



**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**

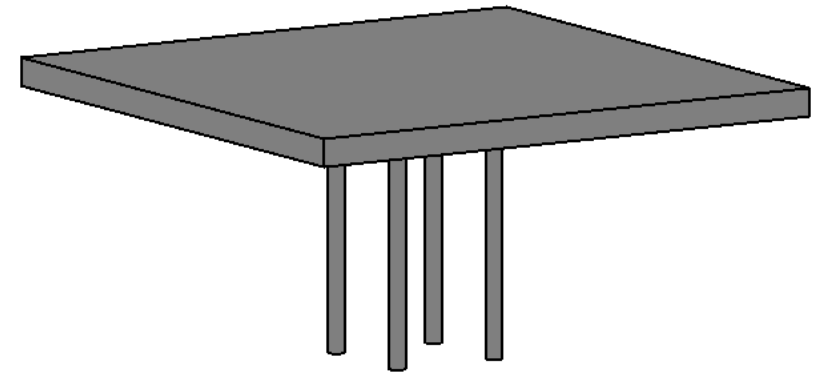
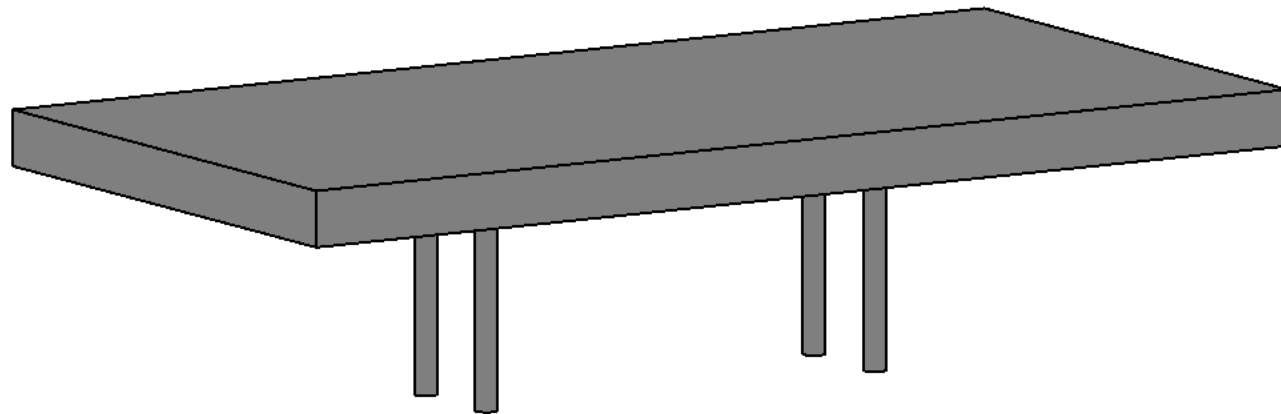
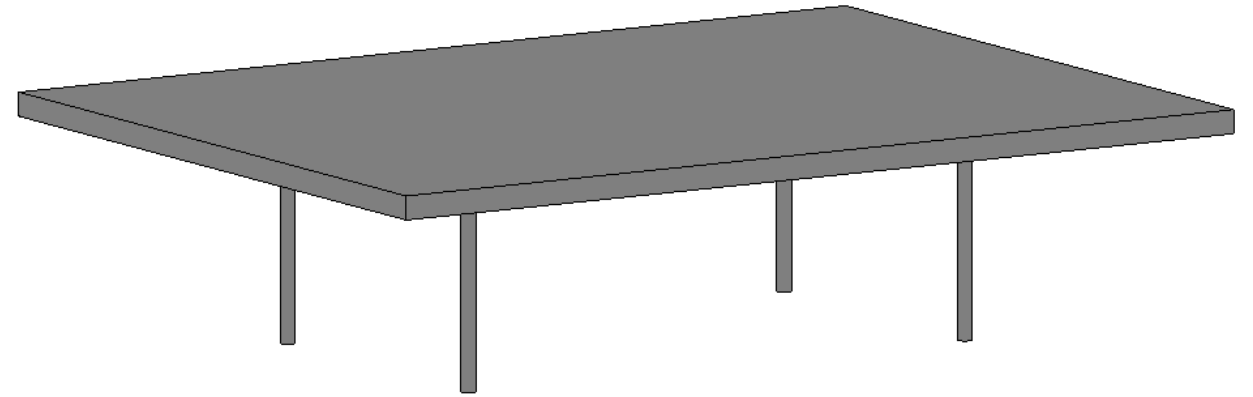
A.A. 2022-2023, Prof. Sandra Mikolajewska  
16/05/2023

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.



HOW TO CREATE A PARAMETRIC 3D OBJECT THAT CAN BE ADAPTED TO DIFFERENT DIMENSIONS?



Autodesk Revit 2022 - Home

Recent Files

MODELS

Open ...

New ...

FAMILIES

Open ...

New ...

