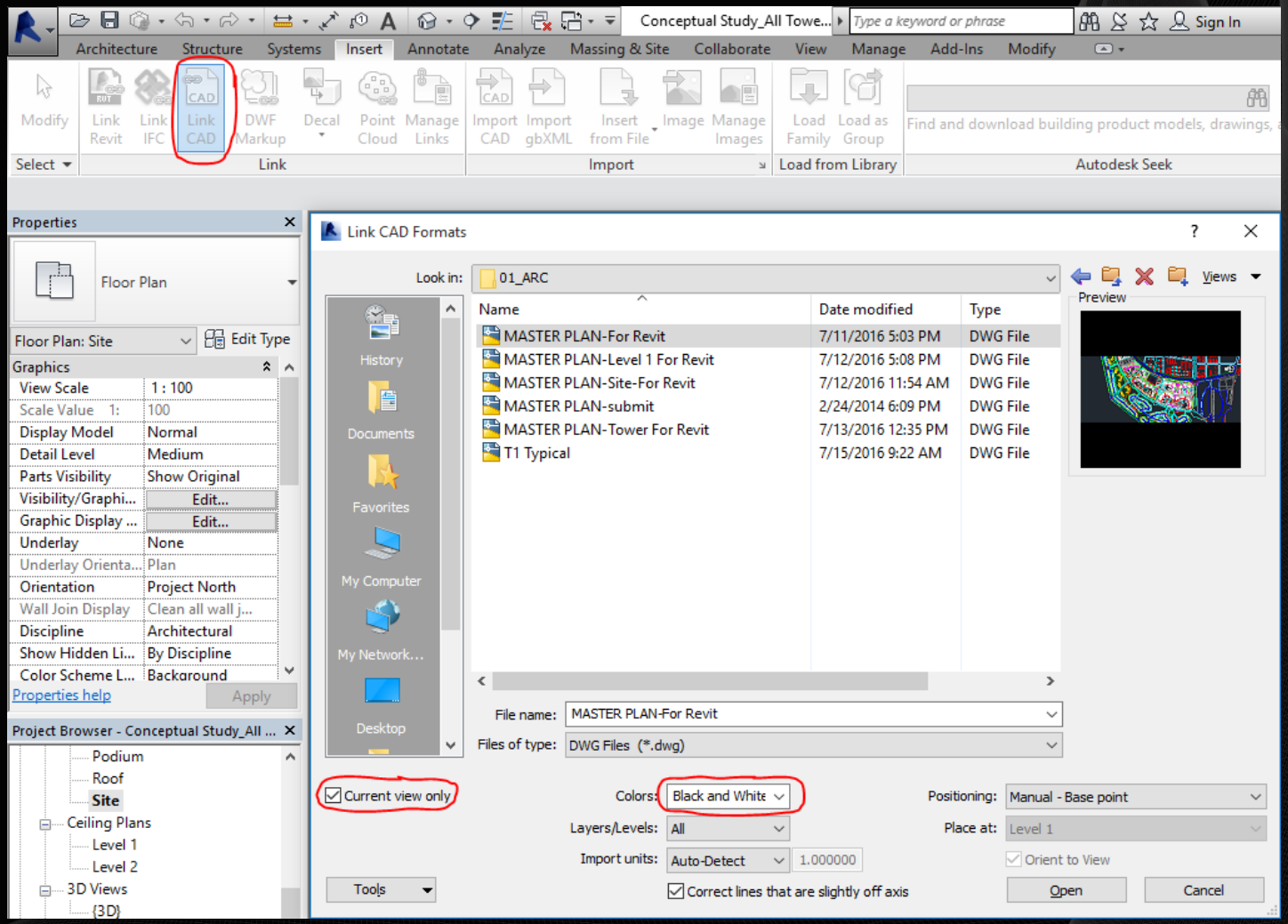
A DVANCED
C ONSTRUCTION
I NFORMATION
D EVELOPMENT

Conceptual Mass

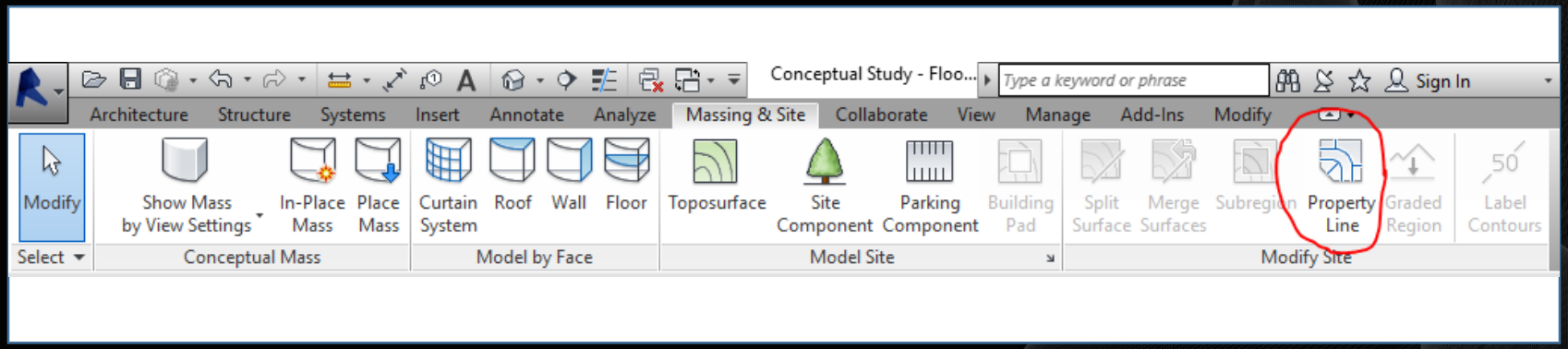
Link Cad File

- **To insert an existing Cad file as a reference drawing by using the “Link Cad” command.**



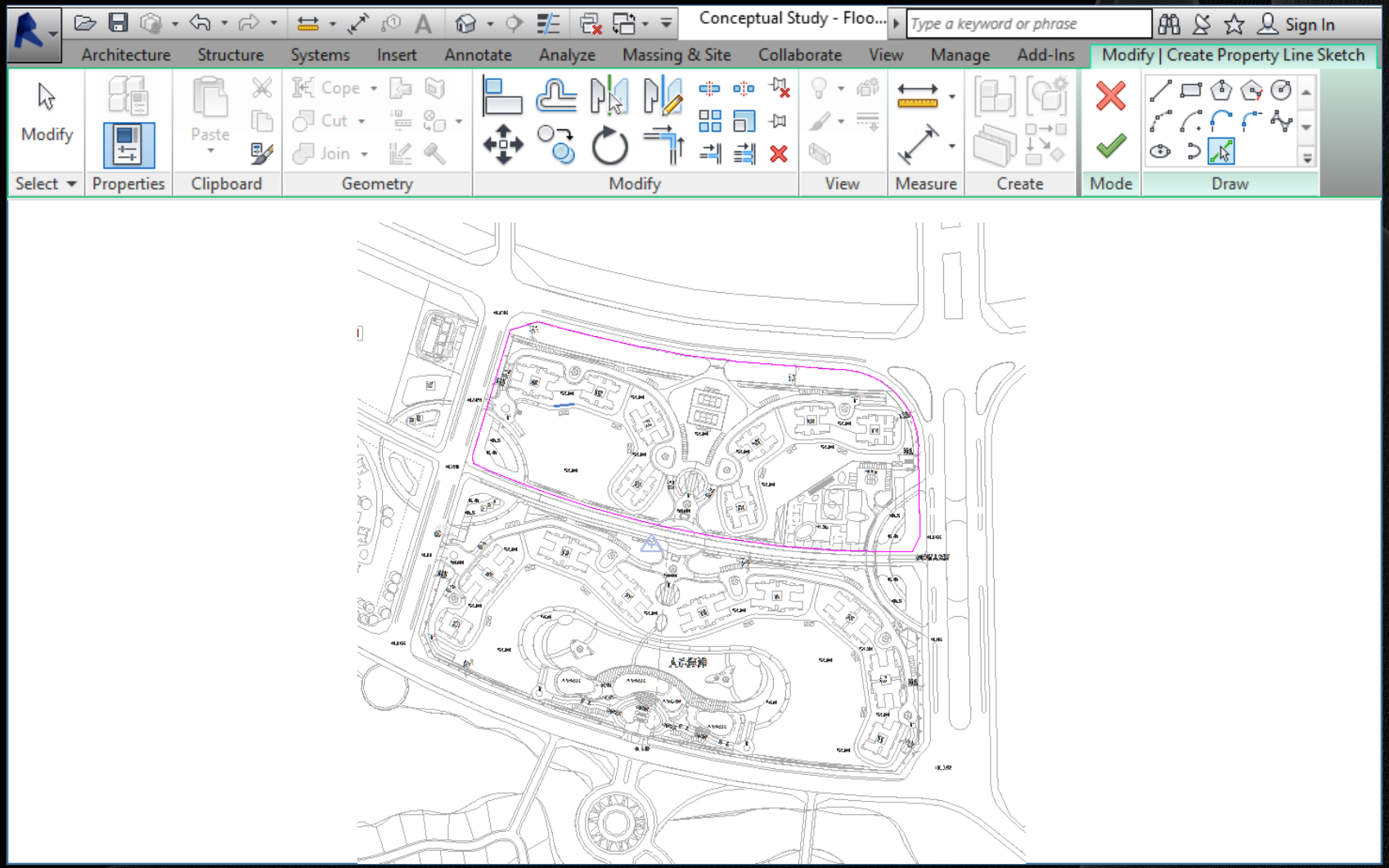
Site Boundary

- **Draw the site boundary over the linked cad file by using “Property Line” tool.**



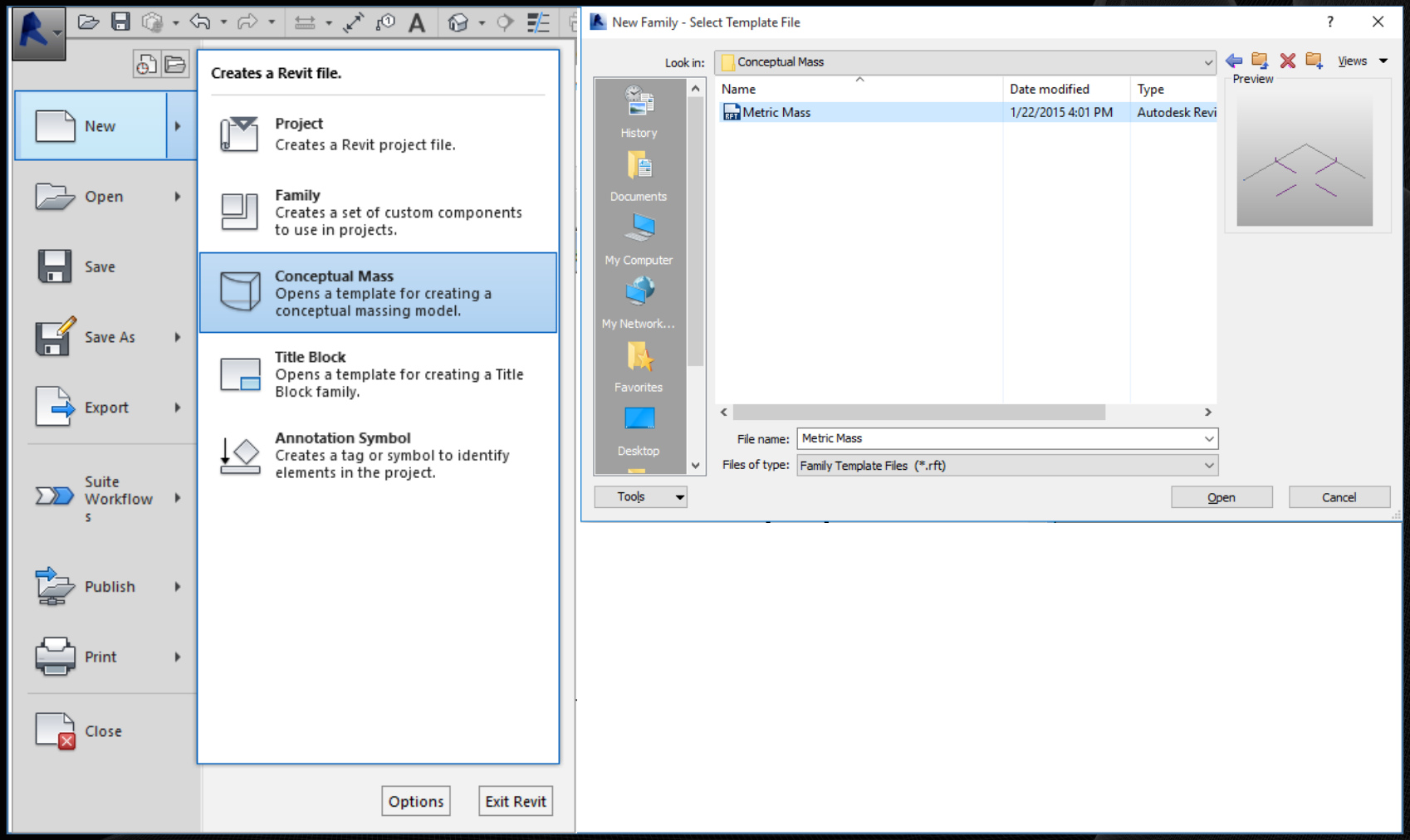
- **Select “Create by sketching”.**

- **Use the pick or draw line tool to create the site boundary line.**

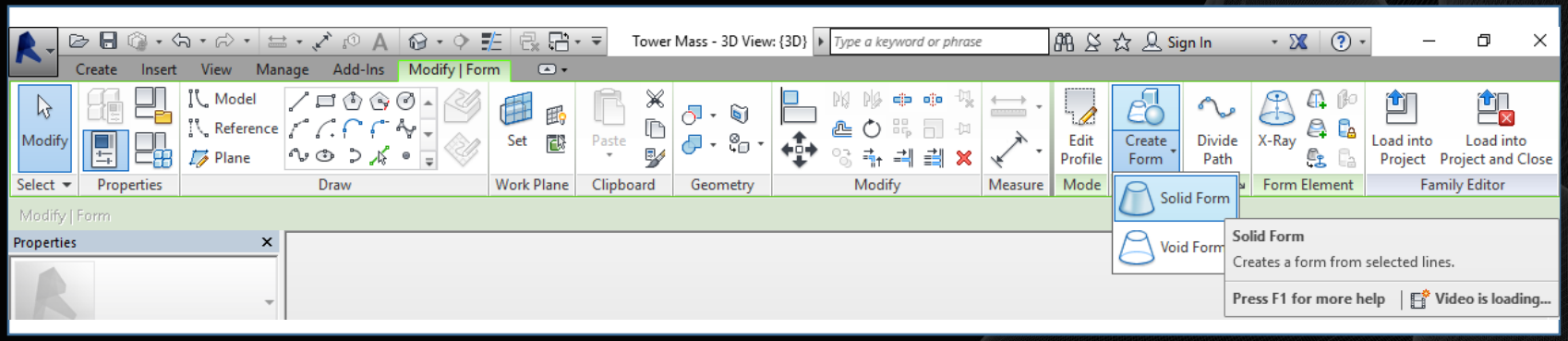


Conceptual Mass

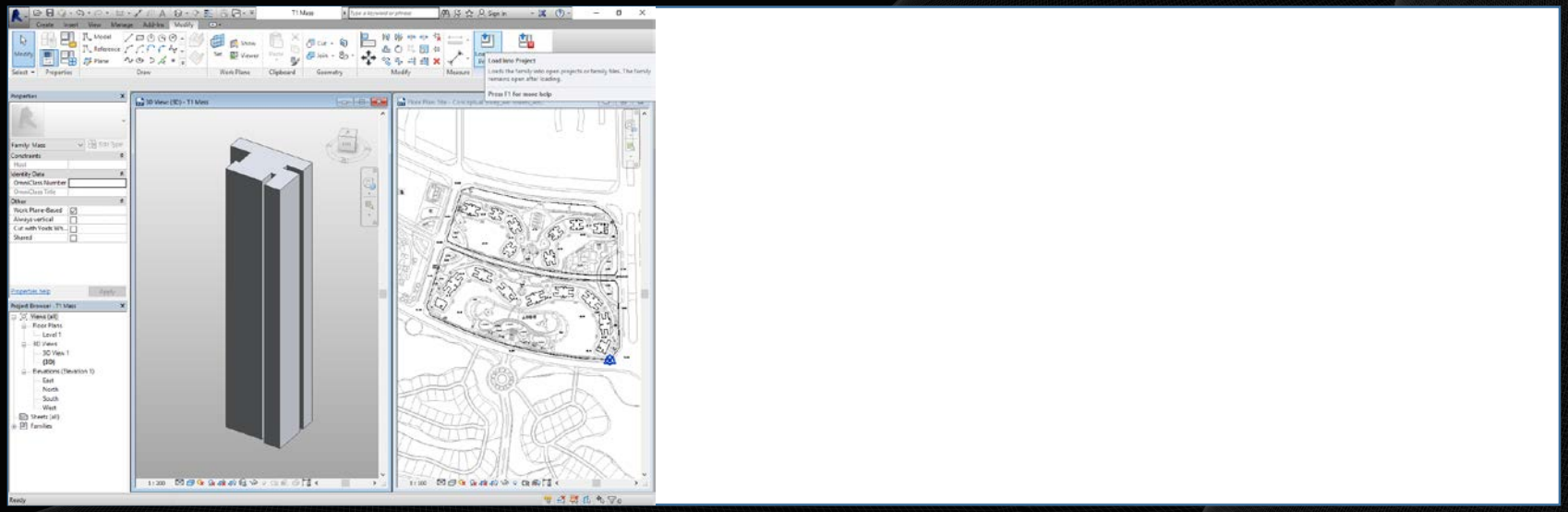
- **Open a new Conceptual Mass file and select the Metric Mass template.**



