



UNIVERSITÀ DI PARMA

DIPARTIMENTO DI INGEGNERIA E ARCHITETTURA
CORSO DI LAUREA IN ARCHITETTURA E CITTA' SOSTENIBILI

**BUILDING INFORMATION MODELING:
DIGITAL MODELING OF ARCHITECTURE
DIGITAL VISUALIZATION OF PROJECT**

A.A. 2022-2023, Prof. Sandra Mikolajewska
23/05/2023

THE SLIDES PRESENTED IN THE CLASSROOM ARE INTENDED ONLY AS A REFERENCE FOR THE LECTURE.

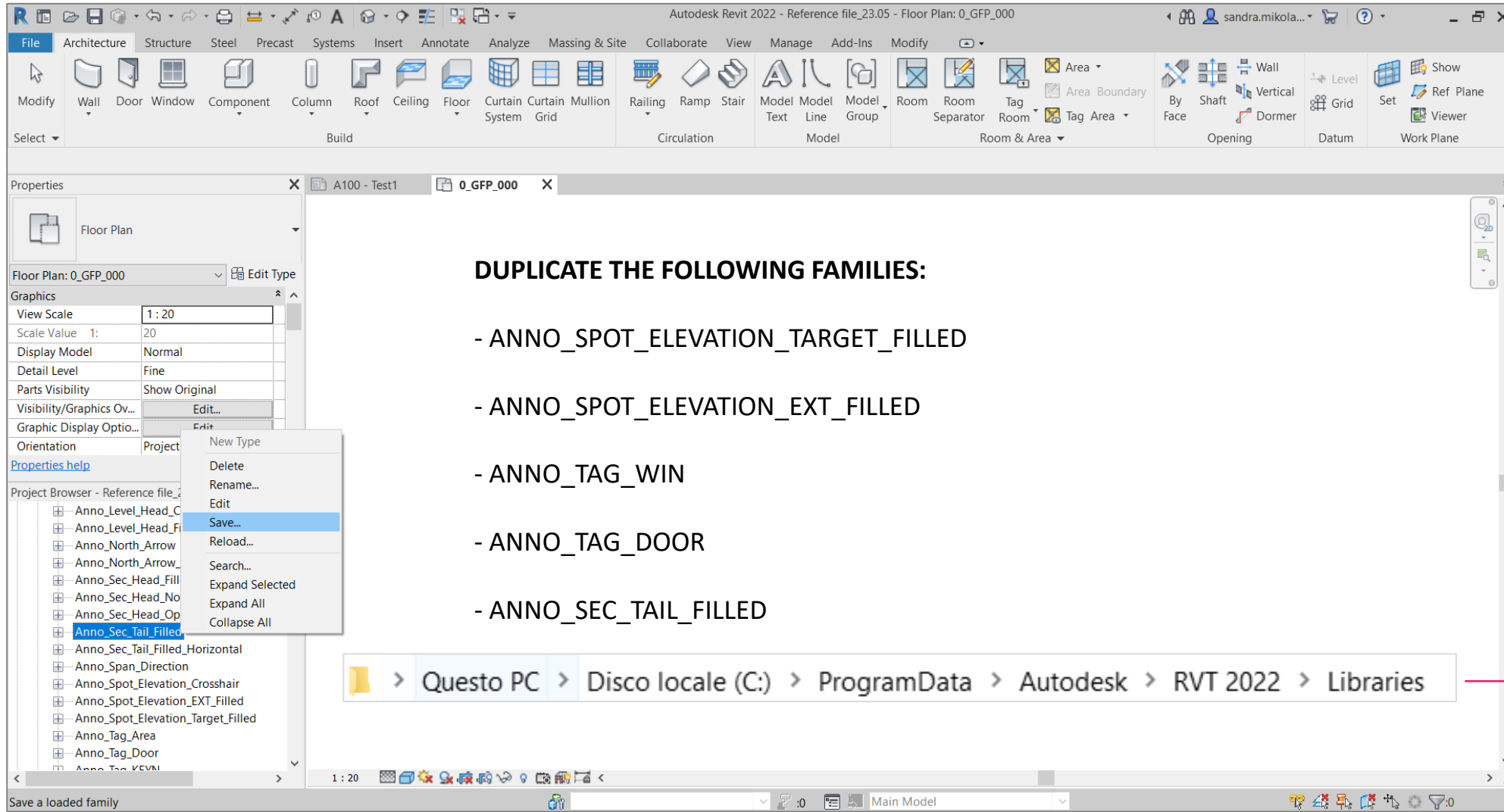
THE CONTENT OF THESE SLIDES IN NO WAY REPLACES THE RECOMMENDED REFERENCE BIBLIOGRAPHY.



TOPICS OF TODAY: REVIT. PART 7. PROJECT DOCUMENTATION.

- HOW TO ADD, MANAGE AND CUSTOMIZE PLANIMETRIC DIMENSIONS;
- HOW TO ADD, MANAGE AND CUSTOMIZE ELEVATION DIMENSIONS;
- HOW TO ADD, MANAGE AND CUSTOMIZE WINDOW TAGS;
- HOW TO ADD, MANAGE AND CUSTOMIZE DOOR TAGS;
- HOW TO MANAGE AND CUSTOMIZE SECTION ANNOTATION;
- HOW TO MANAGE AND CUSTOMIZE DETAIL VIEW;
- HOW TO MANAGE LEGENDS [DOORS AND WINDOWS; WALLS AND FLOORS];
- HOW TO MANAGE SHEET.





DUPLICATE THE FOLLOWING FAMILIES:

- ANNO_SPOT_ELEVATION_TARGET_FILLED
- ANNO_SPOT_ELEVATION_EXT_FILLED
- ANNO_TAG_WIN
- ANNO_TAG_DOOR
- ANNO_SEC_TAIL_FILLED

Questo PC > Disco locale (C:) > ProgramData > Autodesk > RVT 2022 > Libraries

+
CUSTOMIZED
FAMILIES FOLDER



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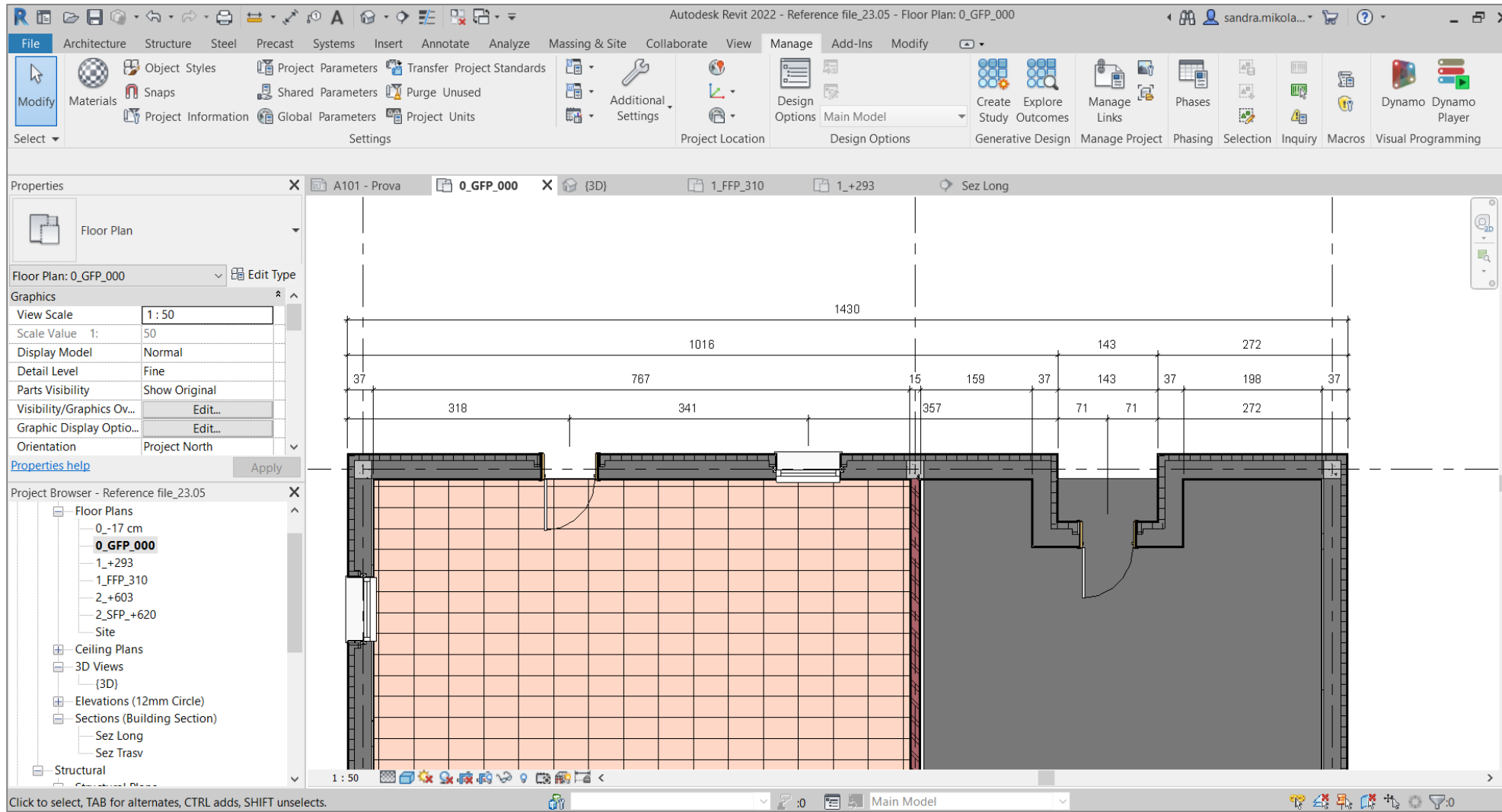
DIPARTIMENTO DI INGEGNERIA E ARCHITETTURA

CORSO DI LAUREA IN ARCHITETTURA E CITTA' SOSTENIBILI

BUILDING INFORMATION MODELING:
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DIMENSIONS [DEFAULT DIMENSION]



DIMENSIONS [DEFAULT AND CUSTOMIZED DIMENSION]

Type Properties

Family: System Family: Linear Dimension Style

Type: Diagonal - 2.5mm Arial

Duplicate...

Rename...

Type Parameters

Parameter	Value
Graphics	
Dimension String Type	Continuous
Leader Type	Arc
Leader Tick Mark	None
Show Leader When Text Moves	Away From Origin
Tick Mark	Diagonal 1.5mm
Line Weight	1
Tick Mark Line Weight	4
Dimension Line Extension	1.0000 mm
Flipped Dimension Line Extension	2.4000 mm
Witness Line Control	Gap to Element
Witness Line Length	2.4000 mm
Witness Line Gap to Element	1.5000 mm
Witness Line Extension	1.5000 mm
Witness Line Tick Mark	None
Centerline Symbol	None
Centerline Pattern	Solid
Centerline Tick Mark	Default
Interior Tick Mark Display	Dynamic
Interior Tick Mark	Diagonal 3mm
Ordinate Dimension Settings	
Color	Black
Dimension Line Snap Distance	10.0000 mm
Text	
Width Factor	1.000000
Underline	<input type="checkbox"/>
Italic	<input type="checkbox"/>
Bold	<input type="checkbox"/>
Text Size	2.5000 mm
Text Offset	1.0000 mm
Read Convention	Up, then Left
Text Font	Arial
Text Background	Opaque
Show Opening Height	<input type="checkbox"/>
Suppress Spaces	<input type="checkbox"/>
Primary Units	
Units Format	1234.6 [cm] (Default)
Dimension Prefix	
Dimension Suffix	

What do these properties do?

<< Preview OK Cancel Apply

Type Properties

Family: System Family: Linear Dimension Style

Type: 1.8 mm Arial - 1/50

Duplicate...

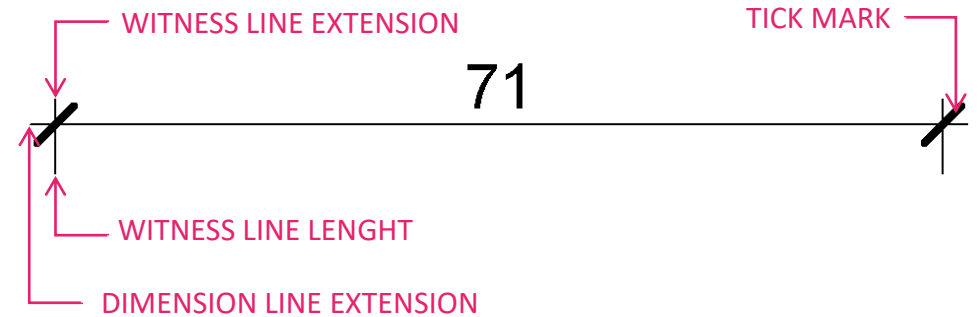
Rename...