Recent Files

Autodesk Docs

What's new

Online help

New Family - Select Template File

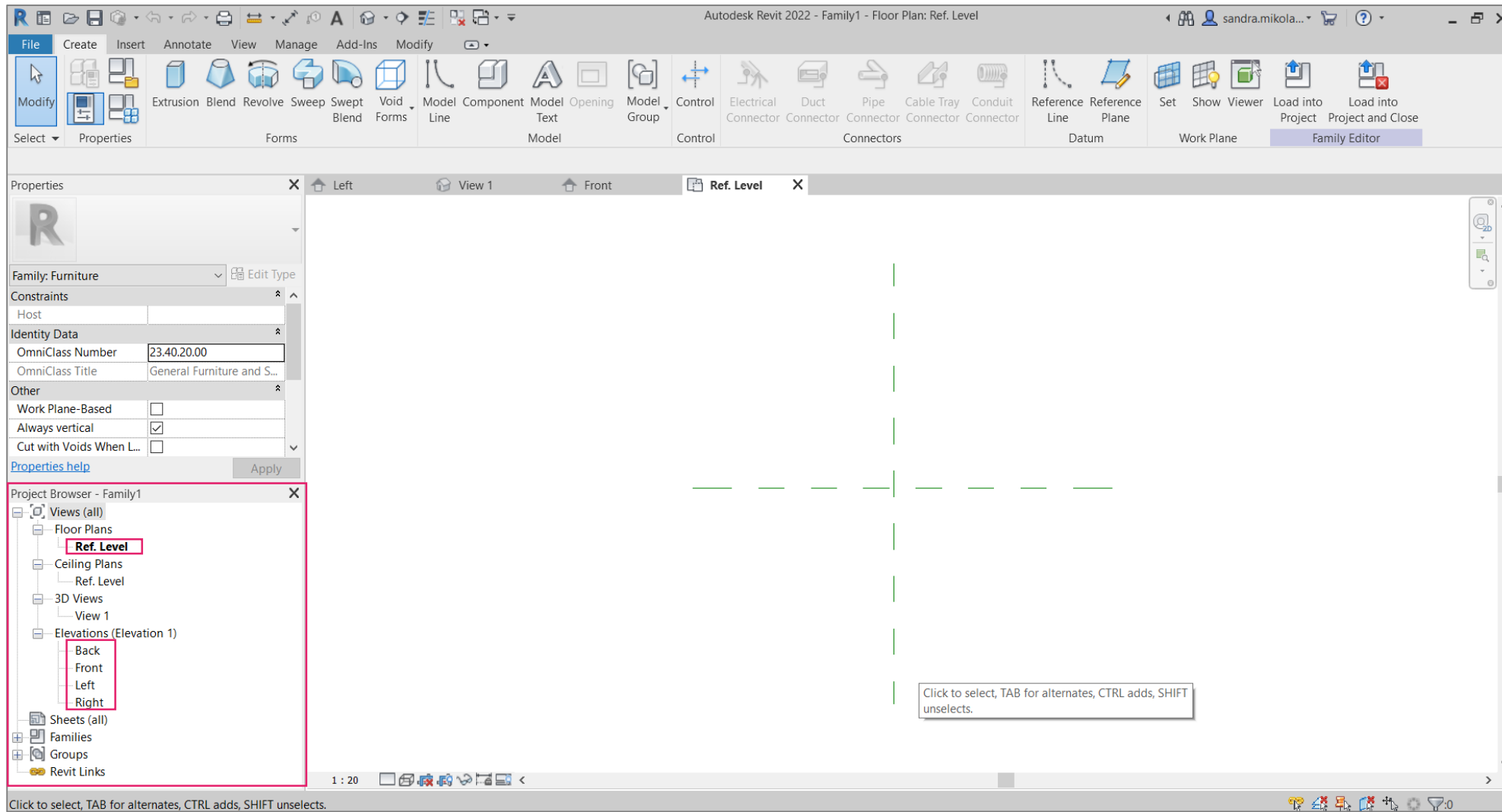
Look in: English

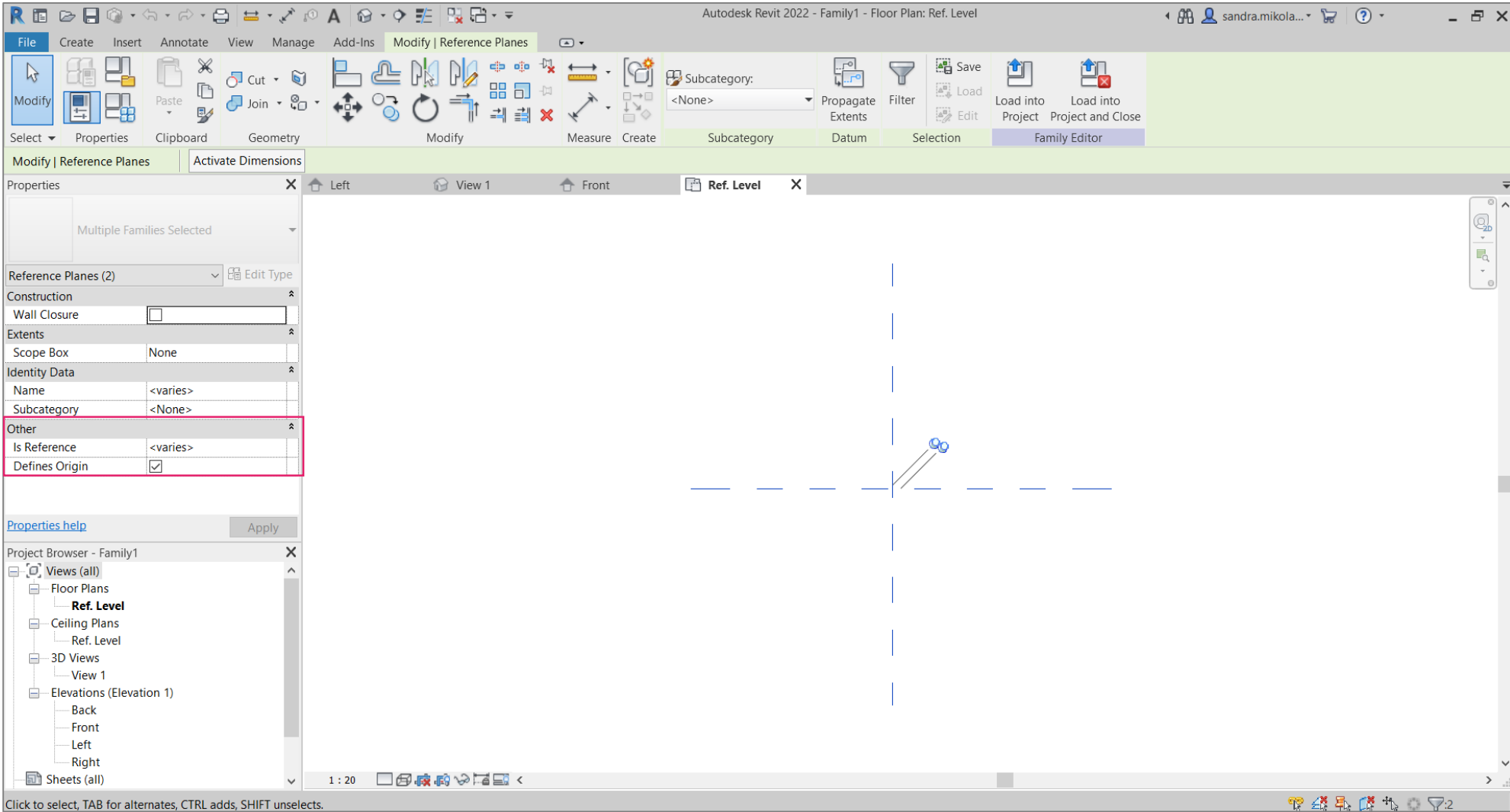
Nome	Ultima modifica	Tipo	Dimensione
Metric Duct Tee	21/01/2021 14:24	Modello famiglia ...	484 KB
Metric Duct Transition	21/01/2021 14:24	Modello famiglia ...	412 KB
Metric Electrical Equipment	21/01/2021 14:26	Modello famiglia ...	404 KB
Metric Electrical Fixture ceiling based	21/01/2021 14:26	Modello famiglia ...	408 KB
Metric Electrical Fixture wall based	21/01/2021 14:26	Modello famiglia ...	408 KB
Metric Electrical Fixture	21/01/2021 14:26	Modello famiglia ...	404 KB
Metric Entourage	21/01/2021 14:26	Modello famiglia ...	404 KB
Metric Fire Alarm Device Hosted	21/01/2021 14:24	Modello famiglia ...	408 KB
Metric Fire Alarm Device	21/01/2021 14:24	Modello famiglia ...	404 KB
Metric Furniture System	21/01/2021 14:25	Modello famiglia ...	404 KB
<b>Metric Furniture</b>	<b>21/01/2021 14:26</b>	<b>Modello famiglia ...</b>	<b>404 KB</b>
Metric Generic Model Adaptive	21/01/2021 14:25	Modello famiglia ...	424 KB
Metric Generic Model ceiling based	21/01/2021 14:26	Modello famiglia ...	408 KB
Metric Generic Model face based	21/01/2021 14:26	Modello famiglia ...	408 KB
Metric Generic Model floor based	21/01/2021 14:26	Modello famiglia ...	408 KB
Metric Generic Model line based	21/01/2021 14:26	Modello famiglia ...	408 KB
Metric Generic Model Pattern Based	21/01/2021 14:25	Modello famiglia ...	348 KB
Metric Generic Model roof based	21/01/2021 14:26	Modello famiglia ...	408 KB
Metric Generic Model two level based	21/01/2021 14:26	Modello famiglia ...	388 KB
Metric Generic Model wall based	21/01/2021 14:26	Modello famiglia ...	408 KB

File name: Metric Furniture.rft

Files of type: Family Template Files (\*.rft)

