Draw
Erase
Color:
Thickness:
3
Add Tag
1
View Comments
Find Comments
Measure
Redline
Tags
Comments

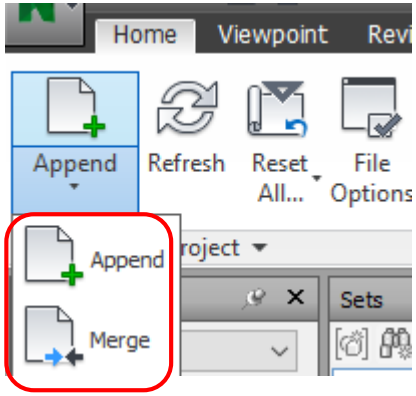

Home
Viewpoint
Review
Anima
Save Viewpoint
Unsaved Viewpoint
Save, Load & Playback

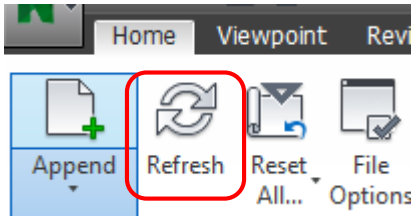

Saved Viewpoints
3D View
Folder
Tag View 1


GRID VIEW
GRID 2
GRID 3
GRID 4
GRID 5
GRID 6
GRID 7
GRID 8
GRID 9
GRID 10
GRID 11
GRID 12
GRID 13
GRID 14
GRID 15
GRID K-L
GRID J
GRID G
GRID H
GRID F
GRID E
GRID B-D
GRID A-B
Floor View
LG1
UG
GF
1F
2F
3F
4F
5F
6F
7F
8F
OVERALL VIEW

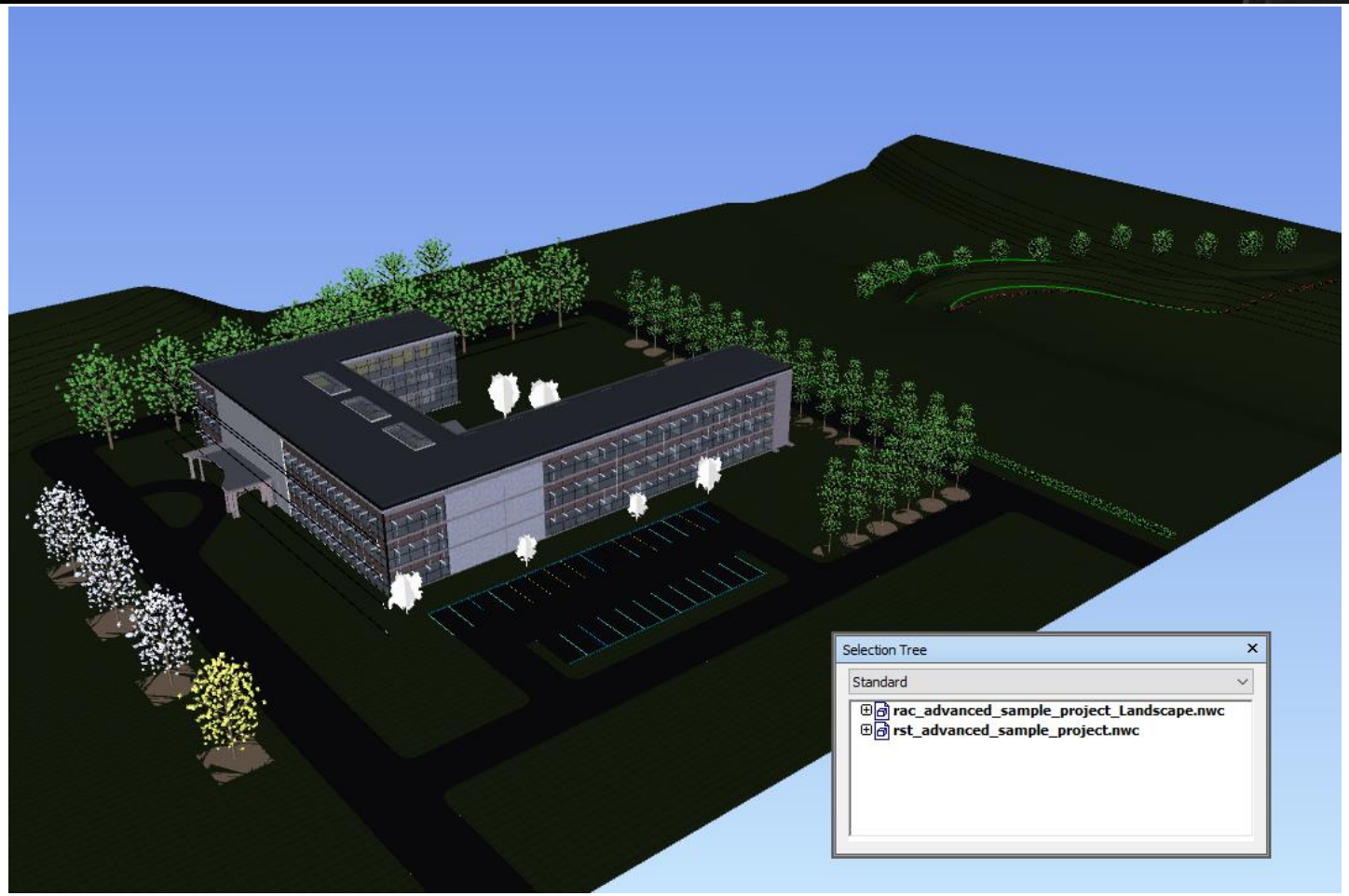
▪ Save NWF


NWC

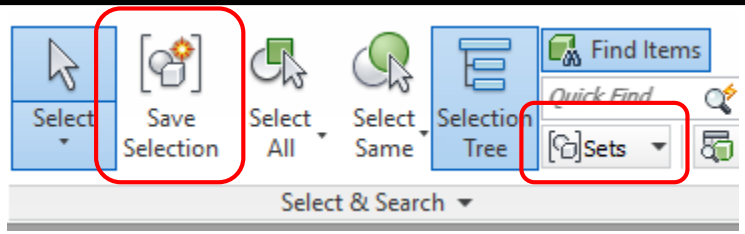

Home
Viewpoint
Append
Refresh
Reset All...
File Options
Append
Merge
Sets

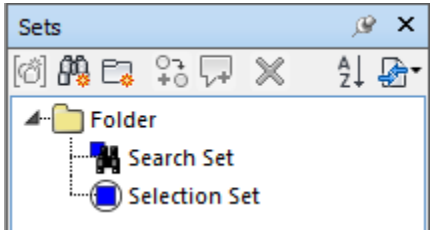

Home
Viewpoint
Append
Refresh
Reset All...
File Options

Combine Models

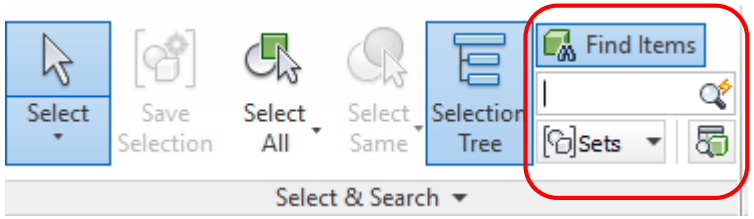


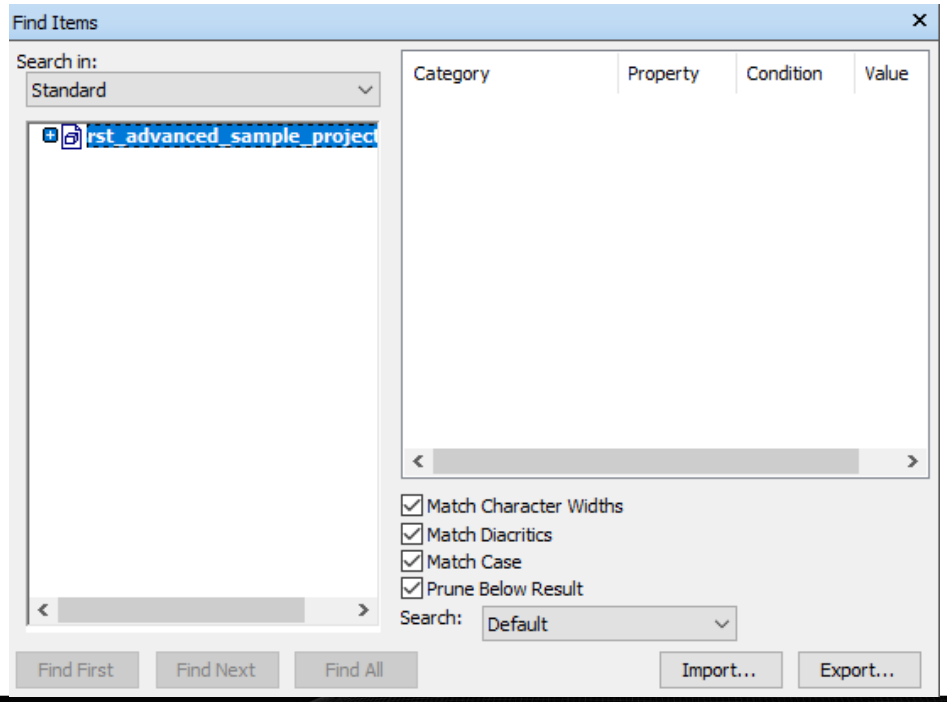
▪ Selection


Select
Save Selection
Select All
Select Same
Selection Tree
Find Items
Quick Find
Sets
Select & Search