Type Parameters

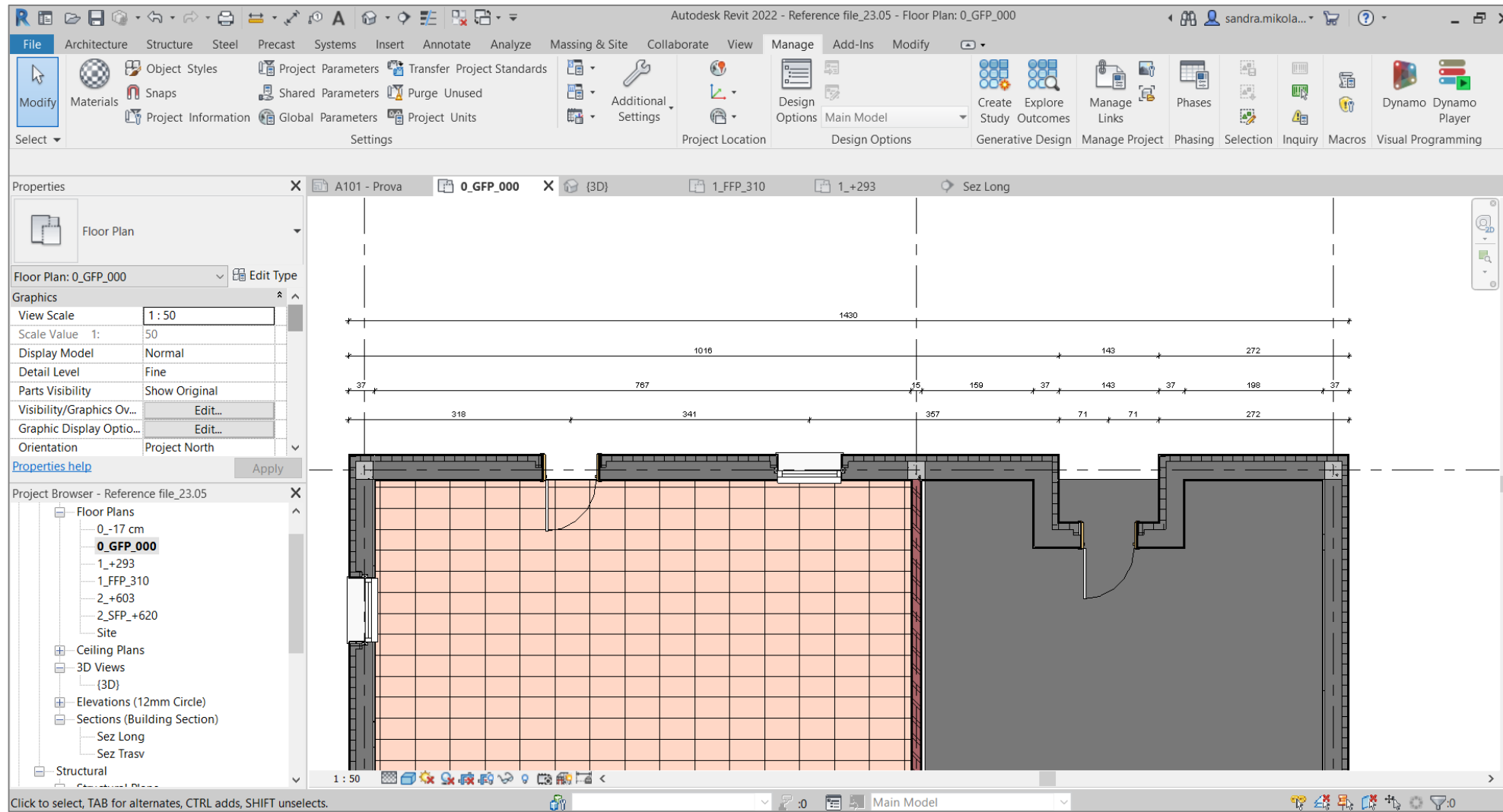
Parameter	Value
Graphics	
Dimension String Type	Continuous
Leader Type	Arc
Leader Tick Mark	None
Show Leader When Text Moves	Away From Origin
Tick Mark	Diagonal 1.5mm
Line Weight	1
Tick Mark Line Weight	4
Dimension Line Extension	0.000 mm
Flipped Dimension Line Extension	2.4000 mm
Witness Line Control	Fixed to Dimension Line
Witness Line Length	2.0000 mm
Witness Line Gap to Element	1.5000 mm
Witness Line Extension	1.0000 mm
Witness Line Tick Mark	None
Centerline Symbol	None
Centerline Pattern	Solid
Centerline Tick Mark	Default
Interior Tick Mark Display	Dynamic
Interior Tick Mark	Diagonal 3mm
Ordinate Dimension Settings	
Color	Black
Dimension Line Snap Distance	10.0000 mm
Text	
Width Factor	1.000000
Underline	<input type="checkbox"/>
Italic	<input type="checkbox"/>
Bold	<input type="checkbox"/>
Text Size	1.8000 mm

What do these properties do?

<< Preview **OK** Cancel Apply



DIMENSIONS [CUSTOMIZED DIMENSION]



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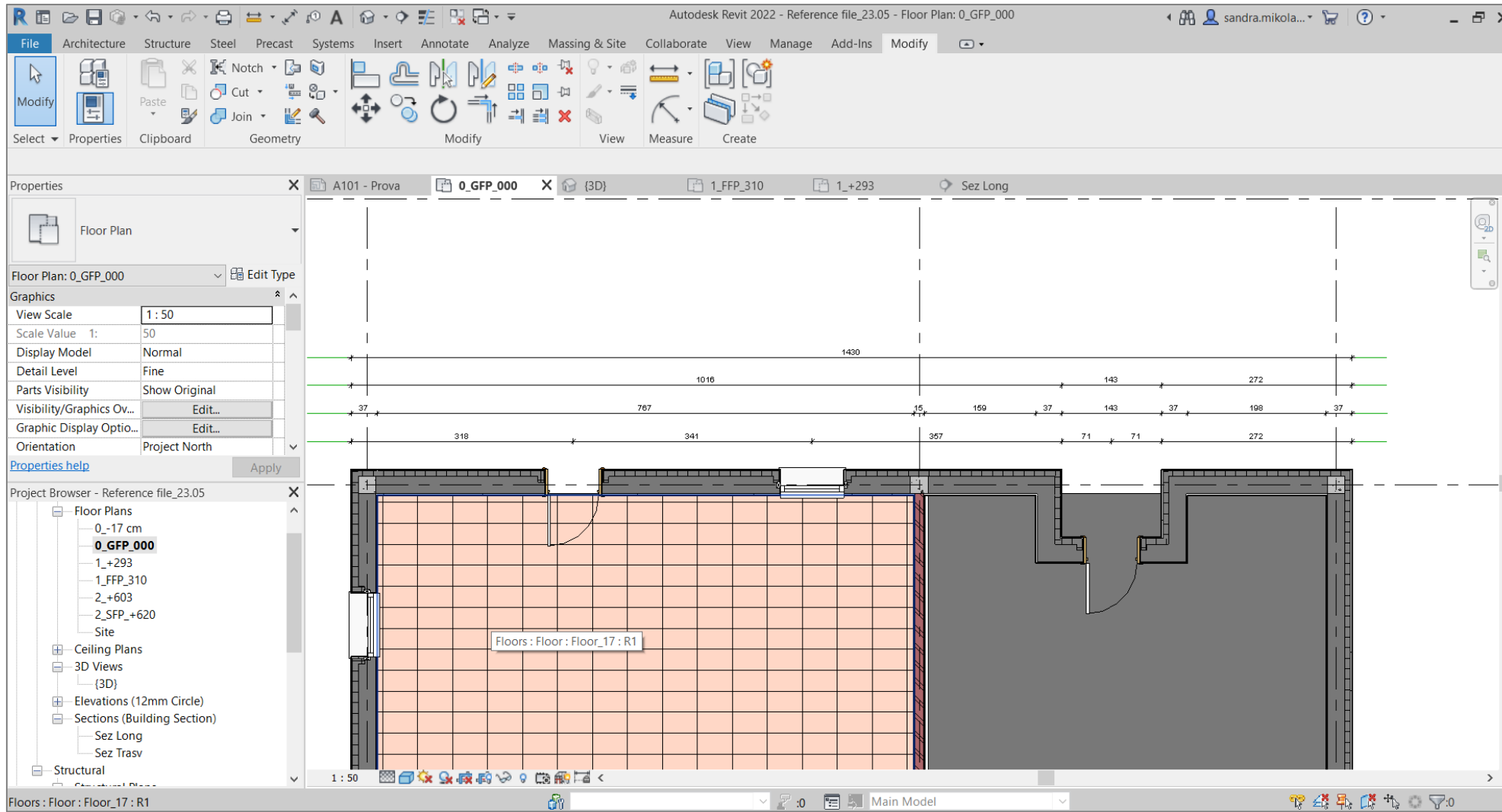
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DIMENSIONS [CUSTOMIZED DIMENSION, REFERENCE LINES]



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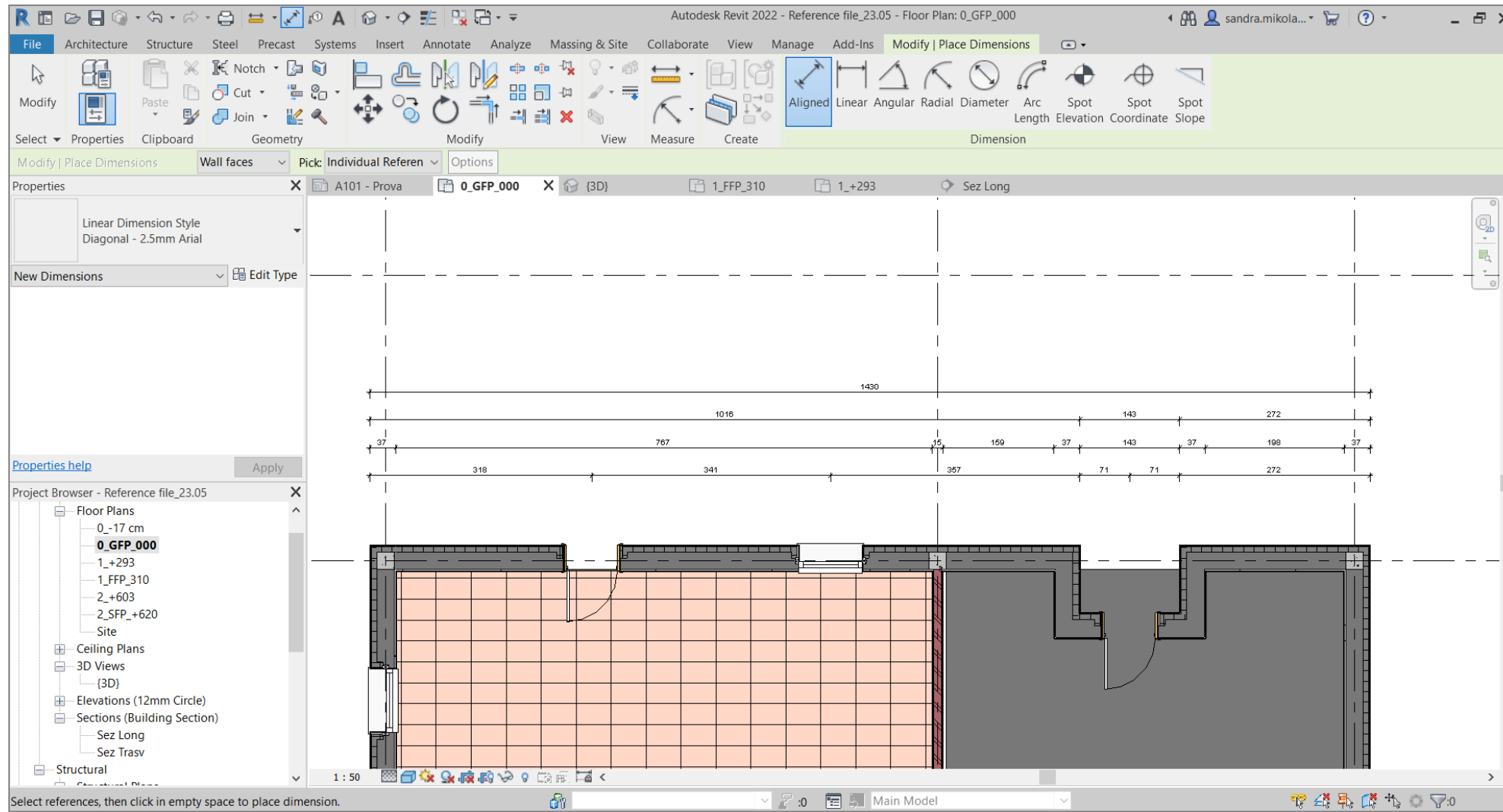
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DIMENSIONS [CUSTOMIZED DIMENSION, 1:50]