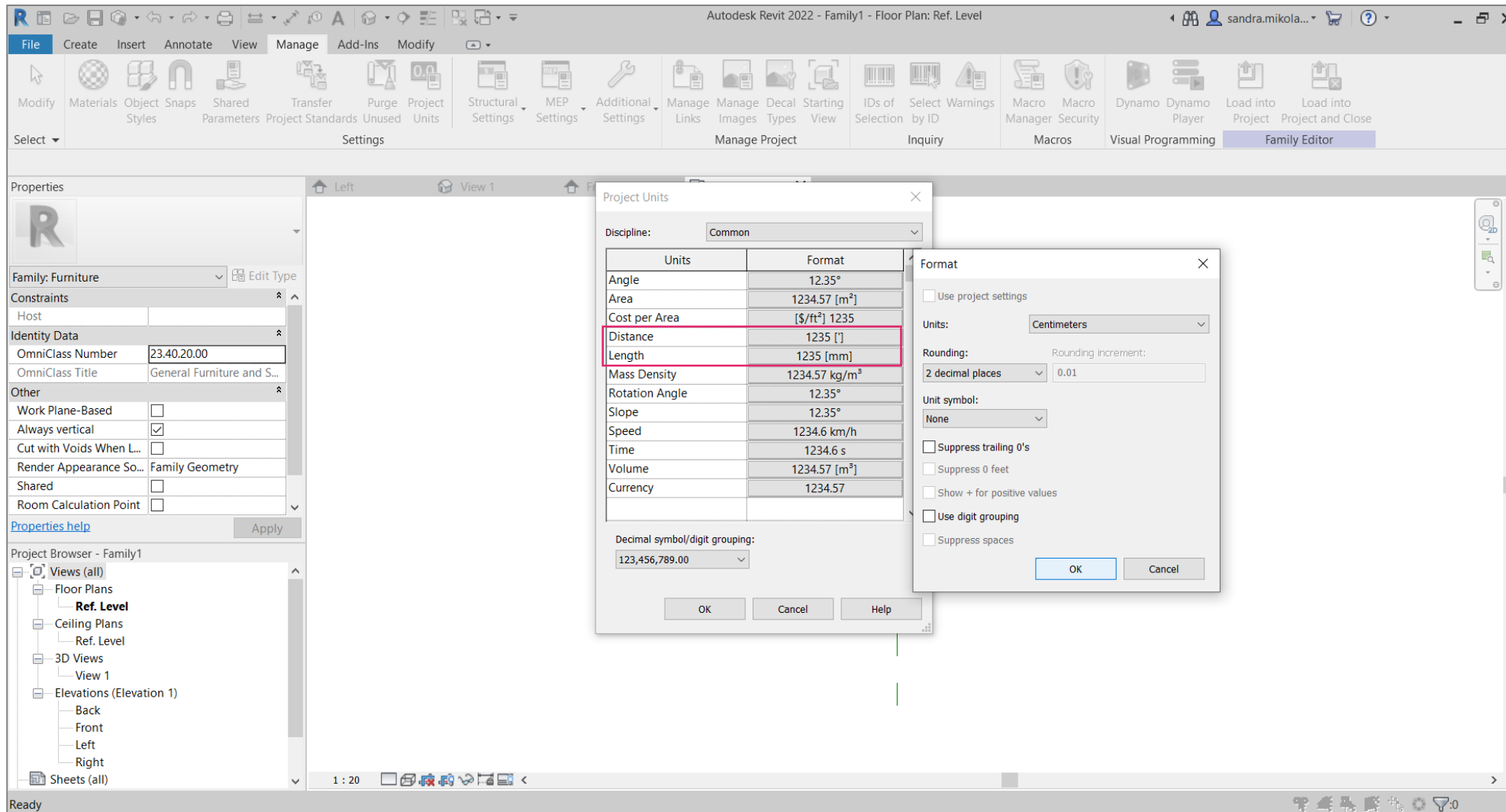
Open Cancel

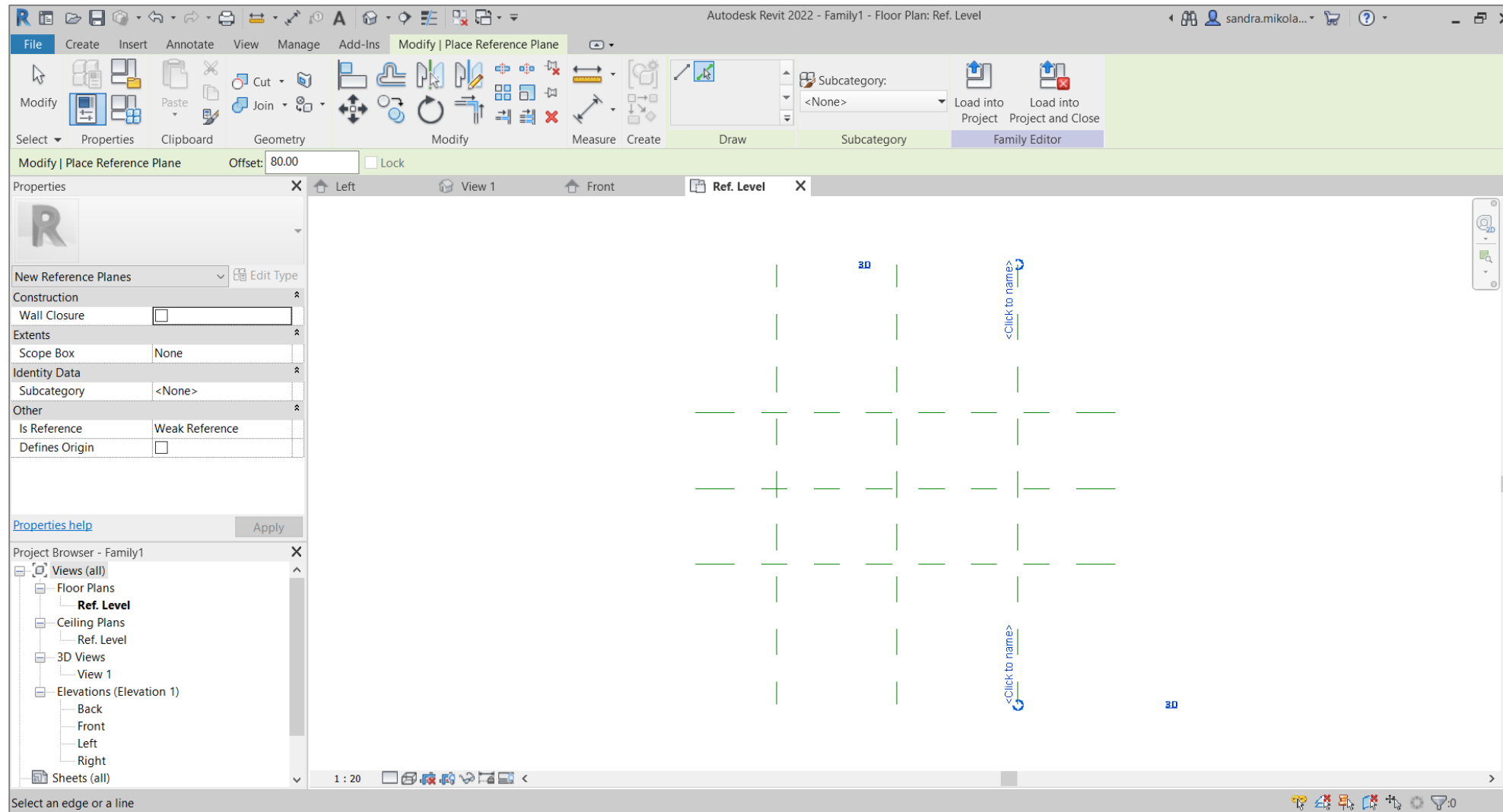




Click to select, TAB for alternates, CTRL adds, SHIFT unselects.









# DIMENSIONAL CONSTRAINTS

The screenshot shows the Autodesk Revit 2022 interface. The main window displays a floor plan with a grid. Two horizontal dimension lines are placed between grid lines, both labeled 'EQ'. The 'Modify | Place Dimensions' ribbon is active, showing various dimensioning tools. The 'Parameter Properties' dialog is open on the right, showing the following settings:

- Parameter Type:** Family parameter (selected), Shared parameter.
- Parameter Data:** Name: Table; Discipline: Common; Type of parameter: Length; Group parameter under: Dimensions.
- Reporting Parameter:** Instance (selected), Reporting Parameter.
- Tooltip description:** <No tooltip description. Edit this parameter to write a custom tooltip. Custom

At the bottom of the Revit window, a status bar message reads: "Select references, then click in empty space to place dimension."



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The screenshot shows the Autodesk Revit 2022 Family Editor interface. The main workspace displays a grid with dimension lines and labels: "Table-B = 80.00" (twice) and "Table-A = 50.00". The Properties panel on the left shows the "Family: Furniture" settings, including "OmniClass Number" (23.40.20.00) and "OmniClass Title" (General Furniture and Sp...). The Project Browser on the left shows the hierarchy: Views (all) > Floor Plans > Ref. Level. The Family Types dialog box on the right is open, showing a table of parameters:

Parameter	Value	Formula	Lock
<b>Constraints</b>			
Default Elevation	0.00	=	<input type="checkbox"/>
<b>Dimensions</b>			
Table-A	50.00	=	<input checked="" type="checkbox"/>
Table-B	80.00	=	<input checked="" type="checkbox"/>
Table_Thickness	0.00	=	<input type="checkbox"/>
Table_Total height	0.00	=	<input type="checkbox"/>
<b>Identity Data</b>			

The dialog box also includes a search bar, a "Manage Lookup Tables" button, and "OK", "Cancel", and "Apply" buttons.

Autodesk Revit 2022 - Family1 - Floor Plan: Ref. Level

File Create Insert Annotate View Manage Add-Ins **Modify | Dimensions**

Modify Paste Cut Join Geometry Modify Measure Create

Label: Table-Height = 50.00  
 Instance Parameter  
 Edit Witness Lines Load into Project Load into Project and Close

Label Dimension Witness Lines **Family Editor**

Modify | Dimensions

Properties Linear Dimension Style Linear

Dimensions (1)

Graphics Leader  Baseline Offset 0.0000 mm

Other Label Table-Height Equality Display Value

Project Browser - Family1  
 Views (all)  
 Floor Plans  
**Ref. Level**  
 Ceiling Plans  
 Ref. Level  
 3D Views  
 View 1  
 Elevations (Elevation 1)  
 Back  
 Front  
 Left  
 Right  
 Sheets (all)

**Family Types**

Type name: [ ]

Search parameters

Parameter	Value	Formula	Lock
<b>Constraints</b>			
Default Elevation	0.00	=	<input type="checkbox"/>
<b>Dimensions</b>			
Table-Height	100.00	=	<input checked="" type="checkbox"/>
Table-Width	100.00	=	<input checked="" type="checkbox"/>
<b>Identity Data</b>			

Manage Lookup Tables

[How do I manage family types?](#) OK Cancel **Apply**

1 : 20

Ready

Autodesk Revit 2022 - Family1 - Floor Plan: Ref. Level

Modify | Dimensions

Label: Table-Height = 50.00

Instance Parameter

Edit Witness Lines

Load into Project

Load into Project and Close

Label Dimension

Witness Lines

Family Editor

Properties

Linear Dimension Style

Linear

Dimensions (1)

Graphics

Leader

Baseline Offset 0.0000 mm

Other

Label Table-Height

Equality Display Value

Family Types

Type name:

Search parameters

Parameter	Value	Formula	Lock
<b>Constraints</b>			
Default Elevation	0.00	=	<input type="checkbox"/>
<b>Dimensions</b>			
Table-Height	50.00	=	<input checked="" type="checkbox"/>
Table-Width	80.00	=	<input checked="" type="checkbox"/>
<b>Identity Data</b>			

Manage Lookup Tables

How do I manage family types?