- **Use the pick line tool to pick the outline of tower on the reference plan and create solid form. (You can also draw any building form if you start from scratch)**

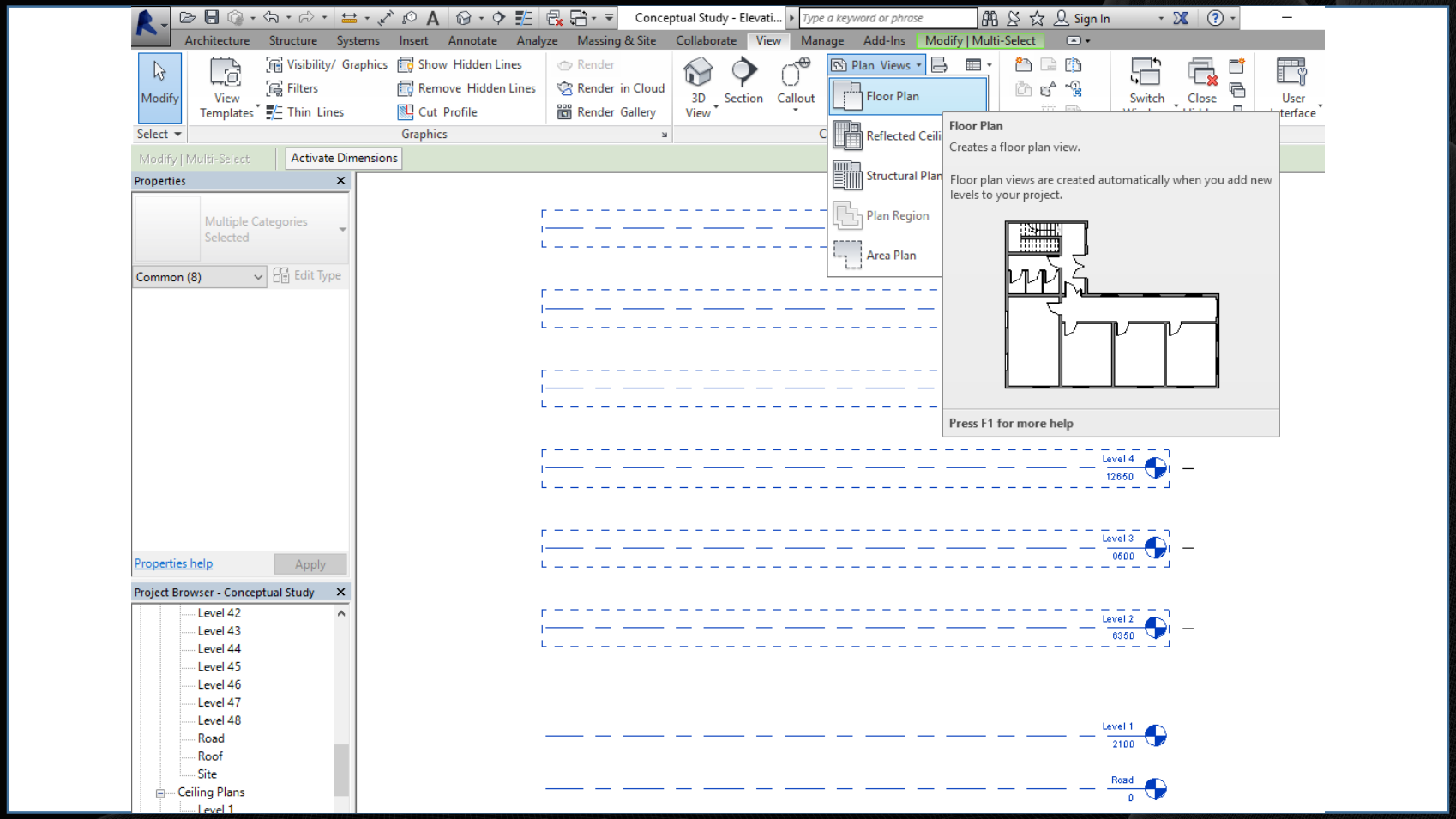


- **Select “Load into Project” to load the Mass family into the project.**

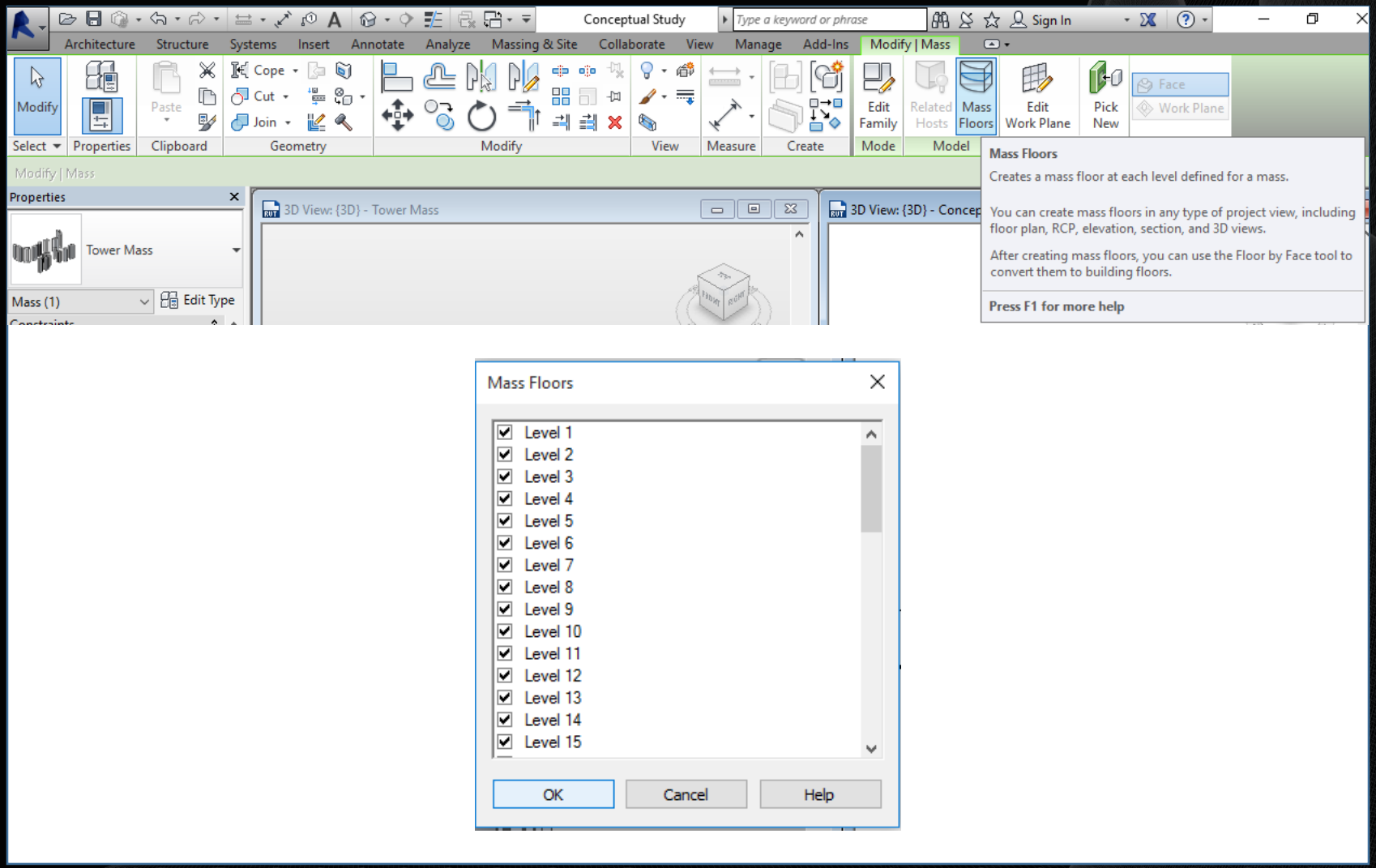


Create Floor Plan Views and Floor Slabs

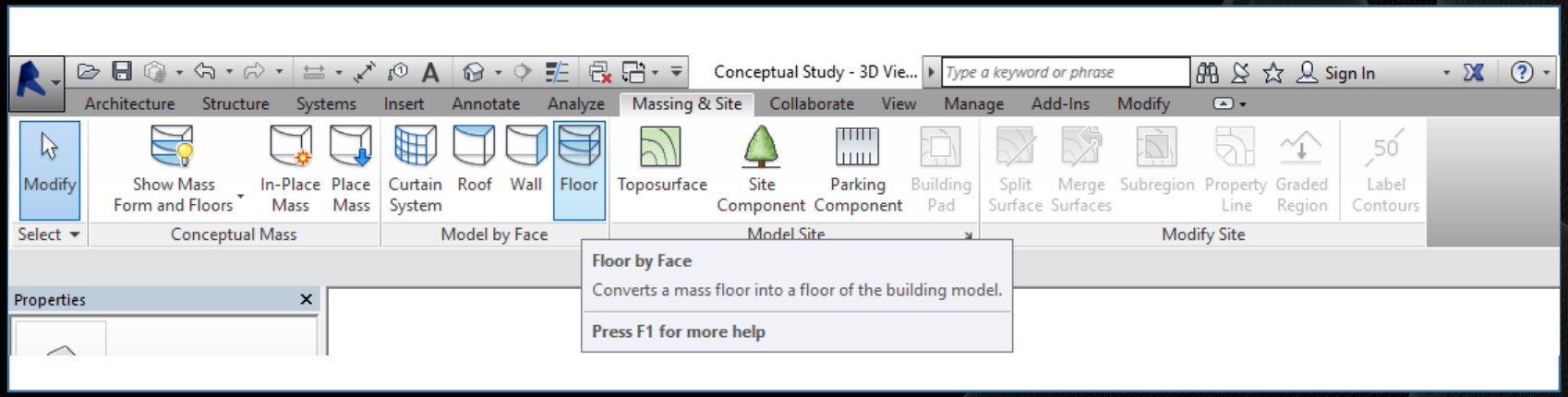
- Turn on any elevation view and add new levels.
- Under the “View” category, choose “Plan View” to create “Floor Plan” views for each level.



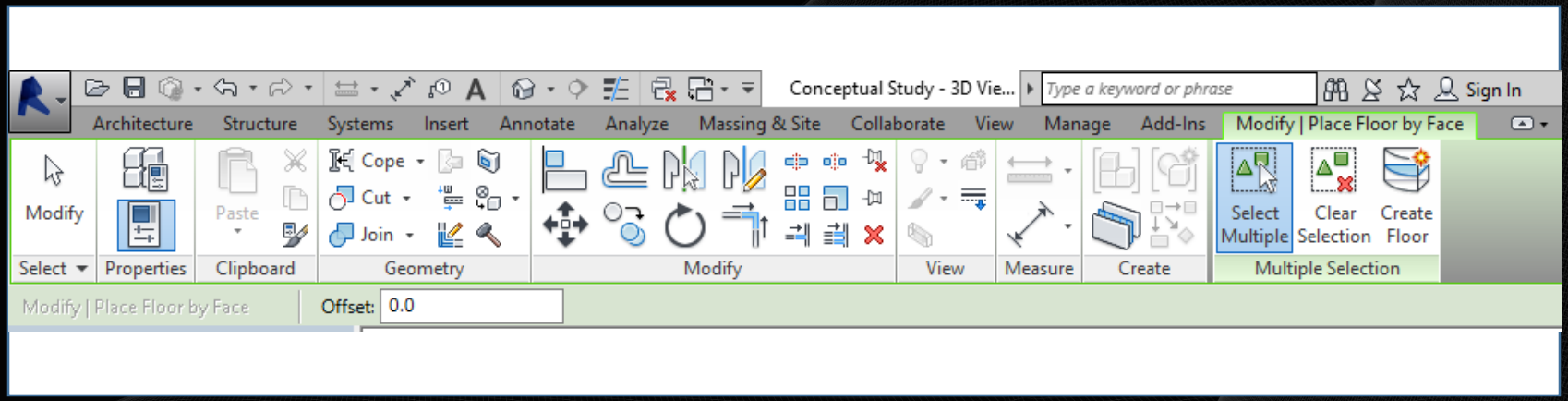
- **Create floors for each level by using the “Mass Floors” command.**



- **Select “Floor” under the Mass & Site category to convert a mass floor into floor slab.**

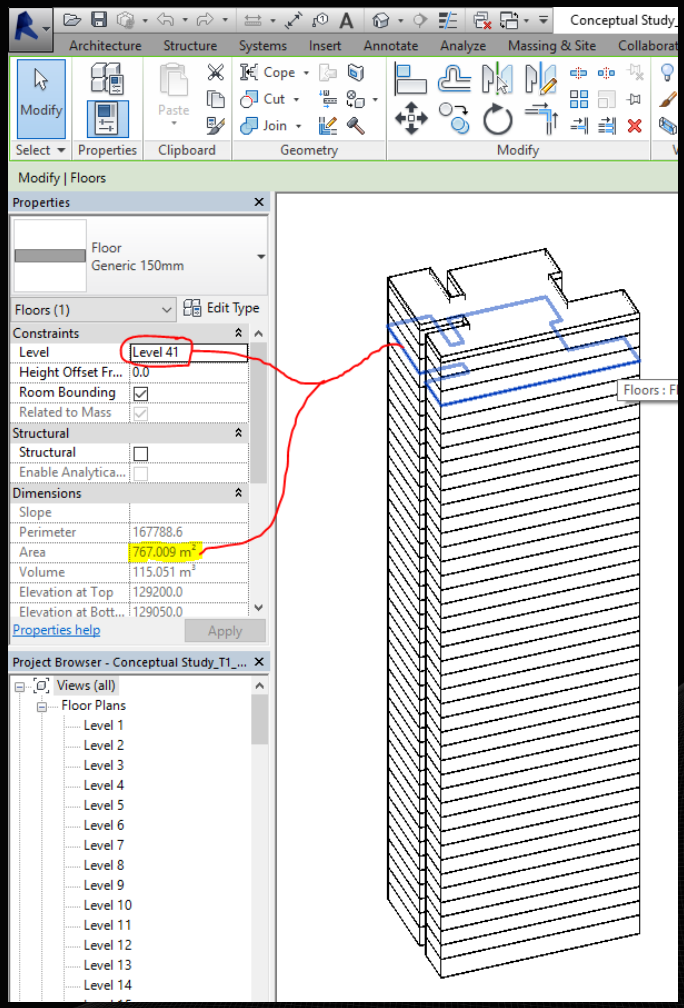


- **Use “Select Multiple” to select all levels and press “Create Floor”.**



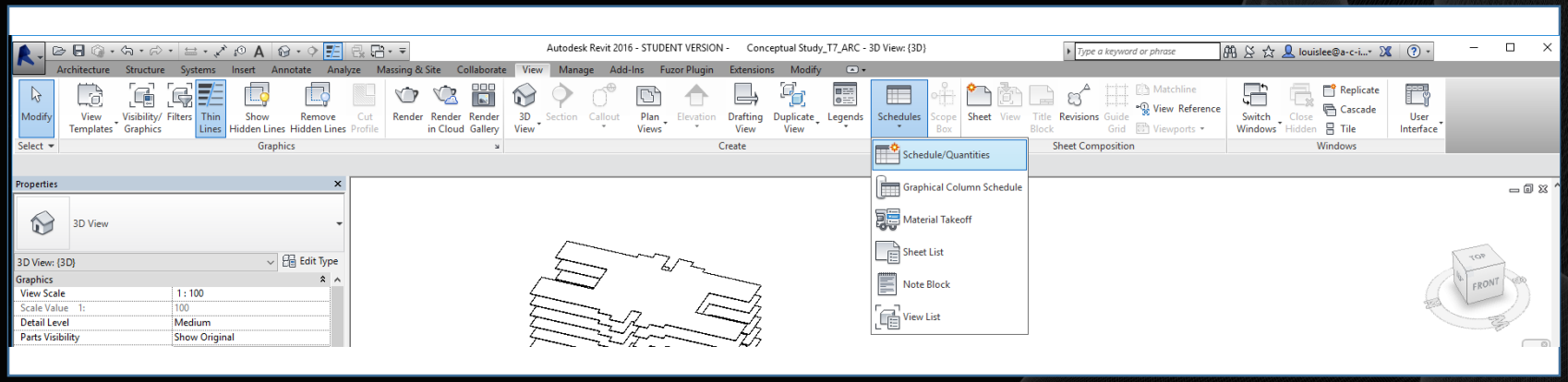
Area of each Typical Floor

- **Once the mass floors have been created, the area for each floor is shown in “Properties”.**