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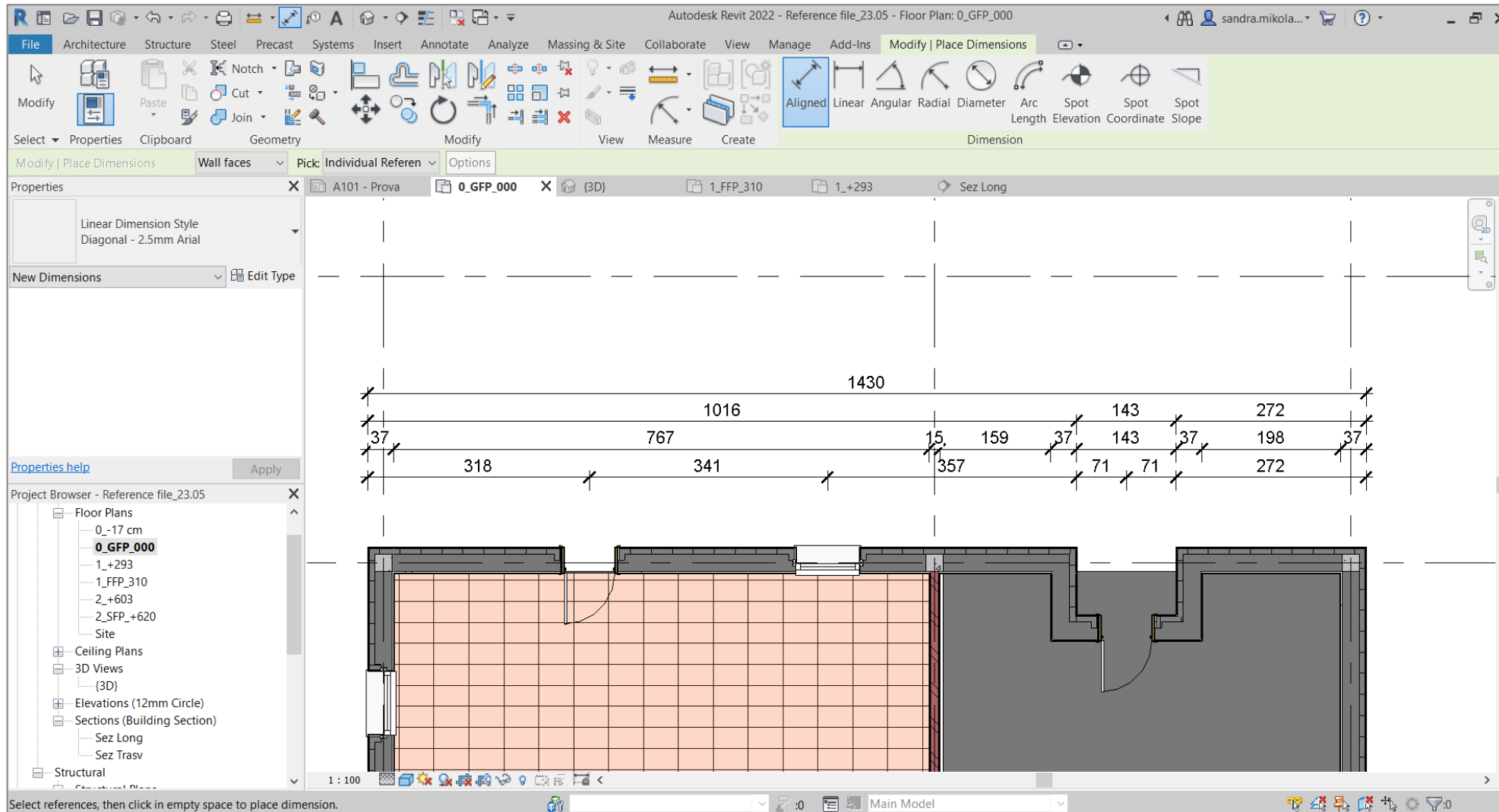
DIPARTIMENTO DI INGEGNERIA E ARCHITETTURA

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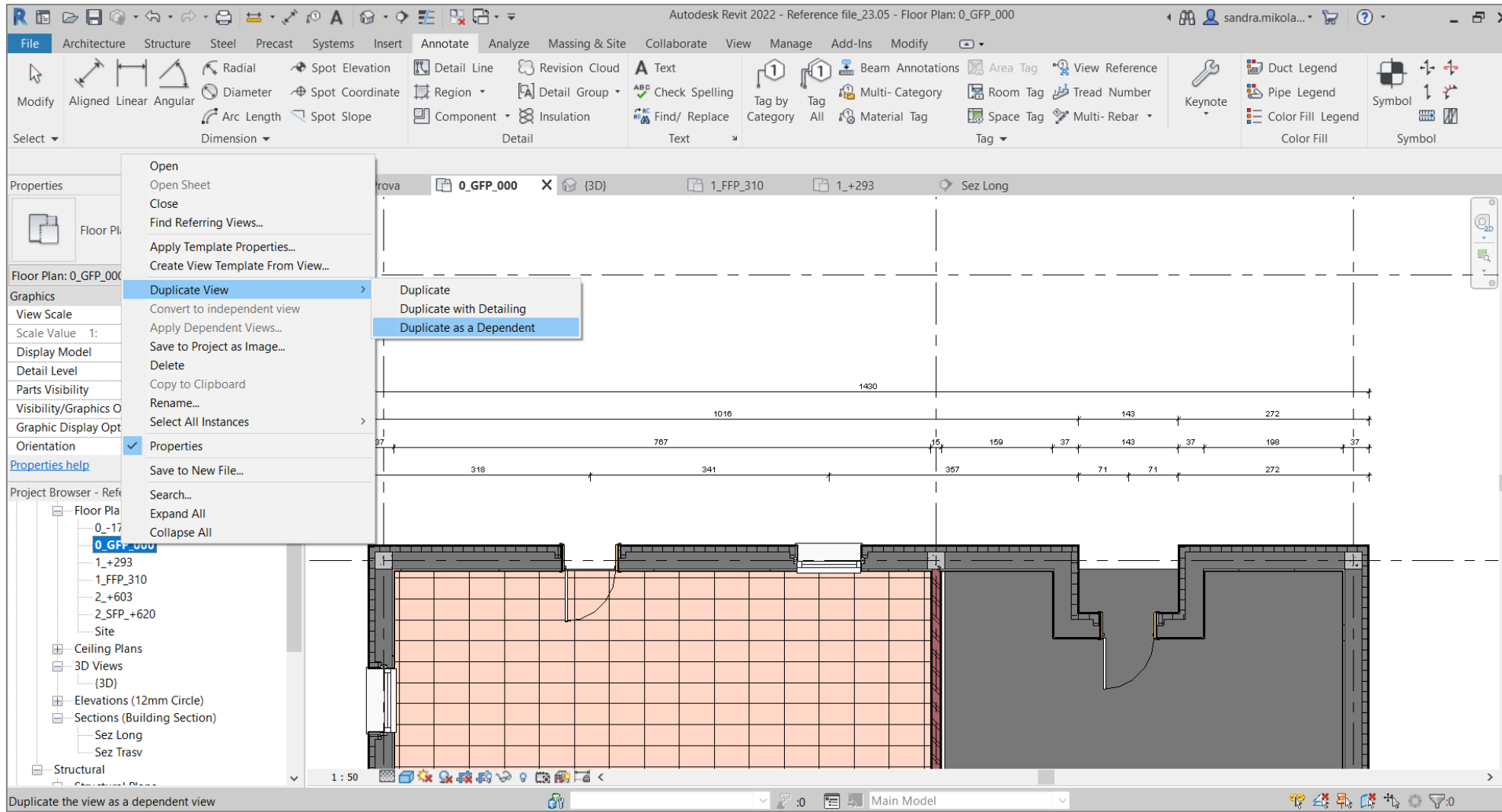
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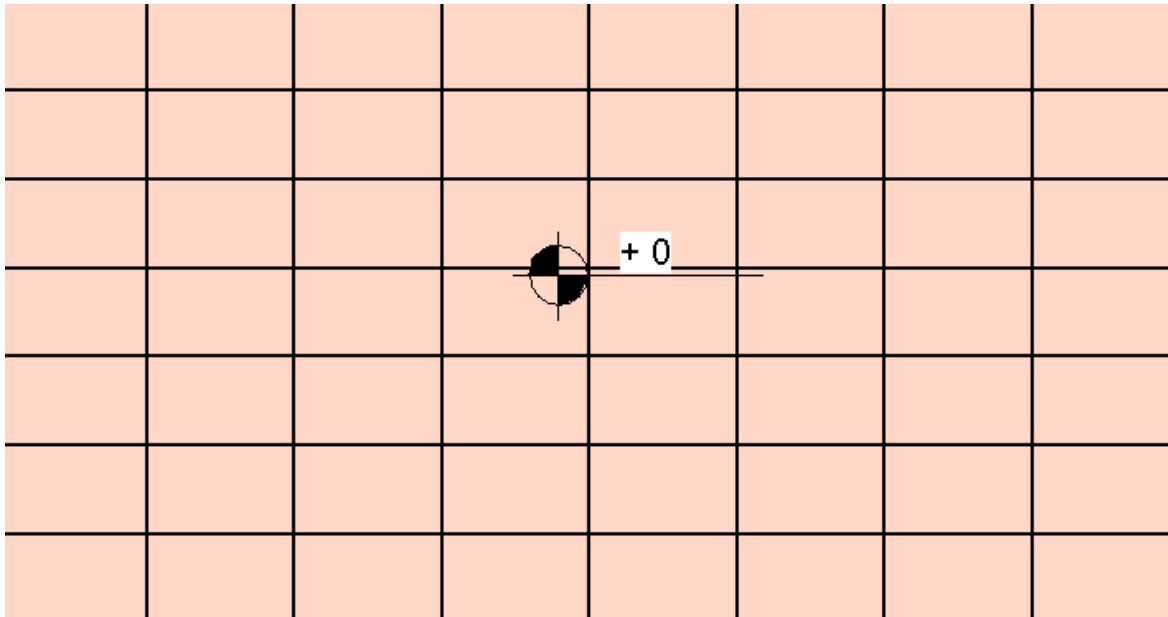
DIMENSIONS [CUSTOMIZED DIMENSION, 1:100]