OK Cancel Apply

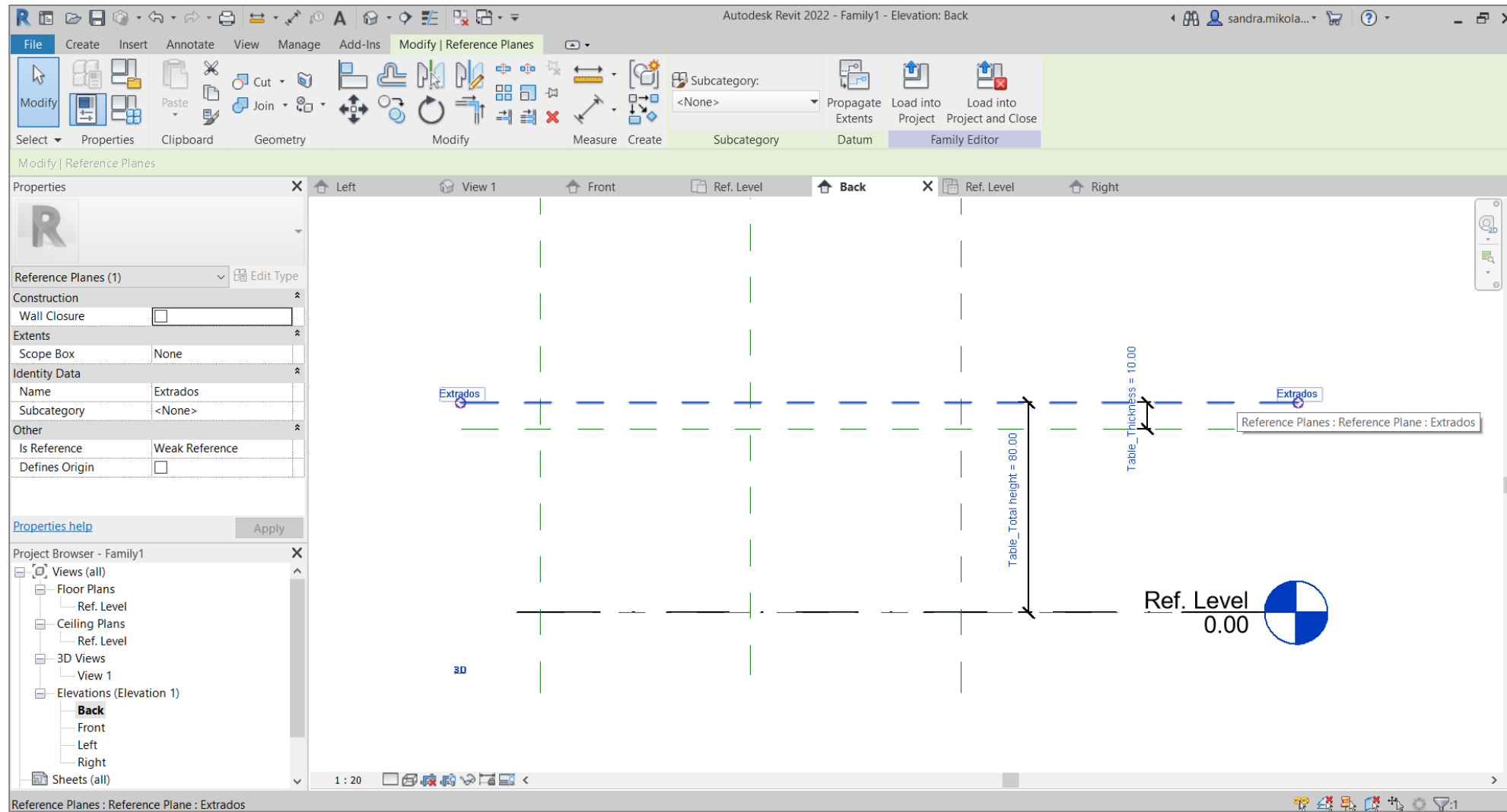
Table-Width = 80.00

Table-Width = 80.00

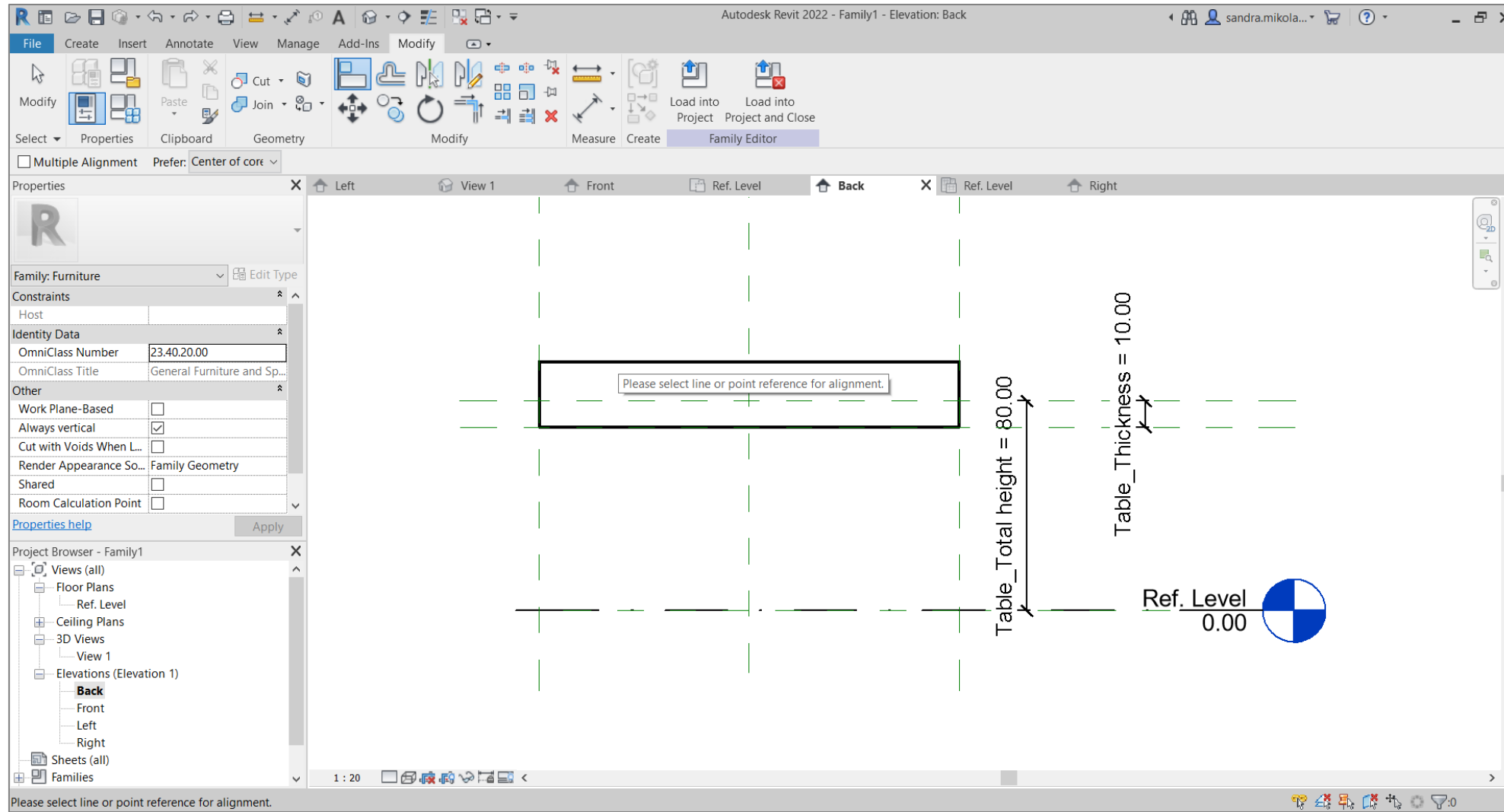
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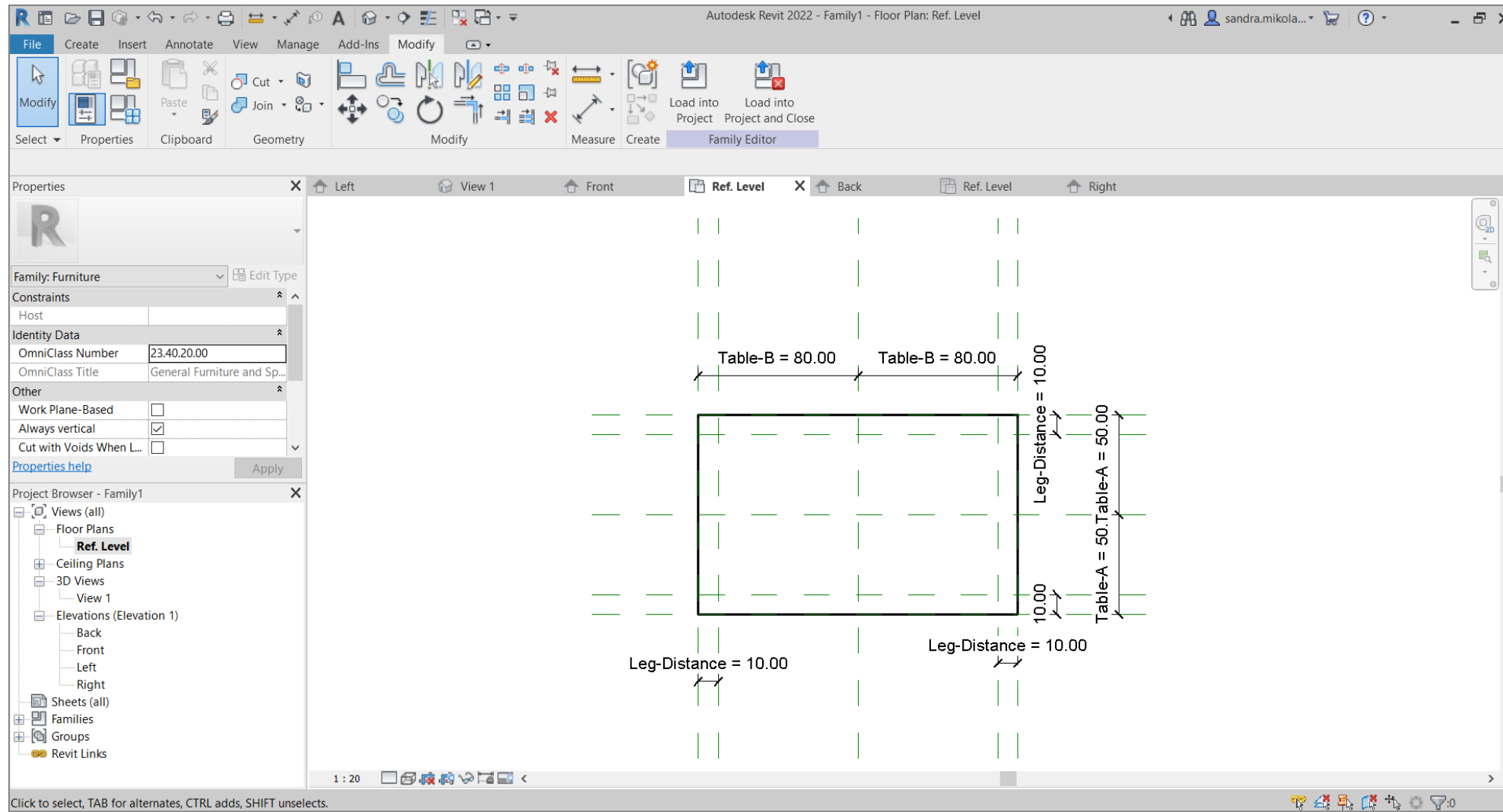
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1 : 20