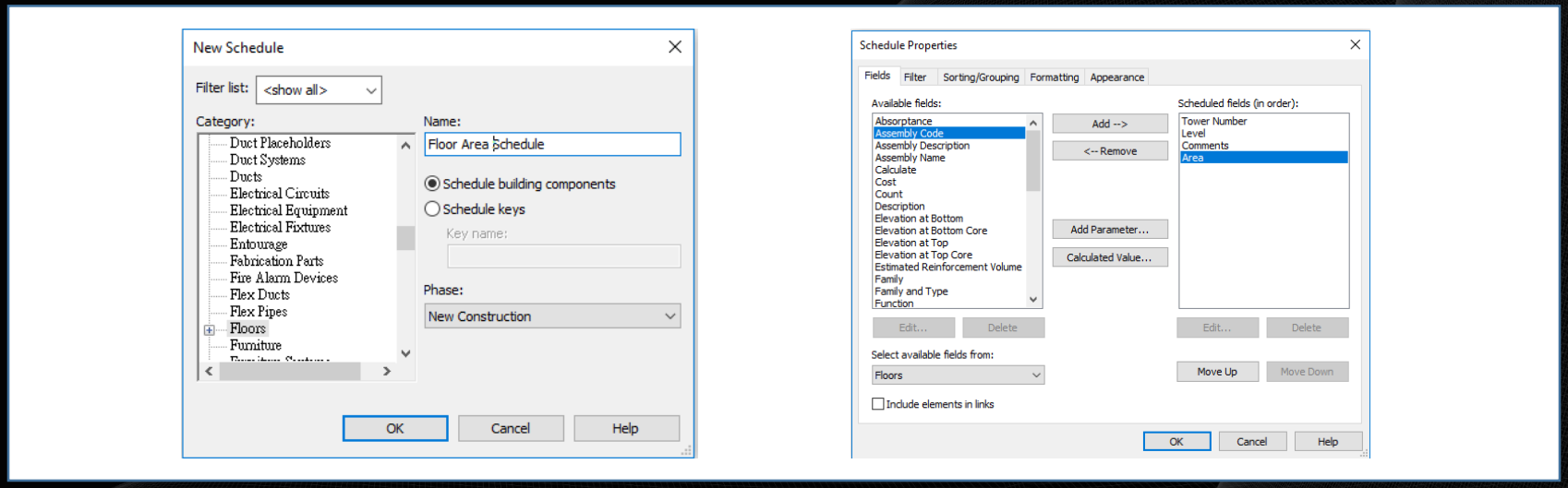


Create Floor Area Schedule

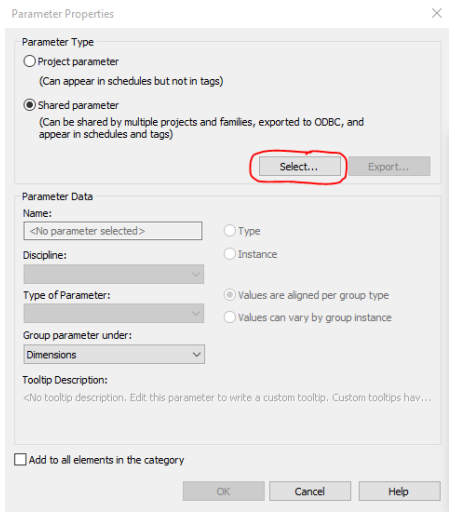
- **Select “Schedule/Quantities” to create a floor schedule.**

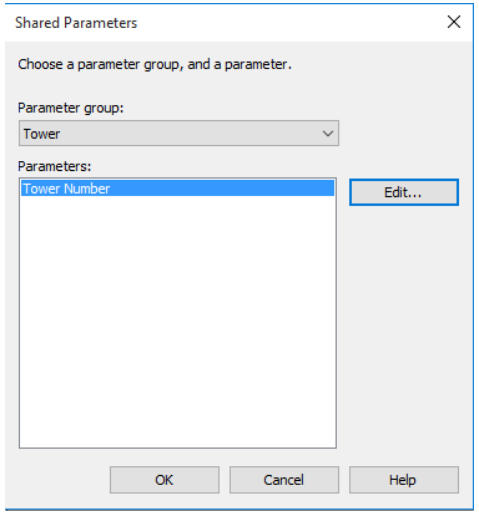


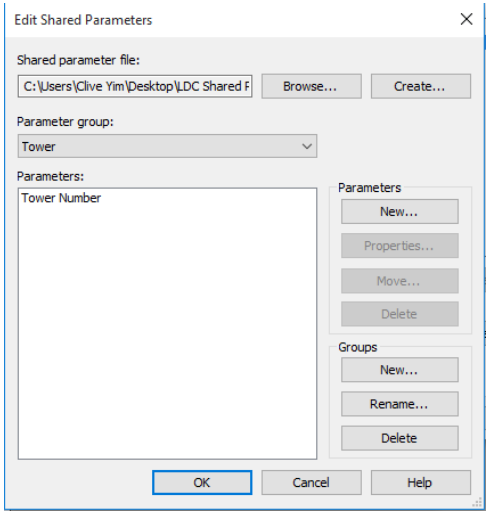
- **Select Floor Schedule and add fields for Level, Comments, Area**

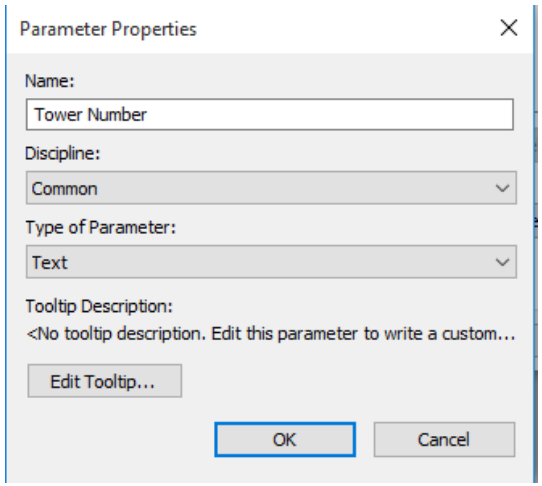


- **Add a share parameter for Tower Number.**





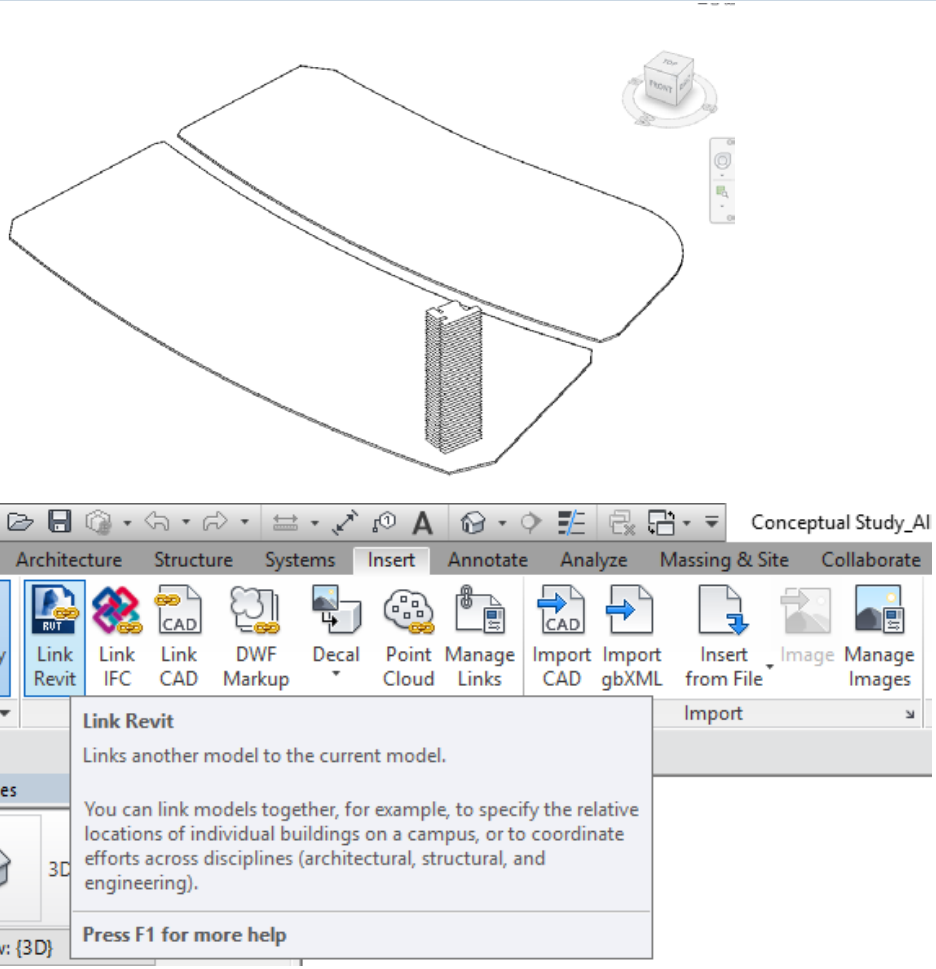




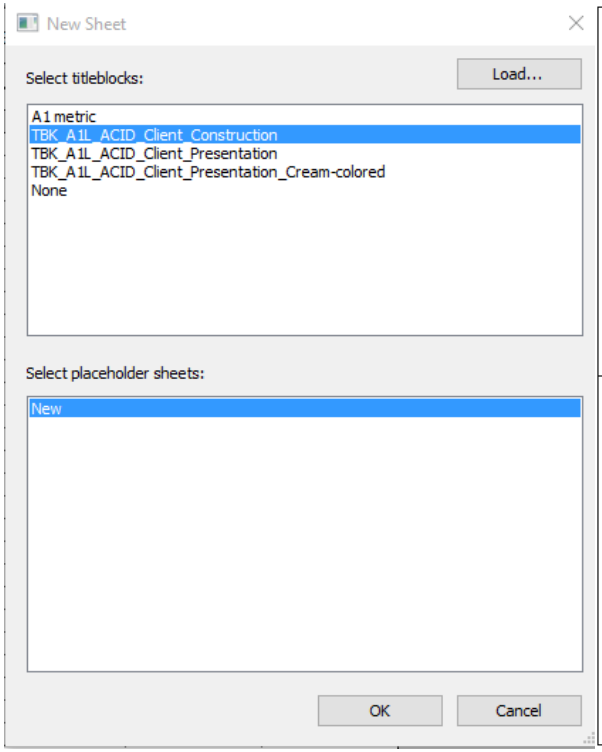
<Floor Area Schedule>

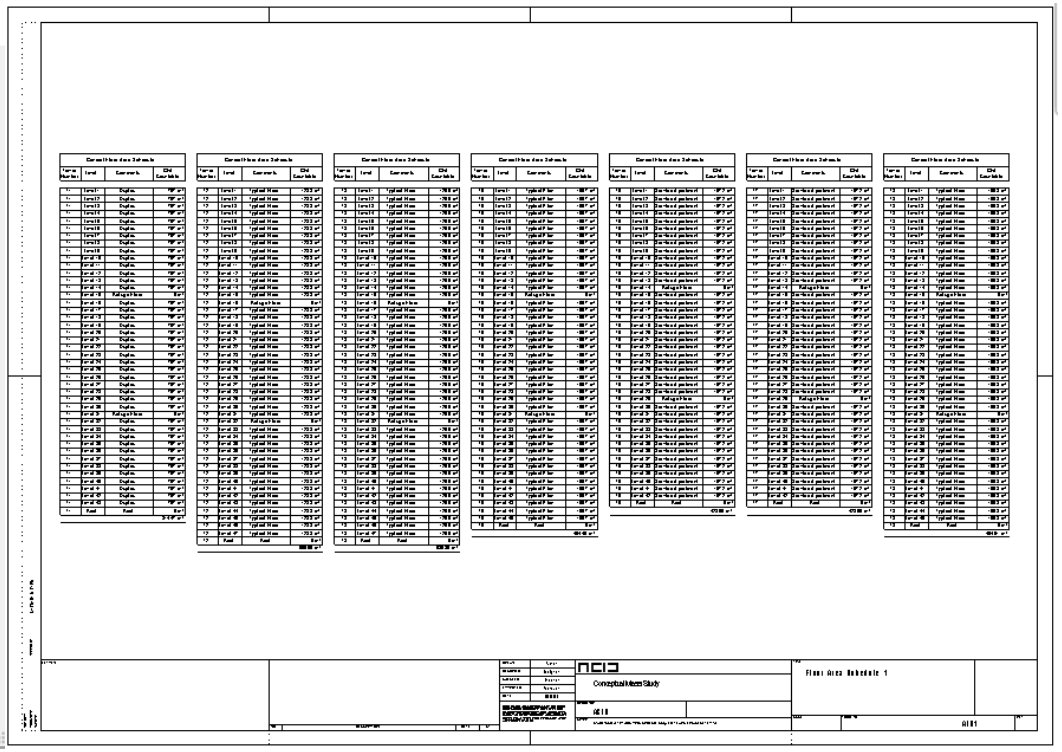
A	B	C	D
Tower Number	Level	Comments	Area
T7	Level 1	Service Apartment	1072 m²
T7	Level 2	Service Apartment	1072 m²
T7	Level 3	Service Apartment	1072 m²
T7	Level 4	Service Apartment	1072 m²
T7	Level 5	Service Apartment	1072 m²
T7	Level 6	Service Apartment	1072 m²
T7	Level 7	Service Apartment	1072 m²
T7	Level 8	Service Apartment	1072 m²
T7	Level 9	Service Apartment	1072 m²
T7	Level 10	Service Apartment	1072 m²
T7	Level 11	Service Apartment	1072 m²
T7	Level 12	Service Apartment	1072 m²
T7	Level 13	Service Apartment	1072 m²
T7	Level 14	Service Apartment	1072 m²
T7	Level 15	Service Apartment	1072 m²
T7	Level 16	Service Apartment	1072 m²
T7	Level 17	Service Apartment	1072 m²
T7	Level 18	Service Apartment	1072 m²
T7	Level 19	Service Apartment	1072 m²
T7	Level 20	Service Apartment	1072 m²
T7	Level 21	Service Apartment	1072 m²
T7	Level 22	Service Apartment	1072 m²
T7	Level 23	Service Apartment	1072 m²
T7	Level 24	Service Apartment	1072 m²
T7	Level 25	Service Apartment	1072 m²
T7	Level 26	Service Apartment	1072 m²
T7	Level 27	Service Apartment	1072 m²
T7	Level 28	Service Apartment	1072 m²
T7	Level 29	Service Apartment	1072 m²
T7	Level 30	Service Apartment	1072 m²
T7	Level 31	Service Apartment	1072 m²
T7	Level 32	Service Apartment	1072 m²
T7	Level 33	Service Apartment	1072 m²
T7	Level 34	Service Apartment	1072 m²
T7	Level 35	Service Apartment	1072 m²
T7	Level 36	Service Apartment	1072 m²
T7	Level 37	Service Apartment	1072 m²
T7	Level 38	Service Apartment	1072 m²
T7	Level 39	Service Apartment	1072 m²
T7	Level 40	Service Apartment	1072 m²
T7	Level 41	Service Apartment	1072 m²
T7	Level 42	Service Apartment	1072 m²
			45044 m²

- **To avoid too many data in the project, open a new master project file. Use “Link Revit” to insert all individual tower file into the project.**



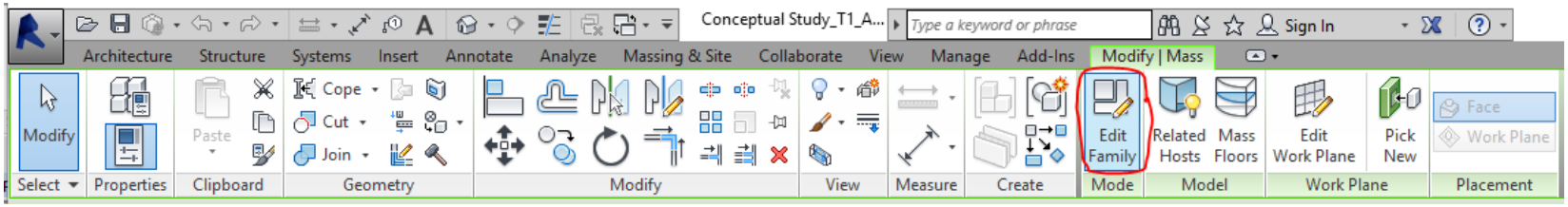
Create Sheets for Schedules



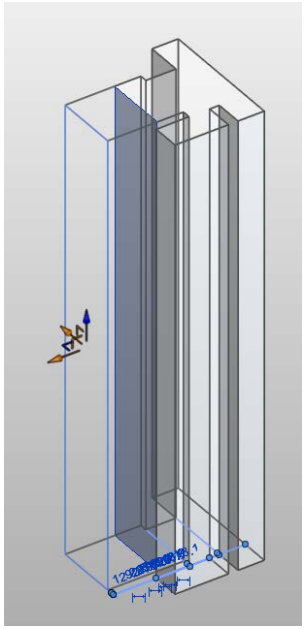


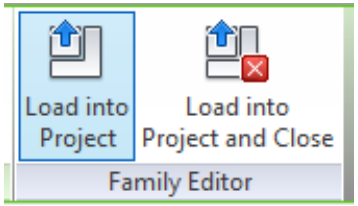
Design Change

- **Open the individual tower and select “Edit Mass”**

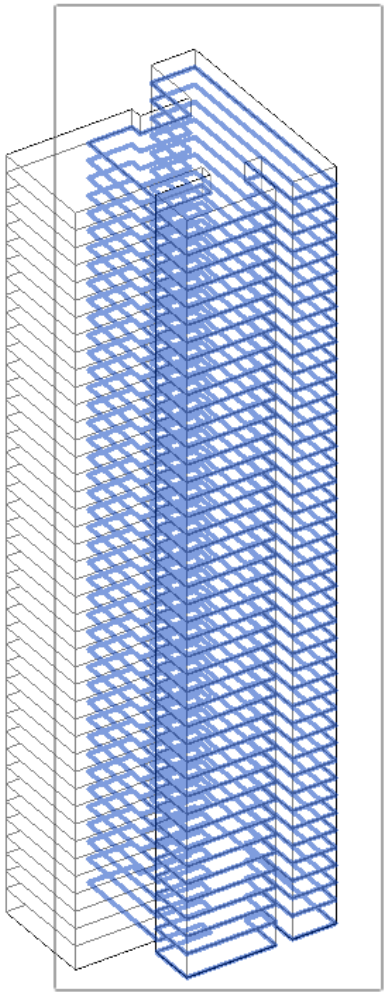


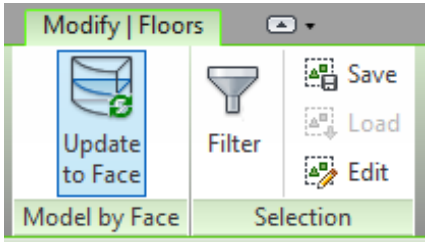
- **Change the form of building and “Load into Project”**