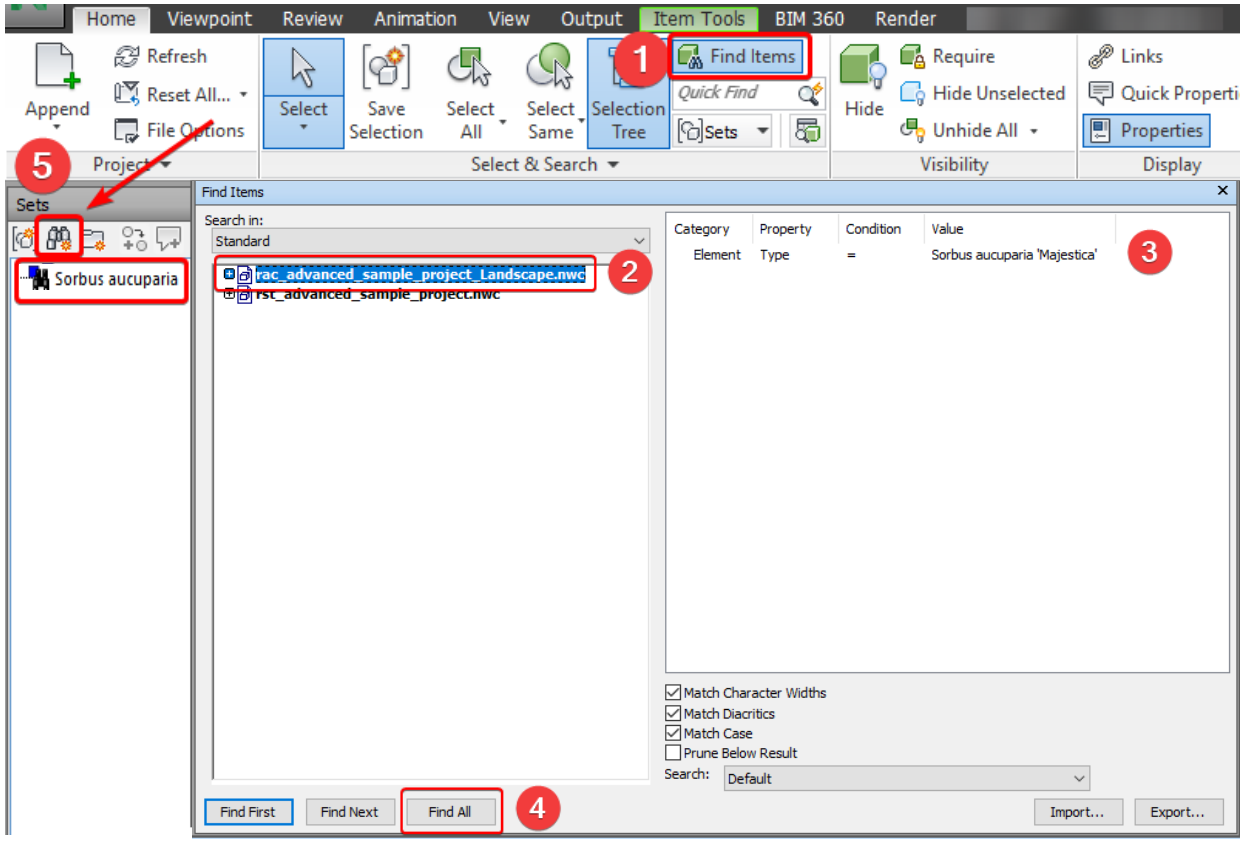

Sets
Folder
Search Set
Selection Set

▪ Dealing with Objects



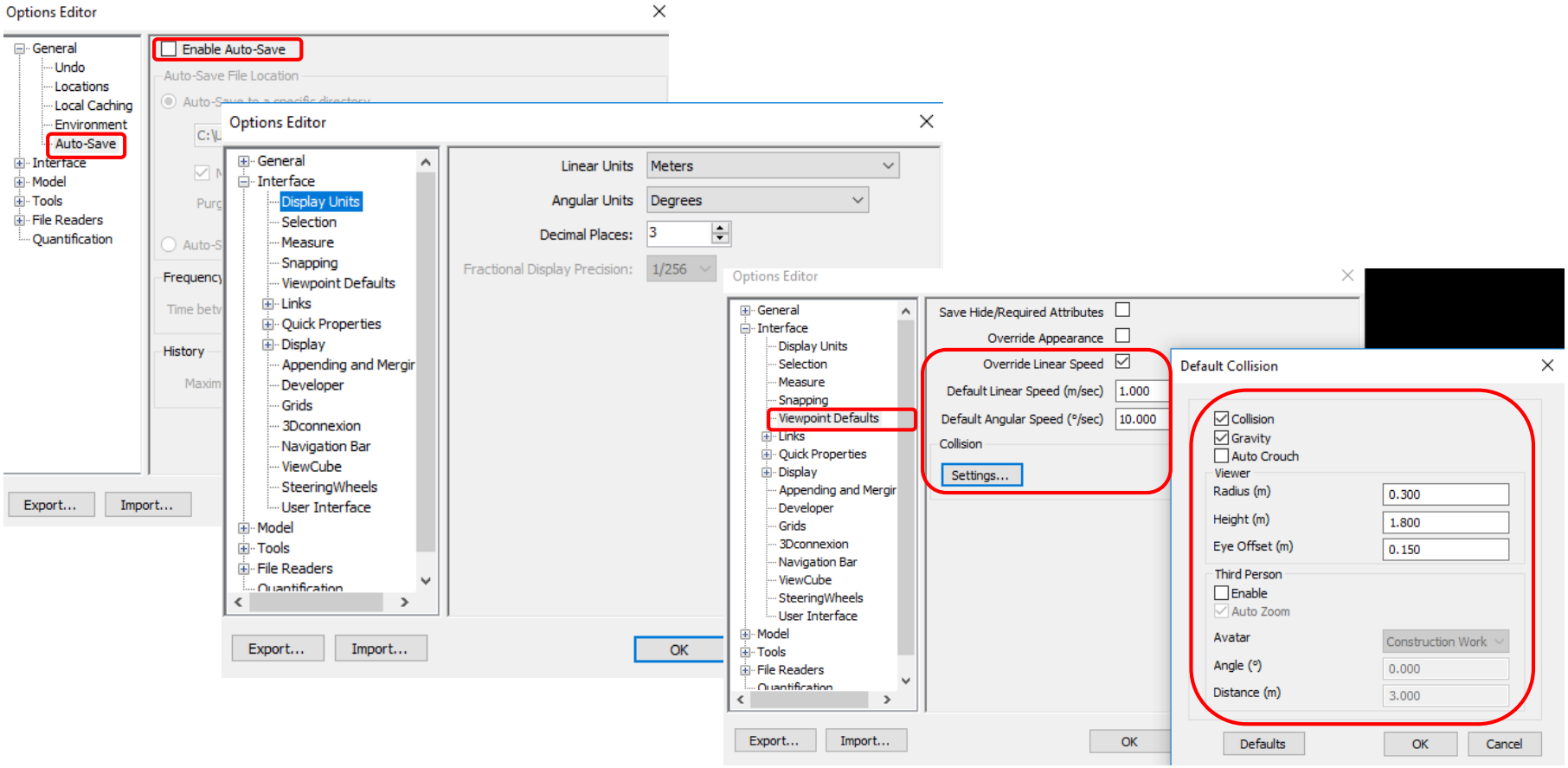


▪ Dealing with Objects

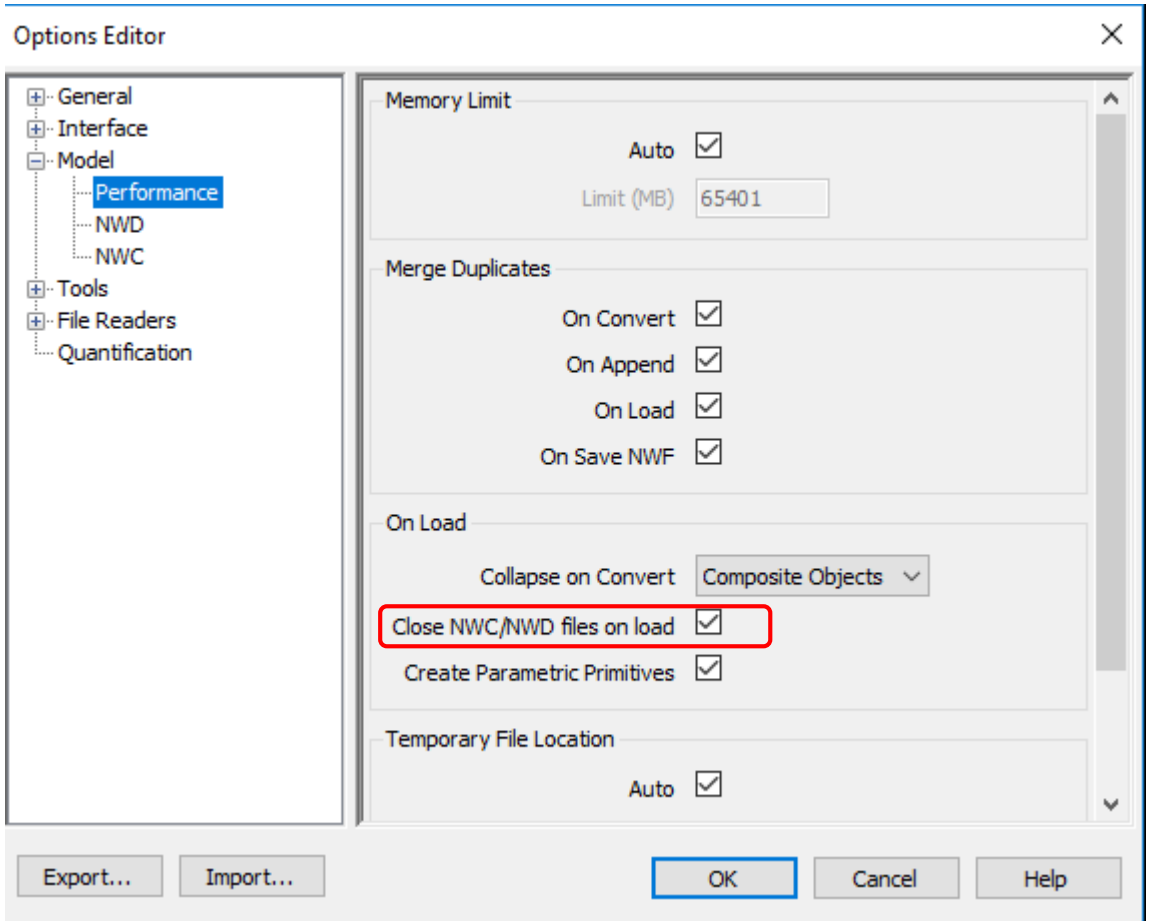


Suggested Setting

▪ Navisworks Settings

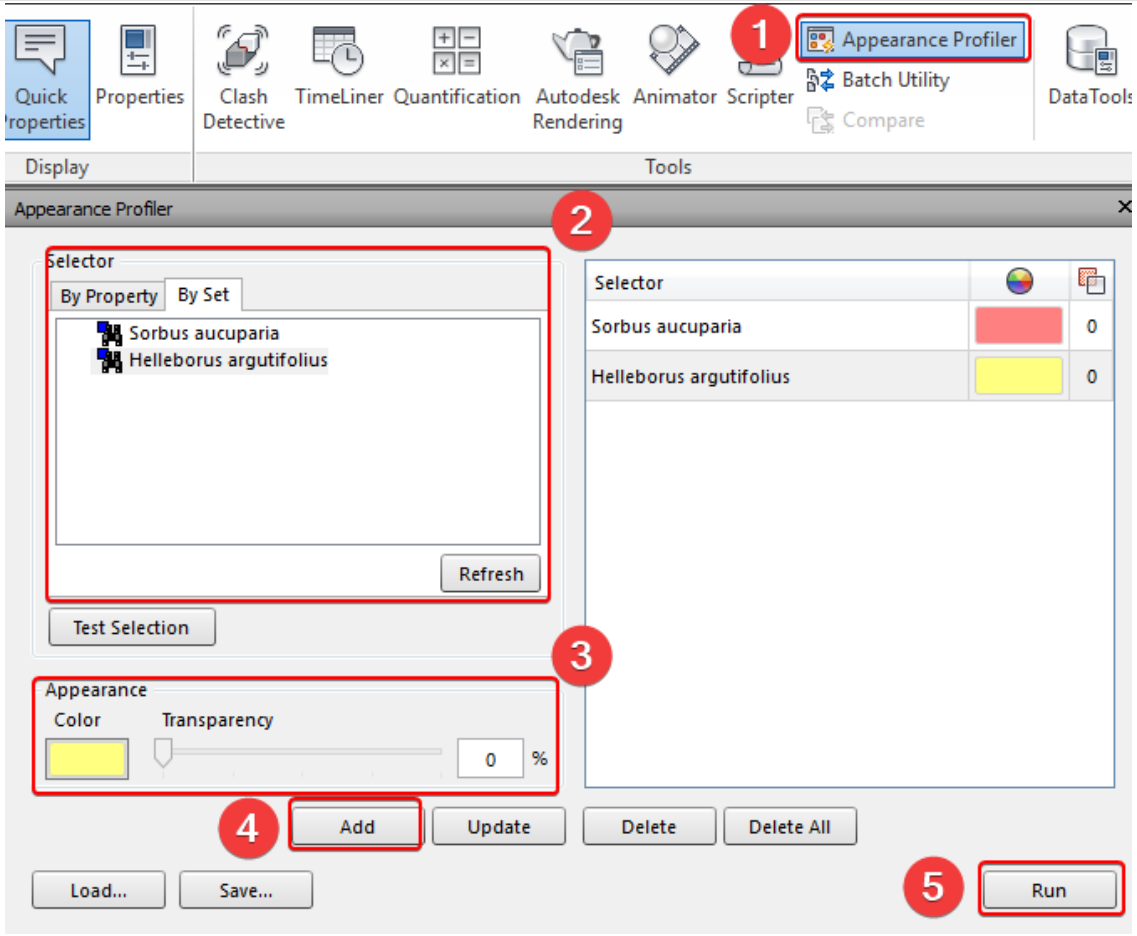


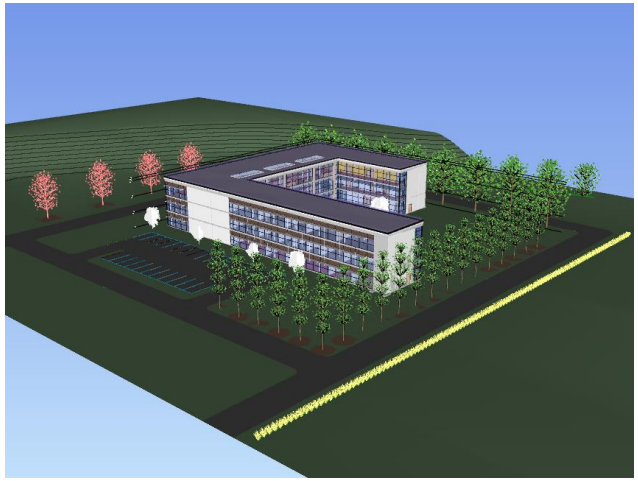
▪ Navisworks Settings



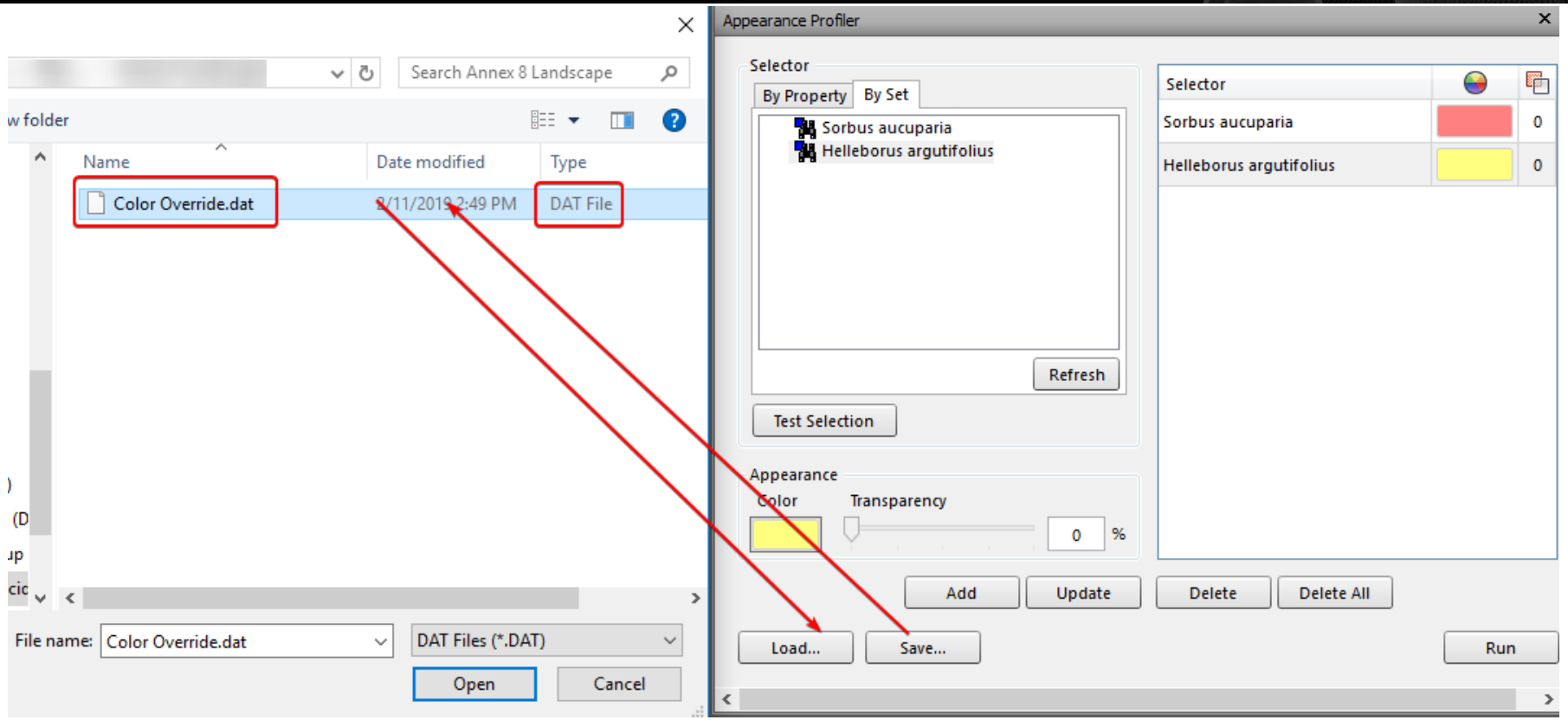
Practical

▪ Appearance Profiler

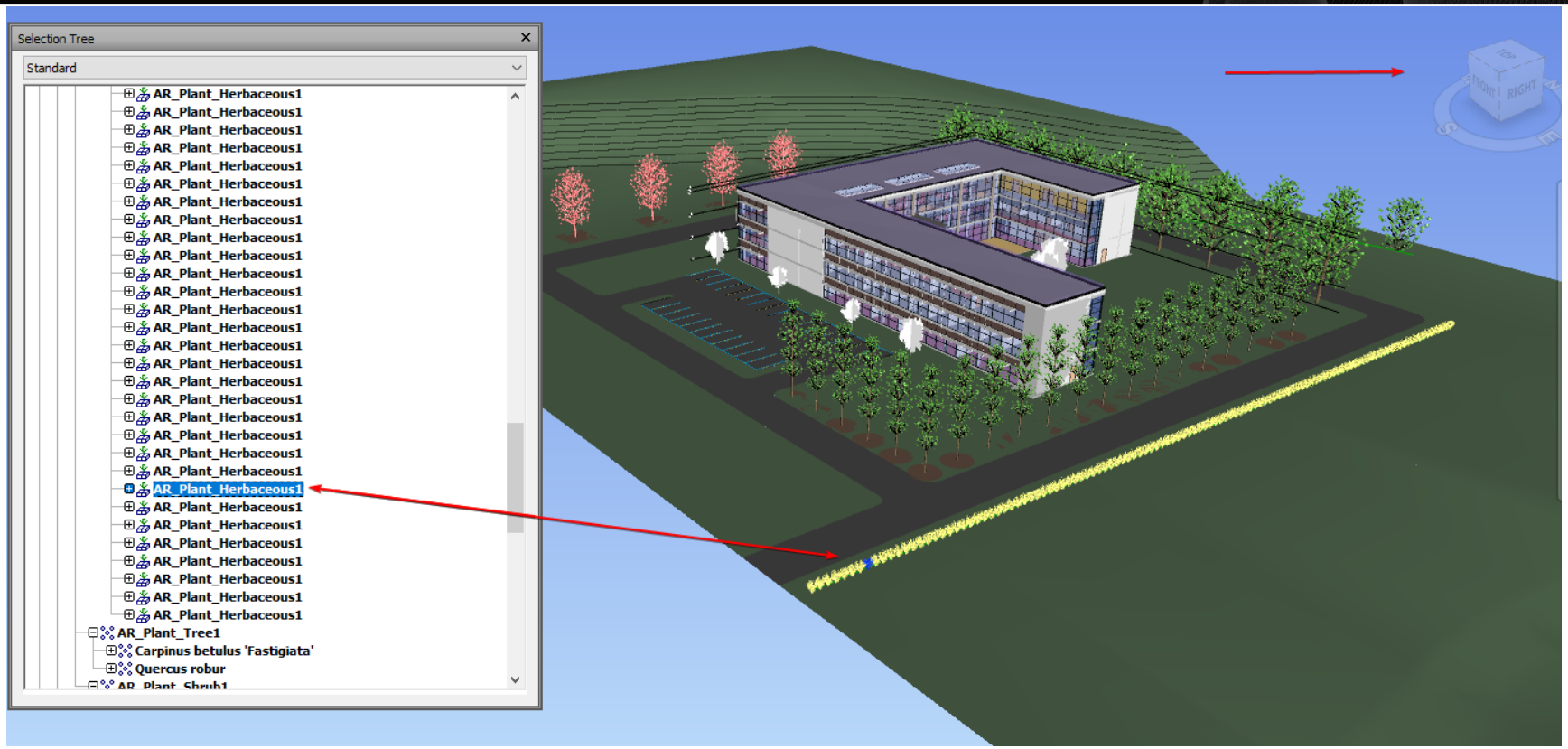




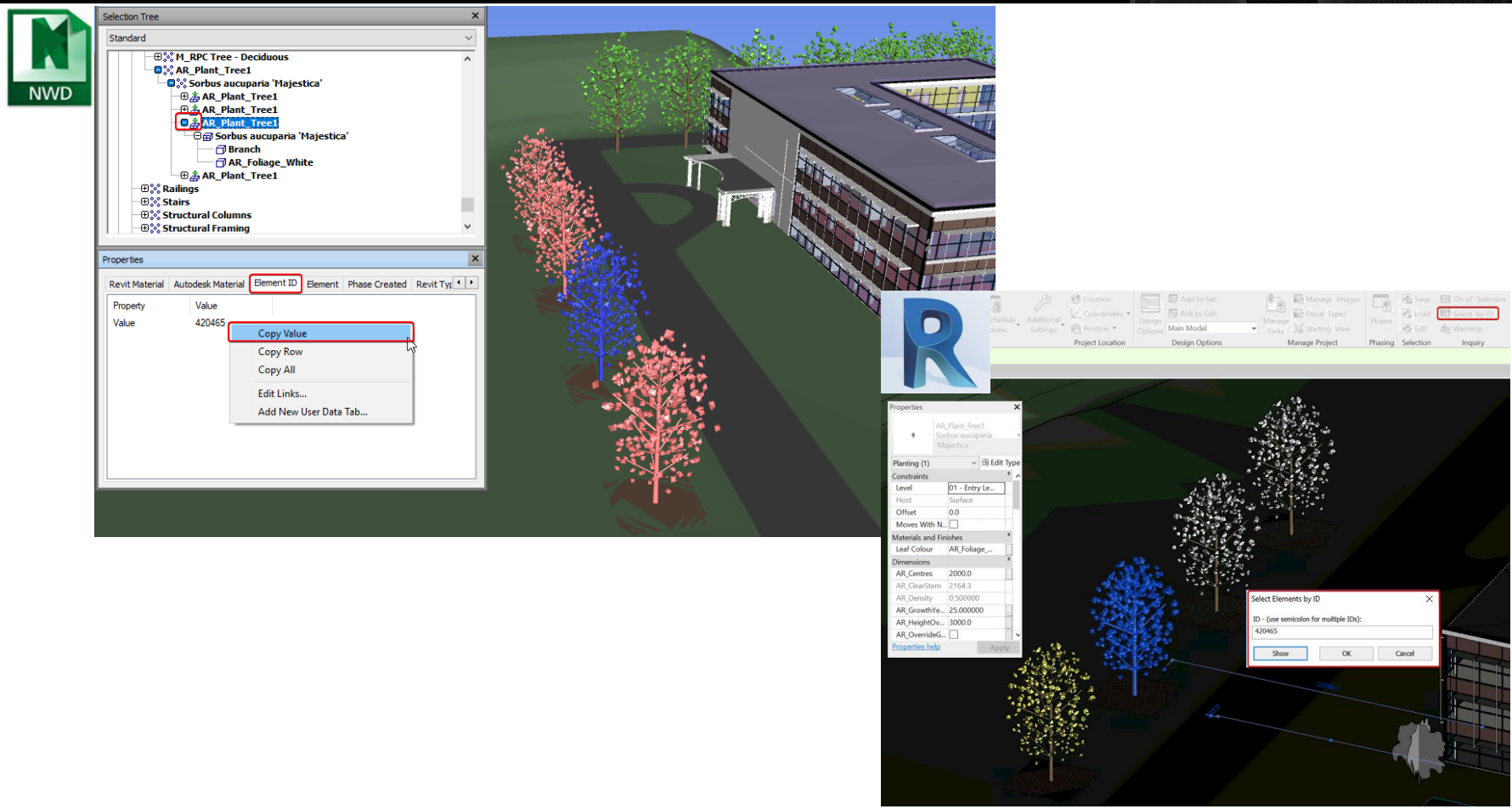
▪ Appearance Profiler



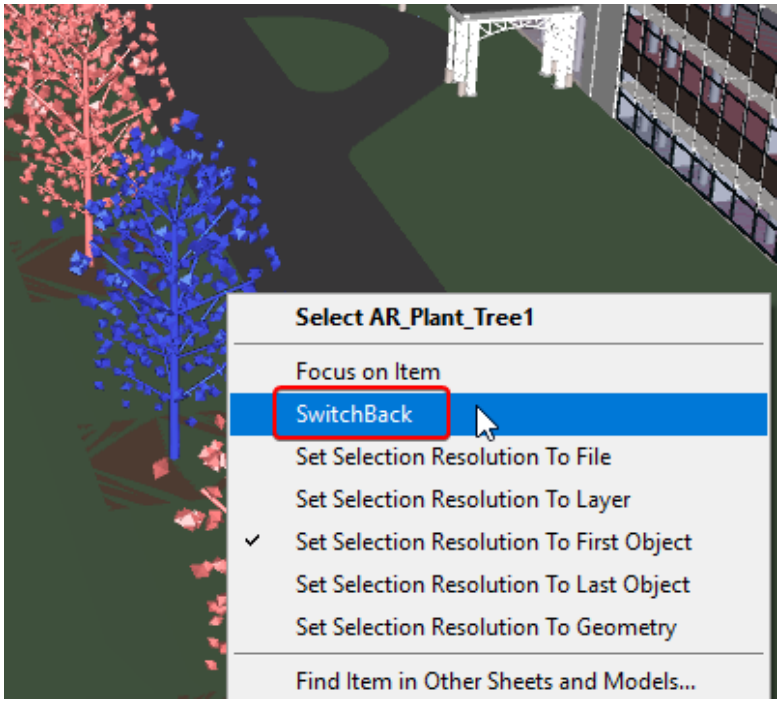
▪ Get Element Location (View Cube)