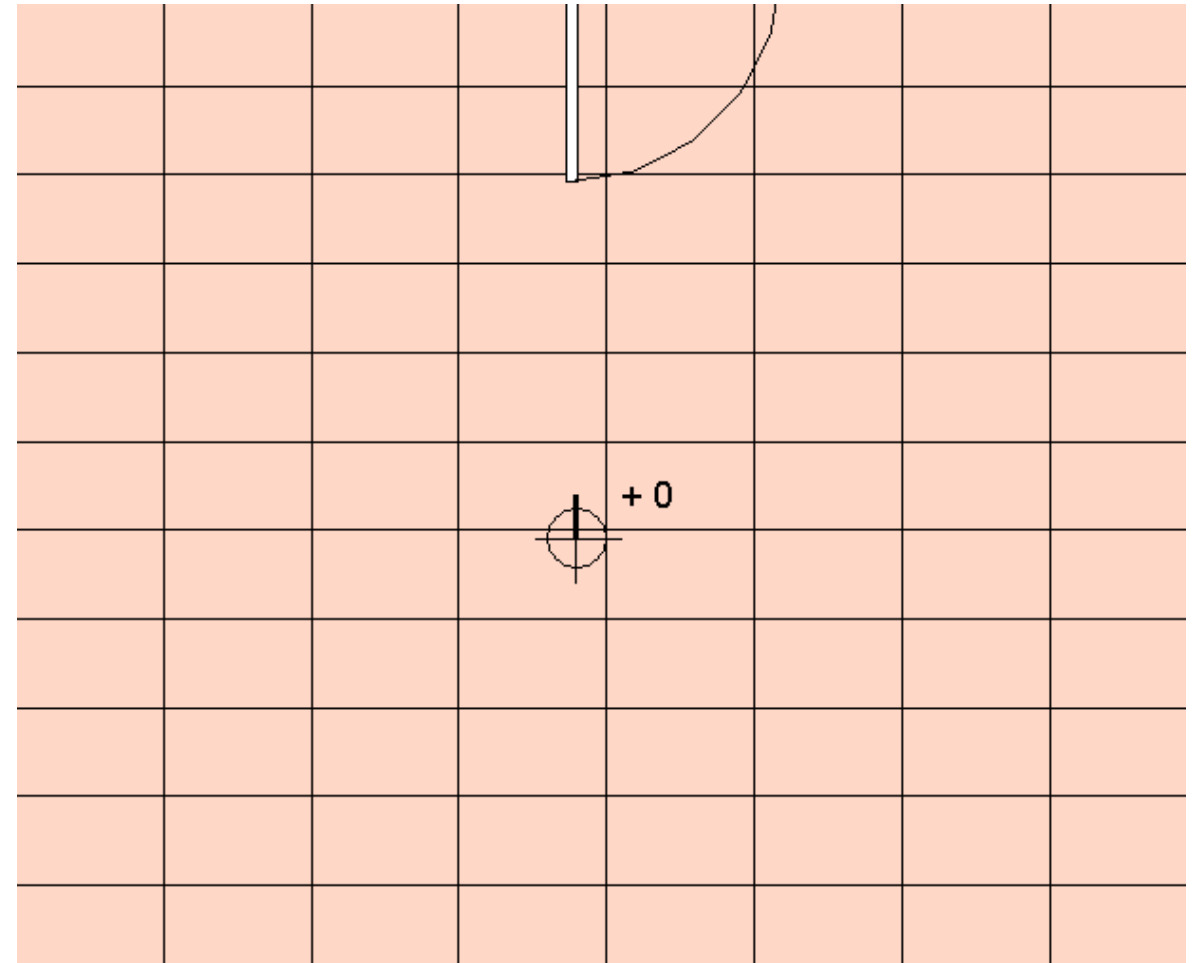
DUPLICATE VIEW AS A DEPENDENT



DEFAULT SPOT ELEVATION



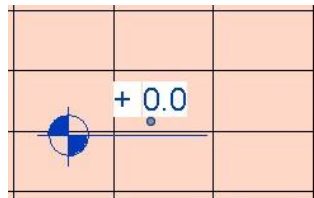
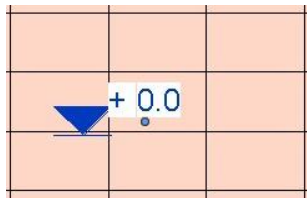
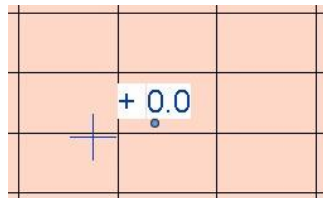
CUSTOMIZED SPOT ELEVATION



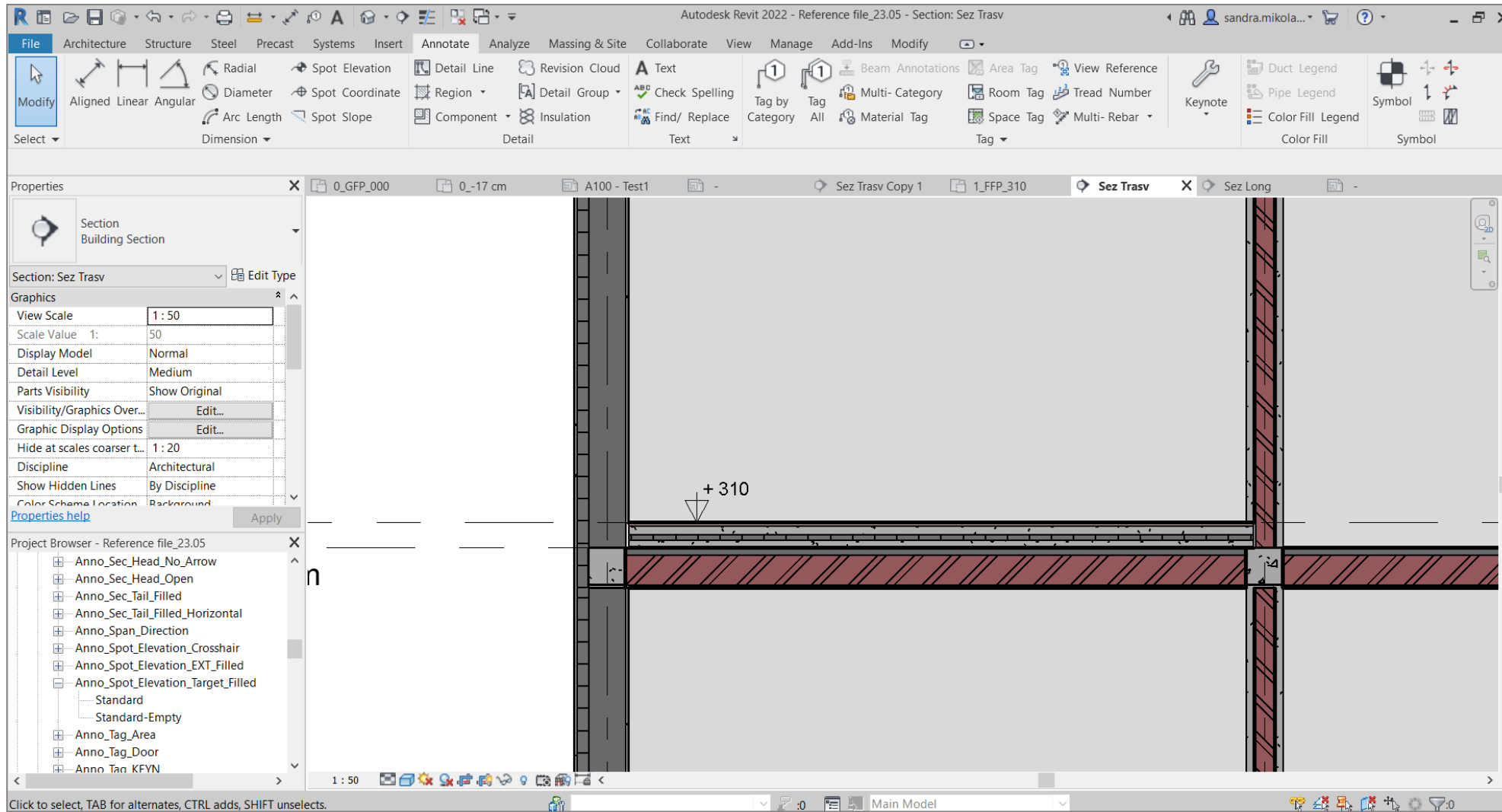
Anno_Spot_Elevation_
Crosshair: Standard

Anno_Spot_Elevation_
EXT_Filled: Standard

Anno_Spot_Elevation_
Target_Filled: Standard



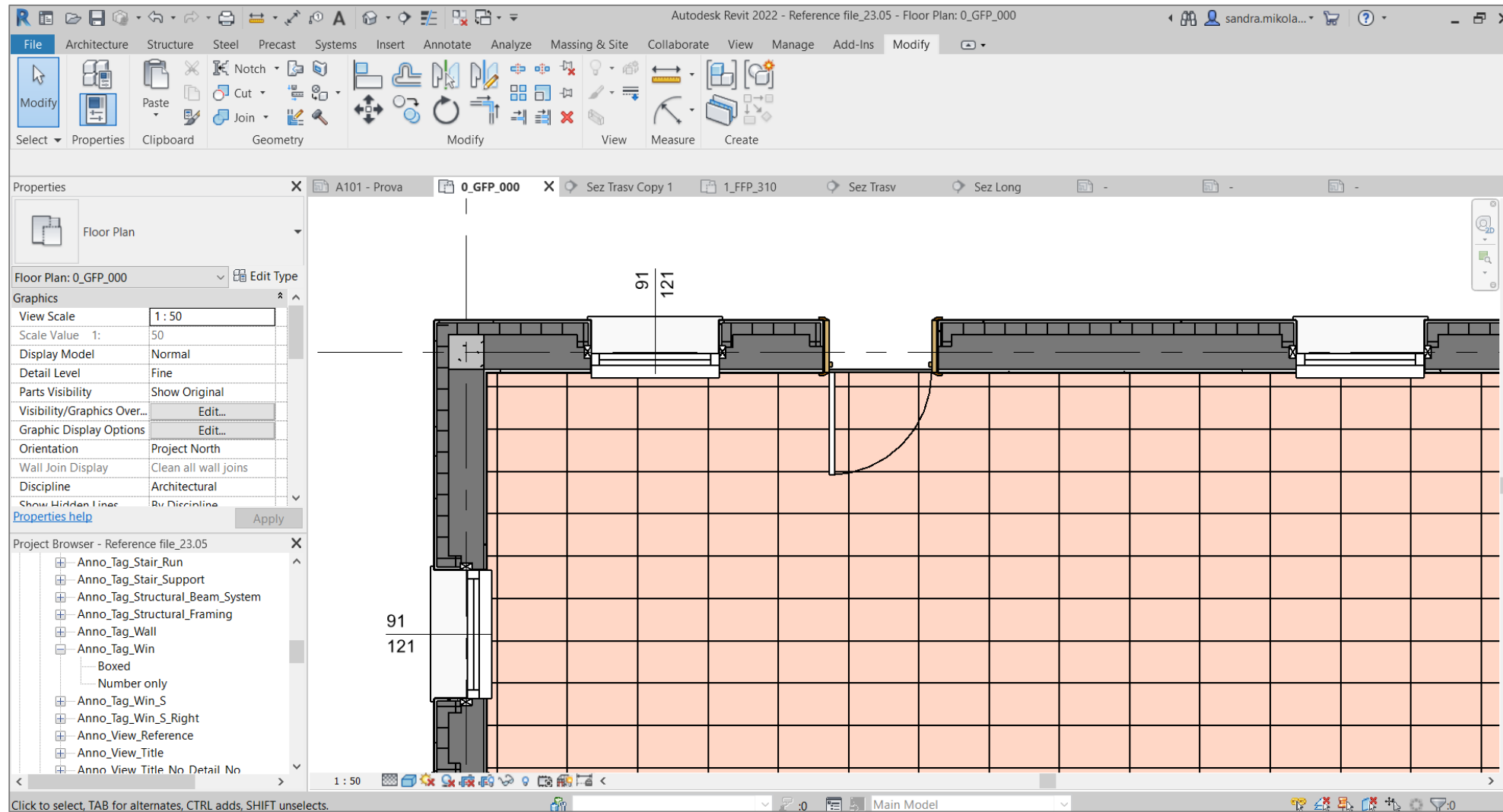
SPOT ELEVATION [SECTION VIEW]



CUSTOMIZED SPOT ELEVATION



TAG BY CATEGORY [WINDOWS]



CUSTOMIZED
WINDOW TAG



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DRAWING SYMBOLS

	DOOR NUMBER
	WINDOW NUMBER
	WALL TYPE NUMBER
	ELEVATION MARK
	REVISION NUMBER
	ROOM NAME & NUMBER

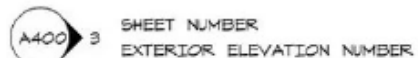
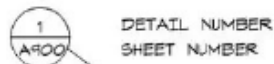
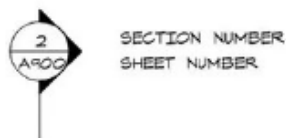
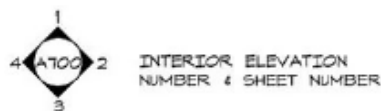
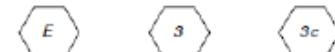


FIG: A.1.4./2 SIMBOLI GRAFICI DI DESIGNAZIONE E CORRELAZIONE – AMBITO EDILIZIO

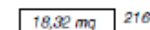
SIMBOLI DI DESIGNAZIONE DELLE FINESTRE
LETTERE E/O NUMERI INTERNI
INDICANO DESIGNAZIONI ADDIZIONALI DI TIPO



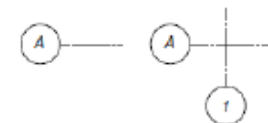
SIMBOLI DI DESIGNAZIONE DELLE PORTE
LETTERE E/O NUMERI INTERNI
INDICANO DESIGNAZIONI ADDIZIONALI DI TIPO



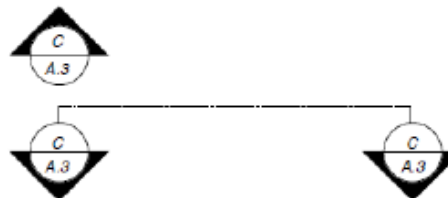
SIMBOLI DI DESIGNAZIONE DEI VANI
LA MISURA INTERNA RIPORTA LA SUPERFICIE
IL NUMERO ESTERNO DESIGNA IL VANO



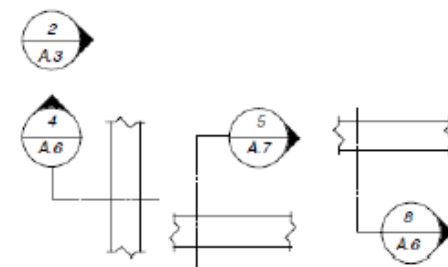
SIMBOLI DI DESIGNAZIONE DELLA GRIGLIA STRUTTURALE
LETTERE E NUMERI INTERNI DESIGNANO LE POSIZIONI
DEGLI ELEMENTI (PILASTRI, SETTI, ECC.)