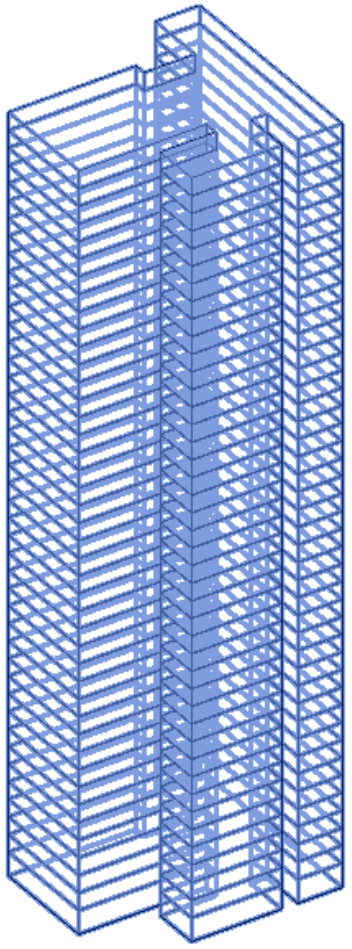




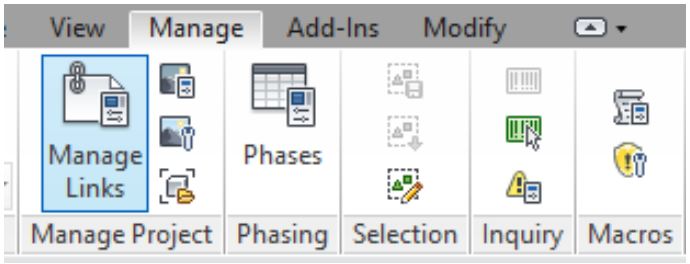
- **Select all floors and “Update to Face” and save the project.**







- **Select “Manage Link” and reload the link file.**



Manage Links

Revit | IFC | CAD Formats | DWF Markups | Point Clouds

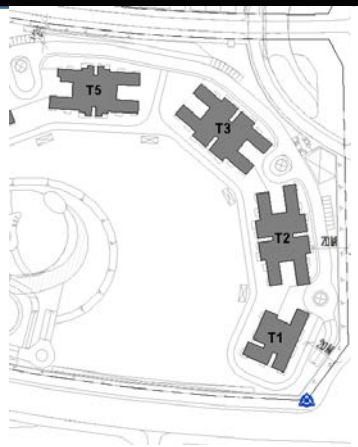
Link Name	Status	Reference Type	Positions Not Saved	Saved Path	Path Type	Local Alias
Conceptual Study_T1_ARC.rvt	Loaded	Overlay		Conceptual Study_T1_ARC.rvt	Relative	
Conceptual Study_T2_ARC.rvt	Loaded	Overlay		Conceptual Study_T2_ARC.rvt	Relative	
Conceptual Study_T3_ARC.rvt	Loaded	Overlay		Conceptual Study_T3_ARC.rvt	Relative	
Conceptual Study_T5_ARC.rvt	Loaded	Overlay		Conceptual Study_T5_ARC.rvt	Relative	
Conceptual Study_T6_ARC.rvt	Loaded	Overlay		Conceptual Study_T6_ARC.rvt	Relative	
Conceptual Study_T7_ARC.rvt	Loaded	Overlay		Conceptual Study_T7_ARC.rvt	Relative	
Conceptual Study_T8_ARC.rvt	Loaded	Overlay		Conceptual Study_T8_ARC.rvt	Relative	
Conceptual Study_T9_ARC.rvt	Loaded	Overlay		Conceptual Study_T9_ARC.rvt	Relative	
Conceptual Study_T10_ARC.rvt	Loaded	Overlay		Conceptual Study_T10_ARC.rvt	Relative	
Conceptual Study_T11_ARC.rvt	Loaded	Overlay		Conceptual Study_T11_ARC.rvt	Relative	
Conceptual Study_T12_ARC.rvt	Loaded	Overlay		Conceptual Study_T12_ARC.rvt	Relative	
Conceptual Study_T13_ARC.rvt	Loaded	Overlay		Conceptual Study_T13_ARC.rvt	Relative	
Conceptual Study_T15_ARC.rvt	Loaded	Overlay		Conceptual Study_T15_ARC.rvt	Relative	
Conceptual Study_T16_ARC.rvt	Loaded	Overlay		Conceptual Study_T16_ARC.rvt	Relative	
Conceptual Study_T17_ARC.rvt	Loaded	Overlay		Conceptual Study_T17_ARC.rvt	Relative	
Conceptual Study_T18_ARC.rvt	Loaded	Overlay		Conceptual Study_T18_ARC.rvt	Relative	
Conceptual Study_T19_ARC.rvt	Loaded	Overlay		Conceptual Study_T19_ARC.rvt	Relative	

Save Positions | Reload From... | Reload | Unload | Add... | Remove

Manage Worksets

OK | Cancel | Apply | Help

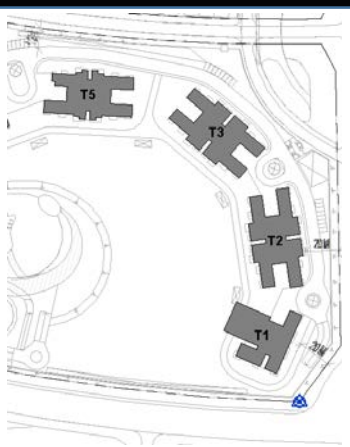
Before link in new T1



General Floor Area Schedule

Tower Number	Level	Comments	GFA Countable
T1	Level 1	Duplex	767 m²
T1	Level 2	Duplex	767 m²
T1	Level 3	Duplex	767 m²
T1	Level 4	Duplex	767 m²
T1	Level 5	Duplex	767 m²
T1	Level 6	Duplex	767 m²
T1	Level 7	Duplex	767 m²
T1	Level 8	Duplex	767 m²
T1	Level 9	Duplex	767 m²
T1	Level 10	Duplex	767 m²
T1	Level 11	Duplex	767 m²
T1	Level 12	Duplex	767 m²
T1	Level 13	Duplex	767 m²
T1	Level 14	Duplex	767 m²
T1	Level 15	Duplex	767 m²
T1	Level 16	Duplex	767 m²
T1	Level 17	Duplex	767 m²
T1	Level 18	Duplex	767 m²
T1	Level 19	Duplex	767 m²
T1	Level 20	Duplex	767 m²
T1	Level 21	Duplex	767 m²
T1	Level 22	Duplex	767 m²
T1	Level 23	Duplex	767 m²
T1	Level 24	Duplex	767 m²
T1	Level 25	Duplex	767 m²
T1	Level 26	Duplex	767 m²
T1	Level 27	Duplex	767 m²
T1	Level 28	Duplex	767 m²
T1	Level 29	Duplex	767 m²
T1	Level 30	Duplex	767 m²
T1	Level 31	Duplex	767 m²
T1	Level 32	Duplex	767 m²
T1	Level 33	Duplex	767 m²
T1	Level 34	Duplex	767 m²
T1	Level 35	Duplex	767 m²
T1	Level 36	Duplex	767 m²
T1	Level 37	Duplex	767 m²
T1	Level 38	Duplex	767 m²
T1	Level 39	Duplex	767 m²
T1	Level 40	Duplex	767 m²
T1	Level 41	Duplex	767 m²
T1	Level 42	Duplex	767 m²
T1	Level 43	Duplex	767 m²
			32981 m²

After link in new T1



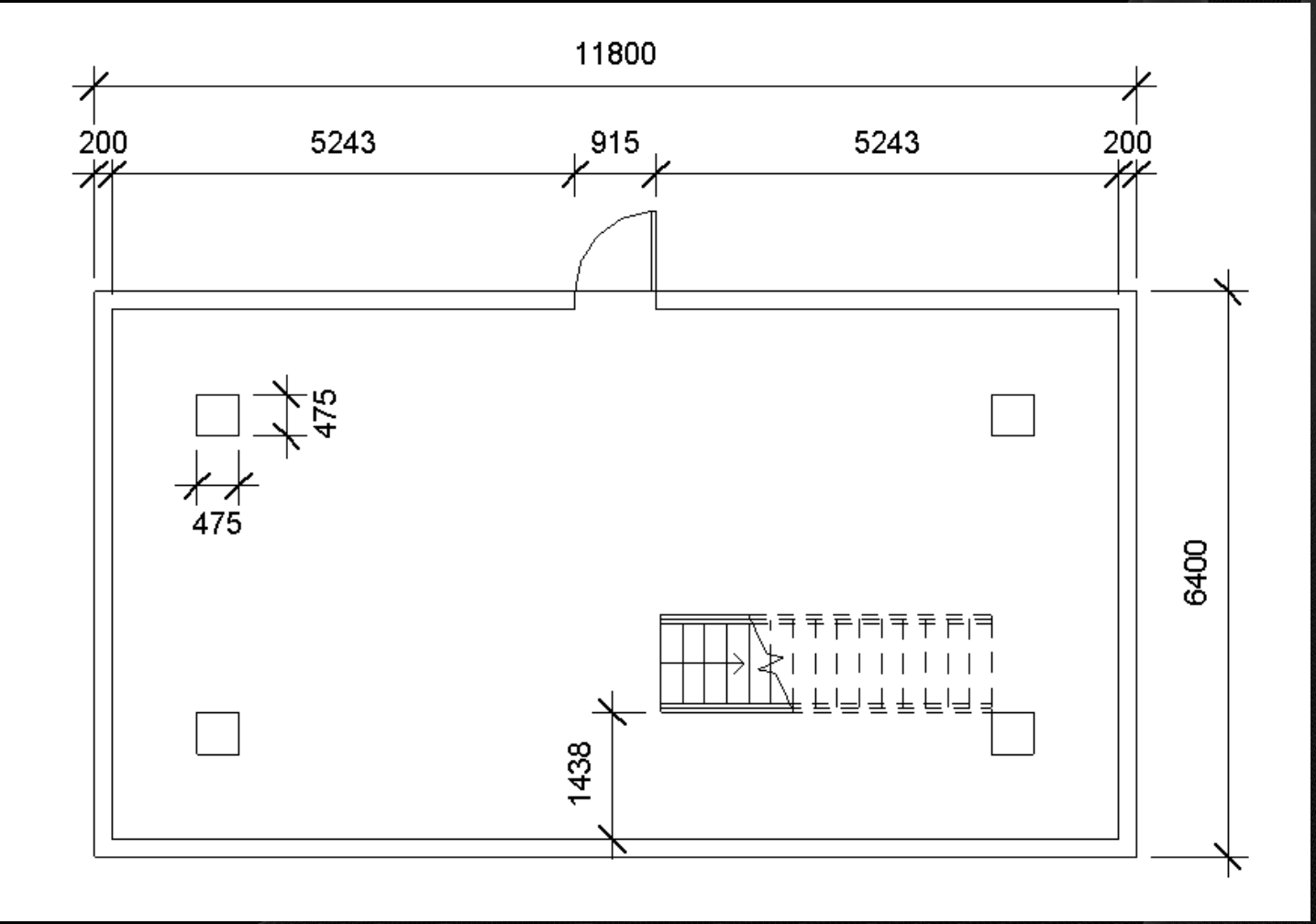
General Floor Area Schedule

Tower Number	Level	Comments	GFA Countable
T1	Level 1	Duplex	1052 m²
T1	Level 2	Duplex	1052 m²
T1	Level 3	Duplex	1052 m²
T1	Level 4	Duplex	1052 m²
T1	Level 5	Duplex	1052 m²
T1	Level 6	Duplex	1052 m²
T1	Level 7	Duplex	1052 m²
T1	Level 8	Duplex	1052 m²
T1	Level 9	Duplex	1052 m²
T1	Level 10	Duplex	1052 m²
T1	Level 11	Duplex	1052 m²
T1	Level 12	Duplex	1052 m²
T1	Level 13	Duplex	1052 m²
T1	Level 14	Duplex	1052 m²
T1	Level 15	Duplex	1052 m²
T1	Level 16	Duplex	1052 m²
T1	Level 17	Duplex	1052 m²
T1	Level 18	Duplex	1052 m²
T1	Level 19	Duplex	1052 m²
T1	Level 20	Duplex	1052 m²
T1	Level 21	Duplex	1052 m²
T1	Level 22	Duplex	1052 m²
T1	Level 23	Duplex	1052 m²
T1	Level 24	Duplex	1052 m²
T1	Level 25	Duplex	1052 m²
T1	Level 26	Duplex	1052 m²
T1	Level 27	Duplex	1052 m²
T1	Level 28	Duplex	1052 m²
T1	Level 29	Duplex	1052 m²
T1	Level 30	Duplex	1052 m²
T1	Level 31	Duplex	1052 m²
T1	Level 32	Duplex	1052 m²
T1	Level 33	Duplex	1052 m²
T1	Level 34	Duplex	1052 m²
T1	Level 35	Duplex	1052 m²
T1	Level 36	Duplex	1052 m²
T1	Level 37	Duplex	1052 m²
T1	Level 38	Duplex	1052 m²
T1	Level 39	Duplex	1052 m²
T1	Level 40	Duplex	1052 m²
T1	Level 41	Duplex	1052 m²
T1	Level 42	Duplex	1052 m²
T1	Level 43	Duplex	1052 m²
			45216 m²

- **The model of T1 has been replaced, and the floor area of T1 is simultaneously updated.**

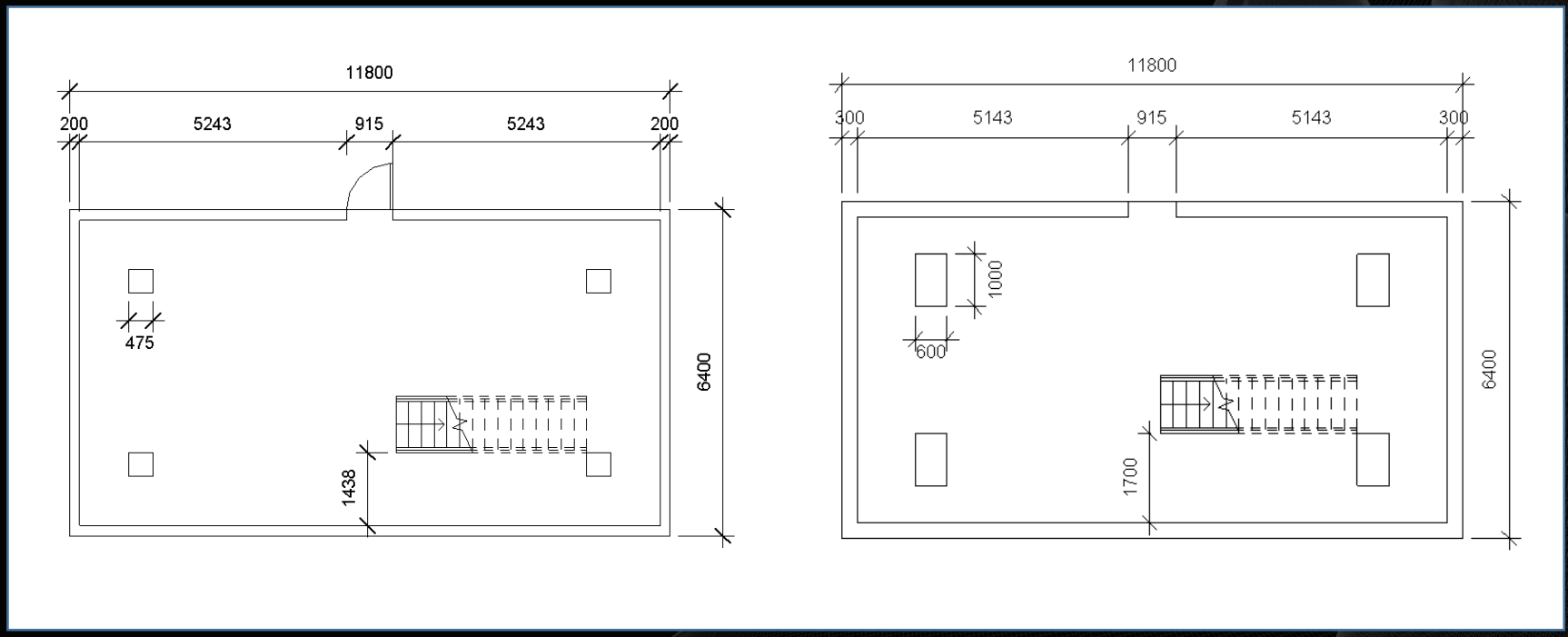
Collaboration of Architectural & Structural Drawings