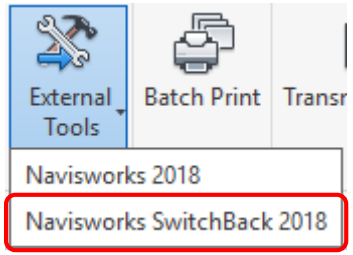


Find Elements in Revit



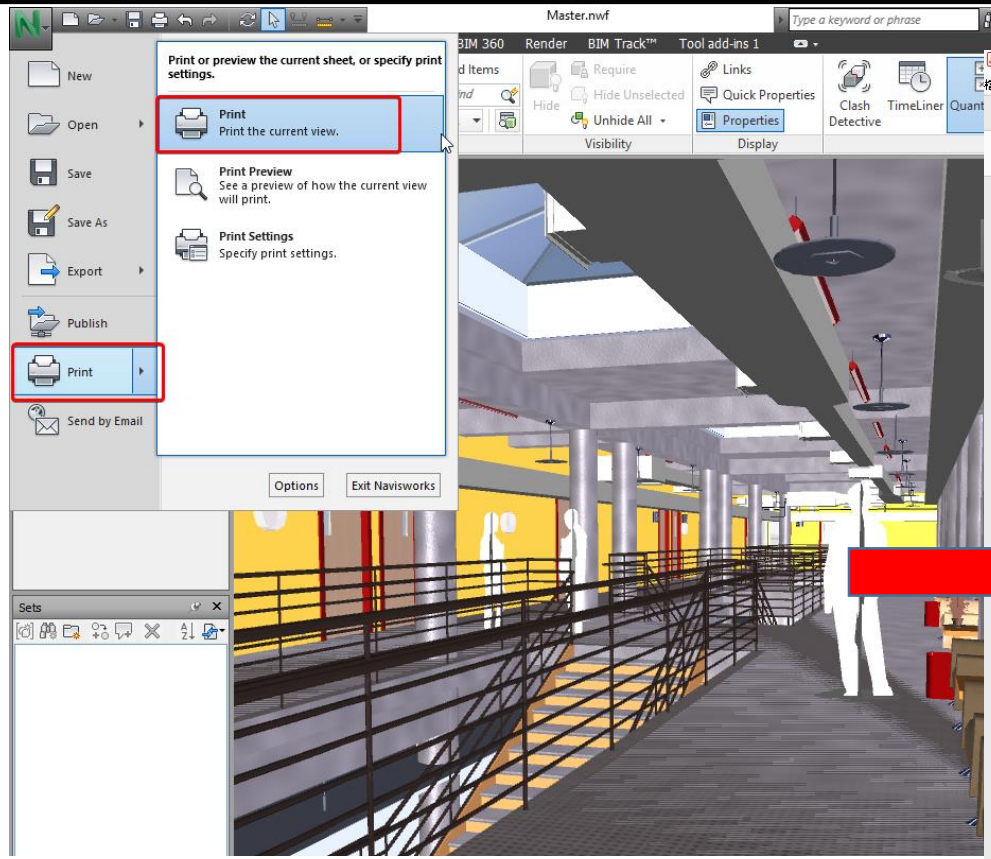
Switching back to Revit

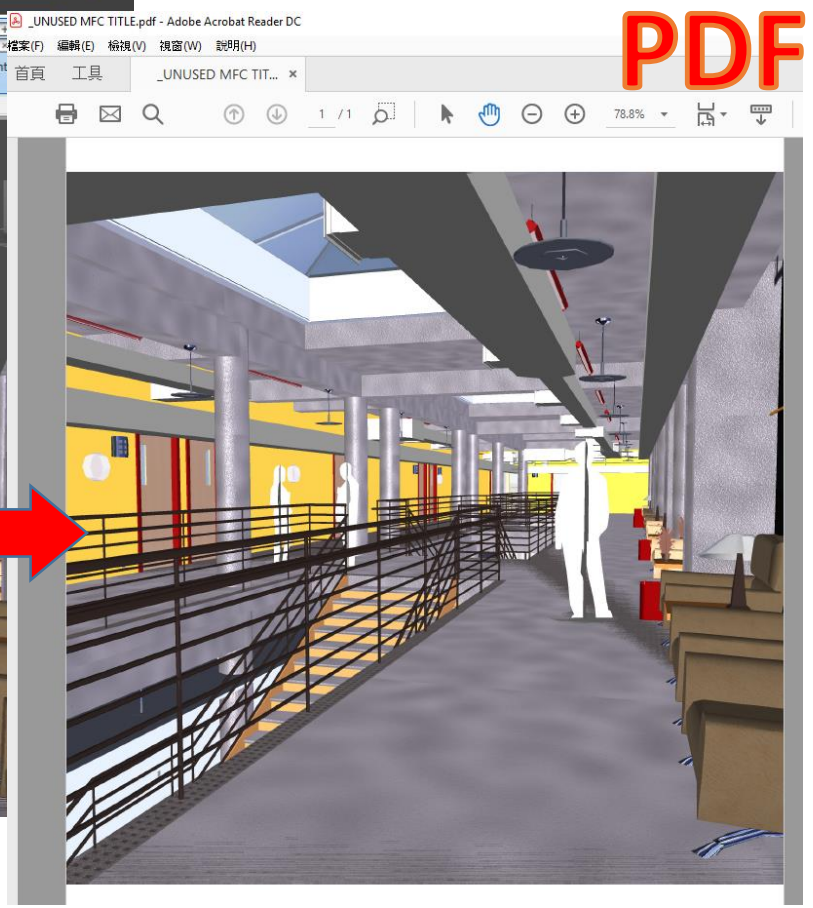




Presentation Skill

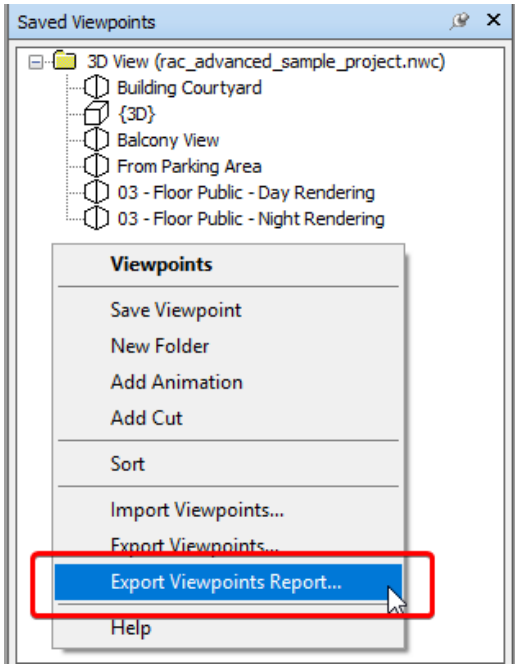
▪ Printing

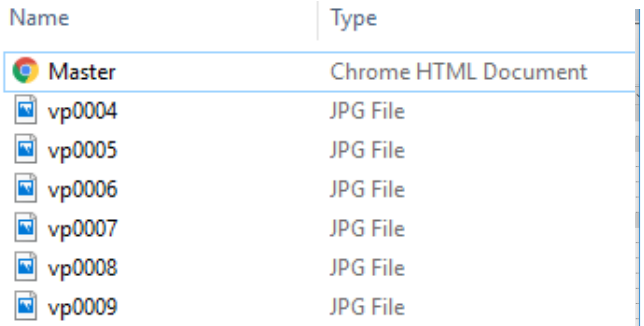


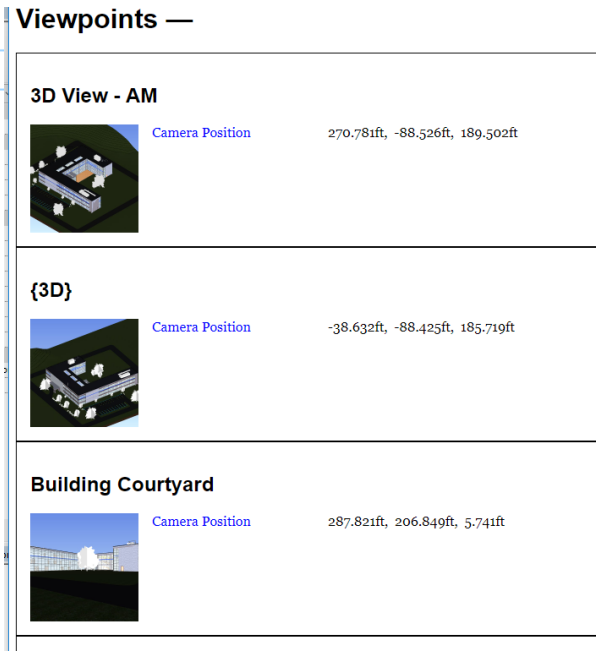


maximum image size is 2048 x 2048 pixels

Export Viewpoints Report







CS ArtisanRV for Revit (Landscape Tool)

CS Artisan

Planting with projected growing period

- Input trees type and estimated growing schedule

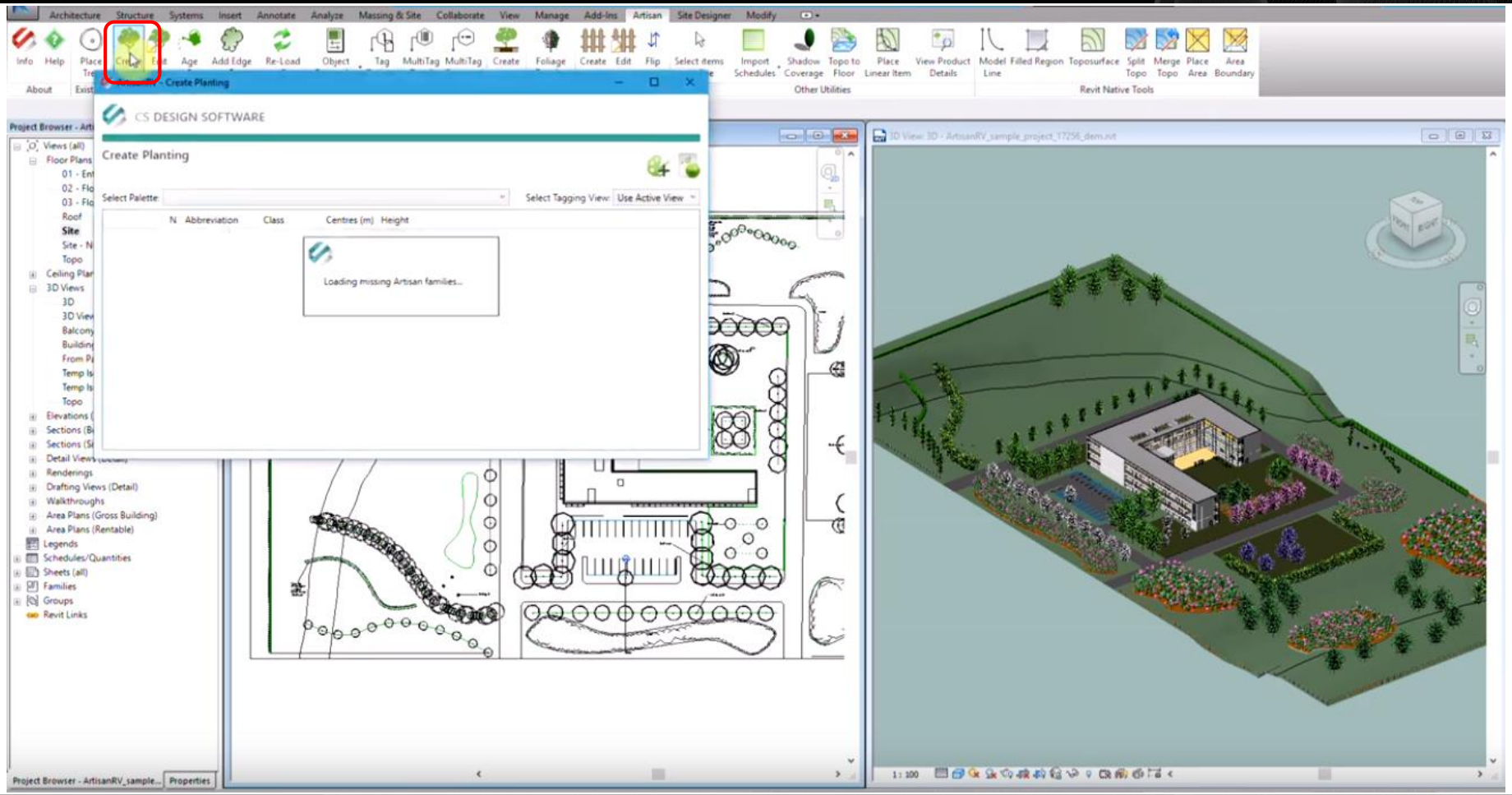
Planting Schedule

- Planting Schedule with existing, new and location information will be generated automatically