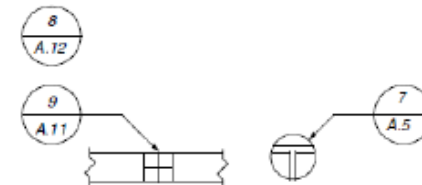
SIMBOLI DI DESIGNAZIONE DEI PIANI DI SEZIONE
LETTERE O NUMERI INTERNI SUPERIORI DESIGNANO
LA SEZIONE
LETTERE E NUMERI INFERIORI SONO DI CORRELAZIONE
CON GLI ELABORATI DI PROGETTO DI PERTINENZA:
NELL'ESEMPPIO, È DESIGNATA LA SEZIONE C,
RAPPRESENTATA NELLA TAV. A.3

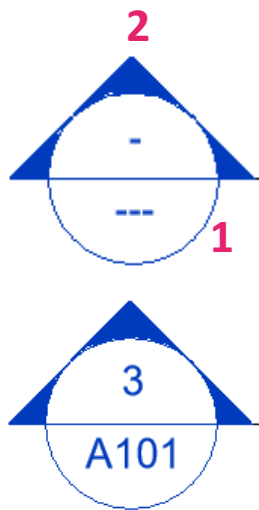


SIMBOLI DI DESIGNAZIONE DEI PARTICOLARI
LETTERE O NUMERI INTERNI SUPERIORI
DESIGNANO IL PARTICOLARE SVILUPPATO
LETTERE E NUMERI INFERIORI SONO DI CORRELAZIONE
CON GLI ELABORATI DI PROGETTO DI PERTINENZA:
NELL'ESEMPPIO, SONO DESIGNATI I PARTICOLARI DI
SEZIONI DELLE MURATURE 4, 5, 8,
RAPPRESENTATI RISPETTIVAMENTE NELLE TAV. A.6, A.7.



SIMBOLI DI DESIGNAZIONE DEI DETTAGLI
LETTERE O NUMERI INTERNI SUPERIORI
DESIGNANO IL DETTAGLIO SVILUPPATO
LETTERE E NUMERI INFERIORI SONO DI CORRELAZIONE
CON GLI ELABORATI DI PROGETTO DI PERTINENZA:
NELL'ESEMPPIO, SONO DESIGNATI I DETTAGLI 7, 9,
RAPPRESENTATI RISPETTIVAMENTE NELLE TAV. A.5, A.11



BUILDING SECTION**- CALLOUT TAG**Callout Head [Anno-Callout_Head: Standard] **1****- SECTION TAG**Section Head [Anno_Sec_Head_Filled: Standard] **2**Section Tail [Anno_Sec_Tail_Filled: Standard] **3**

SECTION ANNOTATION [DEFAULT]

SECTION ANNOTATION
THE SECTION WAS ADDED TO A SHEET [SECTION NUMBER/SHEET NUMBER]

Type Properties

Family: System Family: Section Load...

Type: Building Section Duplicate... Rename...

Type Parameters

Parameter	Value	=
Graphics		
Callout Tag	Callout Tag 1	
Section Tag	Building Section	
Reference Label	Sim	
Identity Data		
View Template applied to new views	<None>	
New views are dependent on template	<input checked="" type="checkbox"/>	

SECTION ANNOTATION [CUSTOMIZED]

Visibility/Graphic Overrides for Section: Section 2

Model Categories Annotation Categories Analytical Model Categories Imported Categories Filters

Show annotation categories in this view If a category is unchecked, it will not be visible.

Filter list: Architecture

Visibility	Projection/Su... Lines	Half-tone
<input checked="" type="checkbox"/> Reference Lines		<input type="checkbox"/>
<input checked="" type="checkbox"/> Reference Planes		<input type="checkbox"/>
<input checked="" type="checkbox"/> Reference Points		<input type="checkbox"/>
<input checked="" type="checkbox"/> Revision Cloud Tags		<input type="checkbox"/>
<input checked="" type="checkbox"/> Revision Clouds		<input type="checkbox"/>
<input checked="" type="checkbox"/> Road Tags		<input type="checkbox"/>
<input checked="" type="checkbox"/> Roof Tags		<input type="checkbox"/>
<input checked="" type="checkbox"/> Room Tags		<input type="checkbox"/>
<input checked="" type="checkbox"/> Schedule Graphics		<input type="checkbox"/>
<input checked="" type="checkbox"/> Scope Boxes		<input type="checkbox"/>
<input checked="" type="checkbox"/> Section Boxes		<input type="checkbox"/>
<input checked="" type="checkbox"/> Sections		<input type="checkbox"/>
<input checked="" type="checkbox"/> Signage Tags		<input type="checkbox"/>
<input checked="" type="checkbox"/> Site Tags		<input type="checkbox"/>
<input checked="" type="checkbox"/> Specialty Equipment T...		<input type="checkbox"/>
<input checked="" type="checkbox"/> Spot Coordinates		<input type="checkbox"/>
<input checked="" type="checkbox"/> Spot Elevations		<input type="checkbox"/>
<input checked="" type="checkbox"/> Spot Slopes		<input type="checkbox"/>
<input checked="" type="checkbox"/> Stair Landing Tags		<input type="checkbox"/>
<input checked="" type="checkbox"/> Stair Paths		<input type="checkbox"/>

All None Invert Expand All

Categories that are not overridden are drawn according to Object Style settings. [Object Styles...](#)

OK Cancel Apply Help

Object Styles

Model Objects Annotation Objects Analytical Model Objects Imported Objects

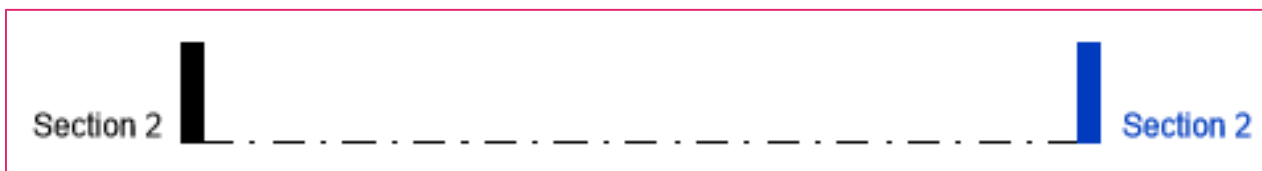
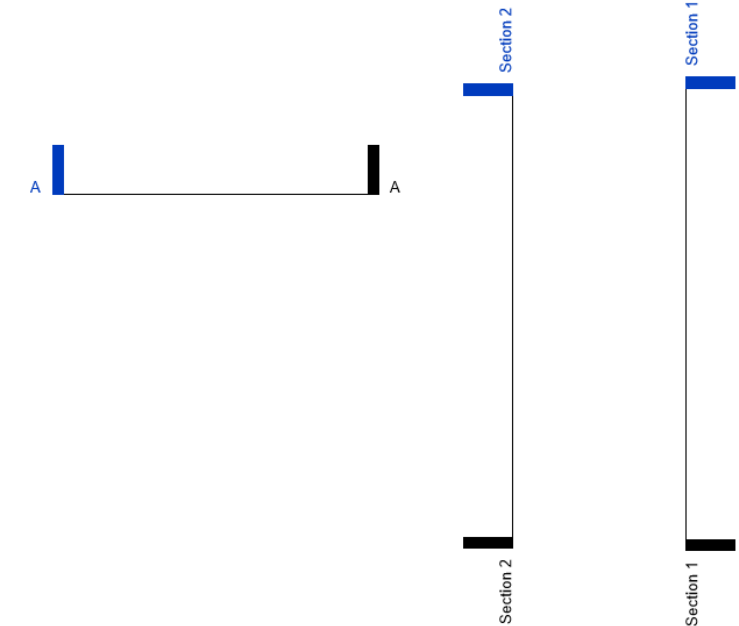
Filter list: Architecture

Category	Line		Line Color	Line Pattern
	Projection	Projection		
Reference Lines	1		RGB 000-127-C	
Reference Planes	1		RGB 000-127-C	Aligning Line
Reference Points	1		Black	Solid
Revision Cloud Tags	1		Black	
Revision Clouds	1		Black	
Road Tags	1		Black	Solid
Roof Tags	1		Black	Solid
Room Tags	1		Black	Solid
Schedule Graphics	1		Black	
Scope Boxes	1		RGB 000-127-C	Aligning Line
Section Boxes	1		Black	
Section Line	1		Black	Dash dot
Section Marks	1		Black	Solid
Signage Tags	1		Black	Solid
Site Tags	1		Black	Solid
Specialty Equipmen...	1		Black	Solid
Spot Elevation Sum...	1		Black	Solid

Select All Select None Invert

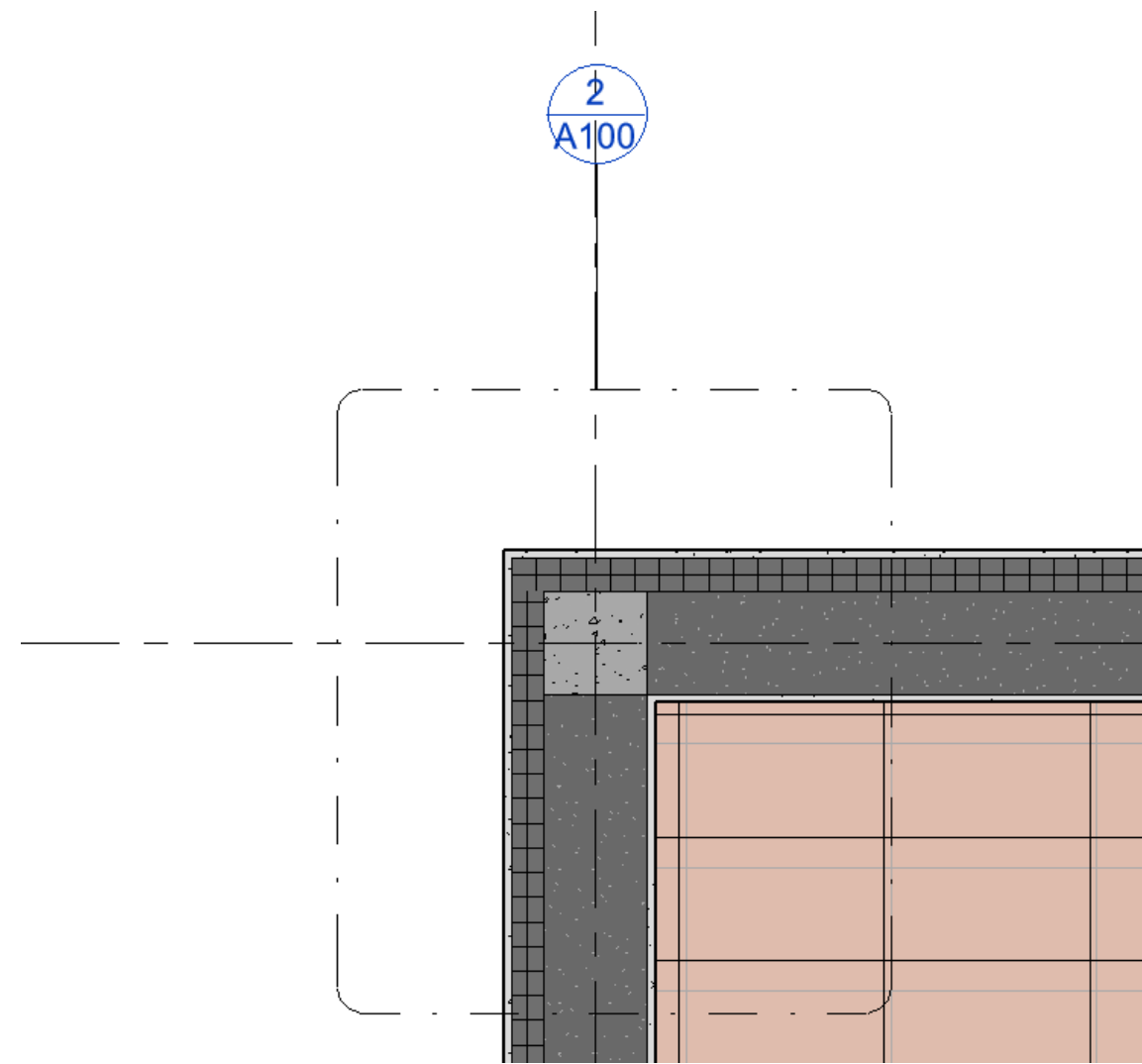
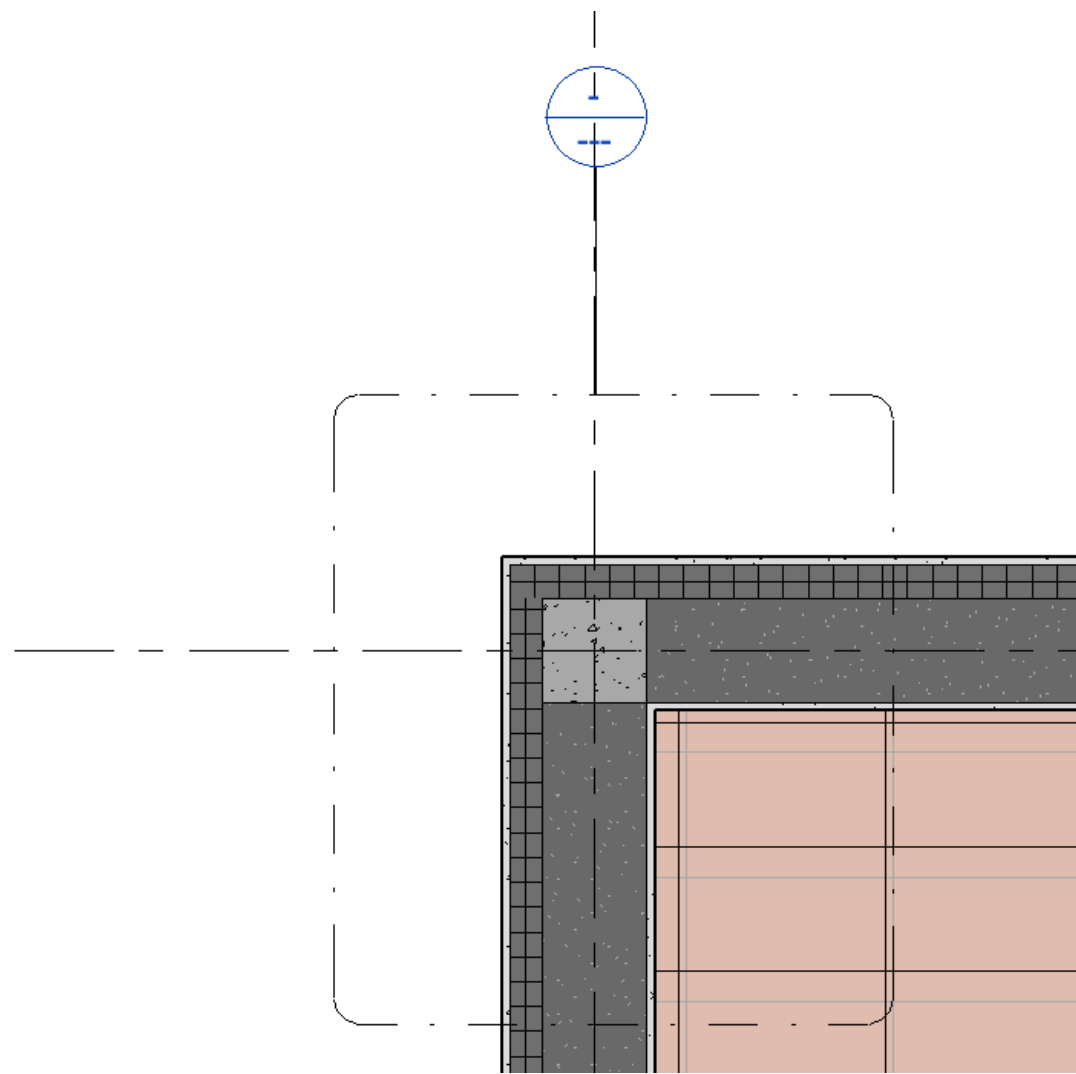
Modify Subcategories
New Delete Rename