Preliminary Design



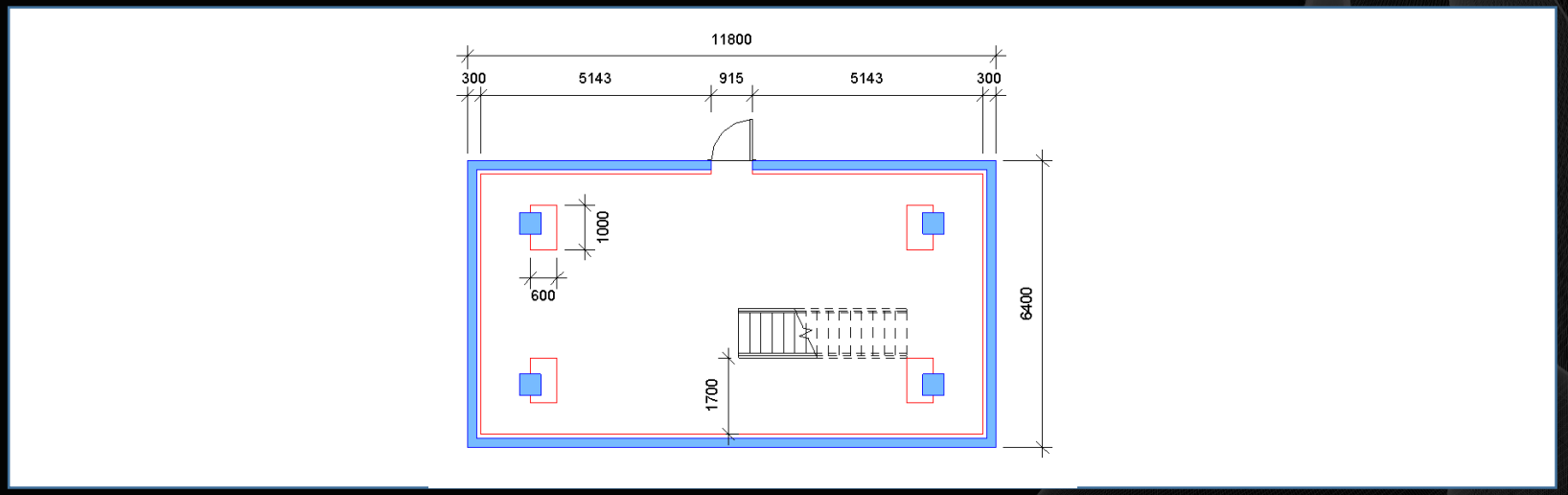
Architectural Drawing

Detail Design



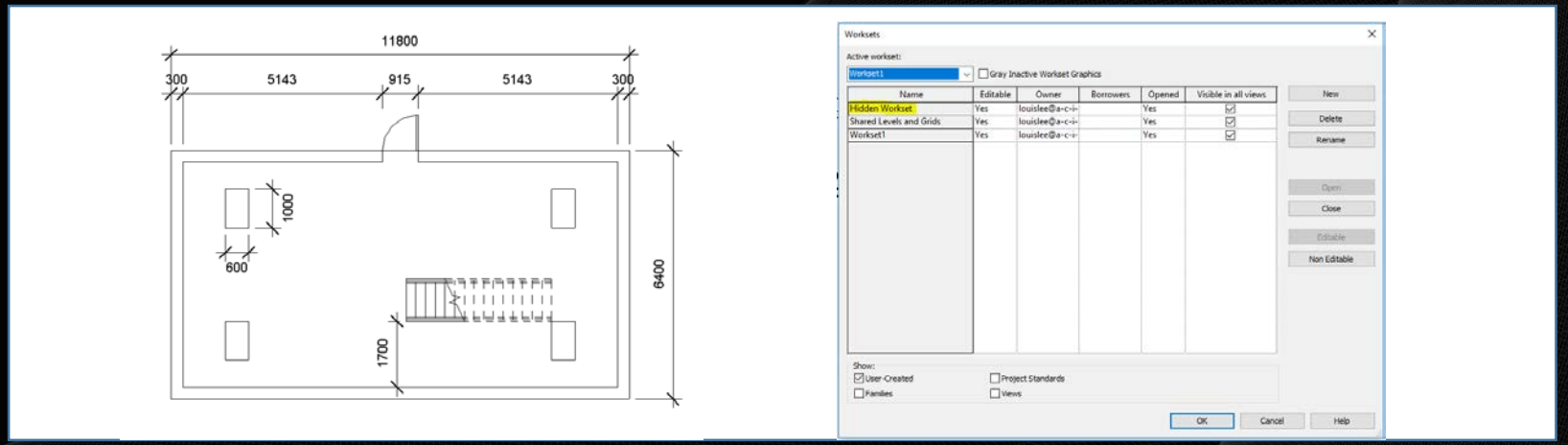
Architectural Drawing

Structural Drawing

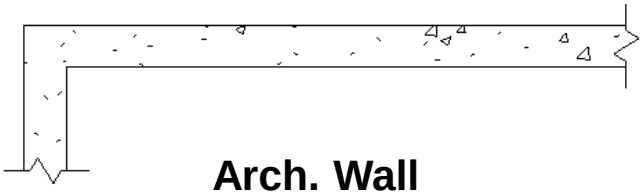


Collaboration Drawing

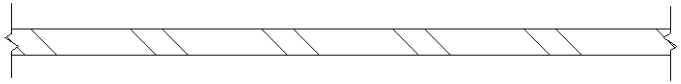
- **Delete the preliminary staircase**
- **In order to keep the door in collaboration drawing, create “Hidden Workset” for all architectural walls, then hide it**



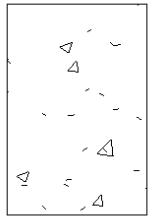
Preliminary Design



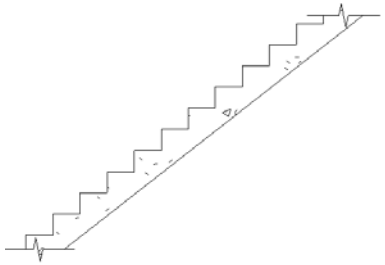
Arch. Wall



Arch. Floor

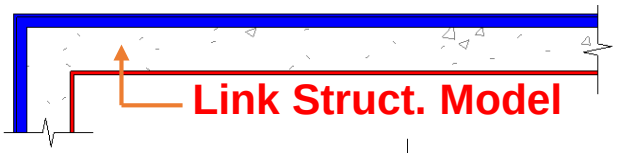


Arch. Column

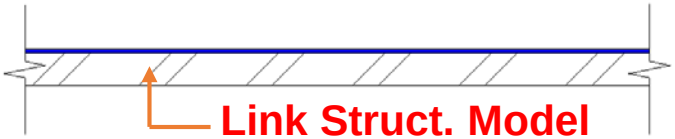


Arch. Finish

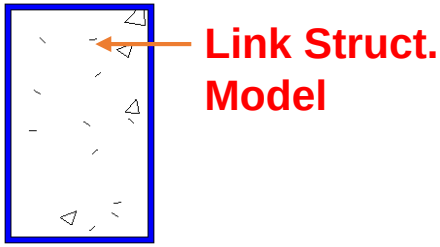
Detail Stage



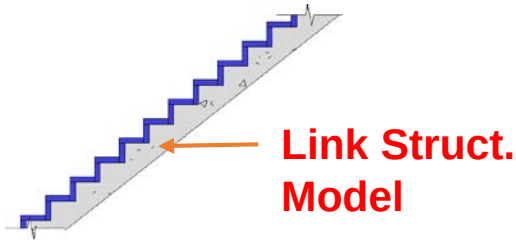
Wall Finish



Floor Finish



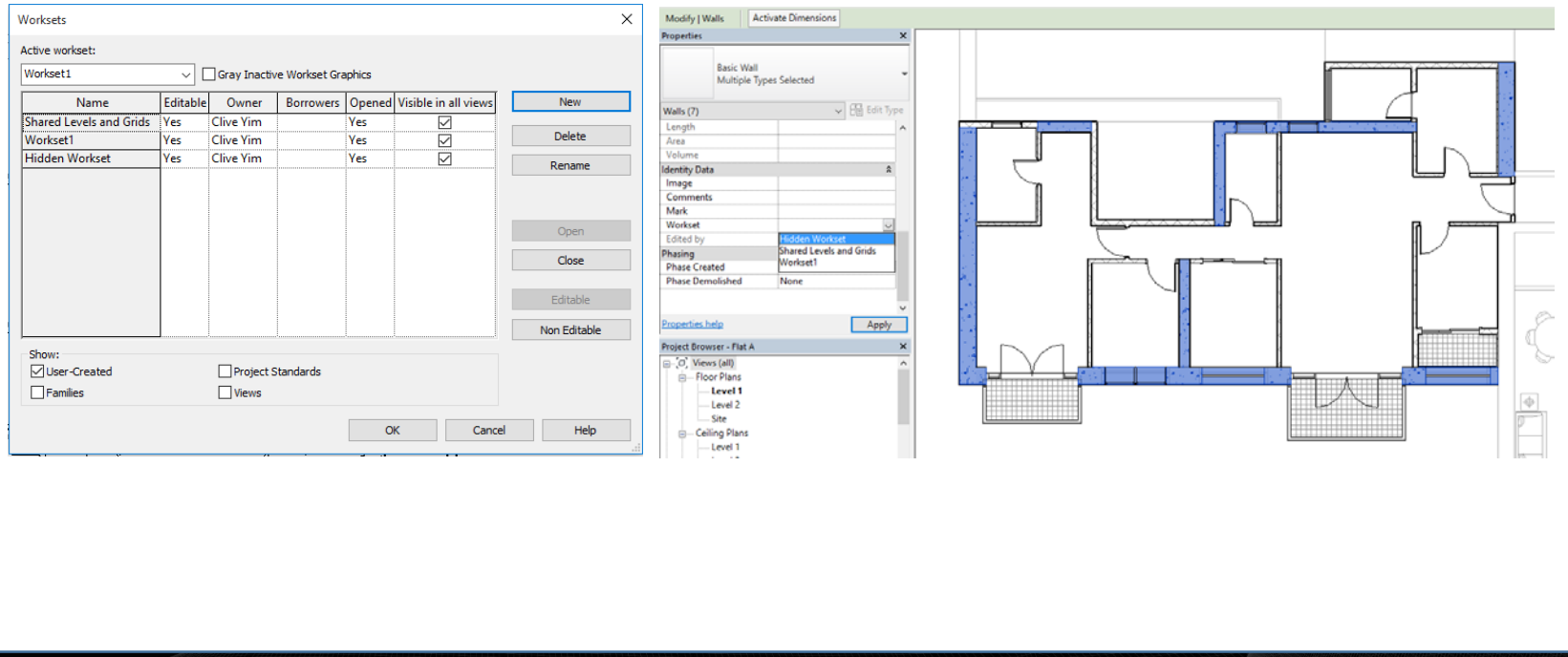
Column Finish



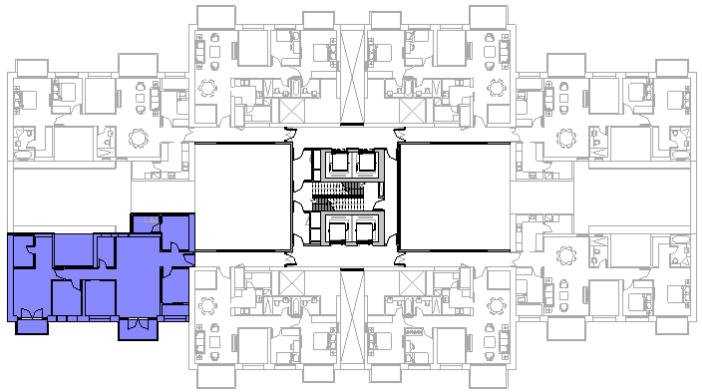
Stair Finish

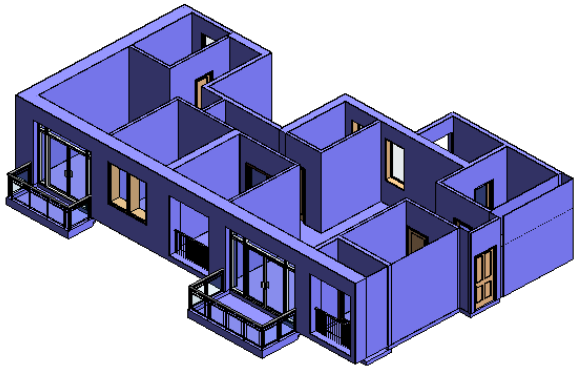
From Unit to Floor

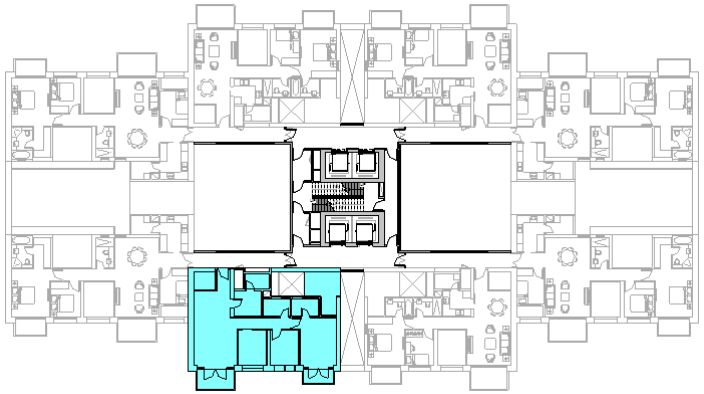
- **Create a “Hidden Workset” for the purpose of collaborating the architectural and structural project at later stage.**
- **Put all intended structural walls into Hidden workset to let different parties have the ability to switch the structural walls on and off easily.**

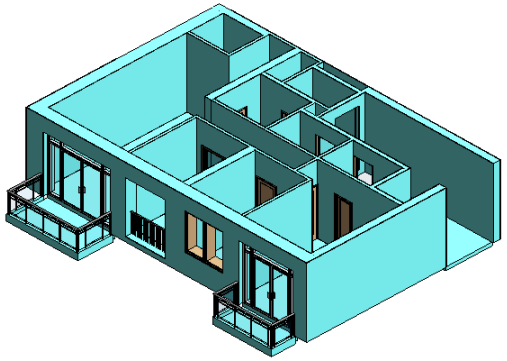


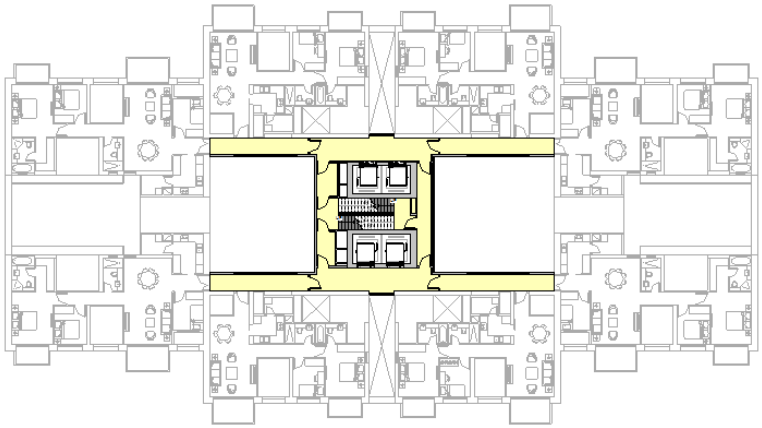
- Link Cad into new project and build up the unit accordingly.
- Build each unit in an independent file.
- Build the building core in separate file and link the unit files in.