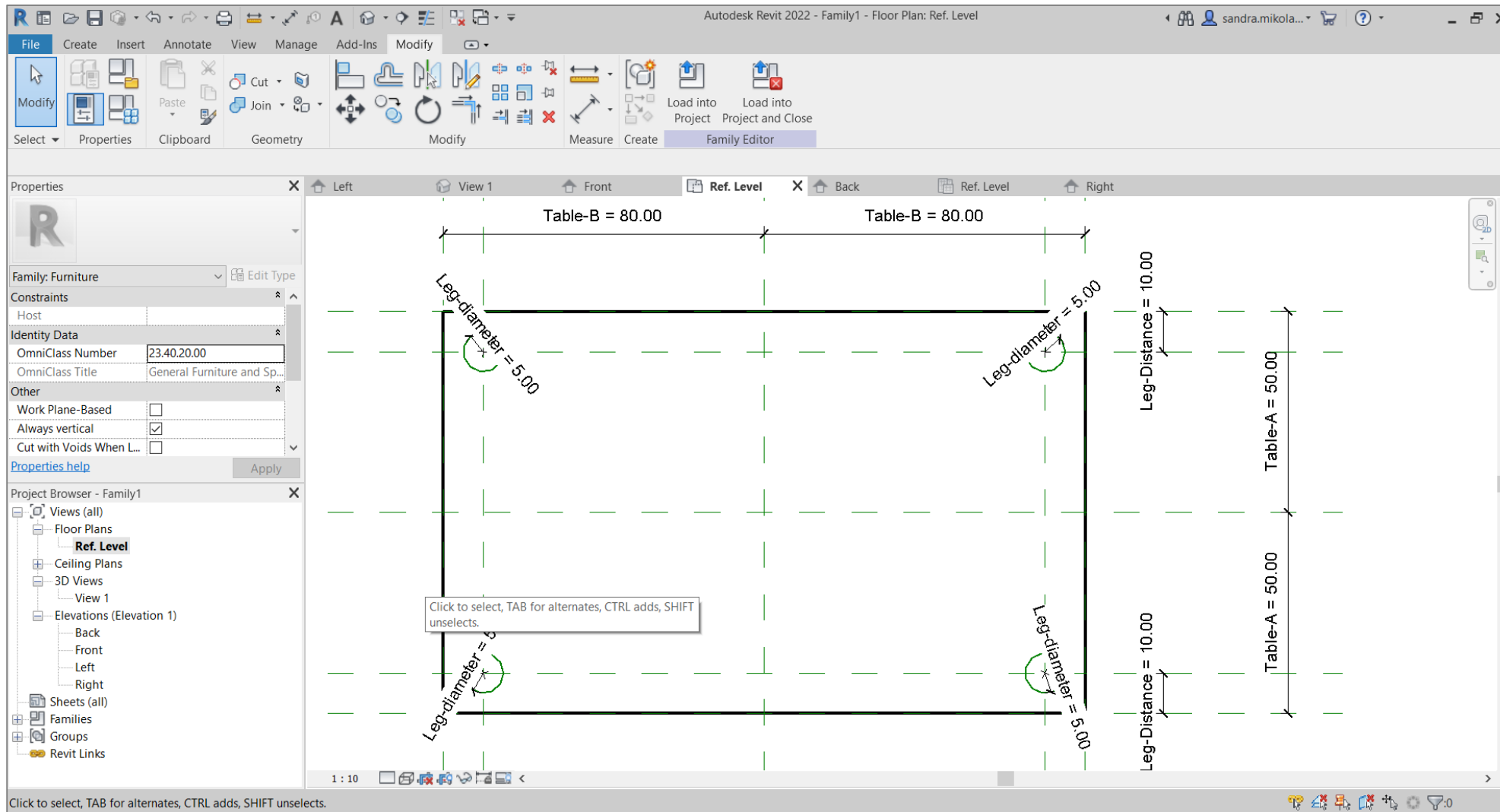
# MODELING PHASE – ALIGN COMMAND



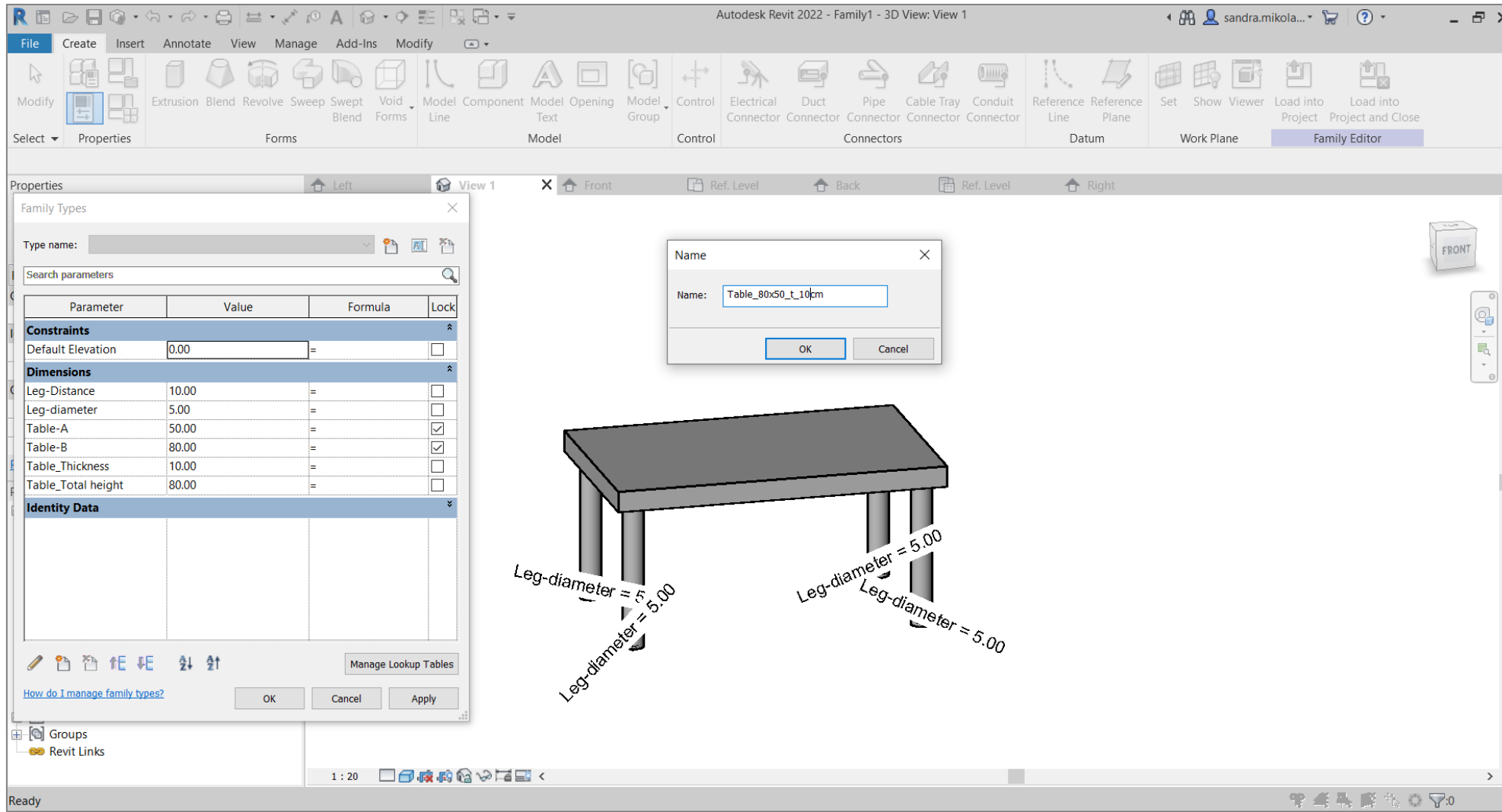


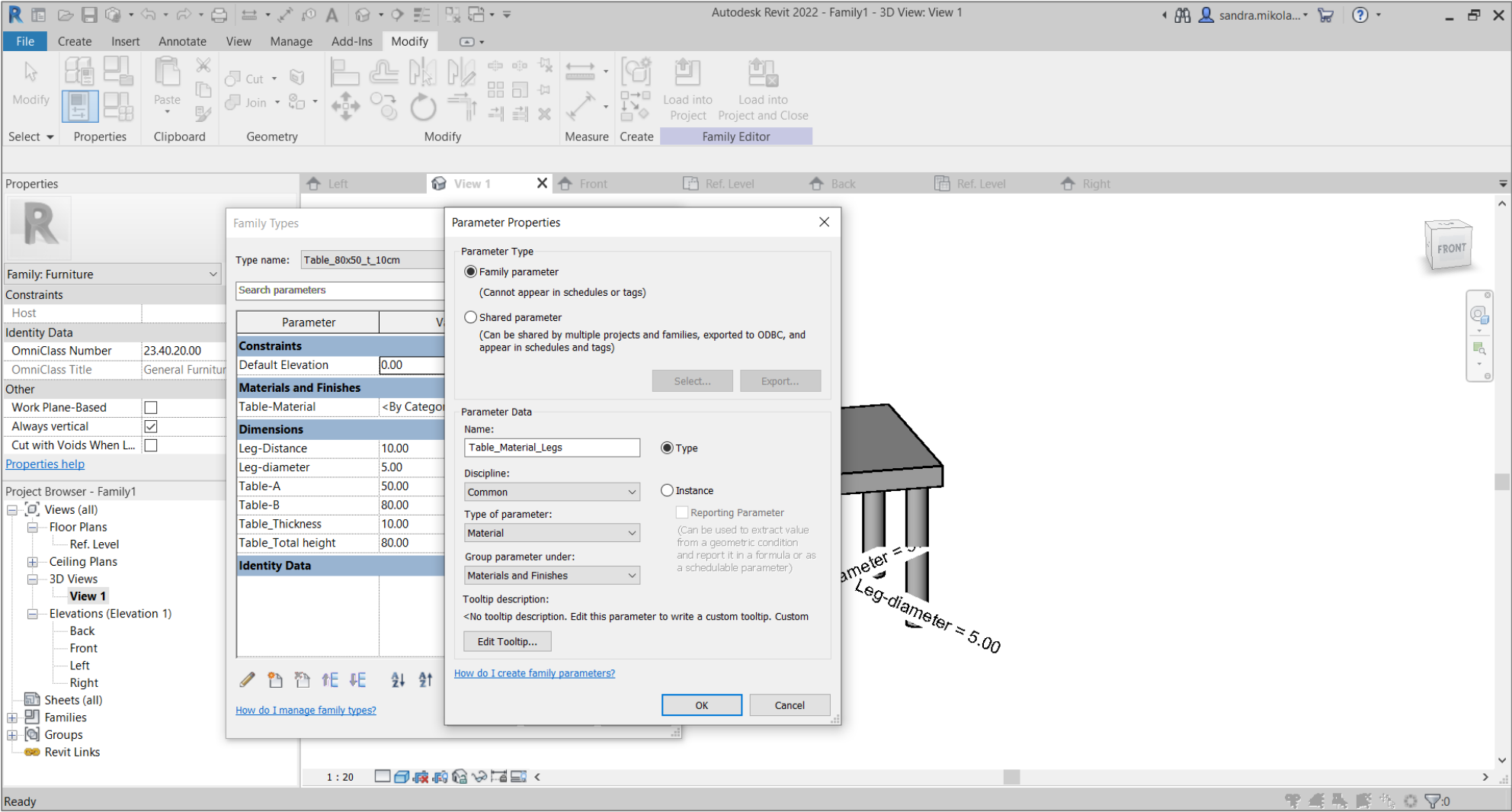
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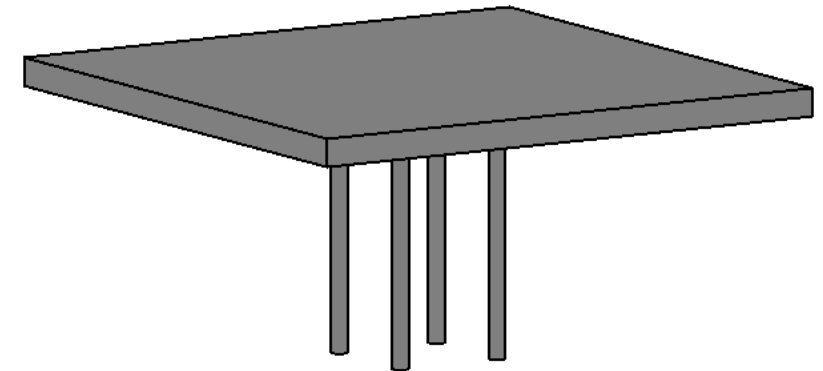
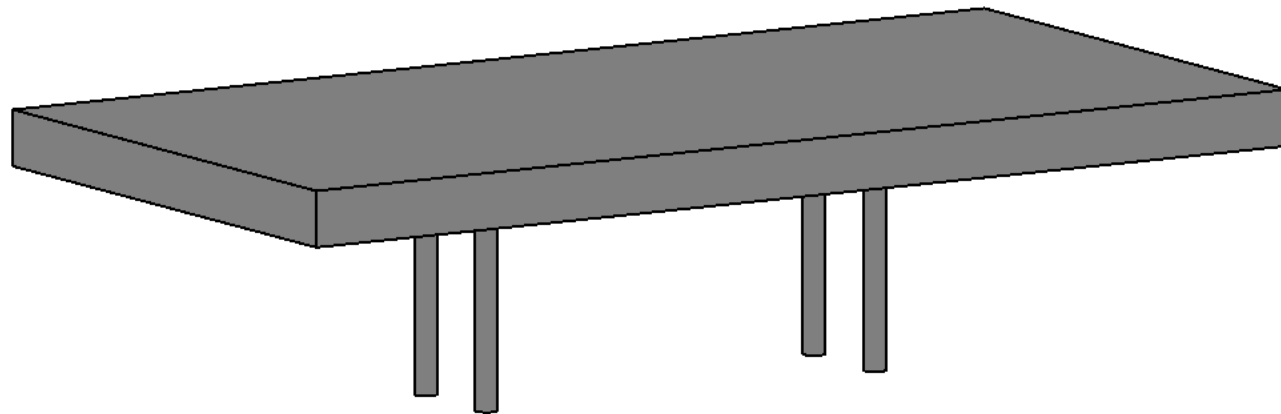
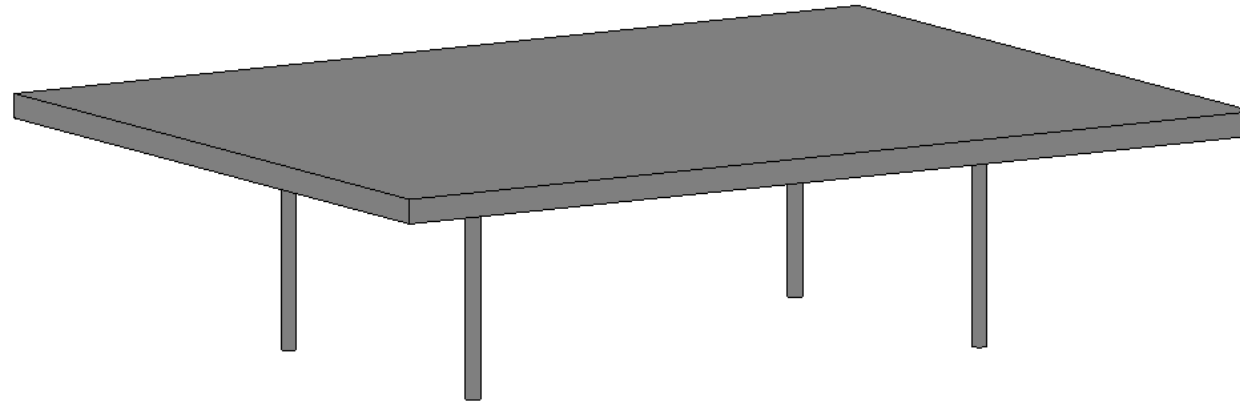




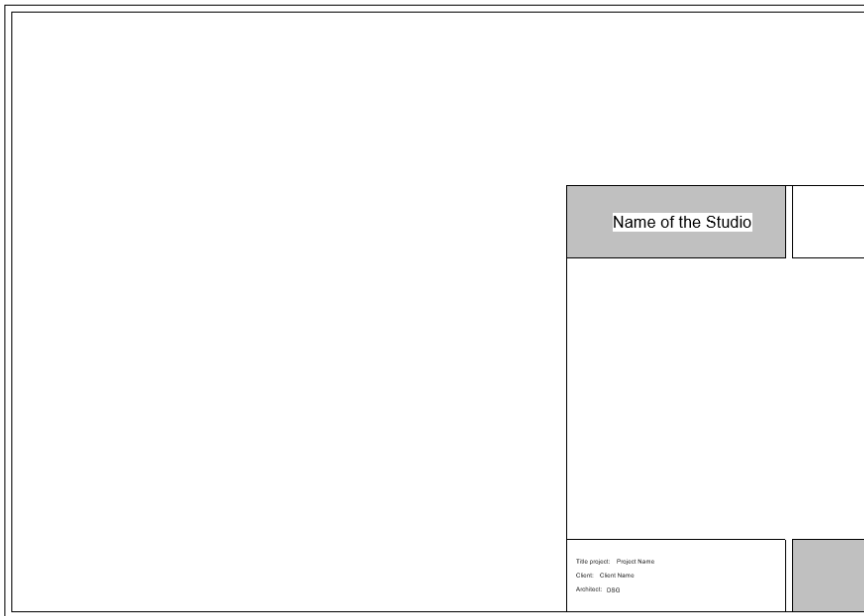








# HOW TO CREATE A TITLE BLOCK THAT CAN BE ADAPTED TO DIFFERENT SHEET FORMATS?



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DETAILS	PURPOSE OF ISSUE																																									
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PROJECT	House...																																									
TITLE	Unnamed																																									
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AE-p-1.501

SCHEMA  