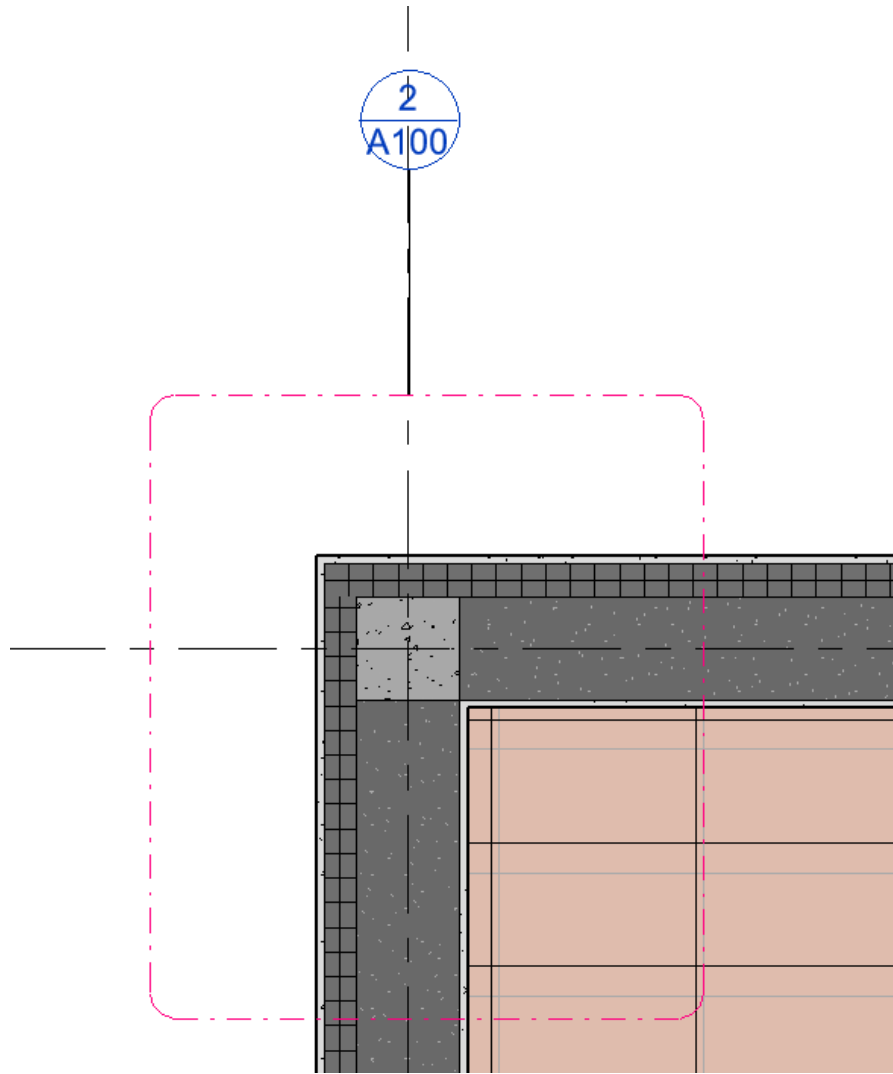
OK Cancel Apply Help



SECTION ANNOTATION [CUSTOMIZED]







Object Styles

Model Objects | Annotation Objects | Analytical Model Objects | Imported Objects

Filter list: Architecture

Category	Line	Line Color	Line Pattern
	Projection		
+ Adaptive Points	1	Black	Solid
Area Tags	1	Black	Solid
Assembly Tags	1	Black	
Audio Visual Device...	1	Black	Solid
Brace in Plan View S...	1	Black	
+ Callout Boundary	1	RGB 255-000-	Dash dot2
Callout Heads	1	Black	Solid
Casework Tags	1	Black	Solid
Ceiling Tags	1	Black	Solid
Connection Symbols	1	Black	
Curtain Panel Tags	1	Black	Solid
Curtain System Tags	1	Black	Solid
Curtain Wall Mullio...	1	Black	
Detail Item Tags	1	Black	Solid
Displacement Path	1	Black	Dash
+ Door Tags	1	Black	Solid
Electrical Equipmen...	1	Black	Solid