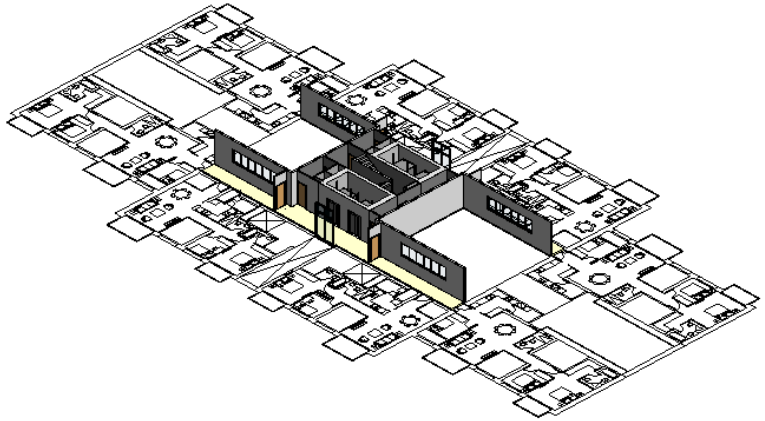


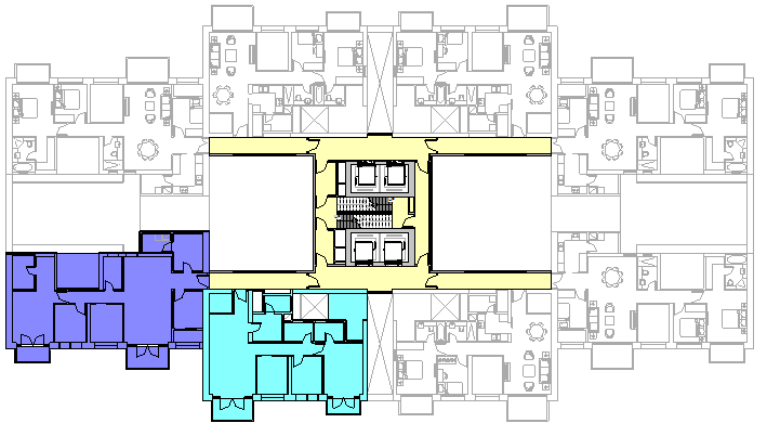


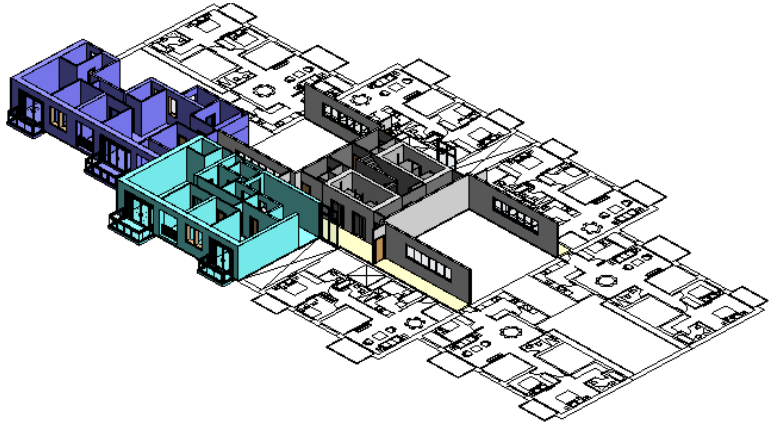


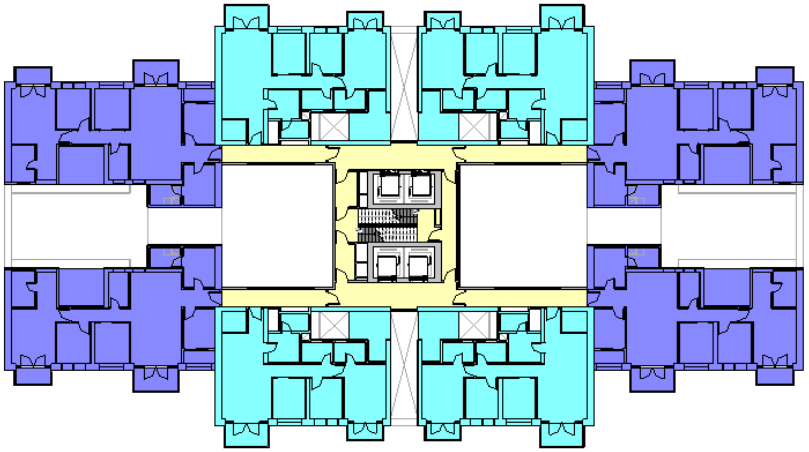


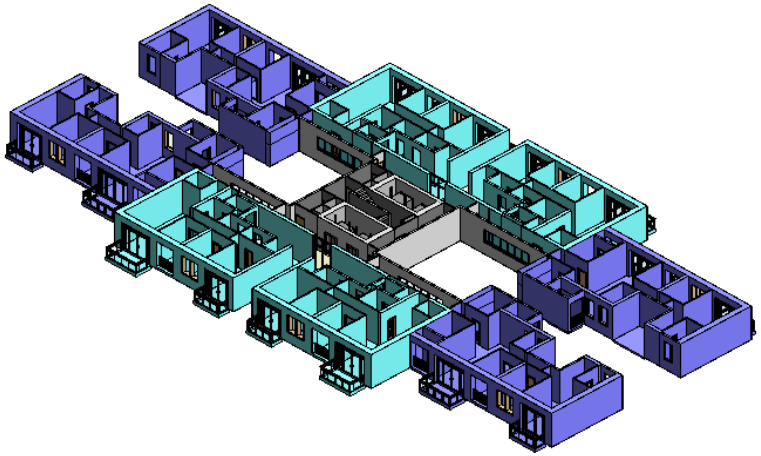








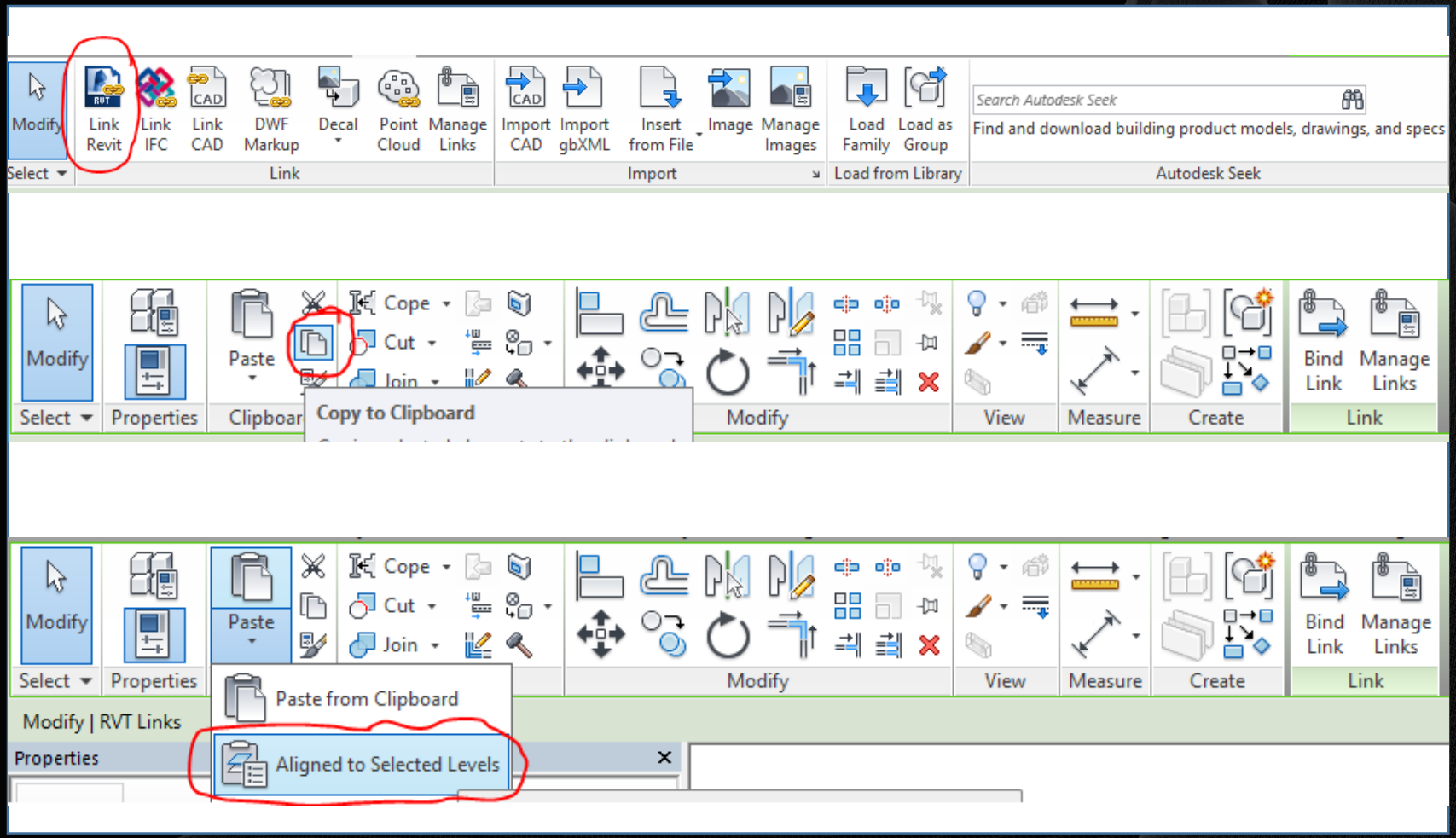


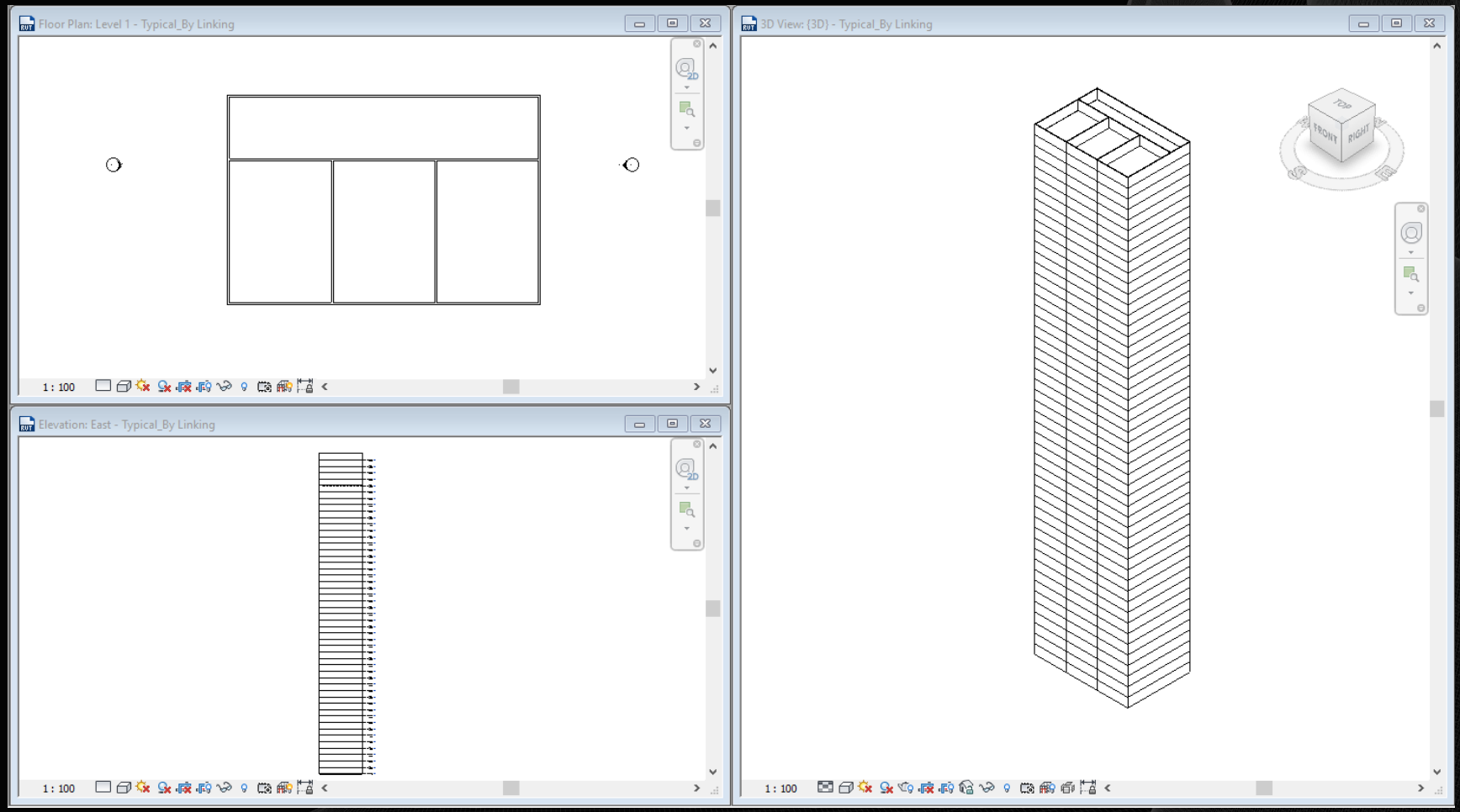


From Floor to Tower

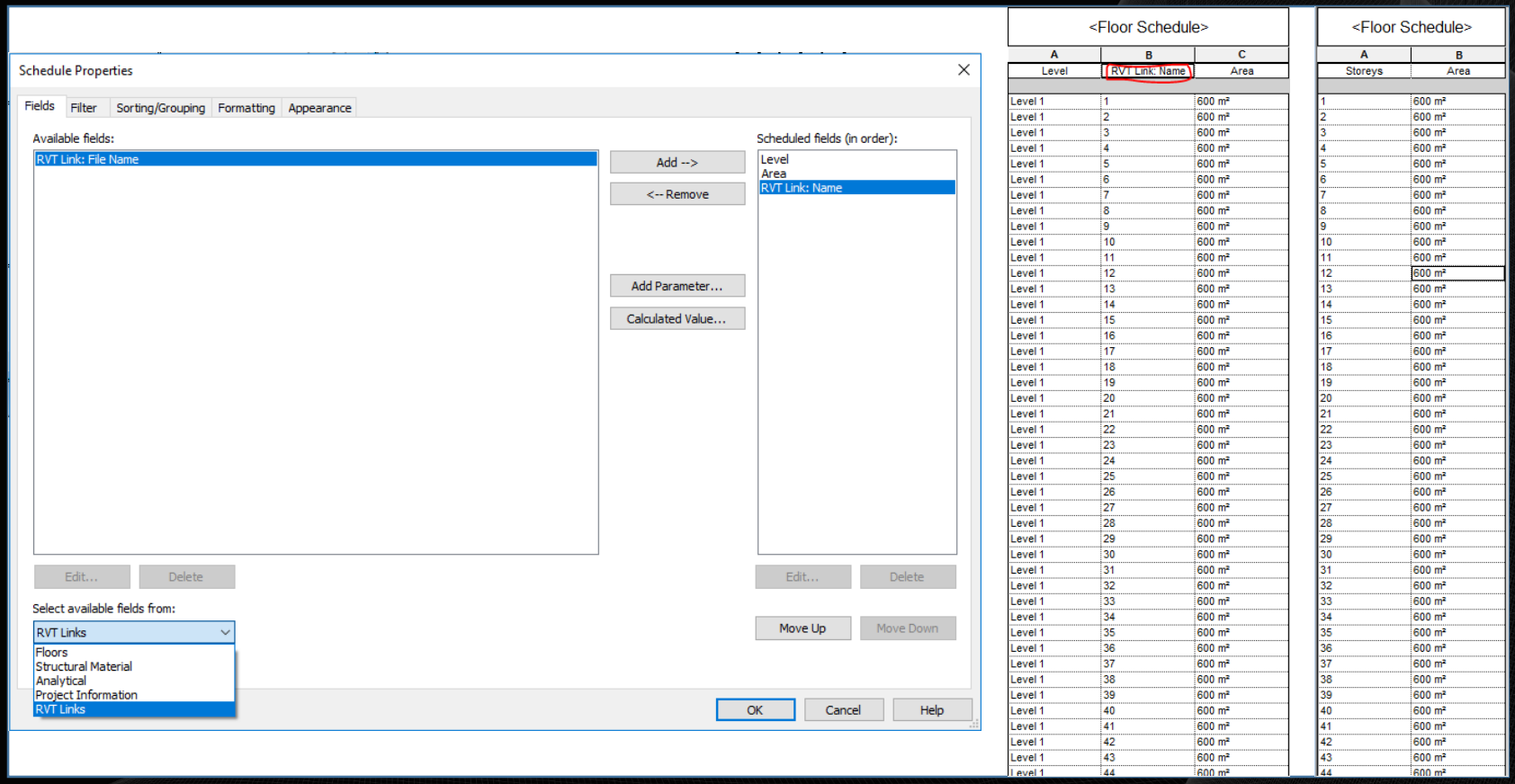
Create Multiple Floors by Linking Revit Model

- **Link the single floor project file into the Live File.**
- **Copy to Clip Board up to 50 storeys high.**




Floor Plan: Level 1 - Typical_By Linking
1 : 100
Elevation: East - Typical_By Linking
1 : 100
3D View: {3D} - Typical_By Linking
TOP
FRONT
RIGHT
1 : 100

- **Run the Floor Area Schedule by adding Level, Area and RVT Link: Name**
- **Although all Levels in schedule are shown Level 1, you can change the RVT Link: Name to represent the field of Stories to act like “Level”.**



<Floor Schedule>

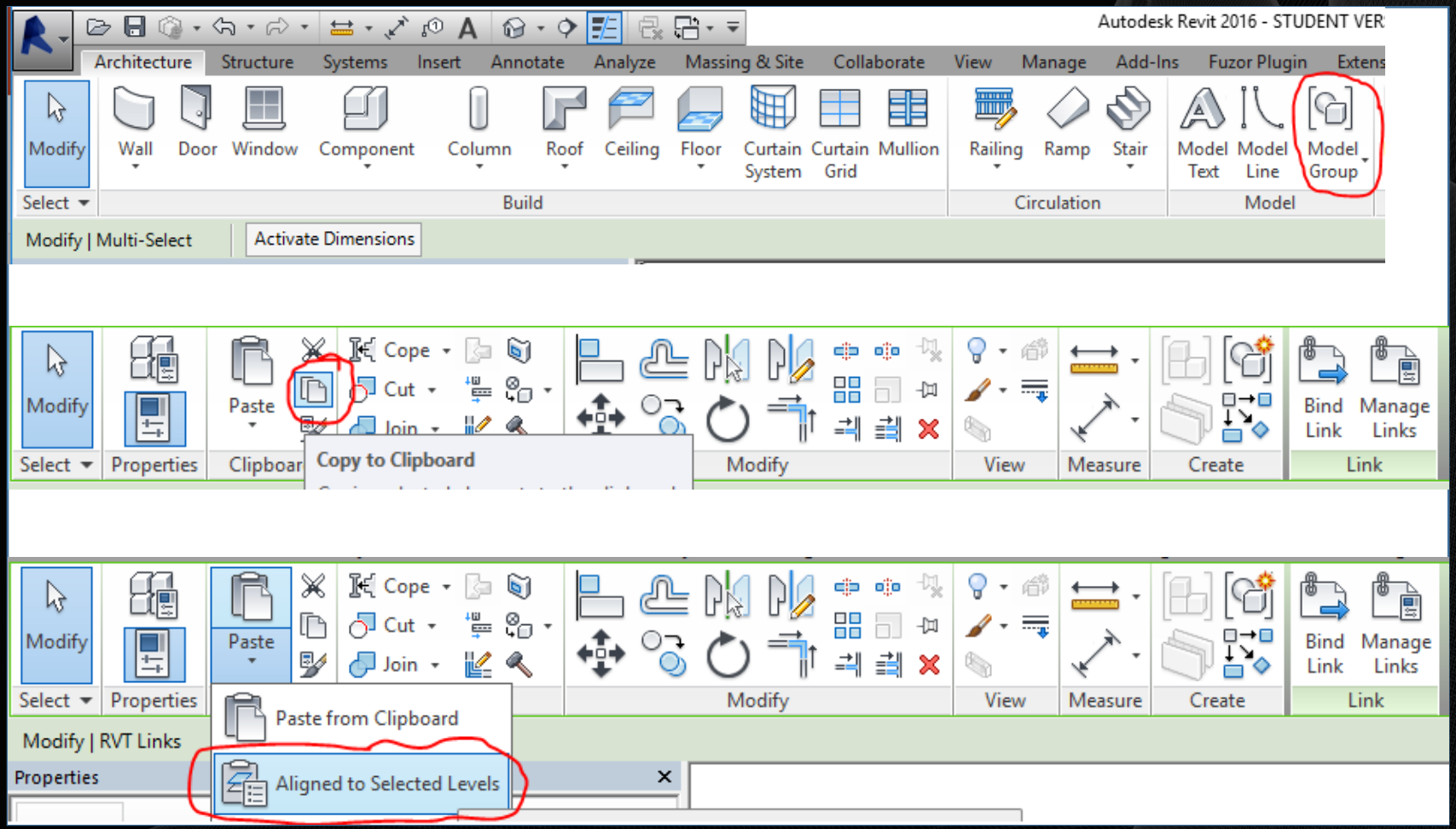
A	B	C
Level	RVT Link: Name	Area
Level 1	1	600 m²
Level 1	2	600 m²
Level 1	3	600 m²
Level 1	4	600 m²
Level 1	5	600 m²
Level 1	6	600 m²
Level 1	7	600 m²
Level 1	8	600 m²
Level 1	9	600 m²
Level 1	10	600 m²
Level 1	11	600 m²
Level 1	12	600 m²
Level 1	13	600 m²
Level 1	14	600 m²
Level 1	15	600 m²
Level 1	16	600 m²
Level 1	17	600 m²
Level 1	18	600 m²
Level 1	19	600 m²
Level 1	20	600 m²
Level 1	21	600 m²
Level 1	22	600 m²
Level 1	23	600 m²
Level 1	24	600 m²
Level 1	25	600 m²
Level 1	26	600 m²
Level 1	27	600 m²
Level 1	28	600 m²
Level 1	29	600 m²
Level 1	30	600 m²
Level 1	31	600 m²
Level 1	32	600 m²
Level 1	33	600 m²
Level 1	34	600 m²
Level 1	35	600 m²
Level 1	36	600 m²
Level 1	37	600 m²
Level 1	38	600 m²
Level 1	39	600 m²
Level 1	40	600 m²
Level 1	41	600 m²
Level 1	42	600 m²
Level 1	43	600 m²
Level 1	44	600 m²