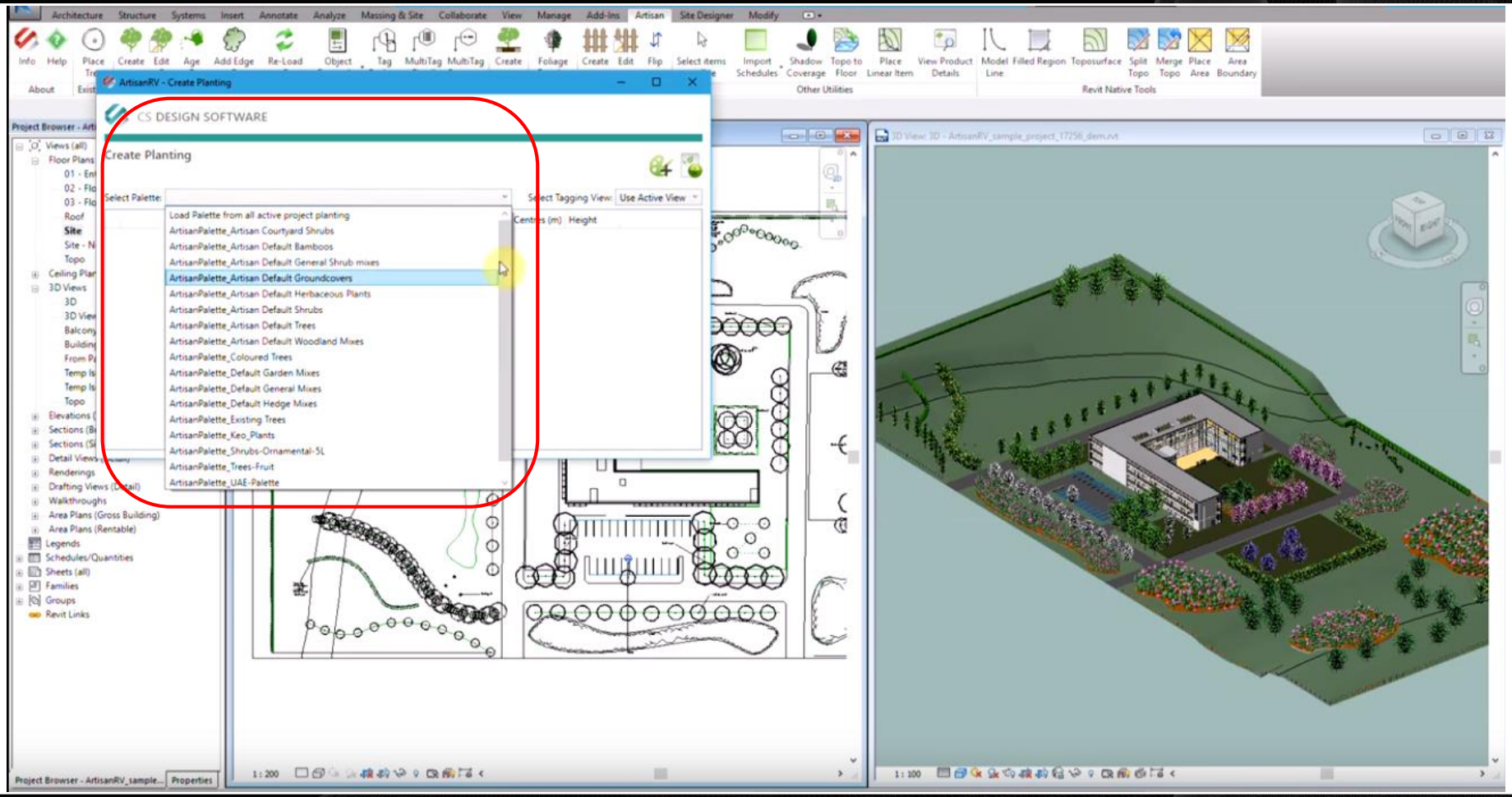
Tress Pit

- Type of Tress Pit can be assigned by CS Artisan

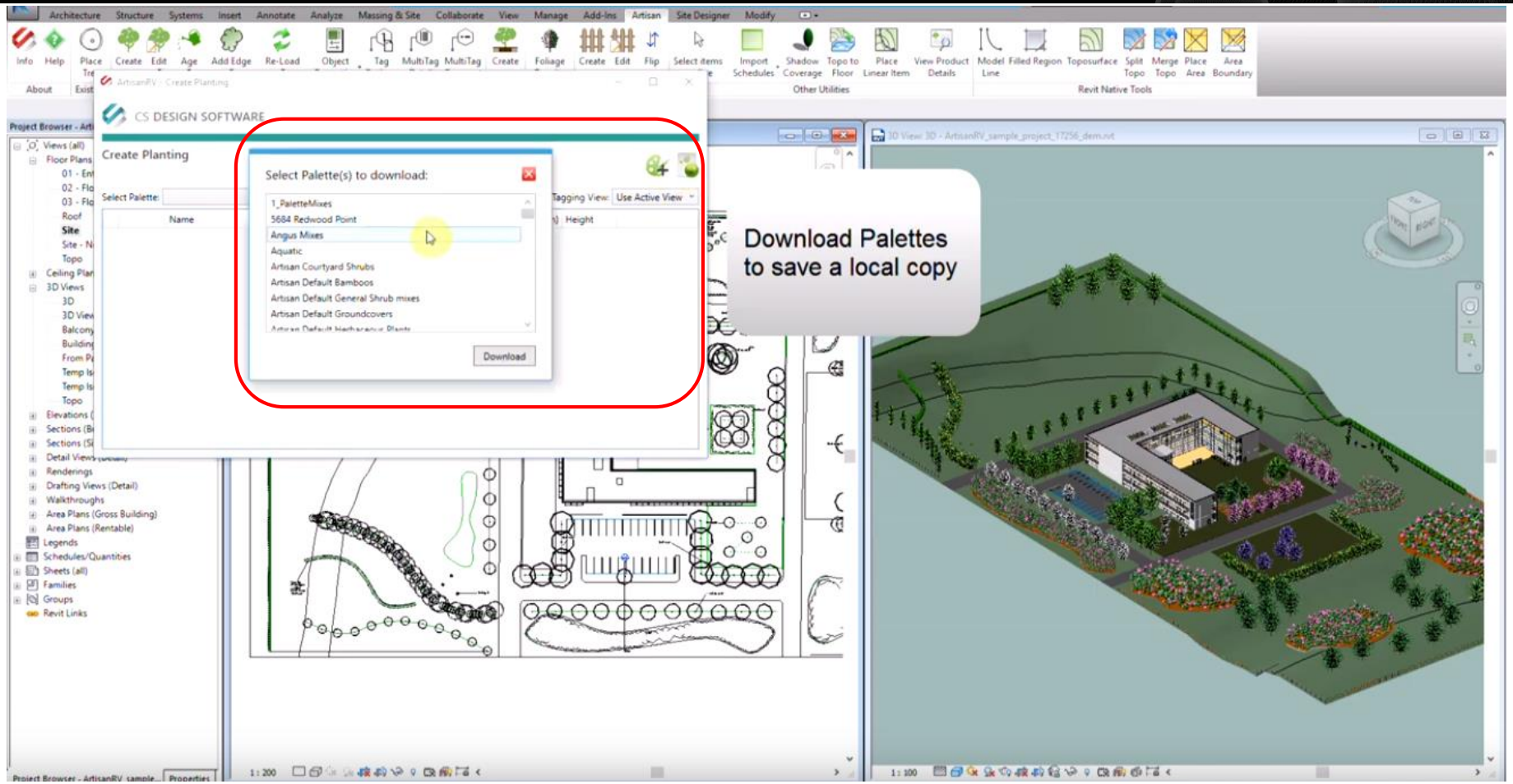
- **Import Tree Type**



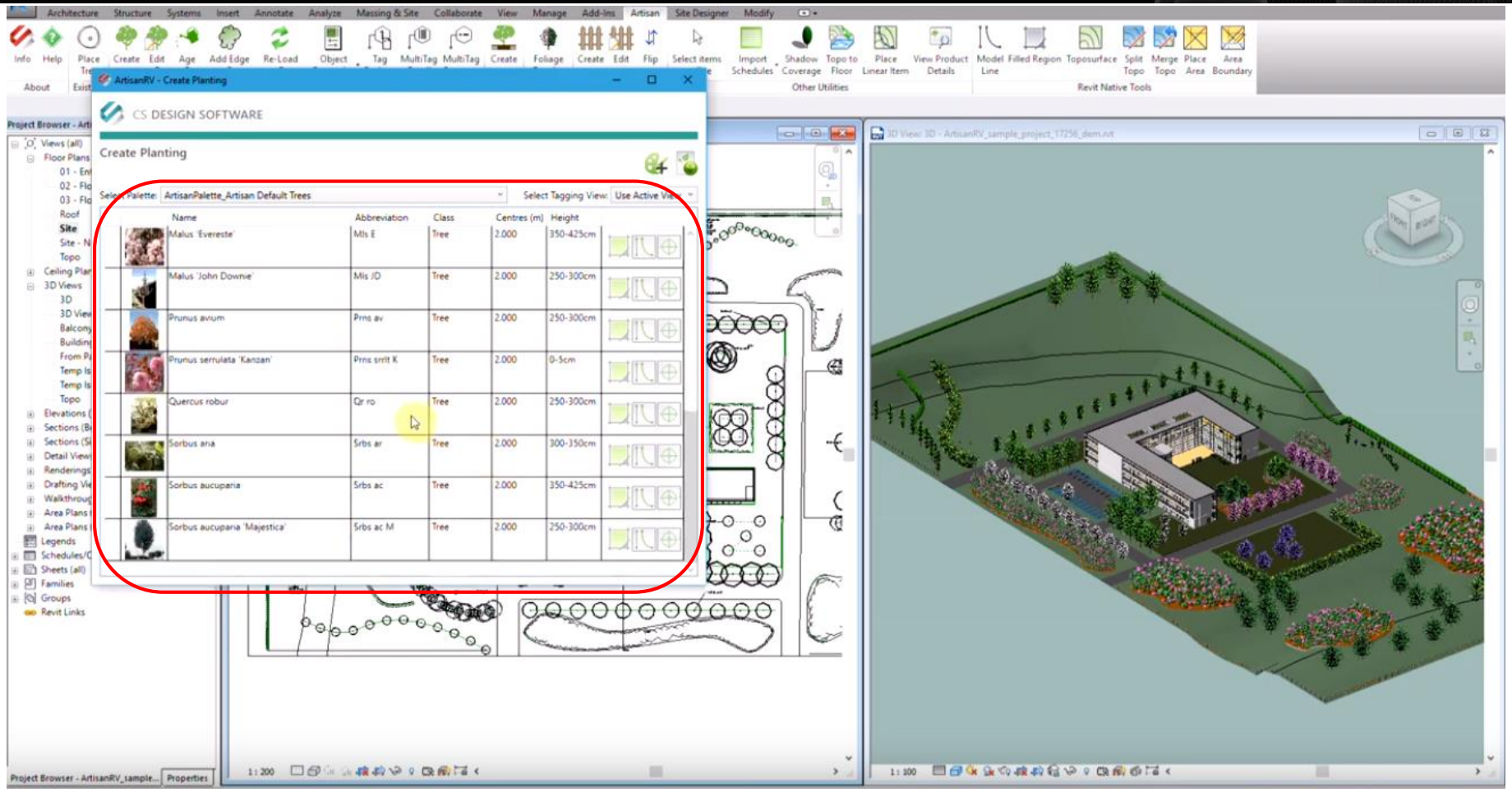
▪ Import Tree Type



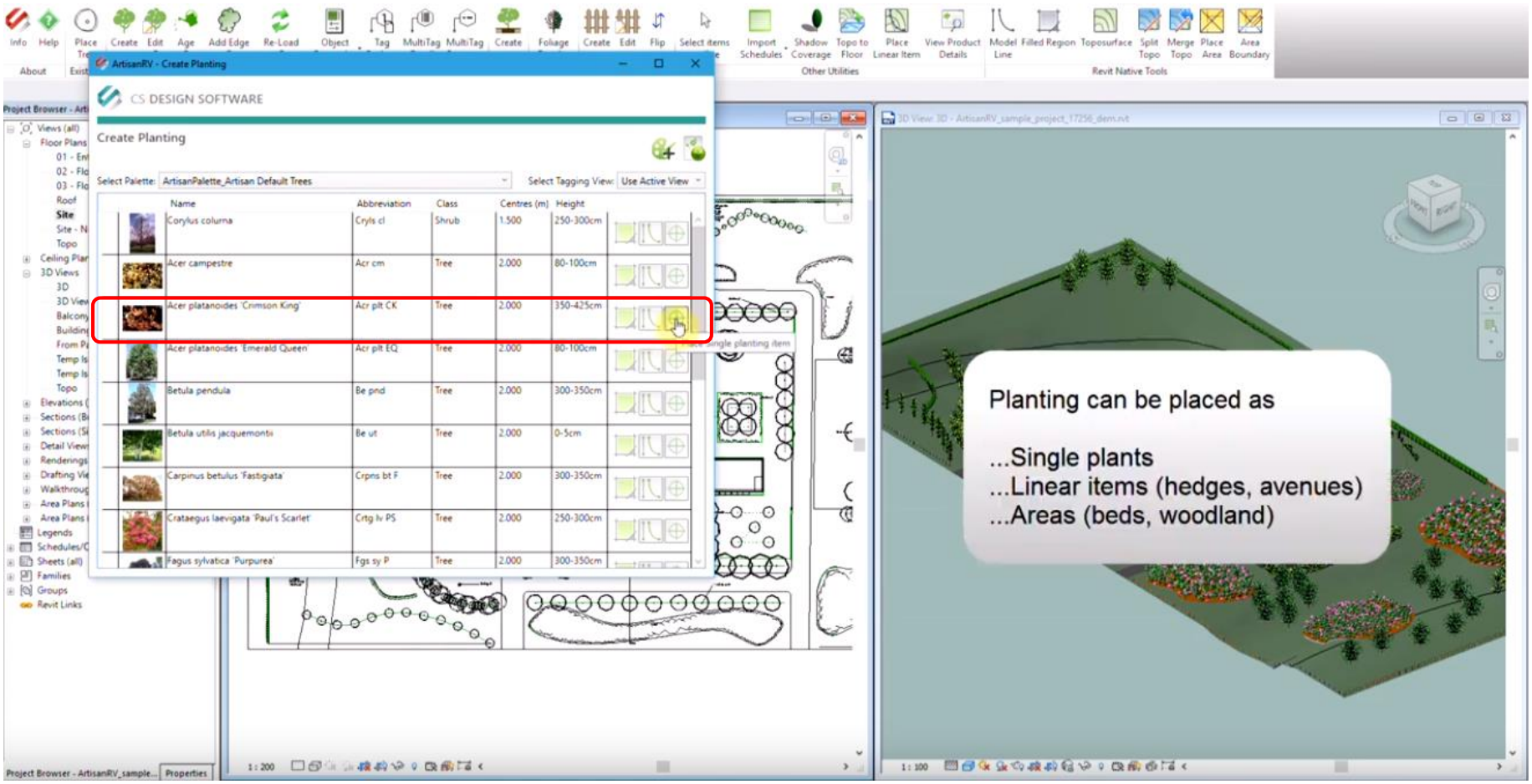
- **Import Tree Type**



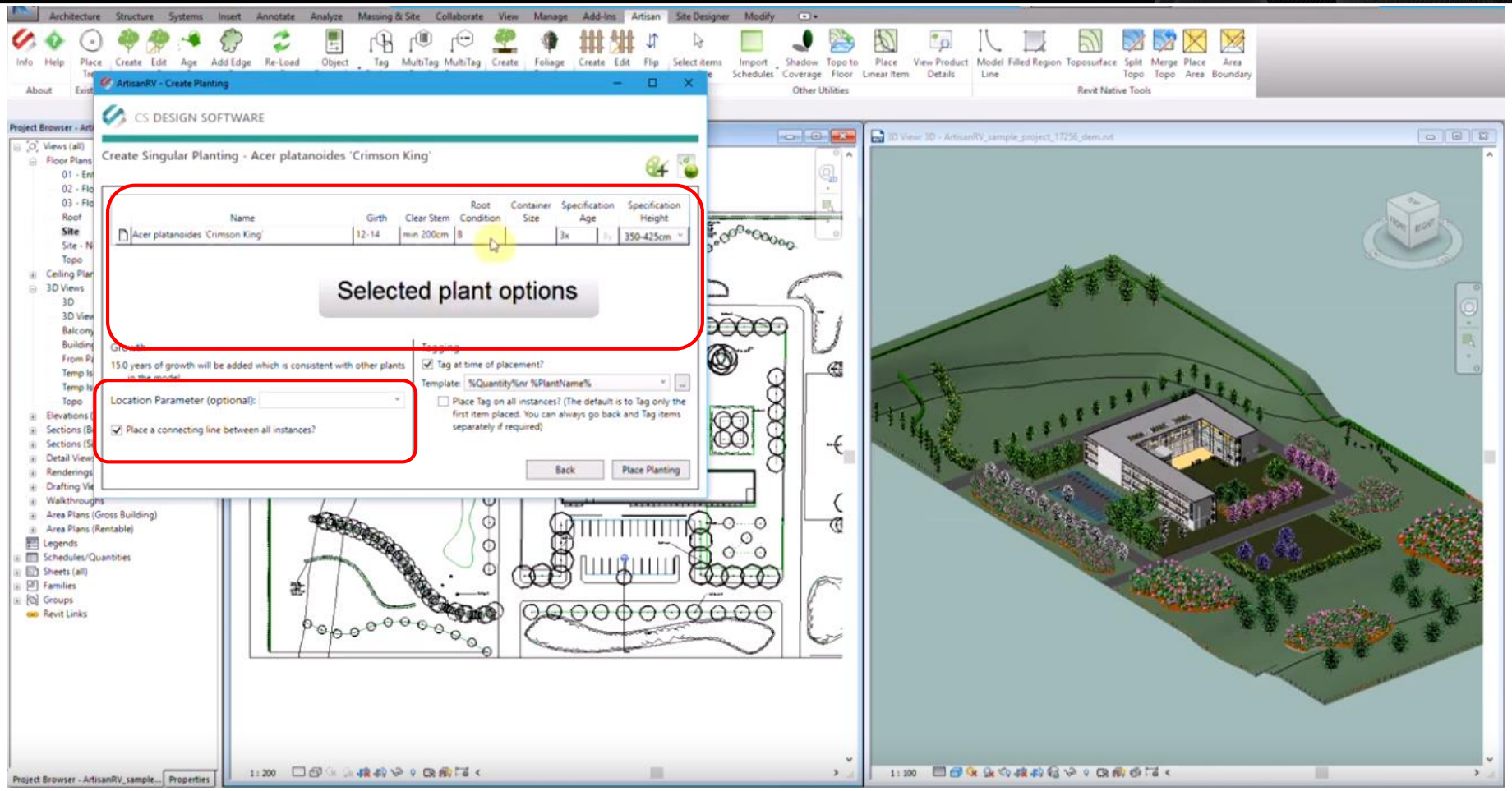
▪ Import Tree Type



- **Planting can be placed as Single, Linear and Areas**