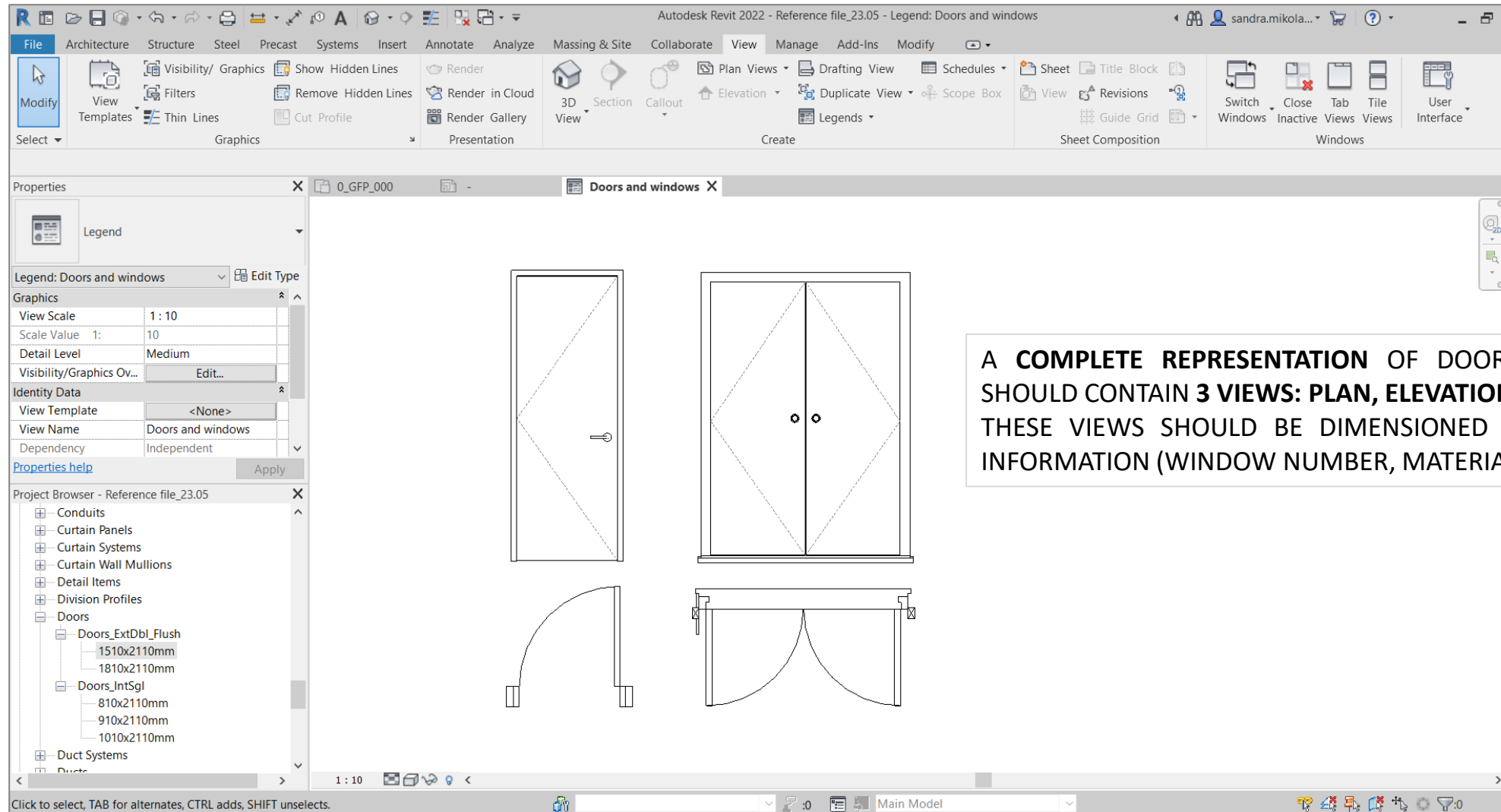
Select All | Select None | Invert

Modify Subcategories

New | Delete | Rename

OK | Cancel | Apply | Help

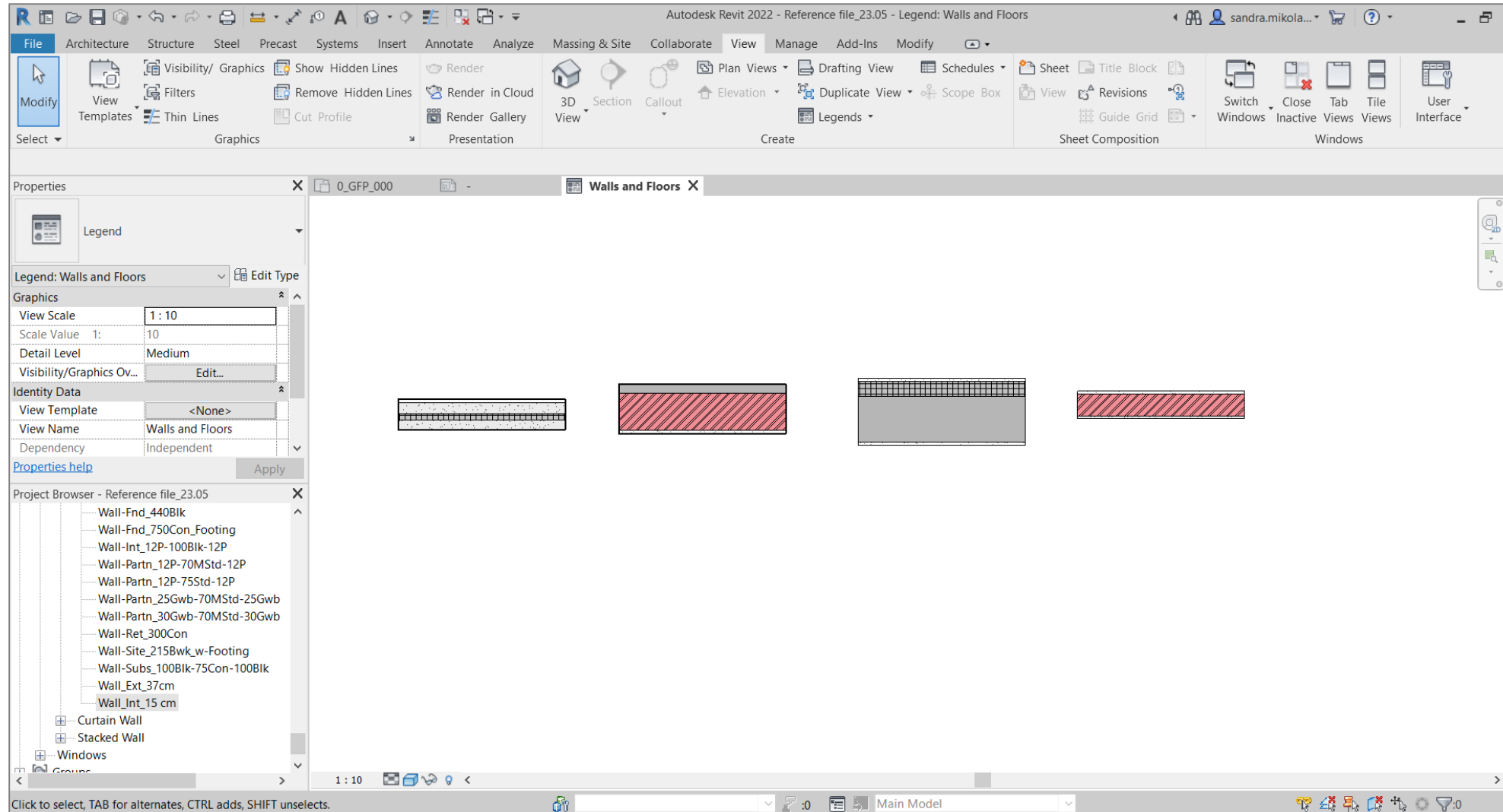
LEGEND [DOORS AND WINDOWS]



A **COMPLETE REPRESENTATION** OF DOORS AND WINDOWS LEGEND SHOULD CONTAIN **3 VIEWS: PLAN, ELEVATION, AND SECTION**. THESE VIEWS SHOULD BE DIMENSIONED AND SHOULD HAVE OTHER INFORMATION (WINDOW NUMBER, MATERIAL, ETC.).



LEGEND [WALLS AND FLOORS]



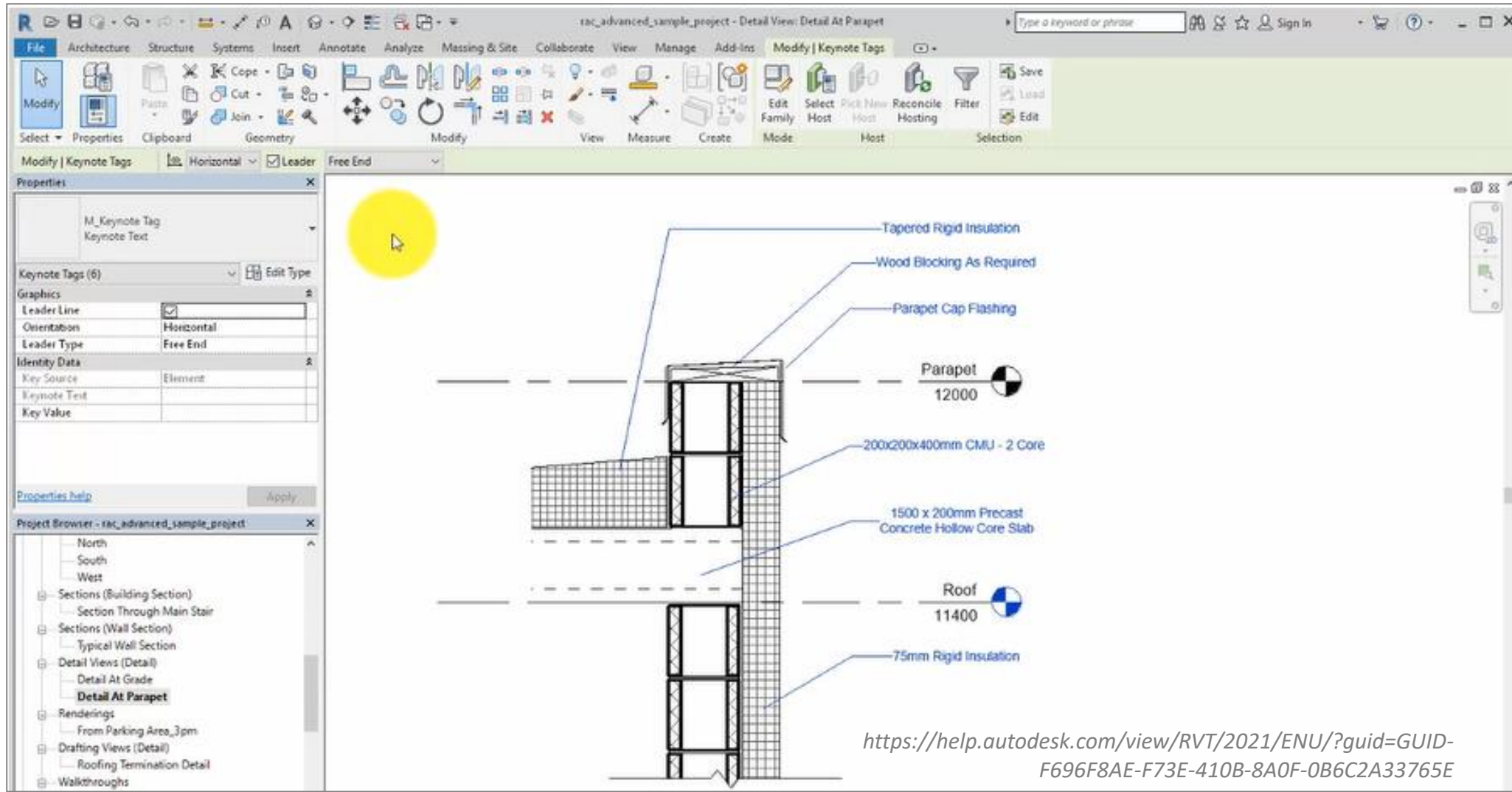
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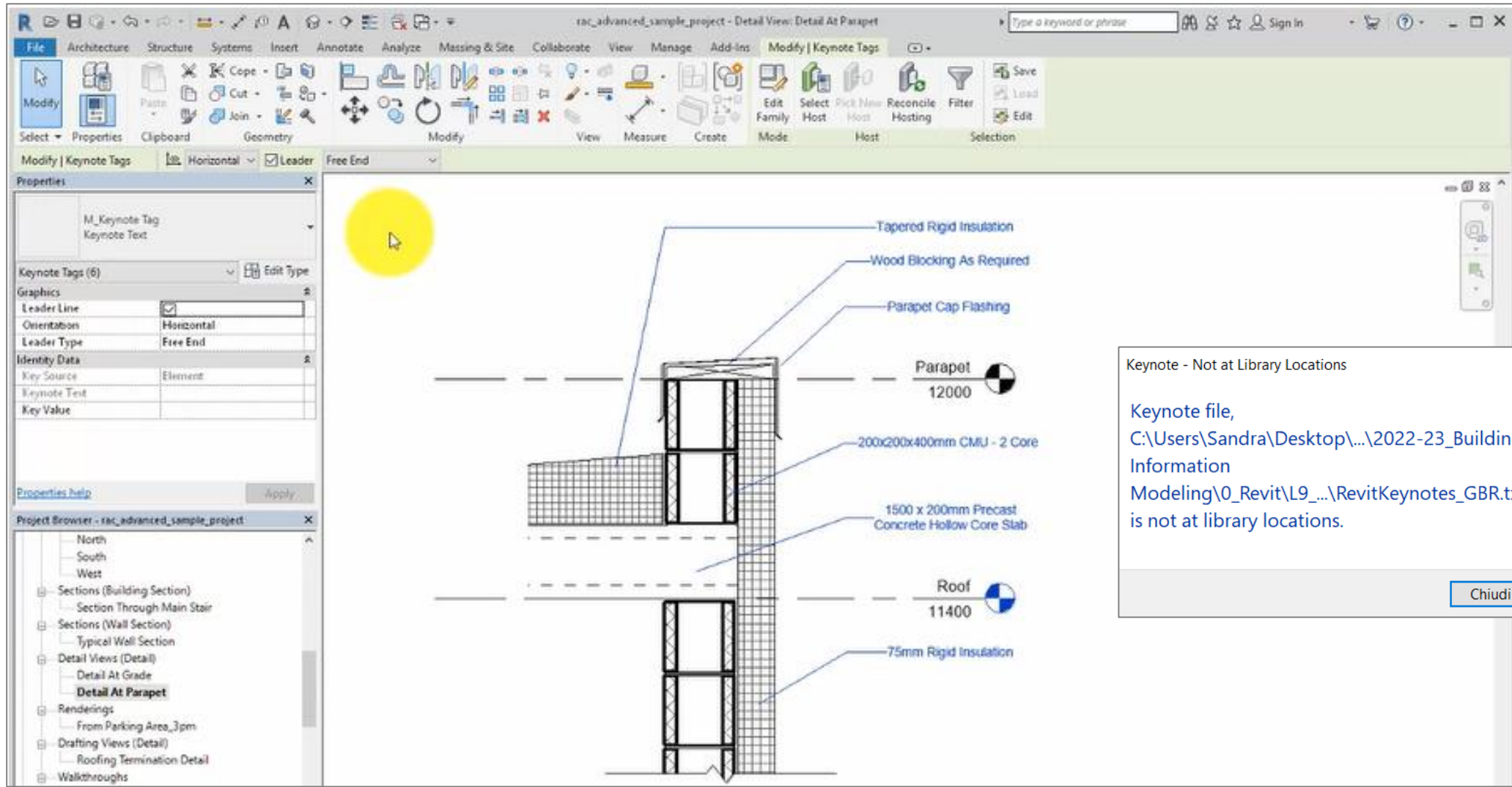
DIPARTIMENTO DI INGEGNERIA E ARCHITETTURA