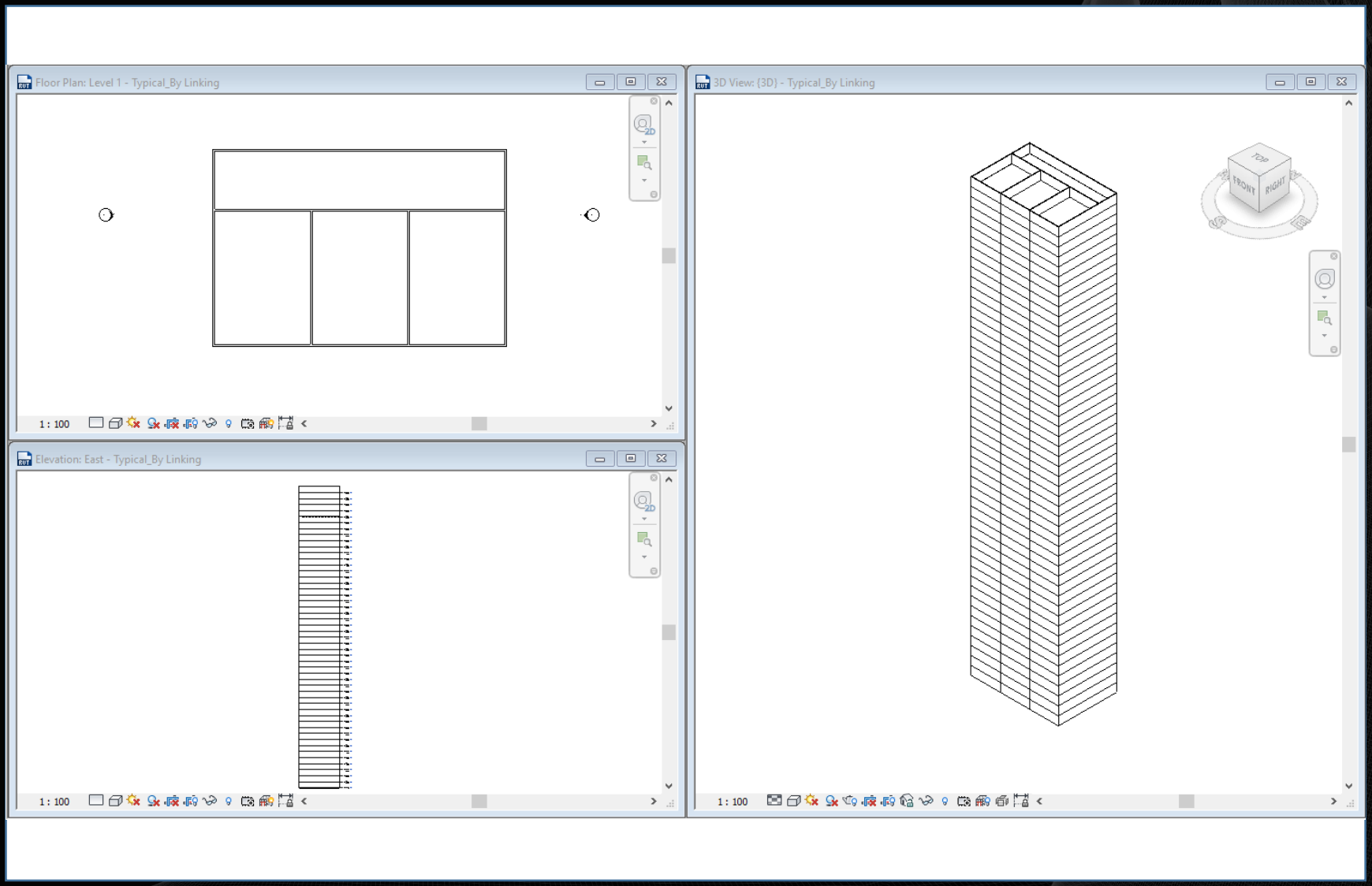
<Floor Schedule>

A	B
Storeys	Area
1	600 m²
2	600 m²
3	600 m²
4	600 m²
5	600 m²
6	600 m²
7	600 m²
8	600 m²
9	600 m²
10	600 m²
11	600 m²
12	600 m²
13	600 m²
14	600 m²
15	600 m²
16	600 m²
17	600 m²
18	600 m²
19	600 m²
20	600 m²
21	600 m²
22	600 m²
23	600 m²
24	600 m²
25	600 m²
26	600 m²
27	600 m²
28	600 m²
29	600 m²
30	600 m²
31	600 m²
32	600 m²
33	600 m²
34	600 m²
35	600 m²
36	600 m²
37	600 m²
38	600 m²
39	600 m²
40	600 m²
41	600 m²
42	600 m²
43	600 m²
44	600 m²

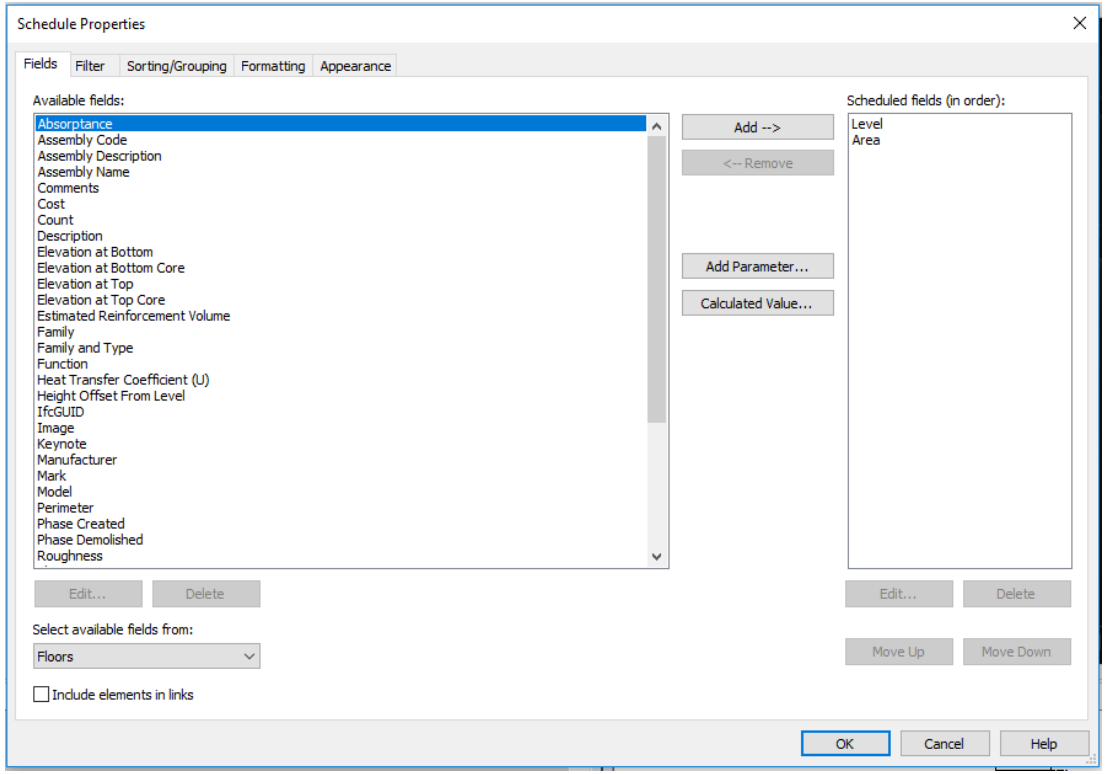
Create Multiple Floors by Grouping

- **Draw a single floor on the Live File and create Model Group.**
- **Copy to Clip Board up to 50 stories high.**




Floor Plan: Level 1 - Typical_By Linking
1 : 100
Elevation: East - Typical_By Linking
1 : 100
3D View: {3D} - Typical_By Linking
TOP
FRONT
RIGHT
1 : 100

▪ Run the Floor Area Schedule by adding Level and Area



<Floor Schedule>

A	B
Level	Area
Level 1	600 m²
Level 2	600 m²
Level 3	600 m²
Level 4	600 m²
Level 5	600 m²
Level 6	600 m²
Level 7	600 m²
Level 8	600 m²
Level 9	600 m²
Level 10	600 m²
Level 11	600 m²
Level 12	600 m²
Level 13	600 m²
Level 14	600 m²
Level 15	600 m²
Level 16	600 m²
Level 17	600 m²
Level 18	600 m²
Level 19	600 m²
Level 20	600 m²
Level 21	600 m²
Level 22	600 m²
Level 23	600 m²
Level 24	600 m²
Level 25	600 m²
Level 26	600 m²
Level 27	600 m²
Level 28	600 m²
Level 29	600 m²
Level 30	600 m²
Level 31	600 m²
Level 32	600 m²
Level 33	600 m²
Level 34	600 m²
Level 35	600 m²
Level 36	600 m²
Level 37	600 m²
Level 38	600 m²
Level 39	600 m²
Level 40	600 m²
Level 41	600 m²
Level 42	600 m²
Level 43	600 m²
Level 44	600 m²

- **Both of “Link Revit Model” and “Grouping” can achieve the purpose of Create Multiple Floors.**

Link Revit Model

Advantage: Smaller file size

Disadvantage: Need to go back to original file to modify design

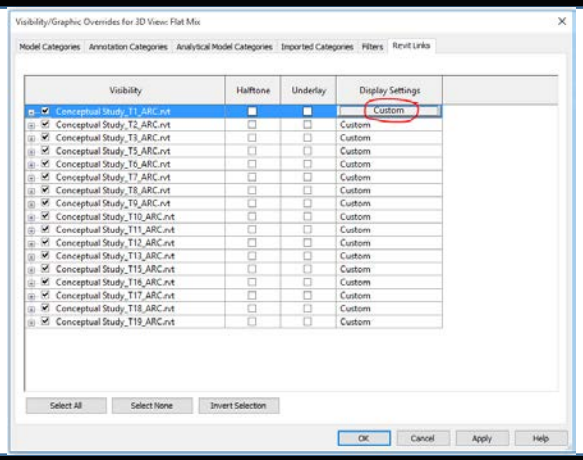
Grouping

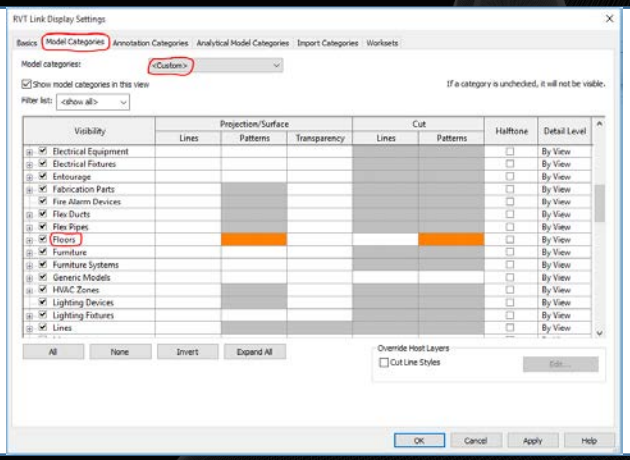
Advantage: Easy to modify in a single file in group

Disadvantage: Bigger file size

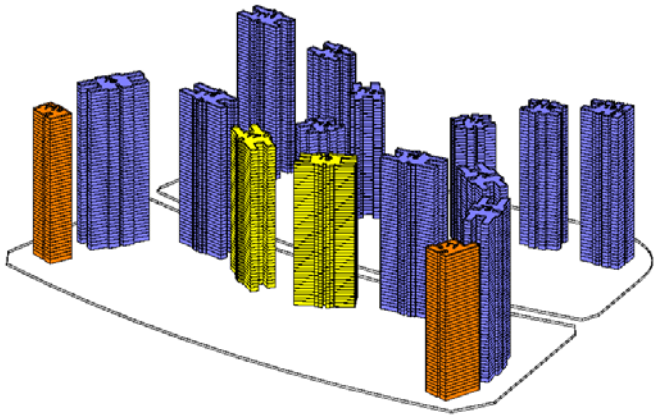
Produce Site Analysis Diagram

- **Set any color by using VG to overwrite existing color.**



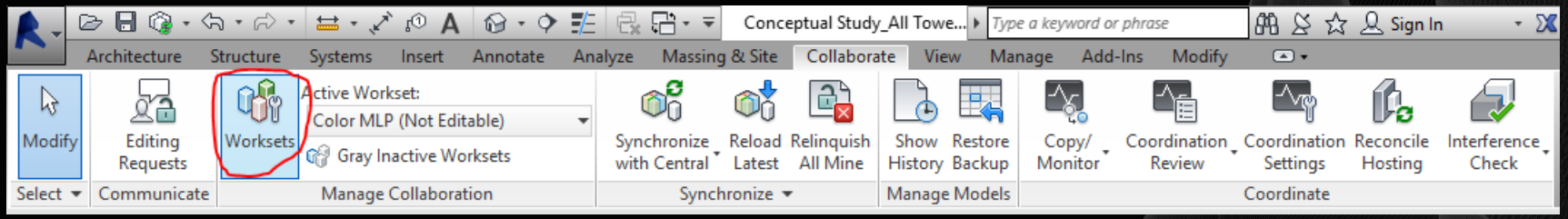


- **Different colors denote different building types.**

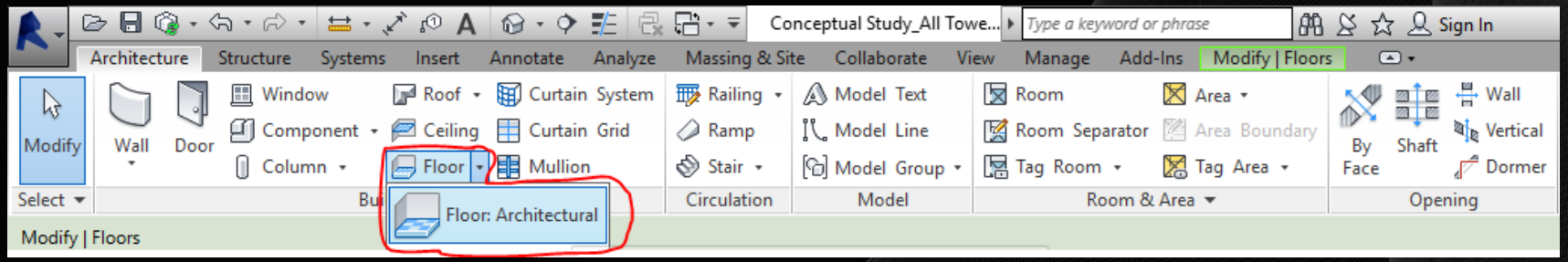


- **Colour Master Layout Plan with shadow**

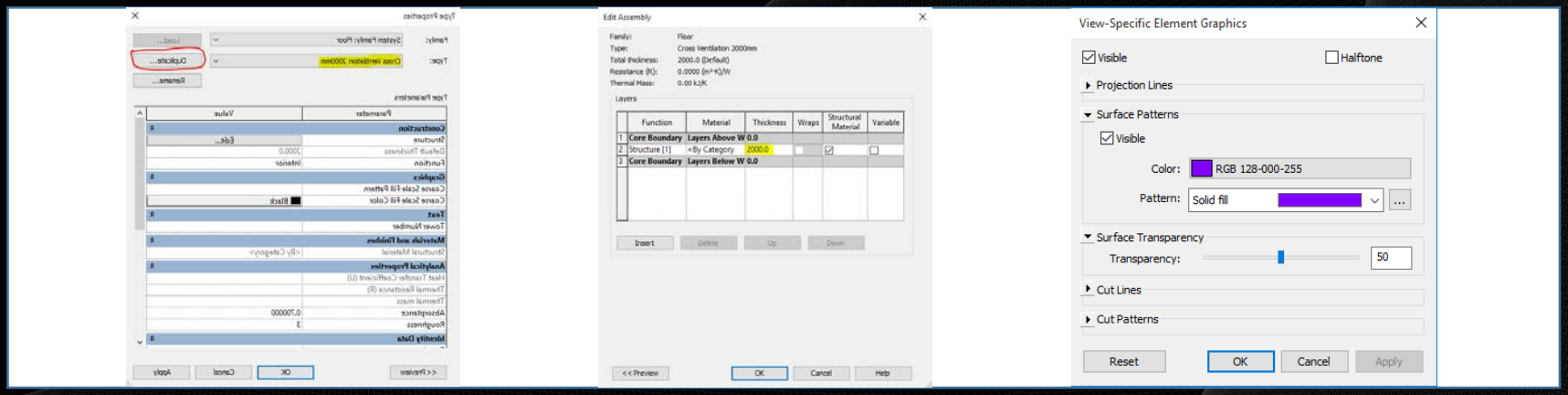
- **Create new Workset for specific diagram.**