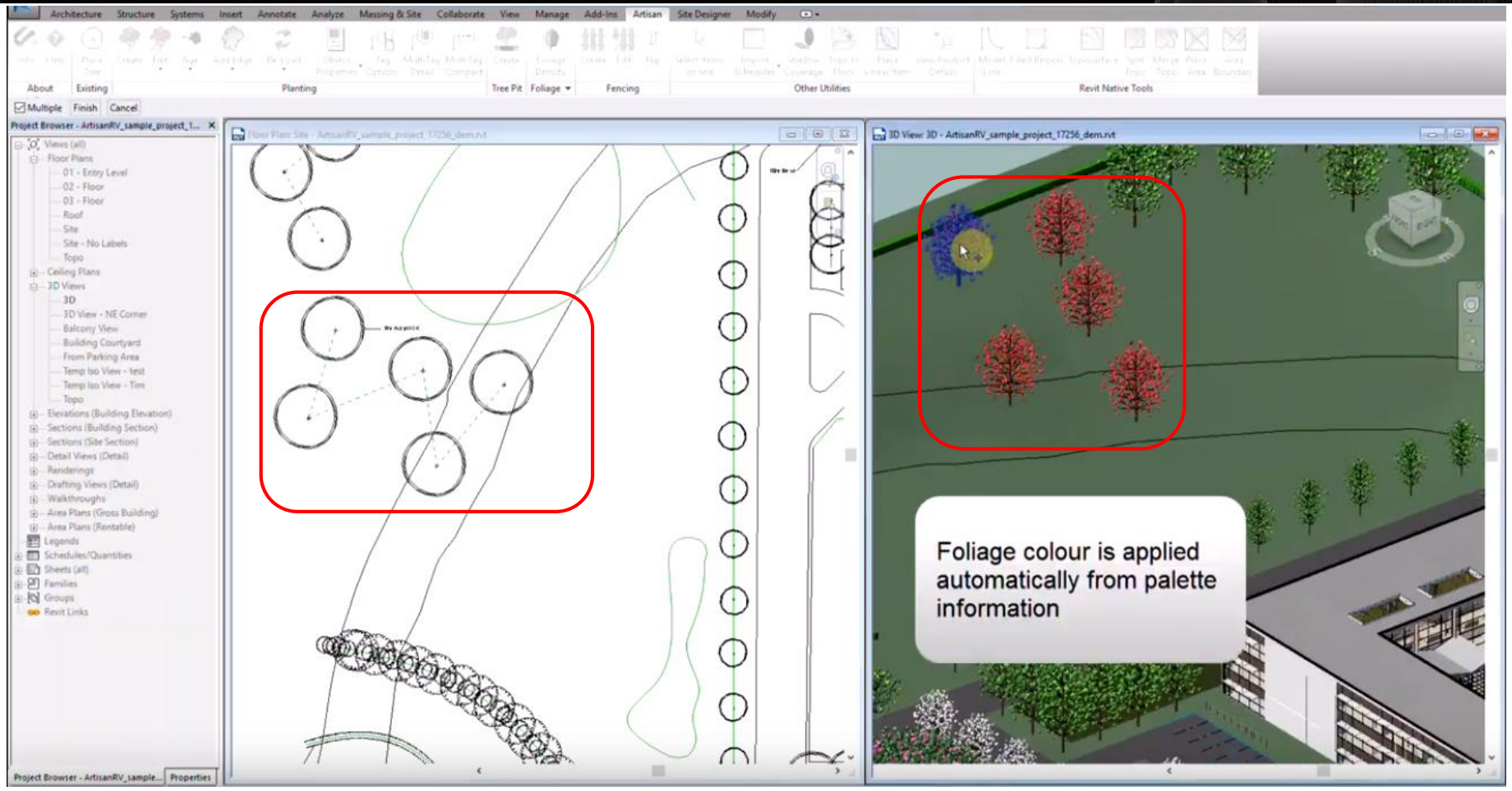


- **Place Single planting item**

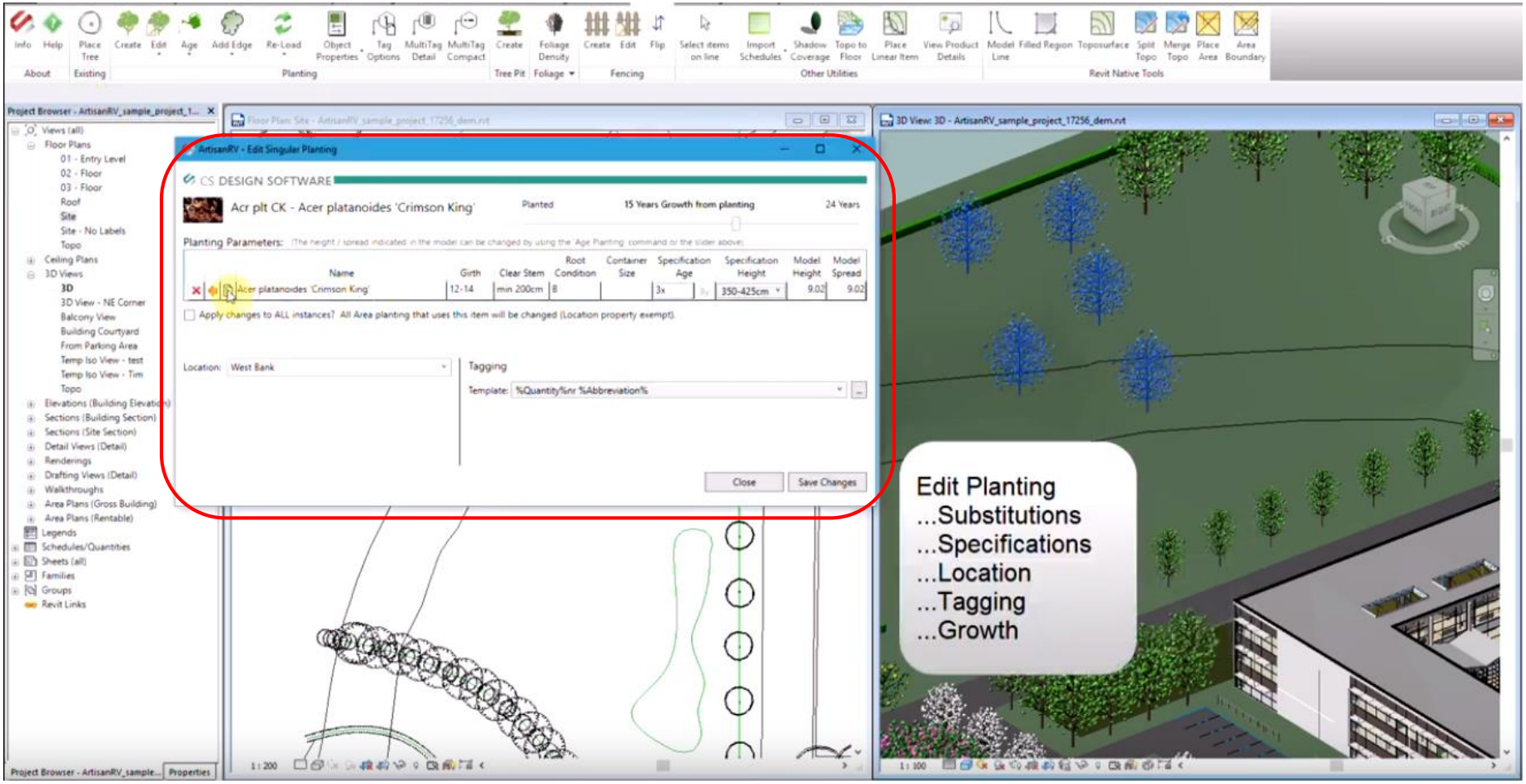


- **Set Specification Age, Height, Container Size and Location Parameter**

- **Place the tree**

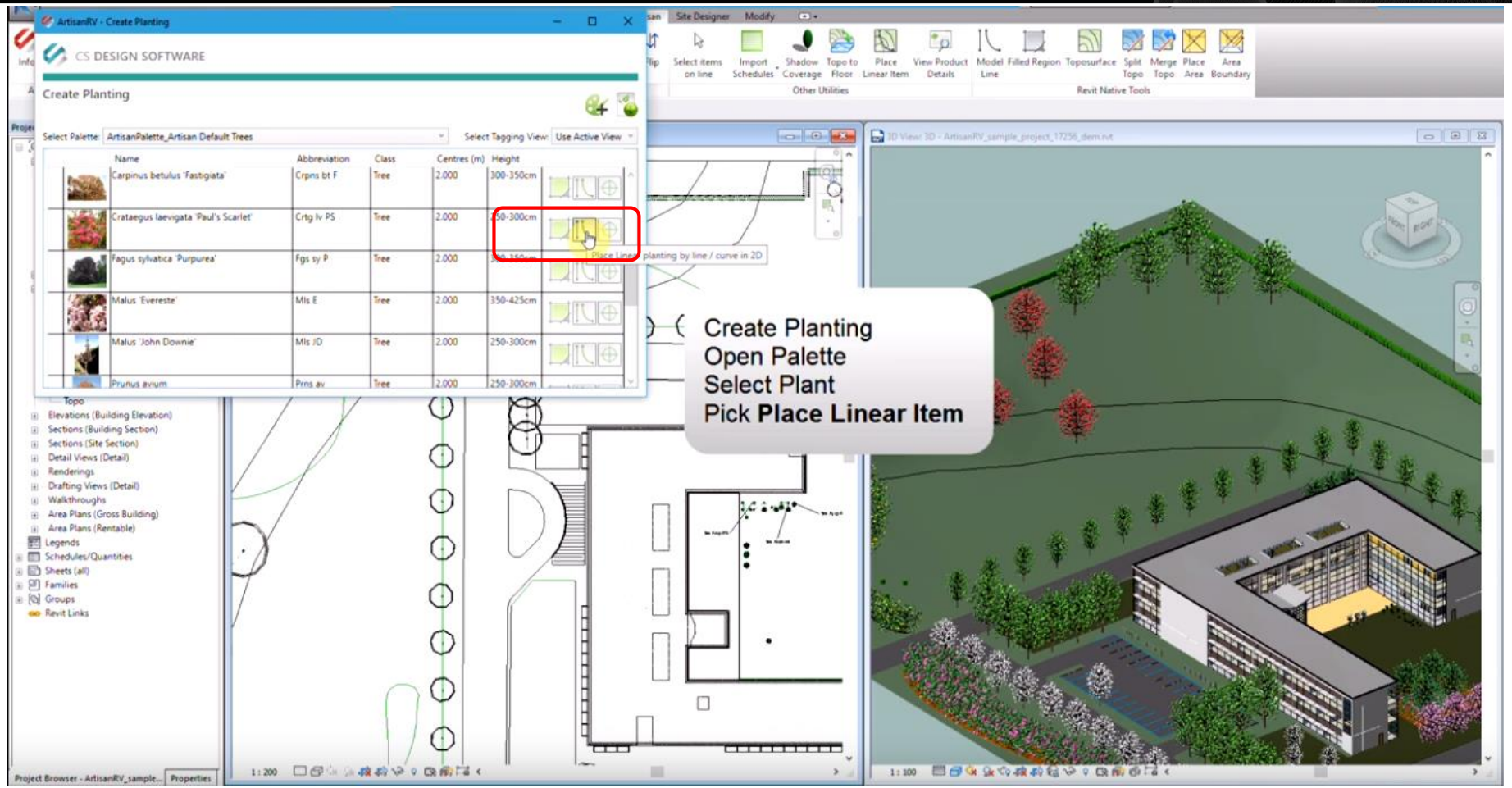


▪ Edit the Tree information

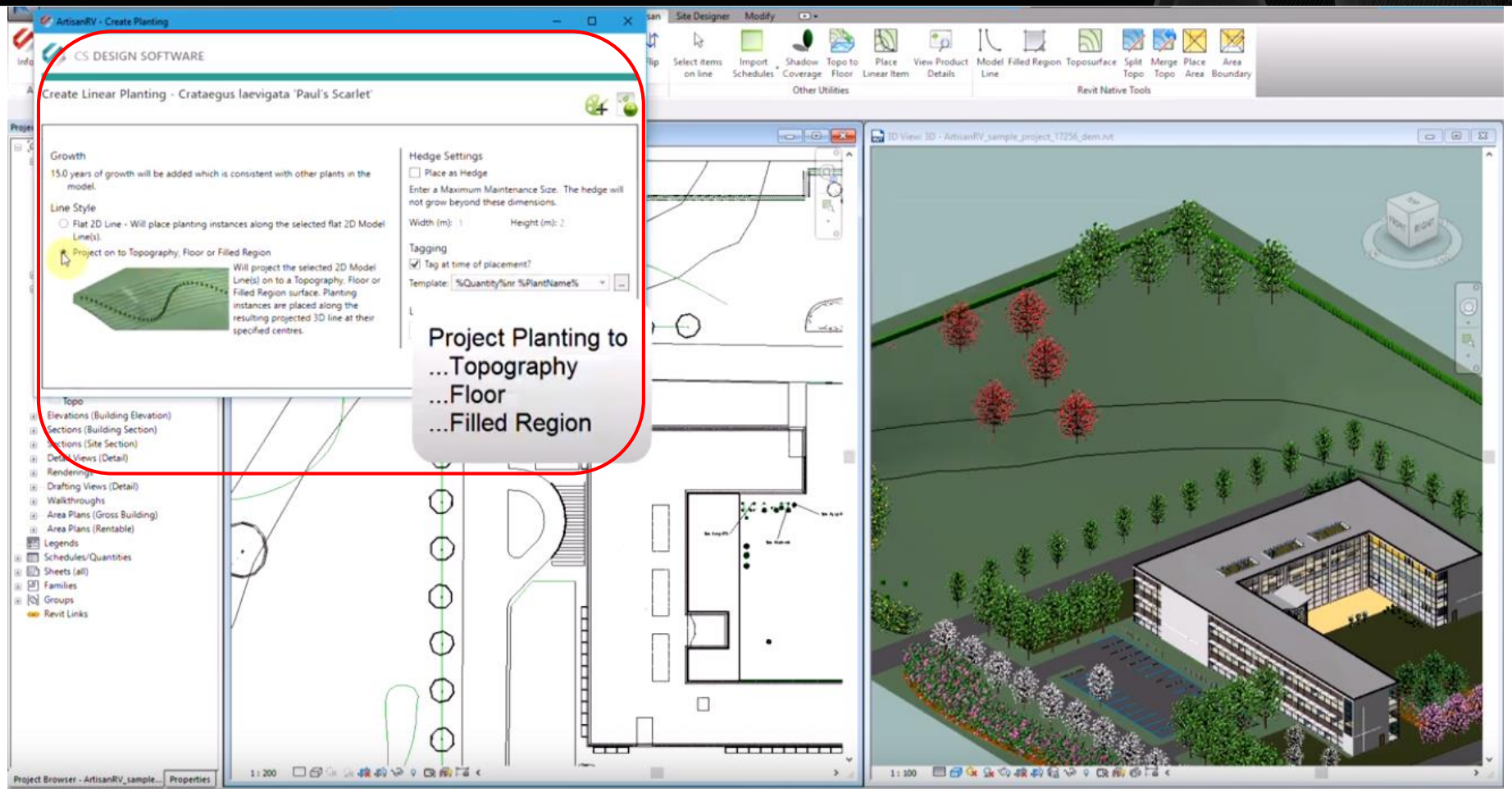


Linear Planting

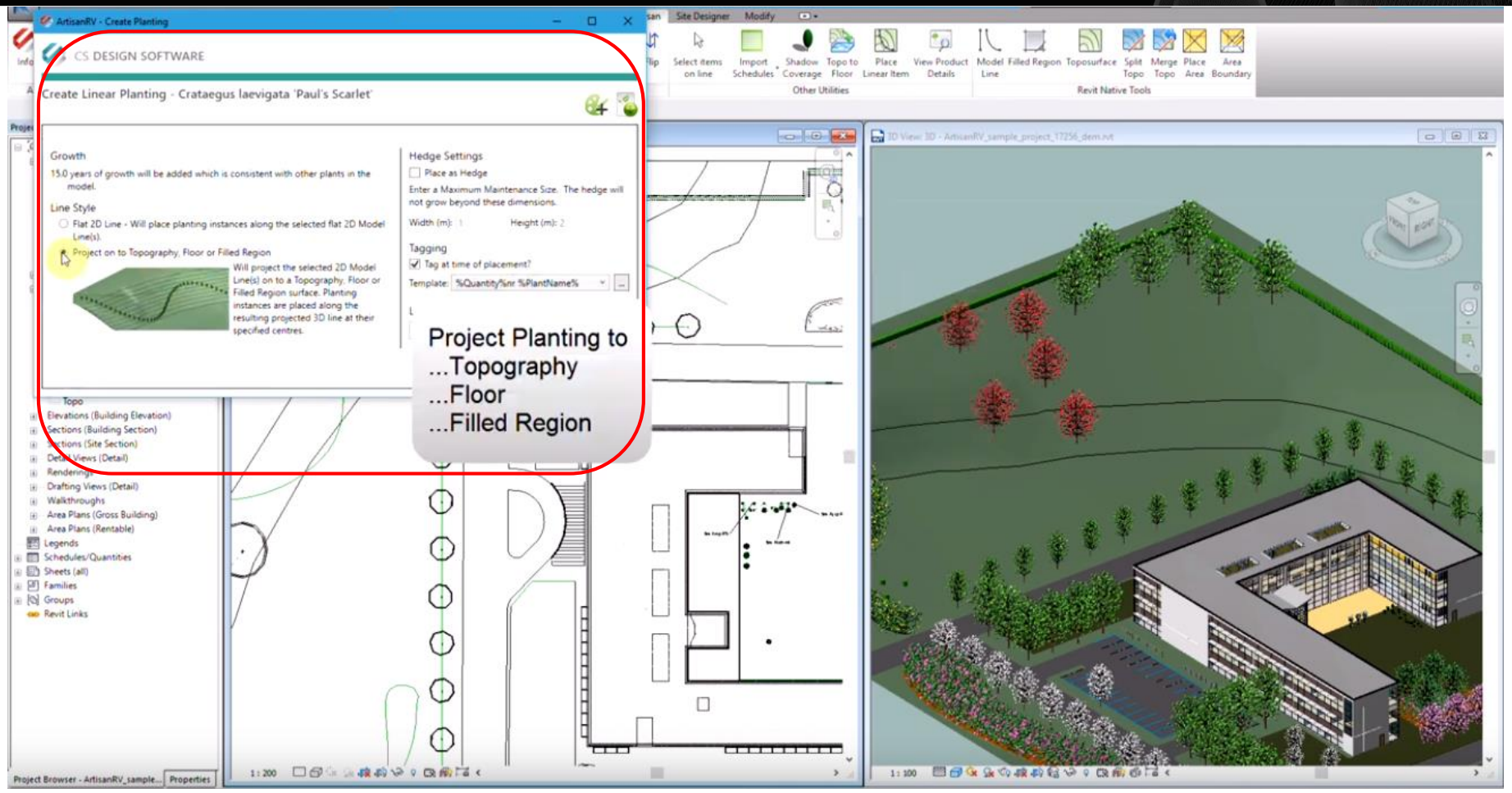
- **Planting on linear item**



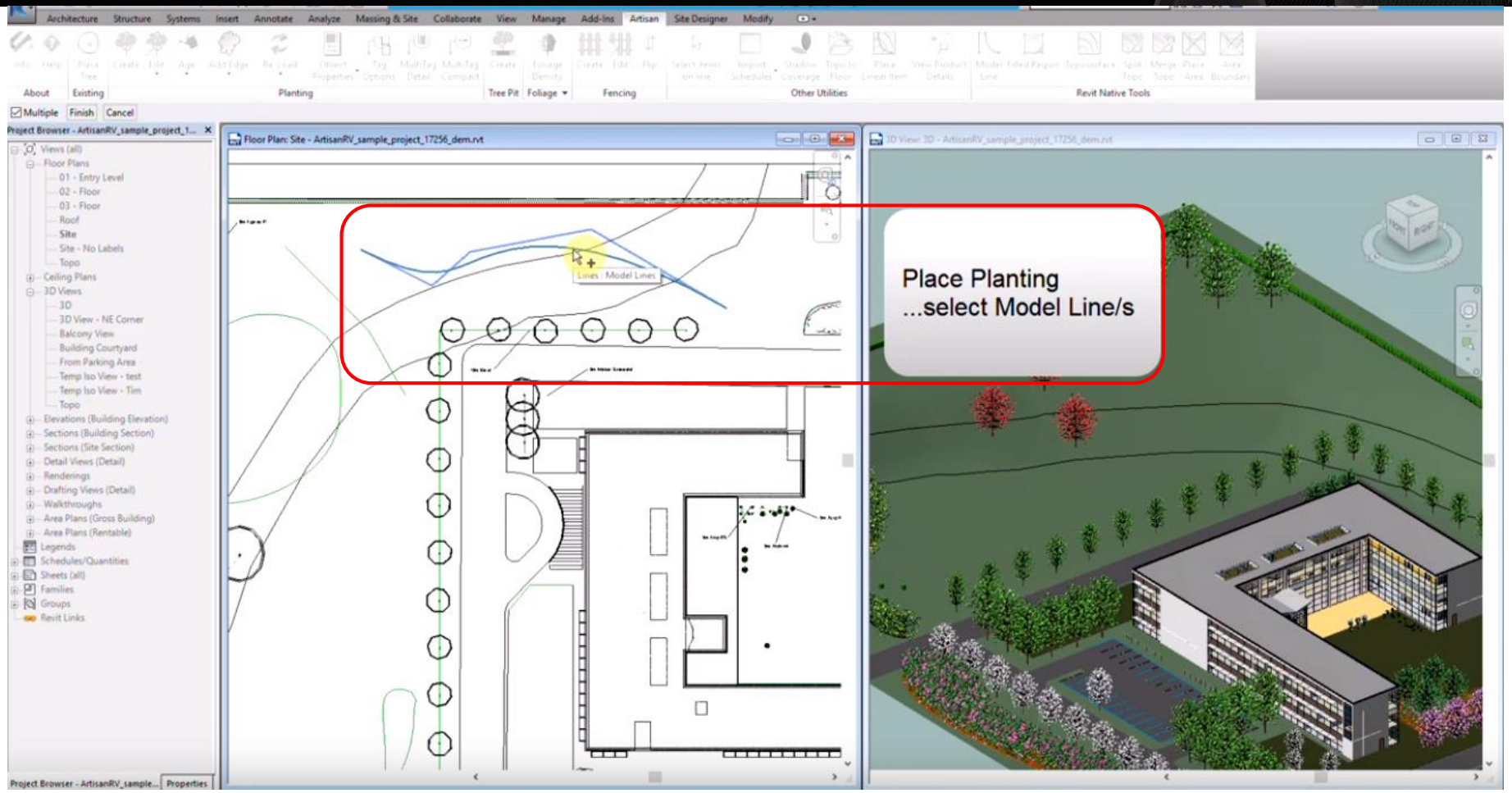