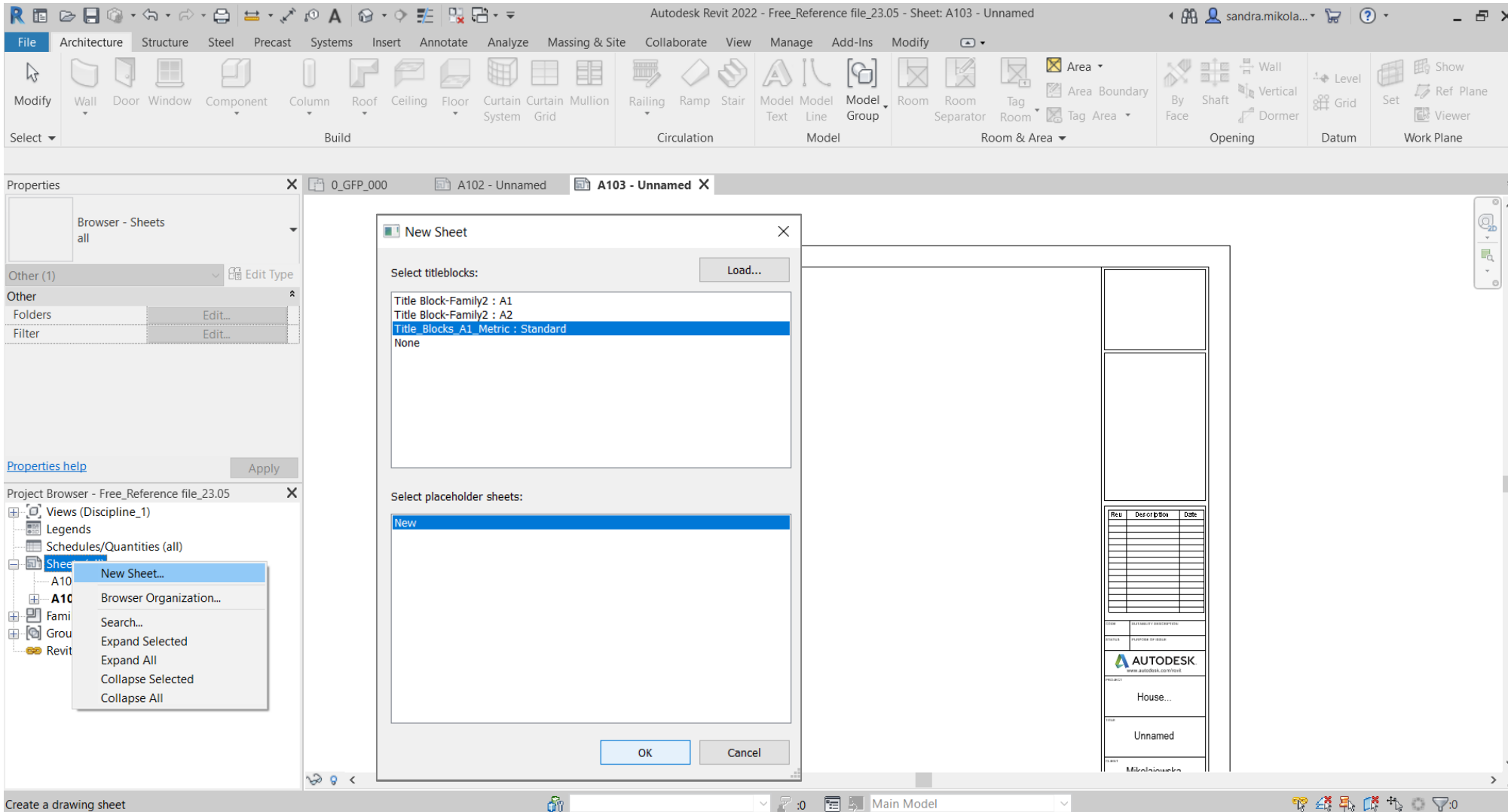
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Autodesk Revit 2022 - Reference file_23.05 - Sheet: A100 - Test1

File Architecture Structure Steel Precast Systems Insert Annotate Analyze Massing & Site Collaborate View Manage Add-Ins Modify

Select View Visibility/ Graphics Show Hidden Lines Render Plan Views Drafting View Schedules Sheet Title Block View Revisions Switch Windows Close Inactive Views Tile Views User Interface

Properties: Sheet, Sheet: Test1, Edit Type, Graphics, Visibility/Graphics Overrides, Edit, Scale: 1:5, Identity Data, Dependency: Independent, Referencing Sheet, Referencing Detail, Current Revision Issued, Current Revision Issue..., Properties help, Apply

Project Browser - Reference file_23.05: Schedules/Quantities (all), Sheets (all), A100 - Test1, Floor Plan: 1_FFP_310 - Callout 1, A101 - Prova, Families, Analytical Links, Annotation Symbols, Anno_Callout_Head, Anno_Centrelines, Anno_Elevation_Mark_Body_Circle_10mr, Anno_Elevation_Mark_Body_Circle_12mr, Anno_Elevation_Mark_Body_Square, Anno_Elevation_Mark_Pointer_Circle_10r, Anno_Elevation_Mark_Pointer_Circle_12r, Anno_Elevation_Mark_Pointer_Square

1-1_FFP_310 - Callout 1

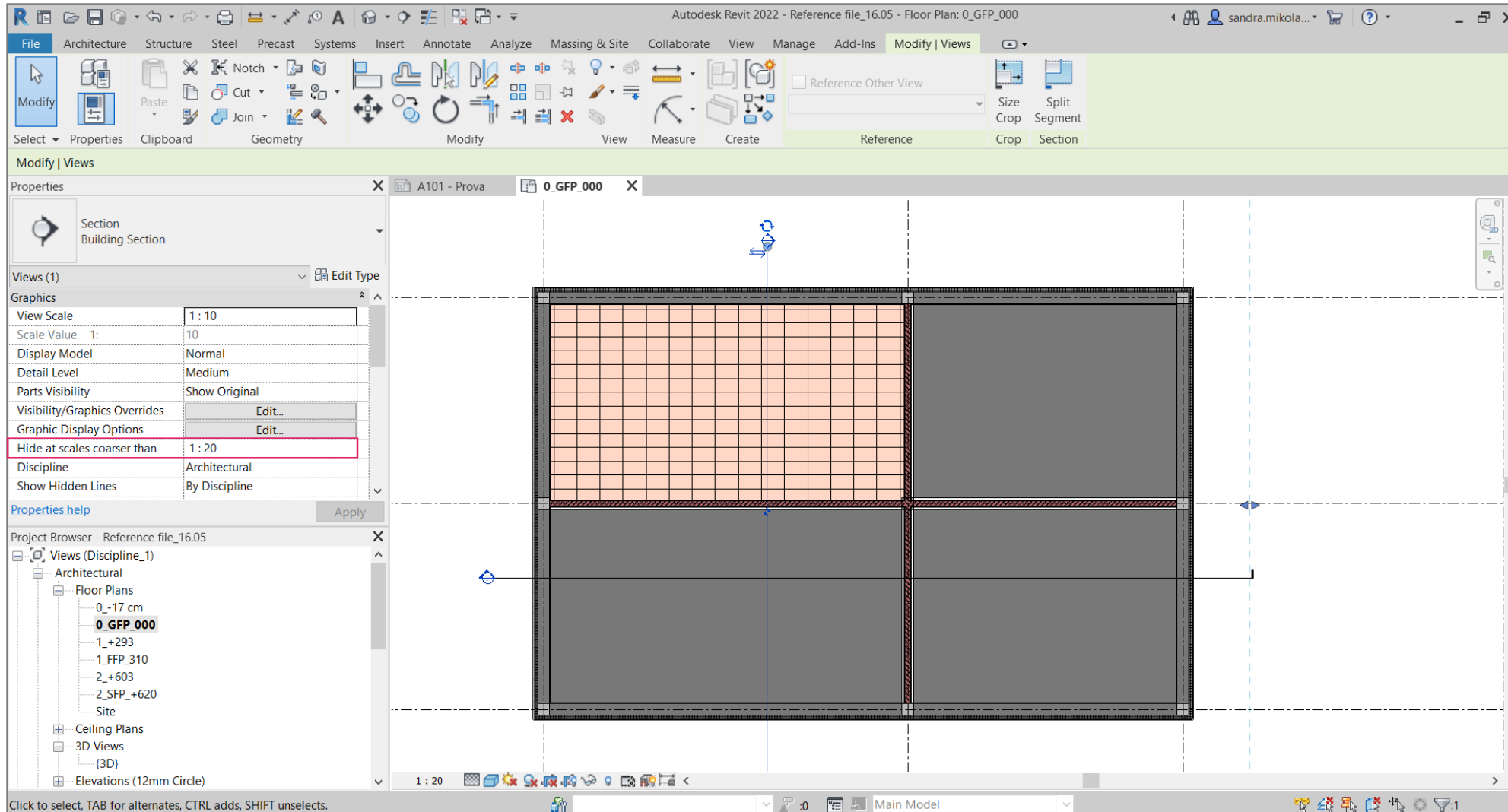
Rev	Description	Date

CODE: AUTODESK EDUCATIONAL
STATUS: EDUCATION USE ONLY

PROJECT: House...
SHEET: Test1
USER: Mikolajewska
AUTHOR: Mikolajewska
DATE: 23/10/2021
PROJECT: House...
SCALE: 1:5
SHEET NUMBER: A100

Click to select, TAB for alternates, CTRL adds, SHIFT unselects. | 0 | Main Model

VIEW MANAGEMENT [HIDE SECTION LINE]



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DIPARTIMENTO DI INGEGNERIA E ARCHITETTURA

CORSO DI LAUREA IN ARCHITETTURA E CITTA' SOSTENIBILI

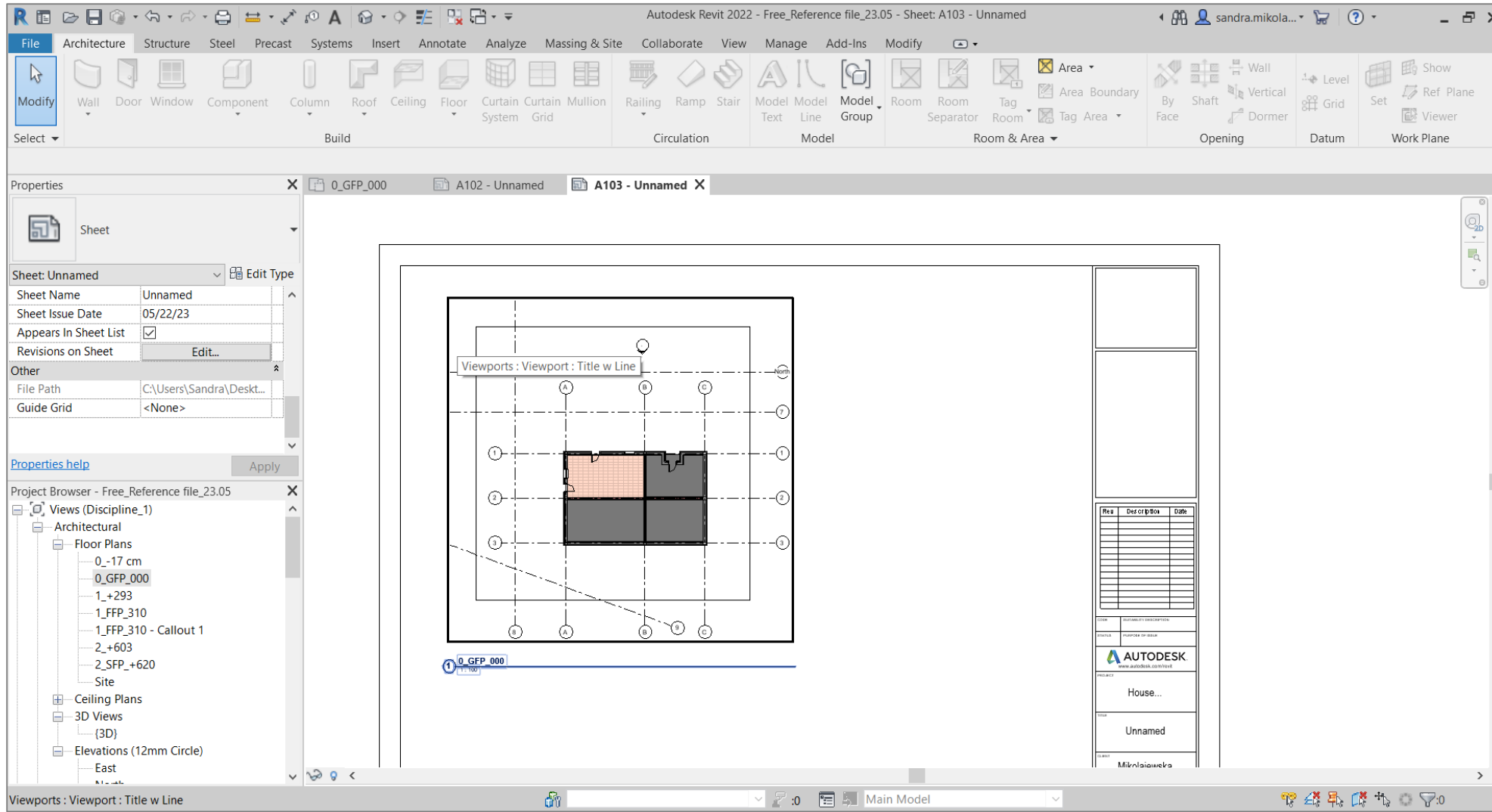
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The screenshot shows the Autodesk Revit 2022 interface. The main window displays a floor plan view within a viewport. The viewport is titled 'Title w Line'. The 'Type Properties' dialog box is open, showing the following parameters:

Parameter	Value
Family	System Family: Viewport
Type	Title w Line
Type Parameters	
Graphics	
Title	Anno_View_Title : Standard
Show Title	Yes
Show Extension Line	<input checked="" type="checkbox"/>
Line Weight	1
Color	Black
Line Pattern	Solid

The 'Type Properties' dialog box also includes buttons for 'Load...', 'Duplicate...', and 'Rename...'. At the bottom, there are buttons for '<< Preview', 'OK', 'Cancel', and 'Apply'. A link 'What do these properties do?' is also visible.

VIEWPORT [CROP VIEW - CROP REGION VISIBLE]



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