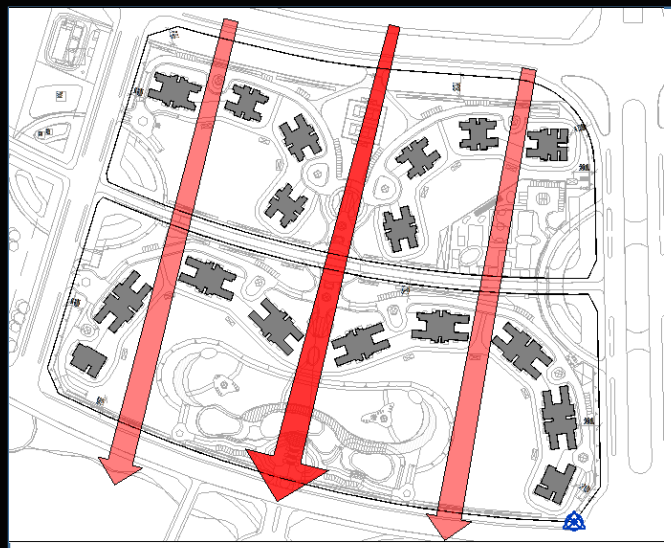


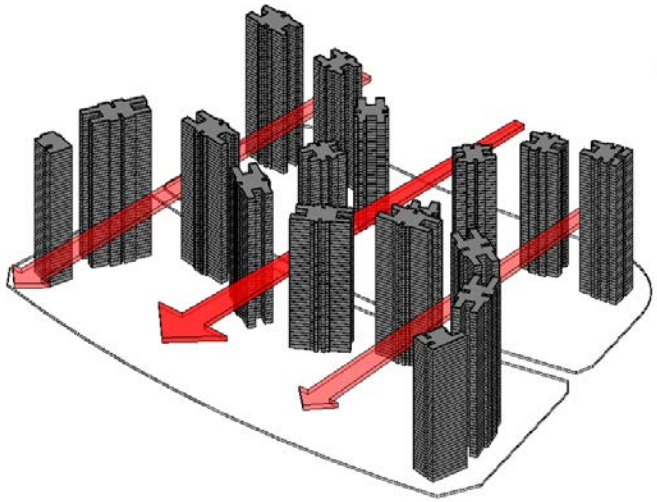
- **Use Floor Tool to draw arrow and other presentation graphics.**



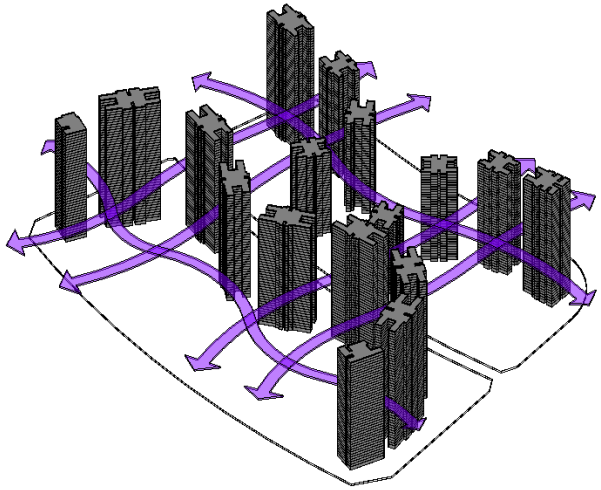
- **Create new Floor Type, assign thickness and colour.**



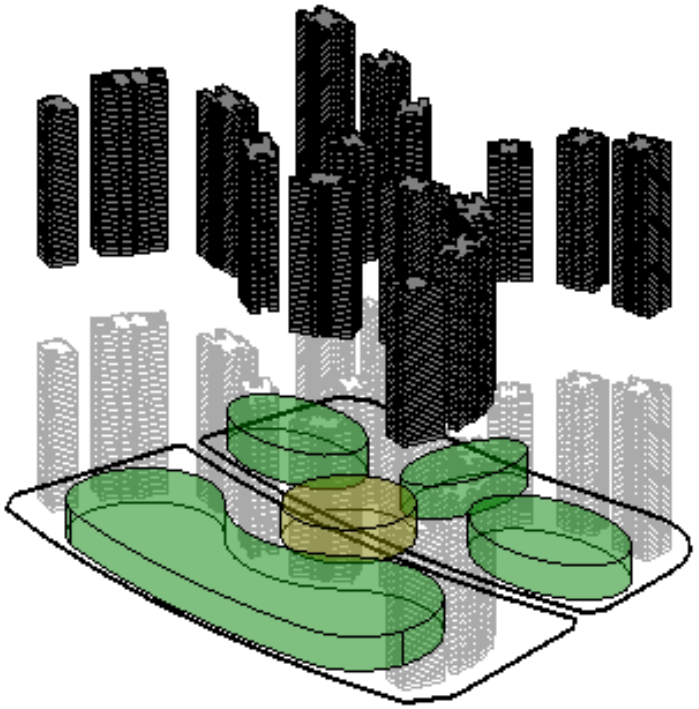




View Corridor Diagram

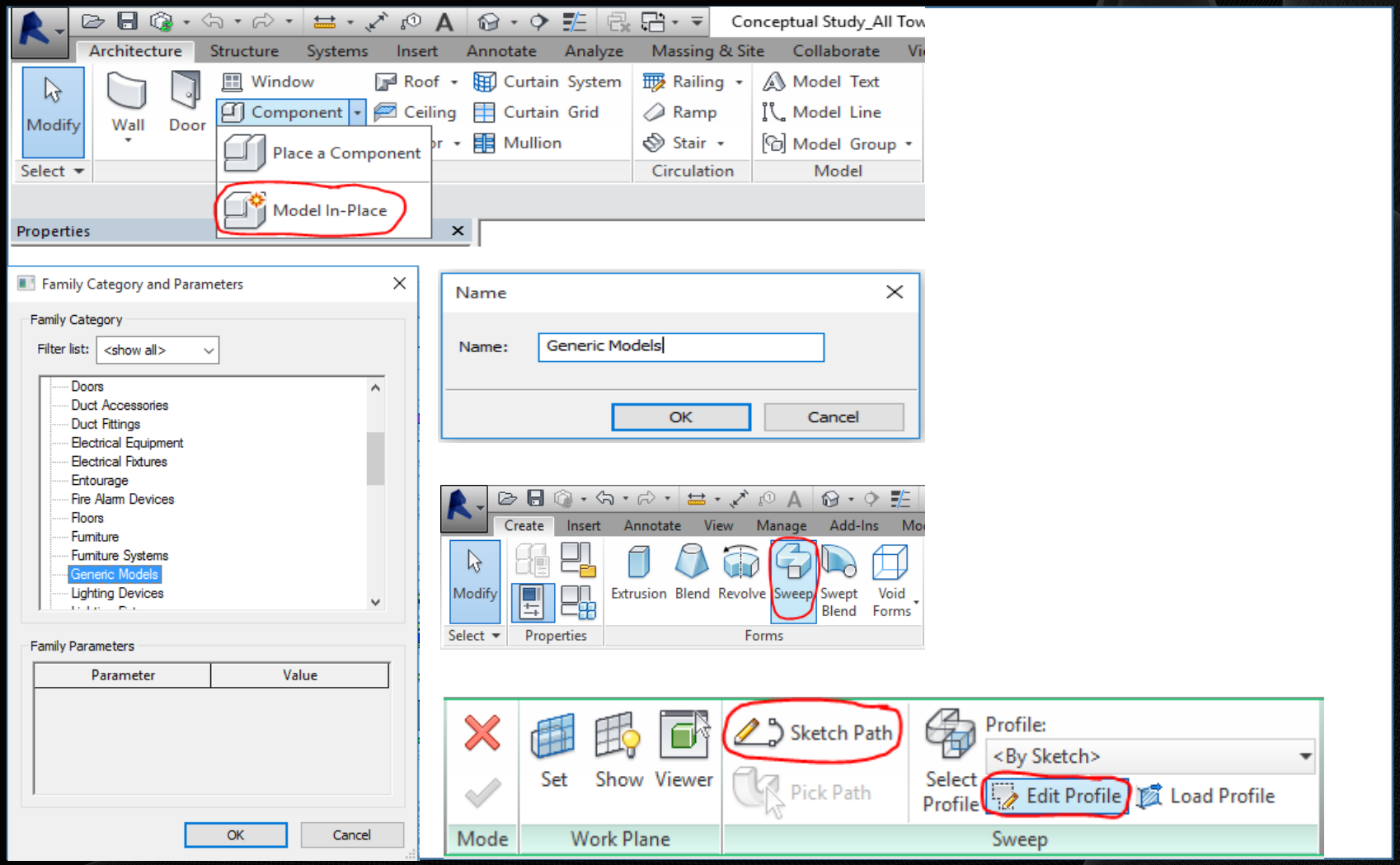


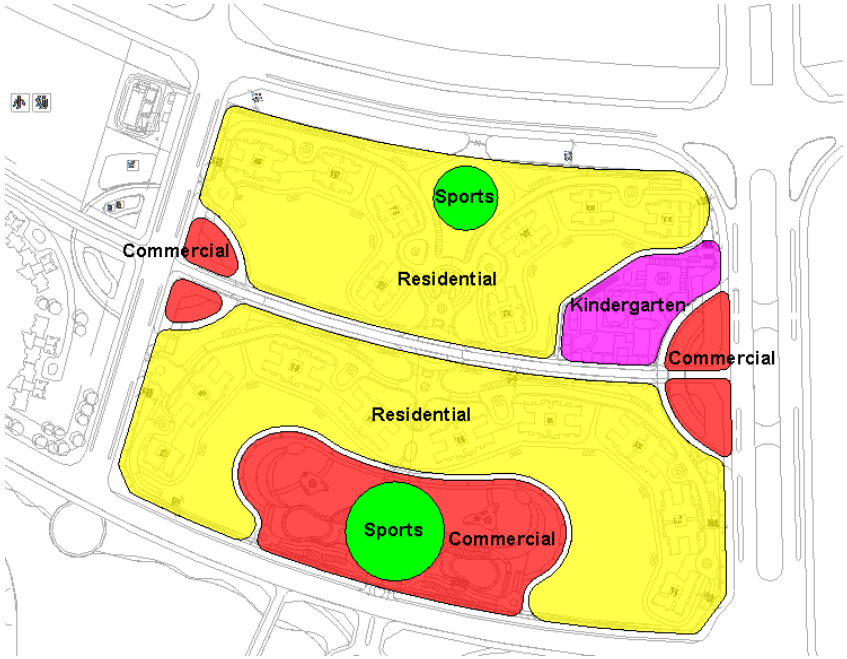
Cross Ventilation Diagram



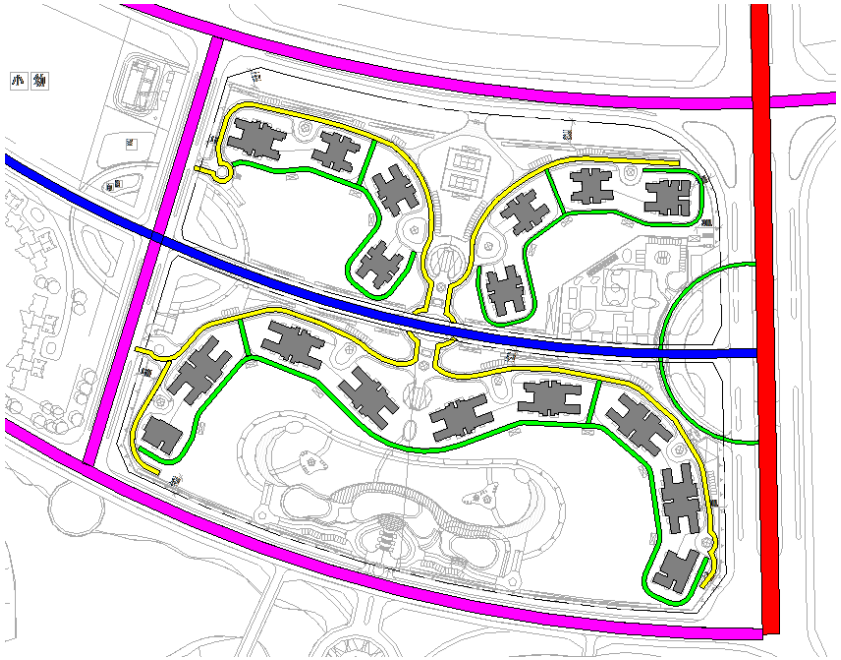
Open Space Diagram

- **To draw thick presentation line by using “Sweep” command in Generic Model family.**



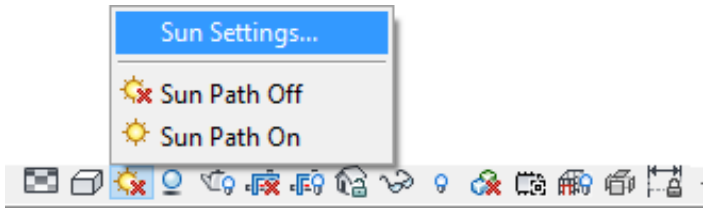


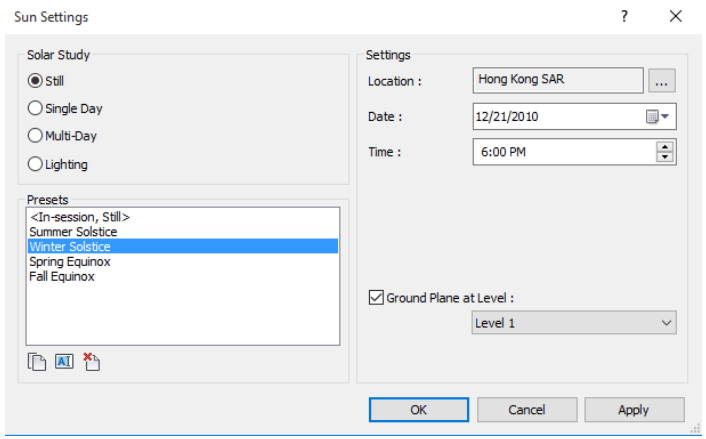
Circulation Diagram

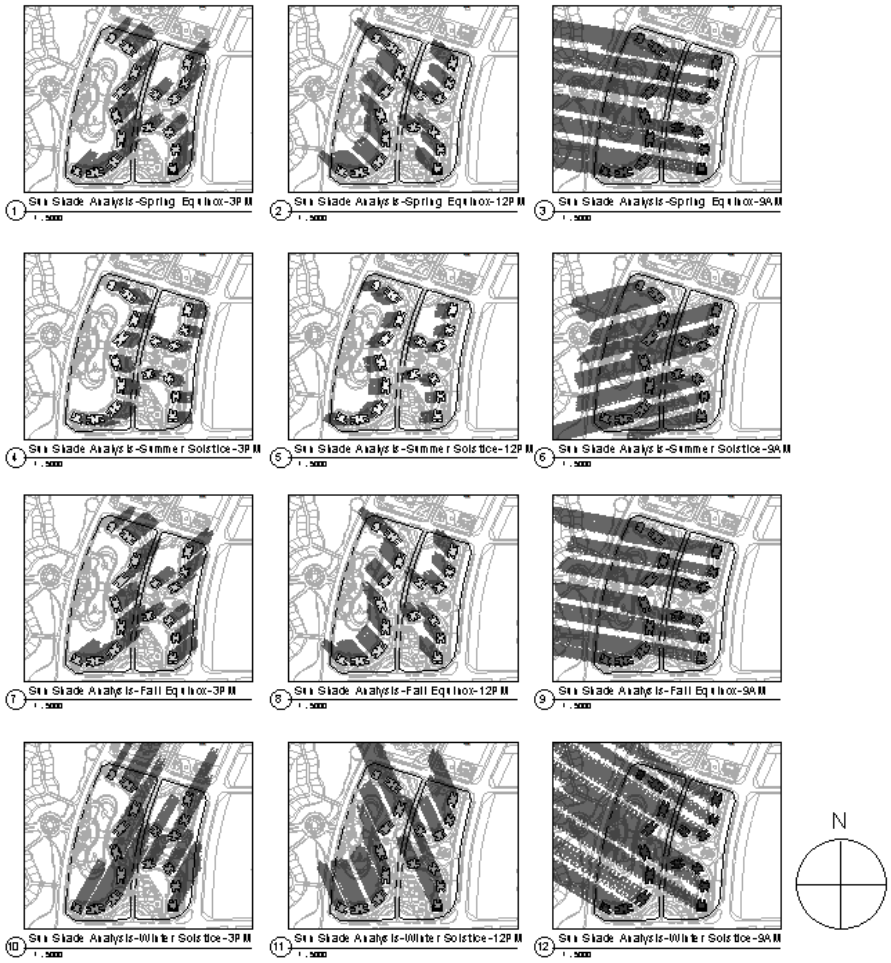


Zoning Diagram

- **Click on the Sun Path command, set the Location, Date and Time. The shadow will be generated automatically.**







Sun Shading Diagram

Thank you !