- **Planting on linear item**



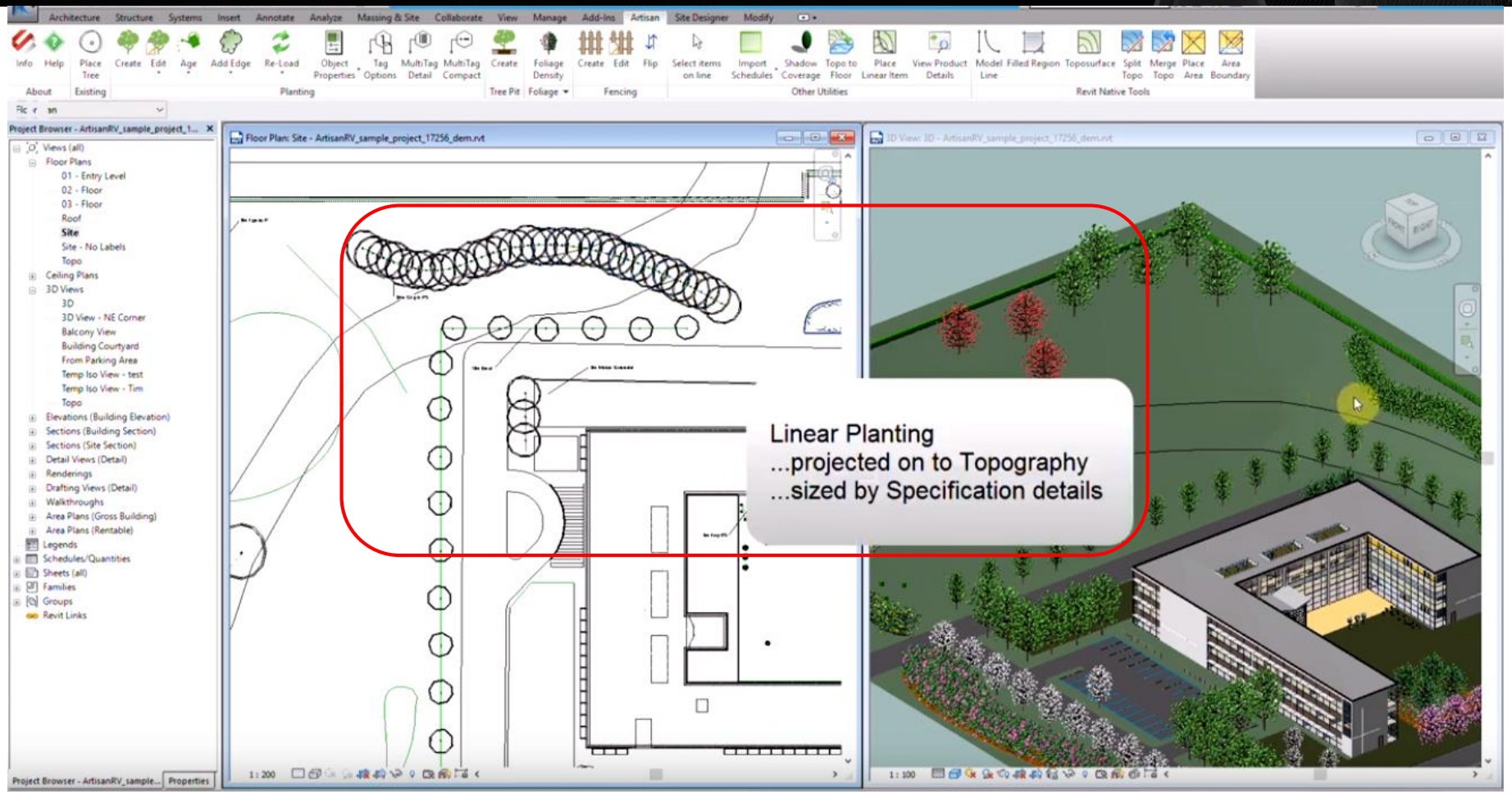
- **Planting on linear item**



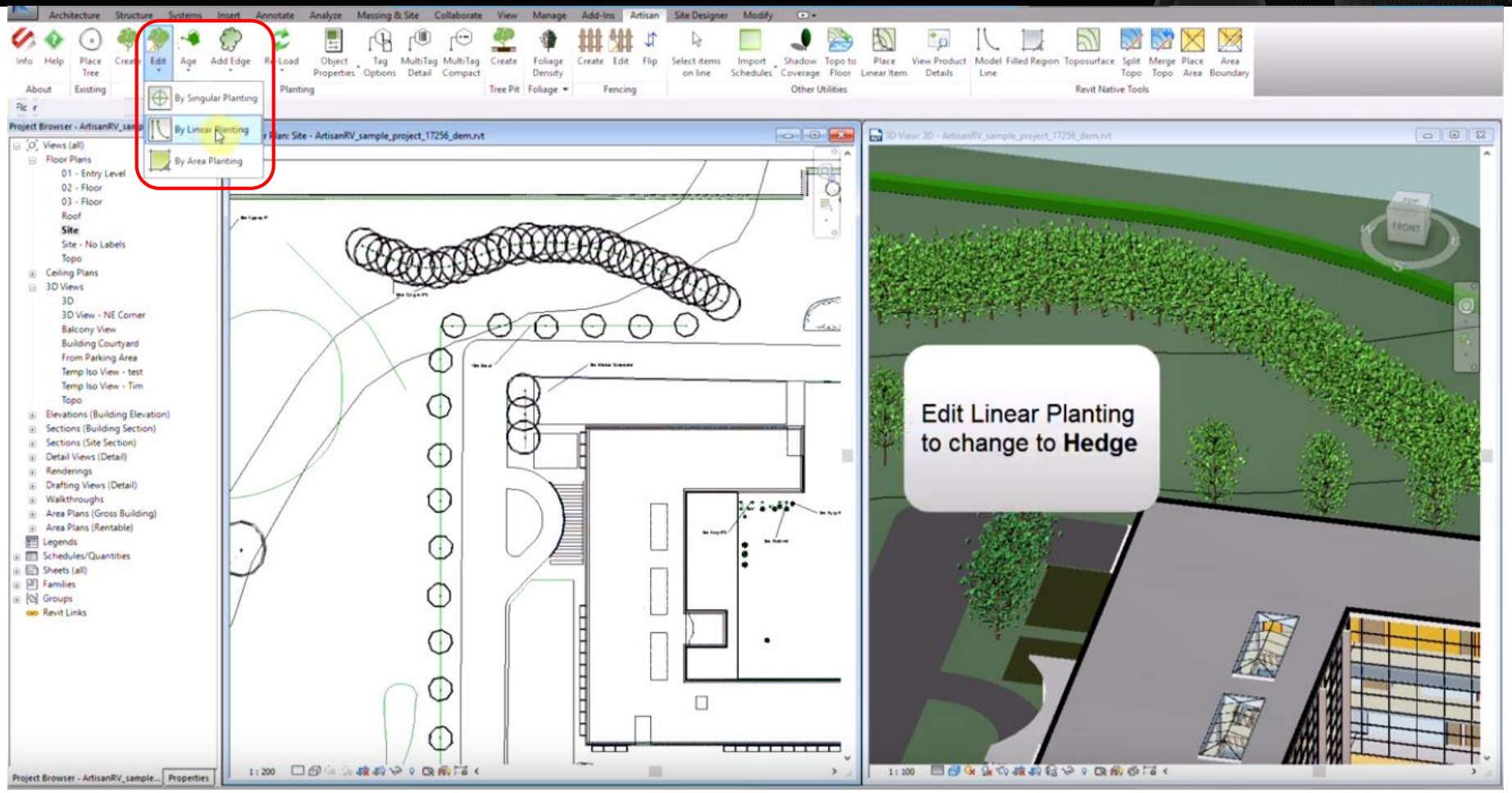
- **Pick a line in model**



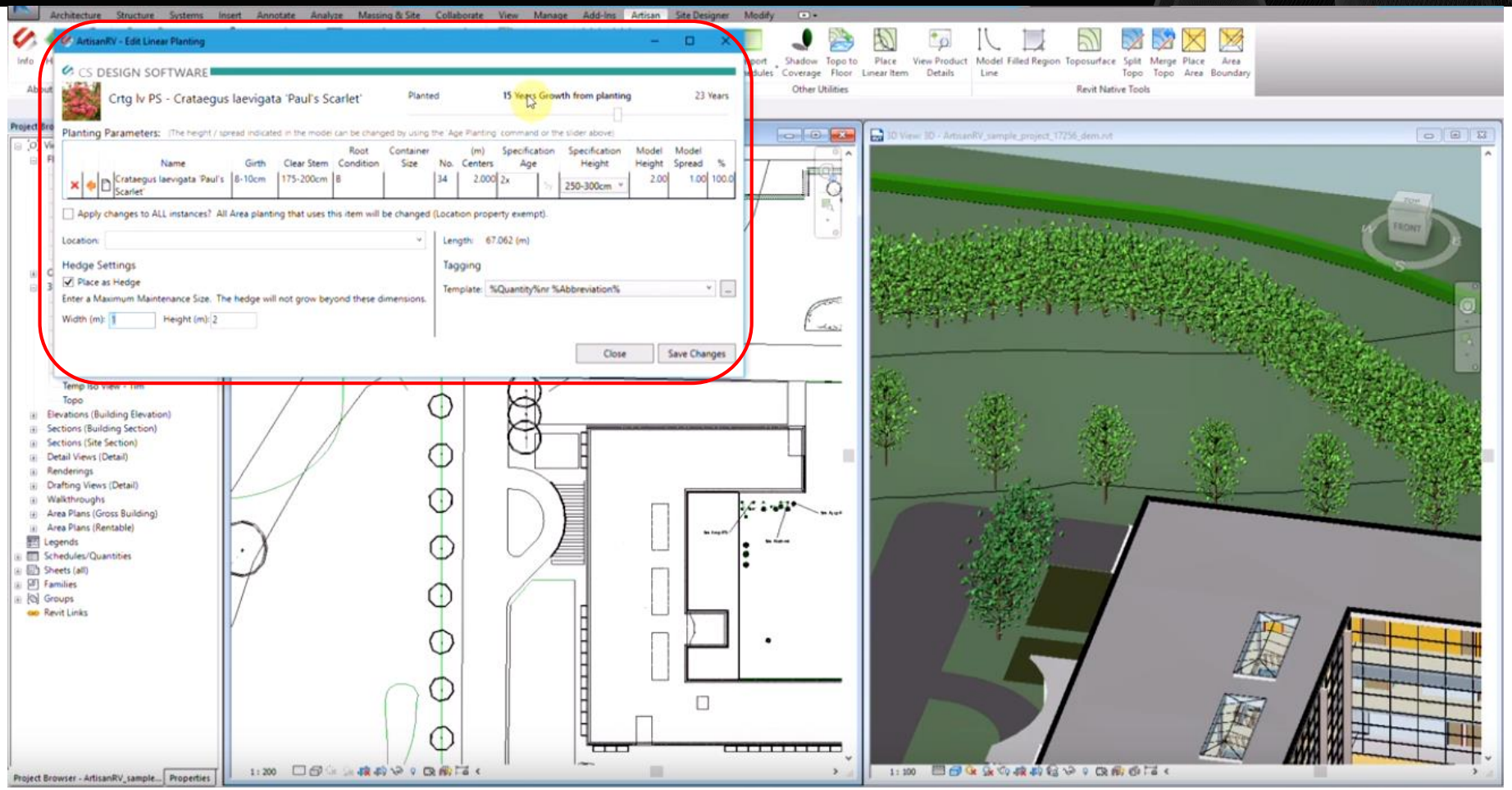
- **Planting projected on topography**



▪ Edit Linear Planting

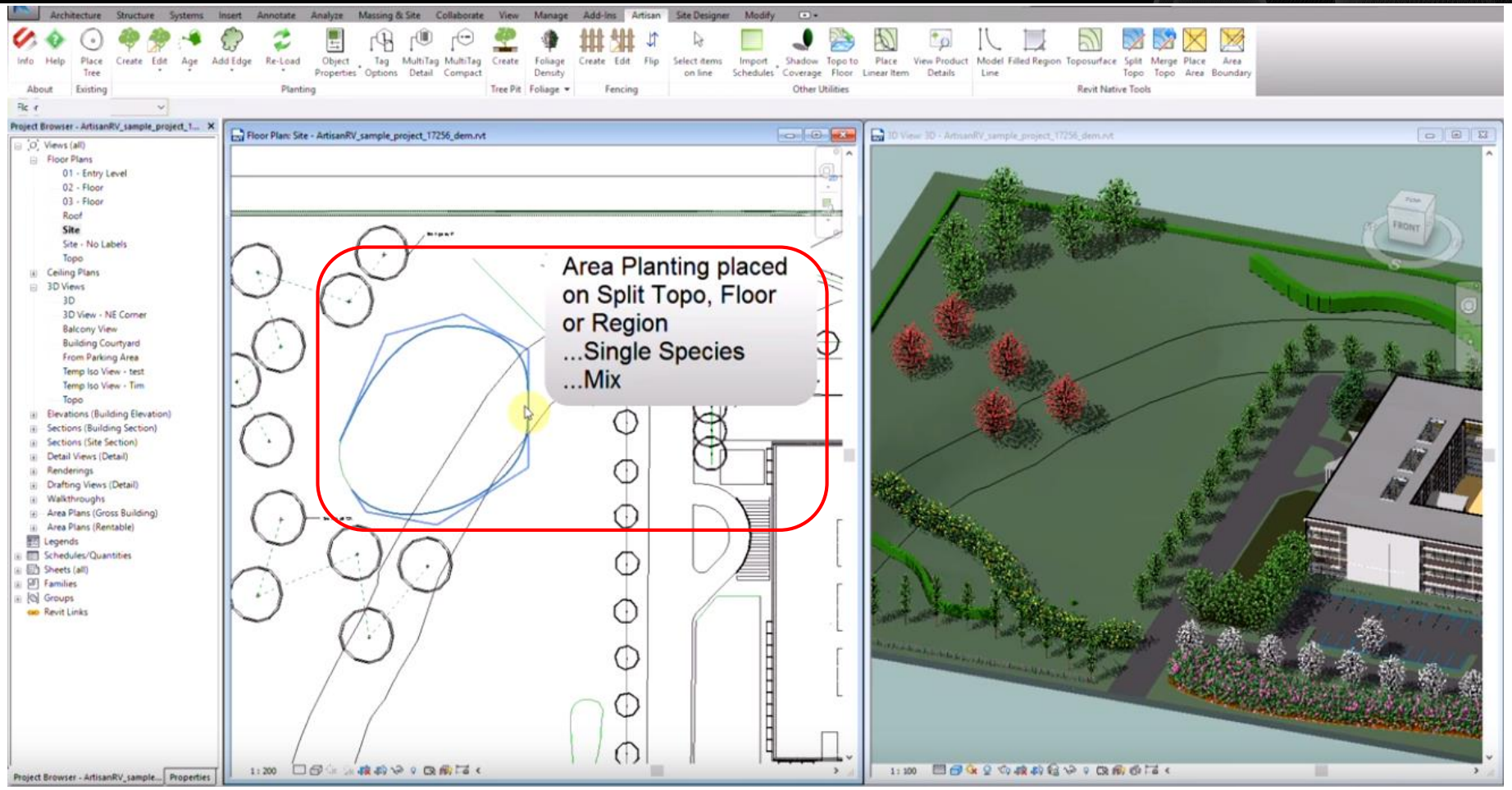


Edit Linear Planting



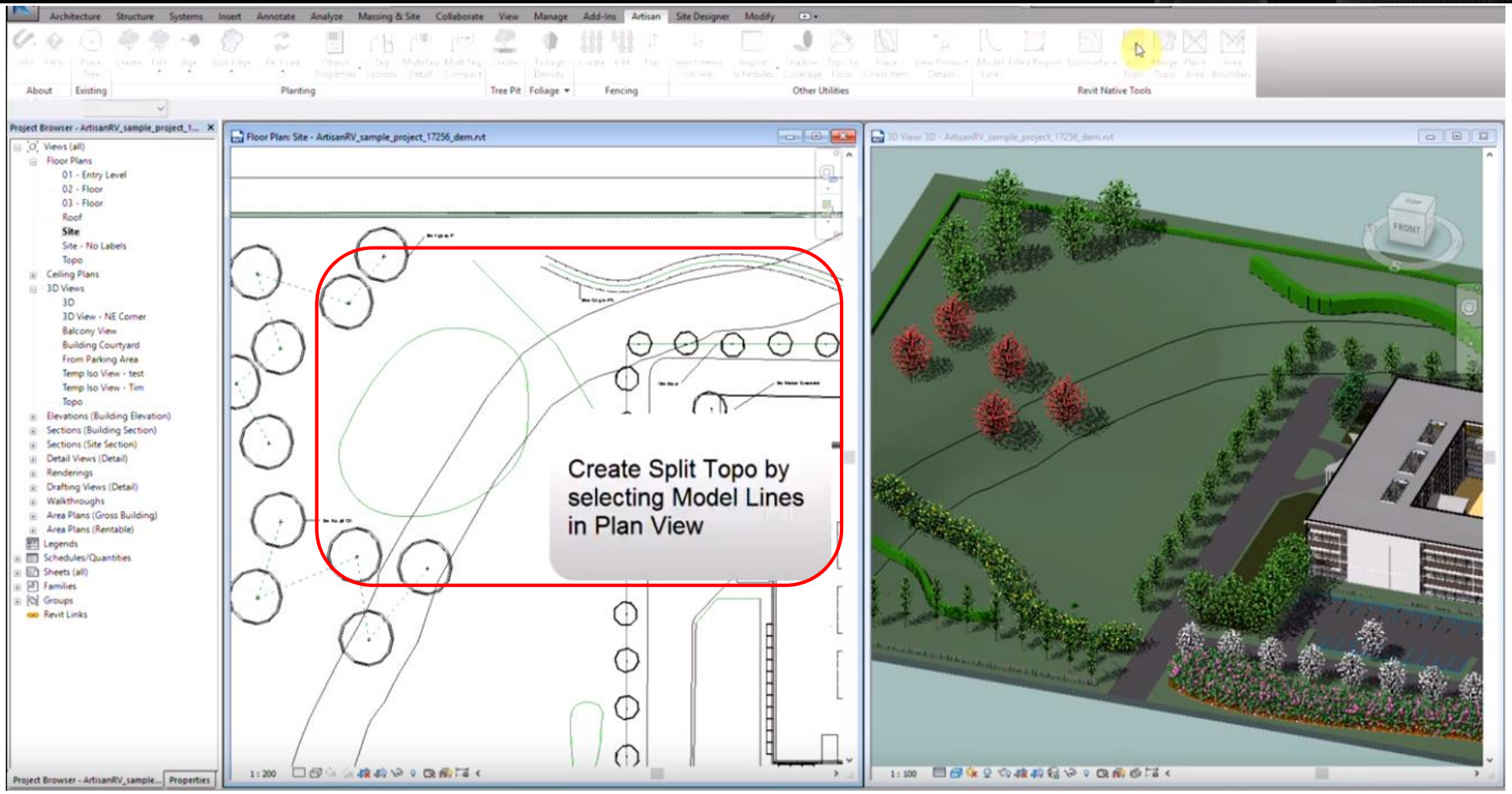
Area Planting

Area Planting