PERSONE

PROGETTO  
SEZ. TRASVERSALE AA

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PROGETTO ARCHITETTONICO  
AUDITORIUM DI PARMA  
ESECUTIVO

ARCH. STEFANO STORONI  
(COMUNE DI PARMA)

PROF. ARCH. SANDRA MIKOLAJEWSKA  
RIPRODOTTO CON IL SUO CONSENSO

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AE-p-3.001

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AE-A-2.010

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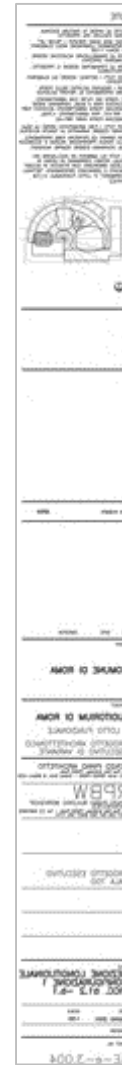
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(COMUNE DI PARMA)

PROF. ARCH. SANDRA MIKOLAJEWSKA  
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AP. 98





AE-p-7.004

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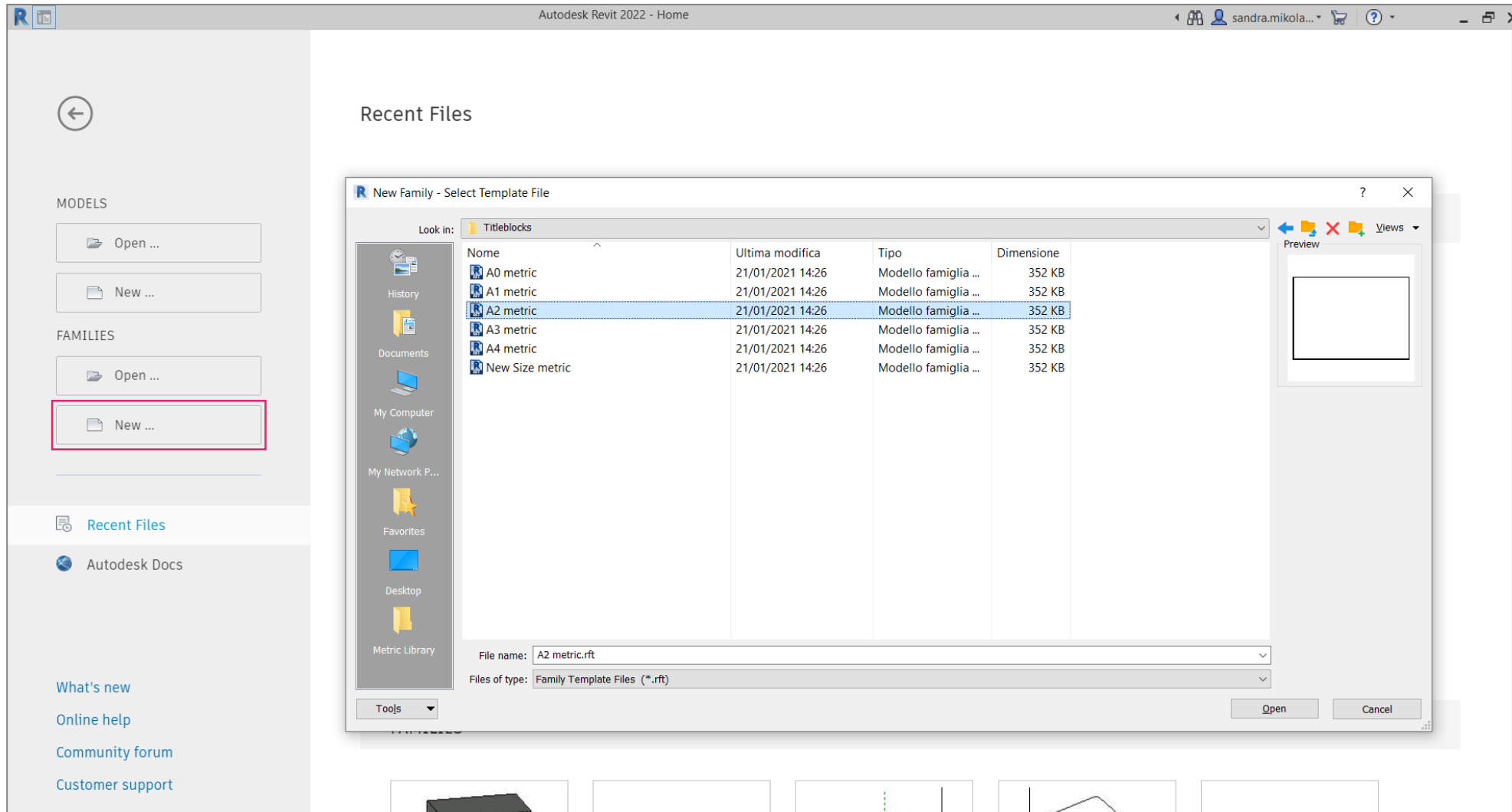
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(COMUNE DI PARMA)