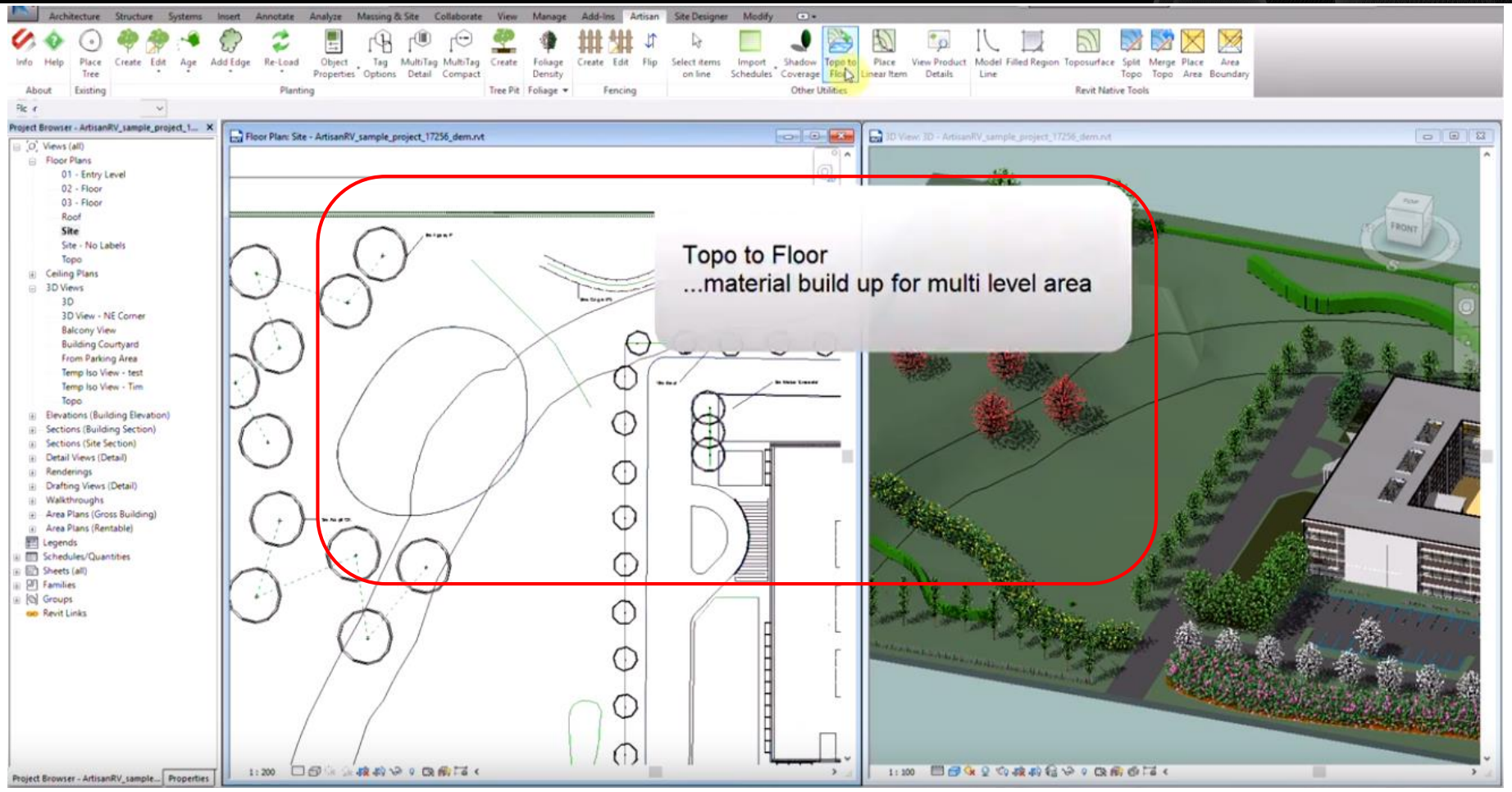
- **Area Planting can be placed on Split Topo, Floor or Region**
- **It can be defined by single or mix species**

Area Planting – Split Topo

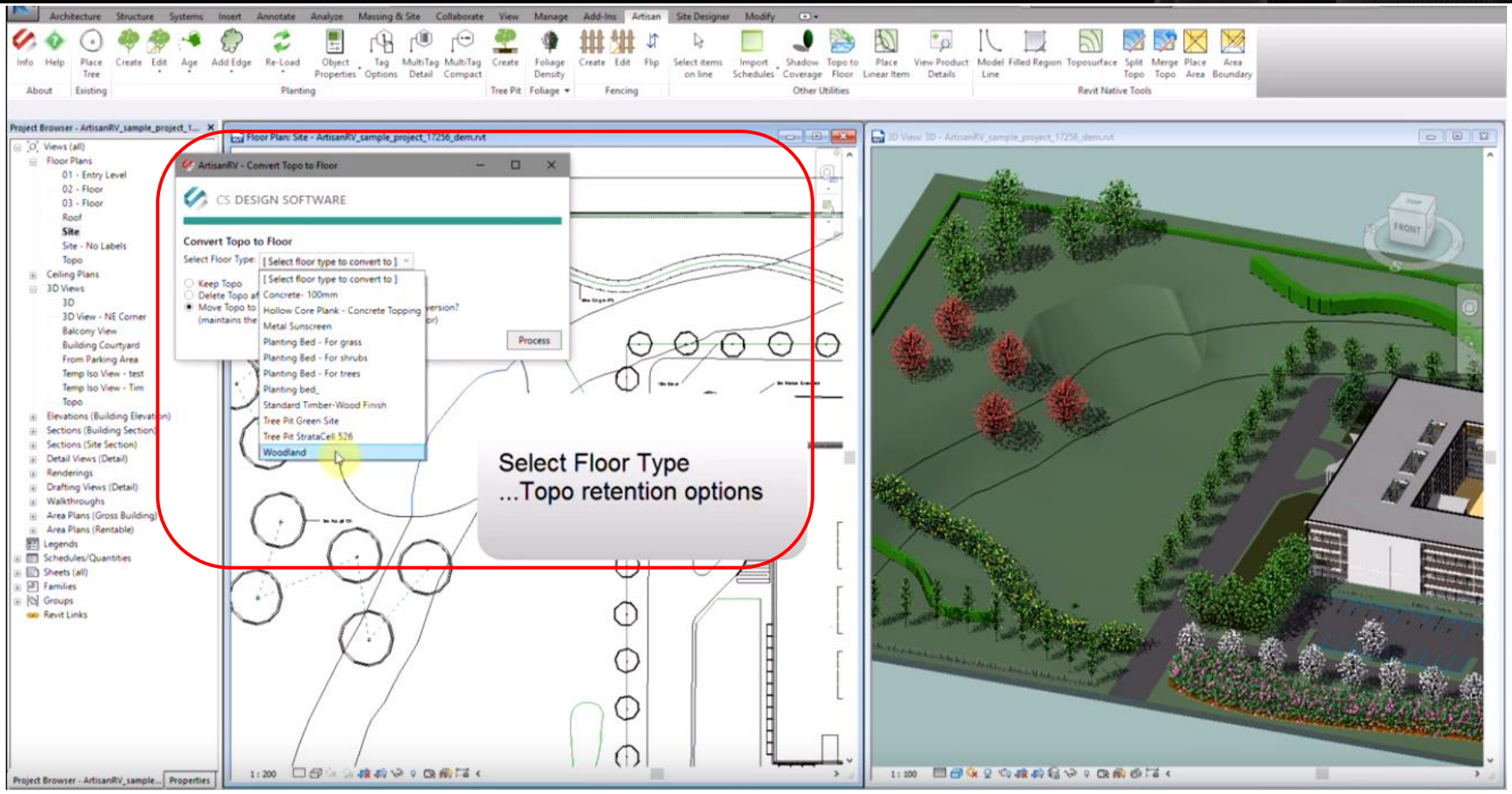


- Create split topo

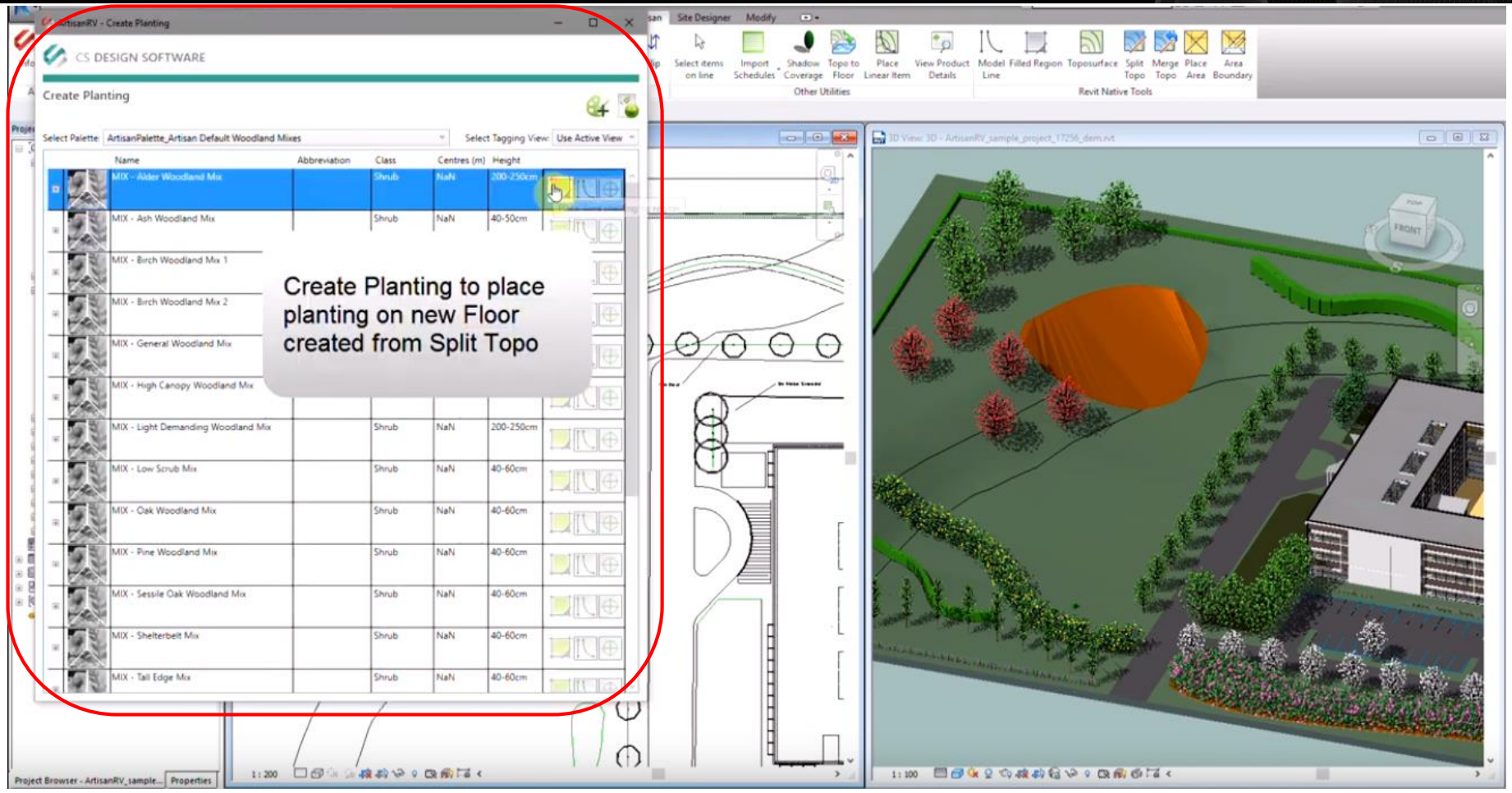
- **Area Planting – Convert split topo to floor by Artisan**



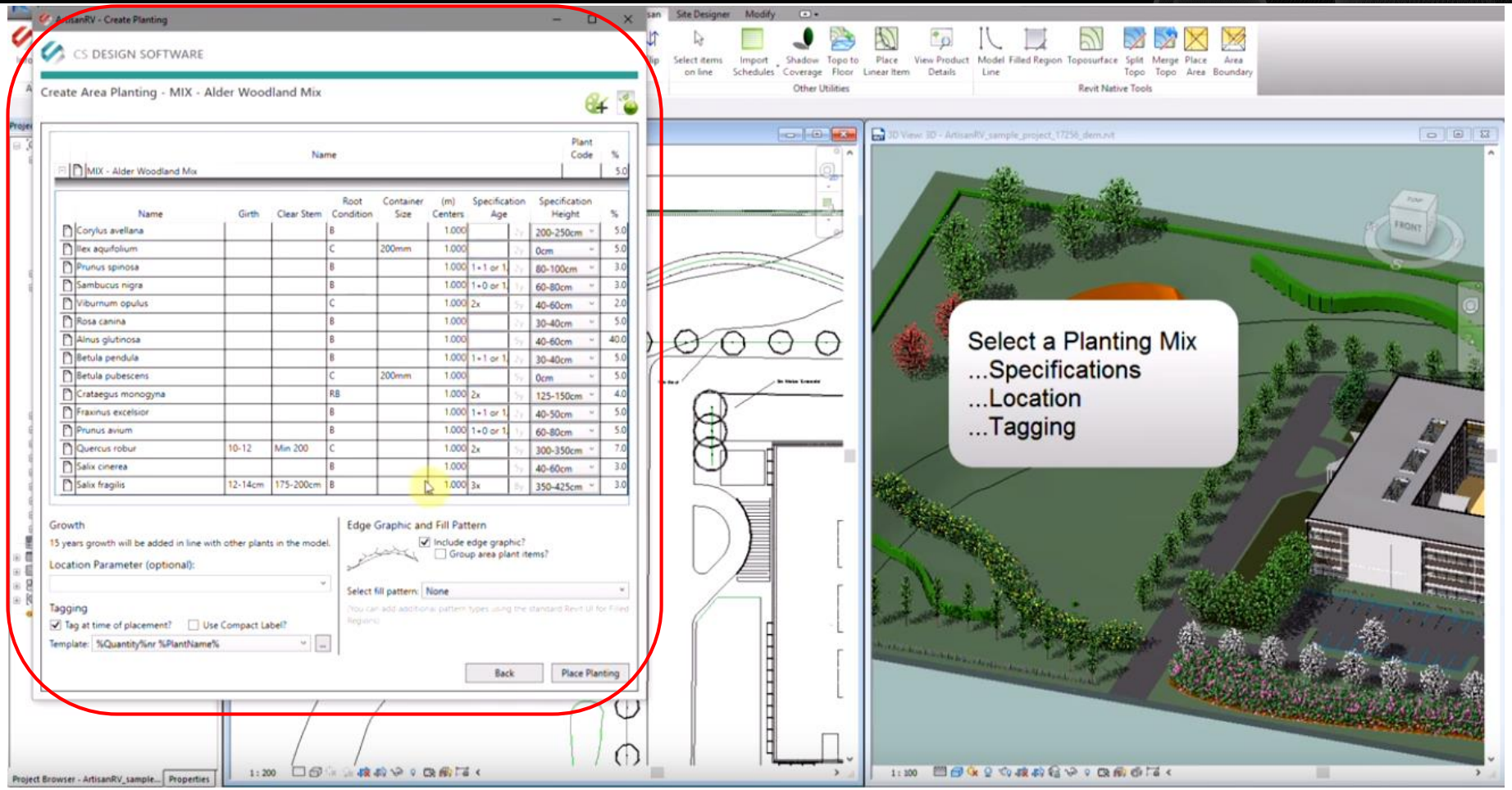
- **Area Planting – Select the floor into Woodland**



▪ Area Planting – Create Planting

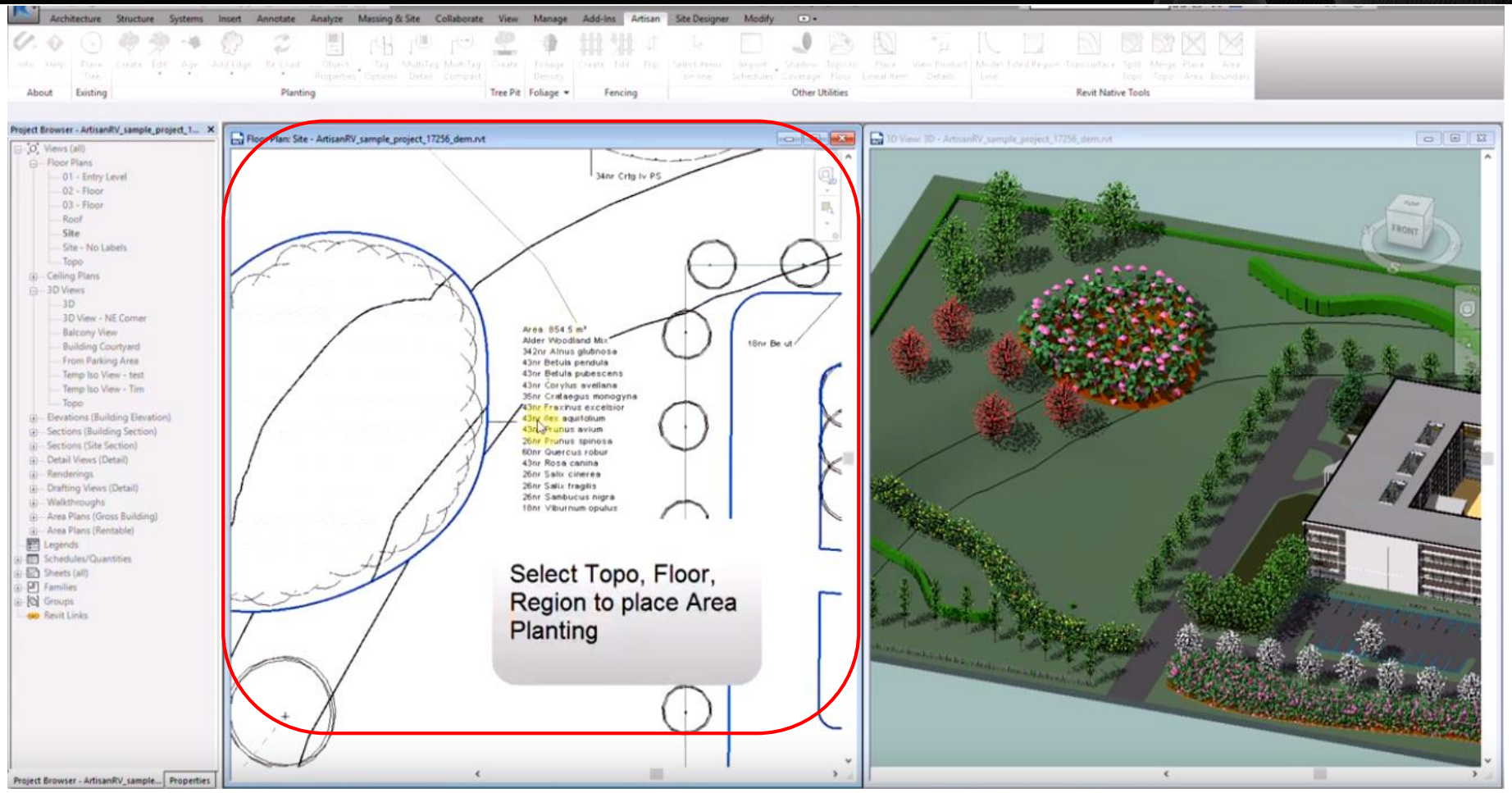


▪ Area Planting – Create Planting



- **Edit and input information for the planting**

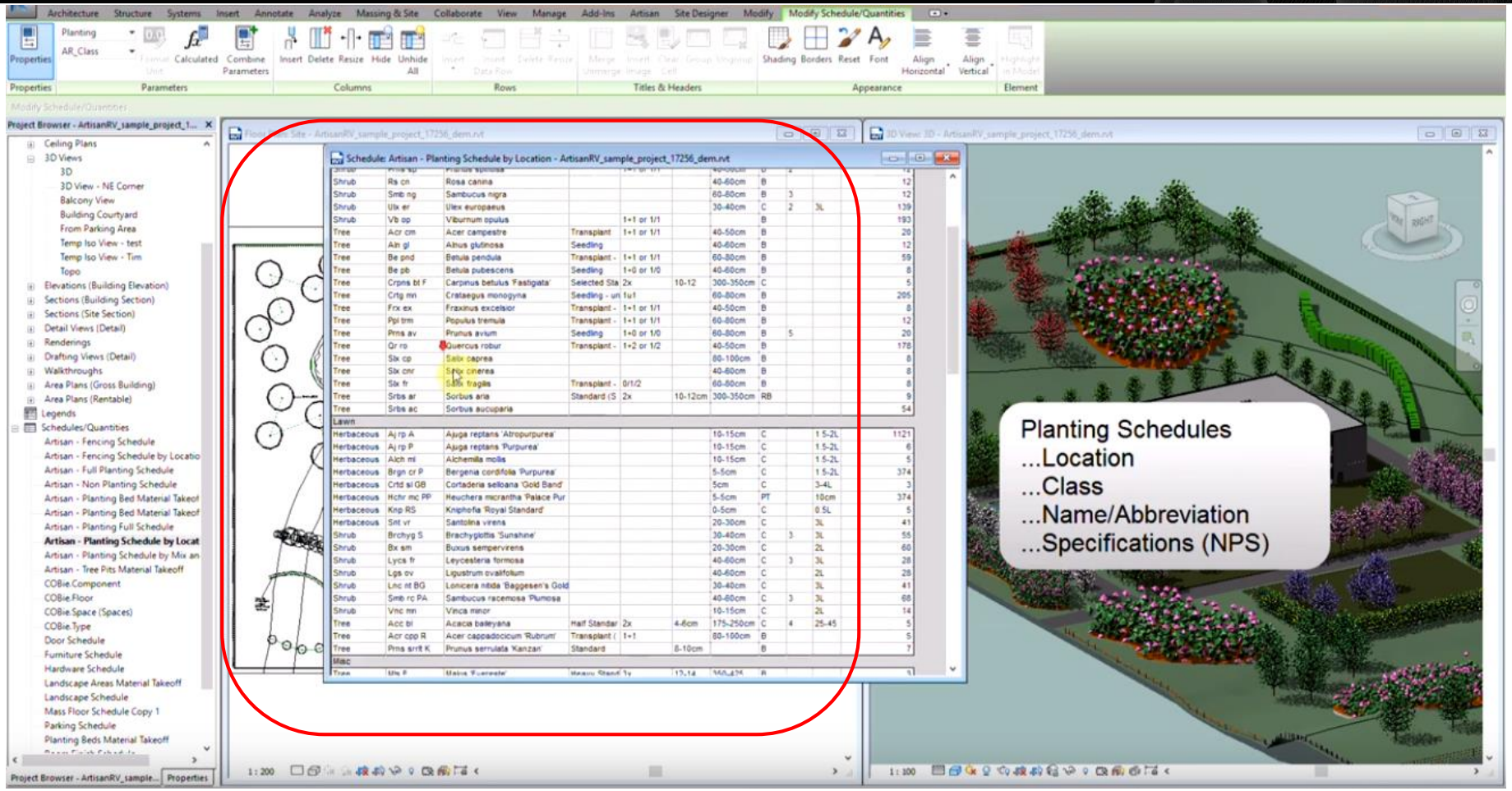
Planting with Information code



- **Label can be edited by editing function**

Planting Schedule

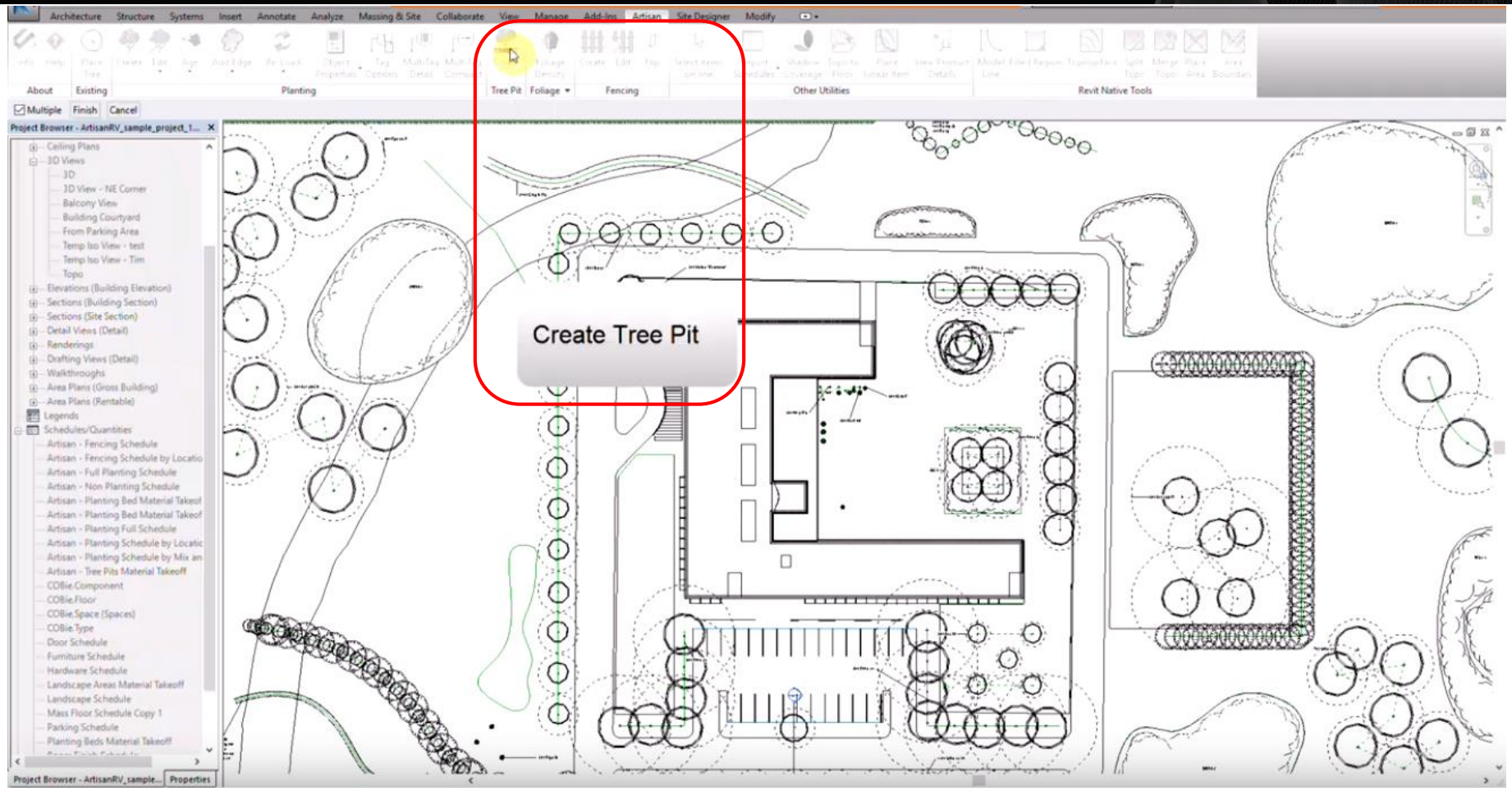
Planting Schedule



- By Location and plant class

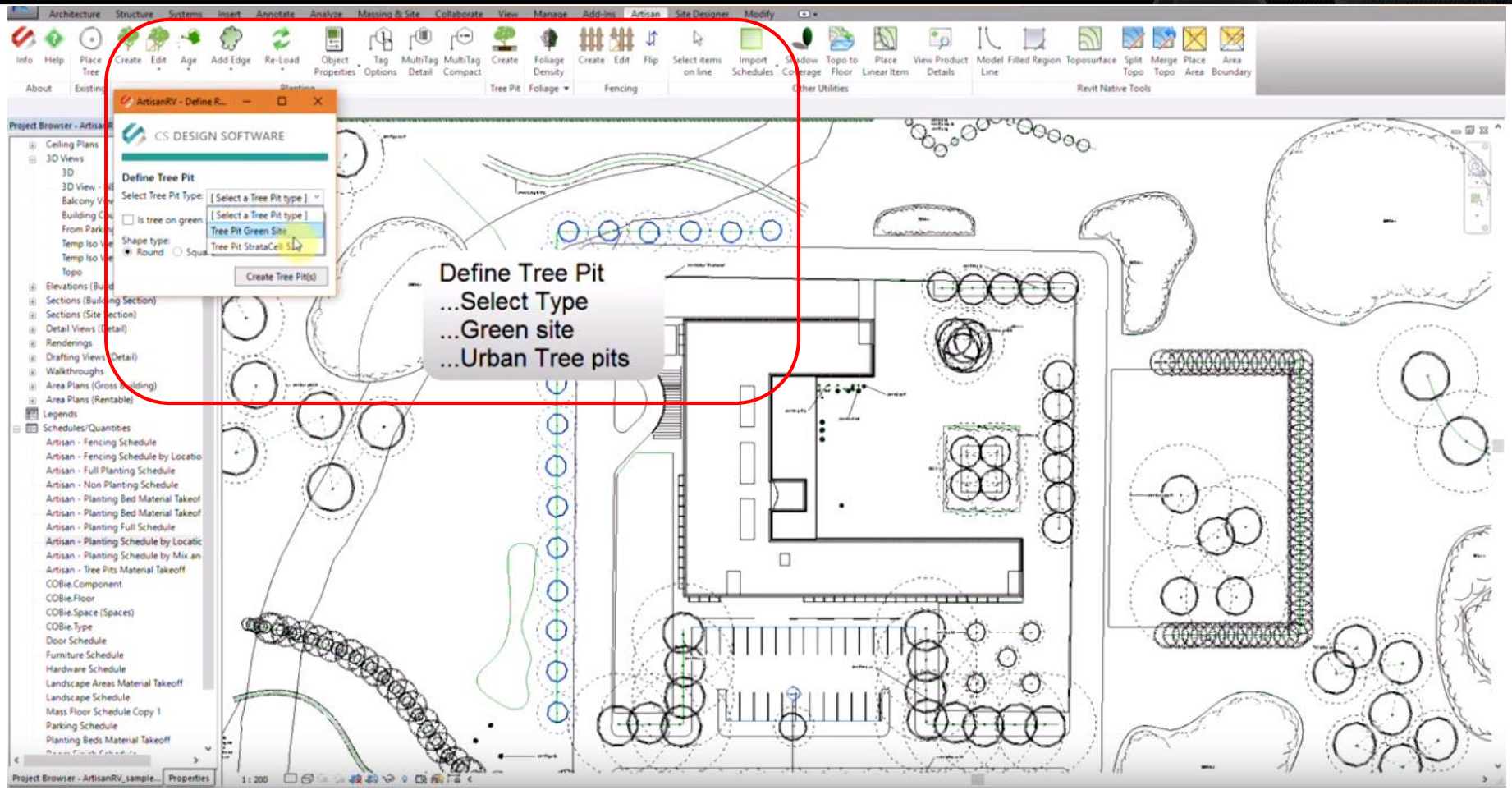
Tree Pit

Tree Pit

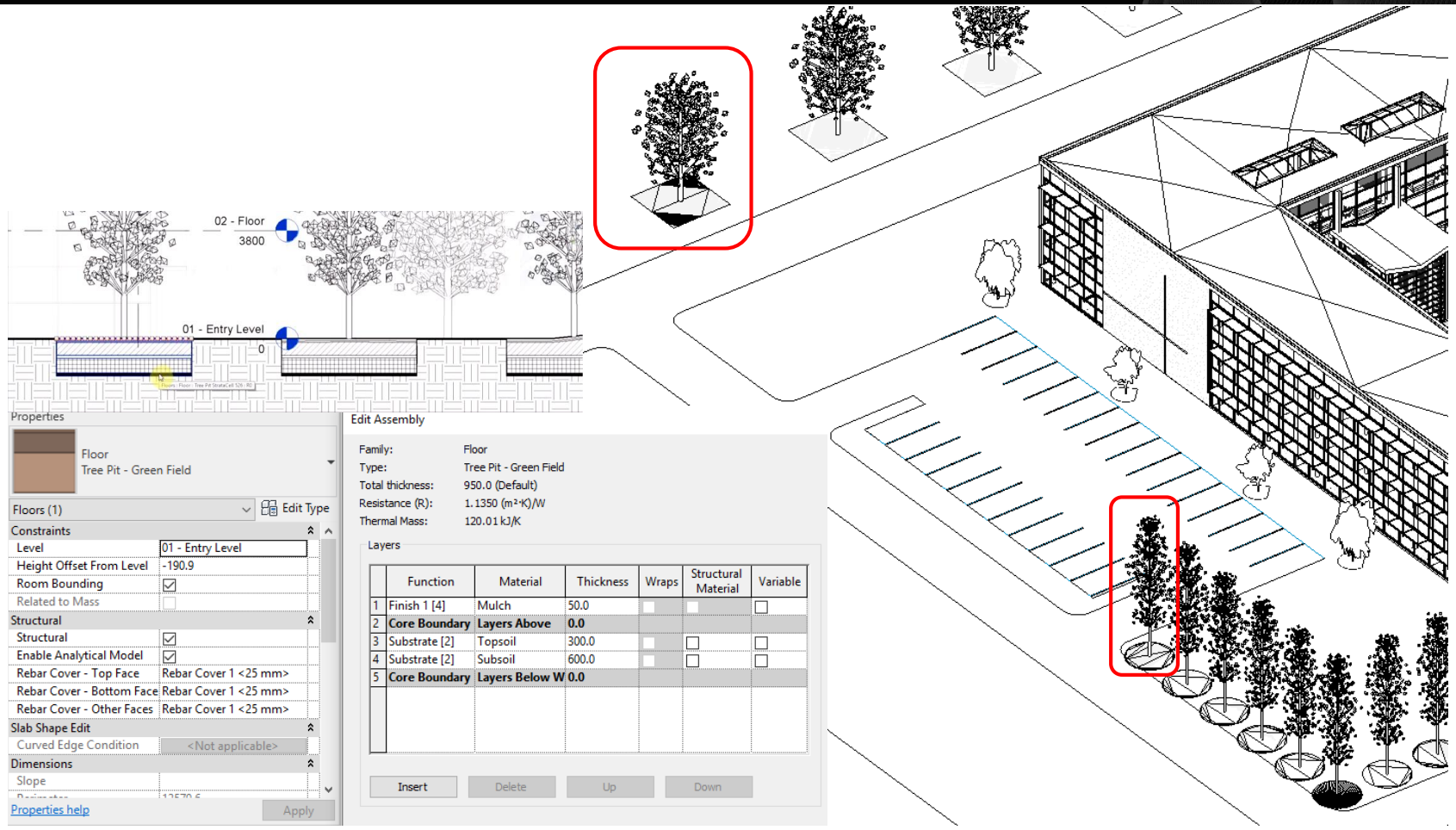


- **Create Tree Pit by Artisan**

▪ Select Tree Pit Type



▪ Select Tree Pit Type



Thank you