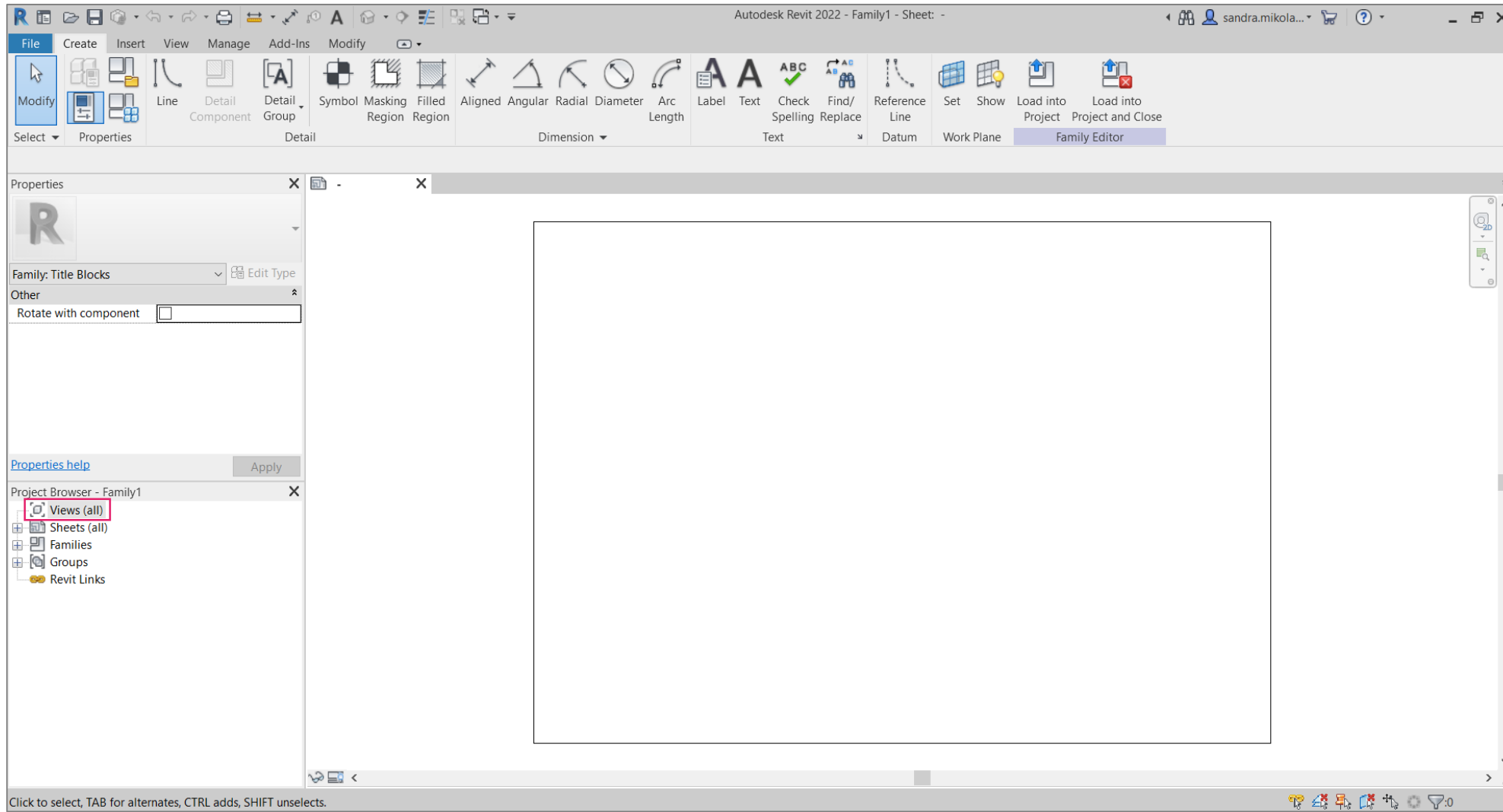
PROF. ARCH. SANDRA MIKOLAJEWSKA  
RIPRODOTTO CON IL SUO CONSENSO

COMUNE DI PARMA

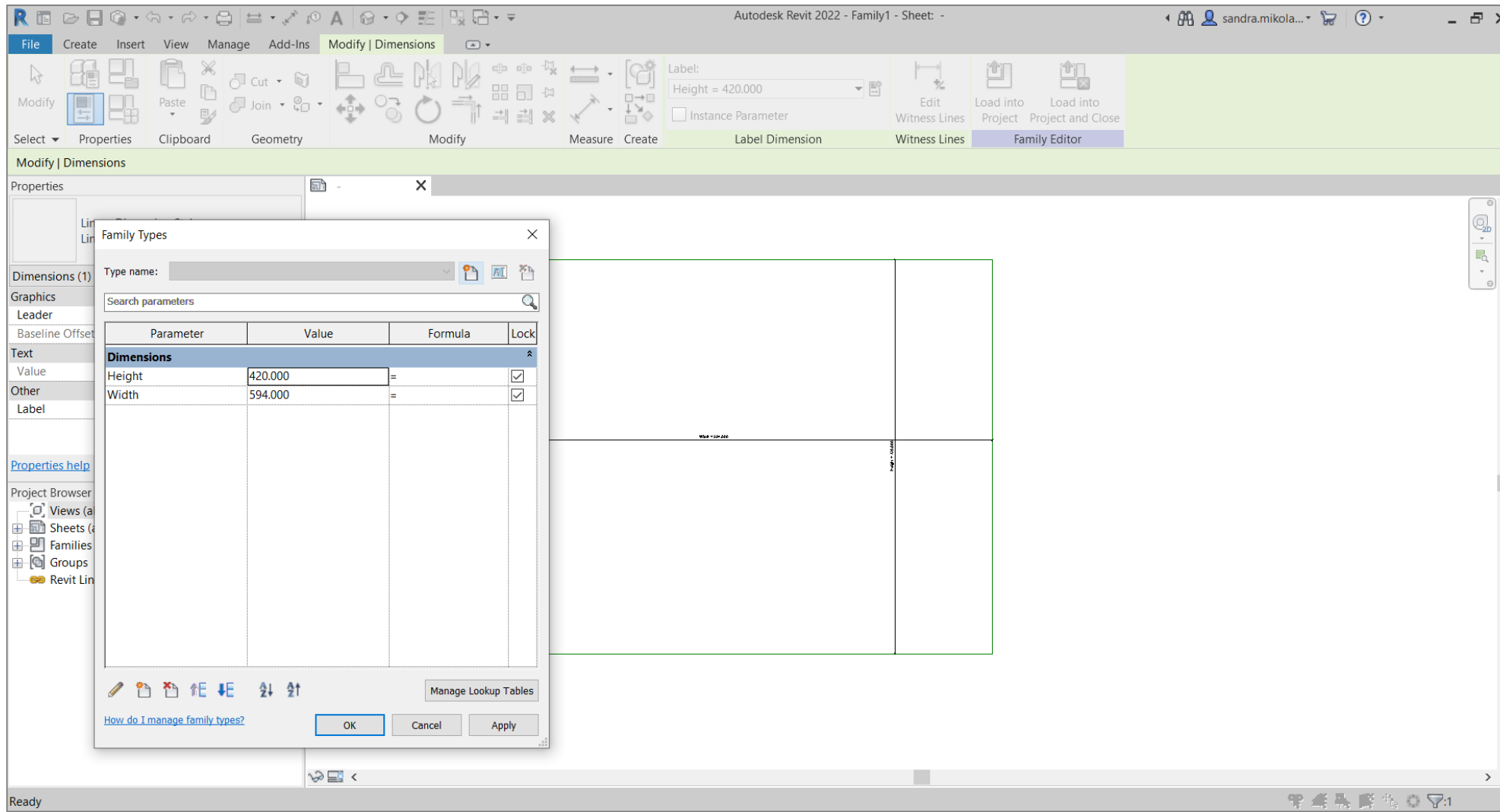
AP. 98

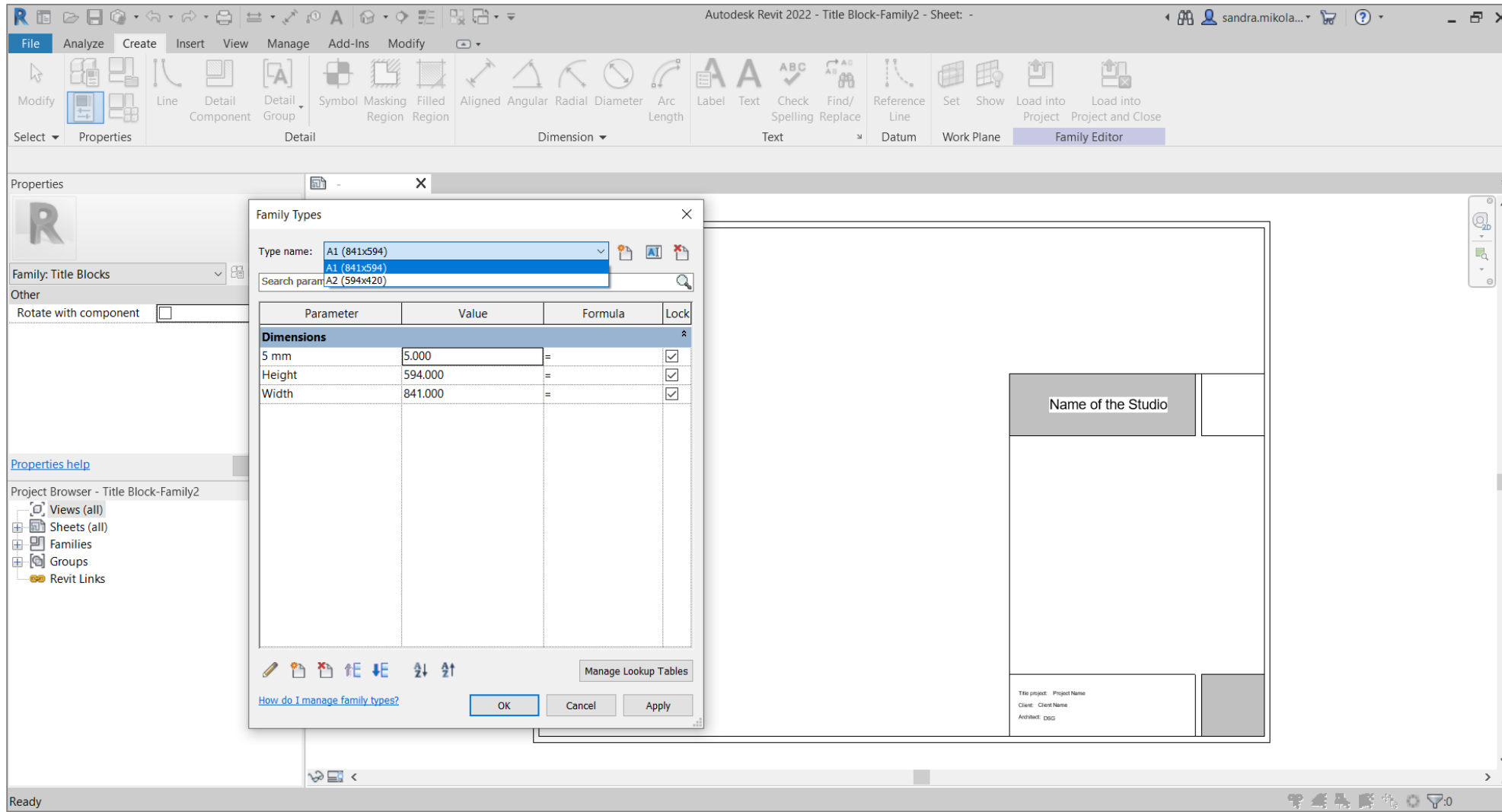






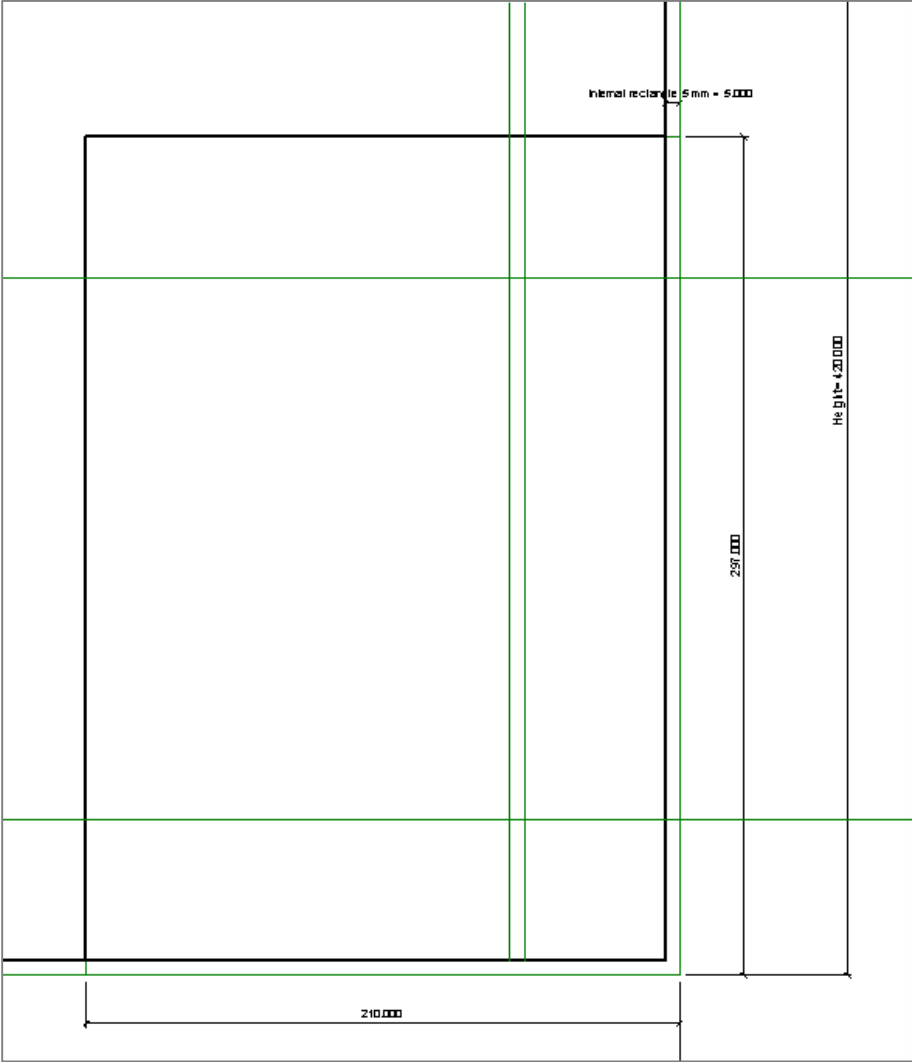
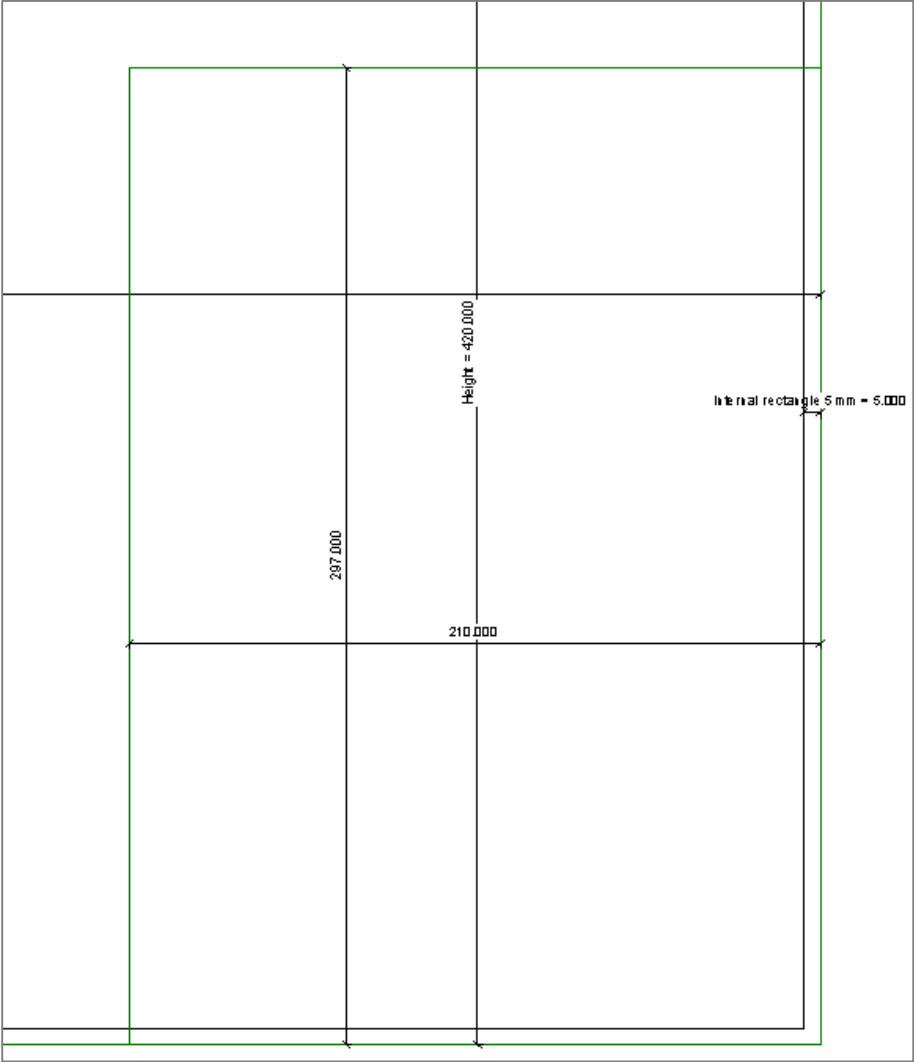


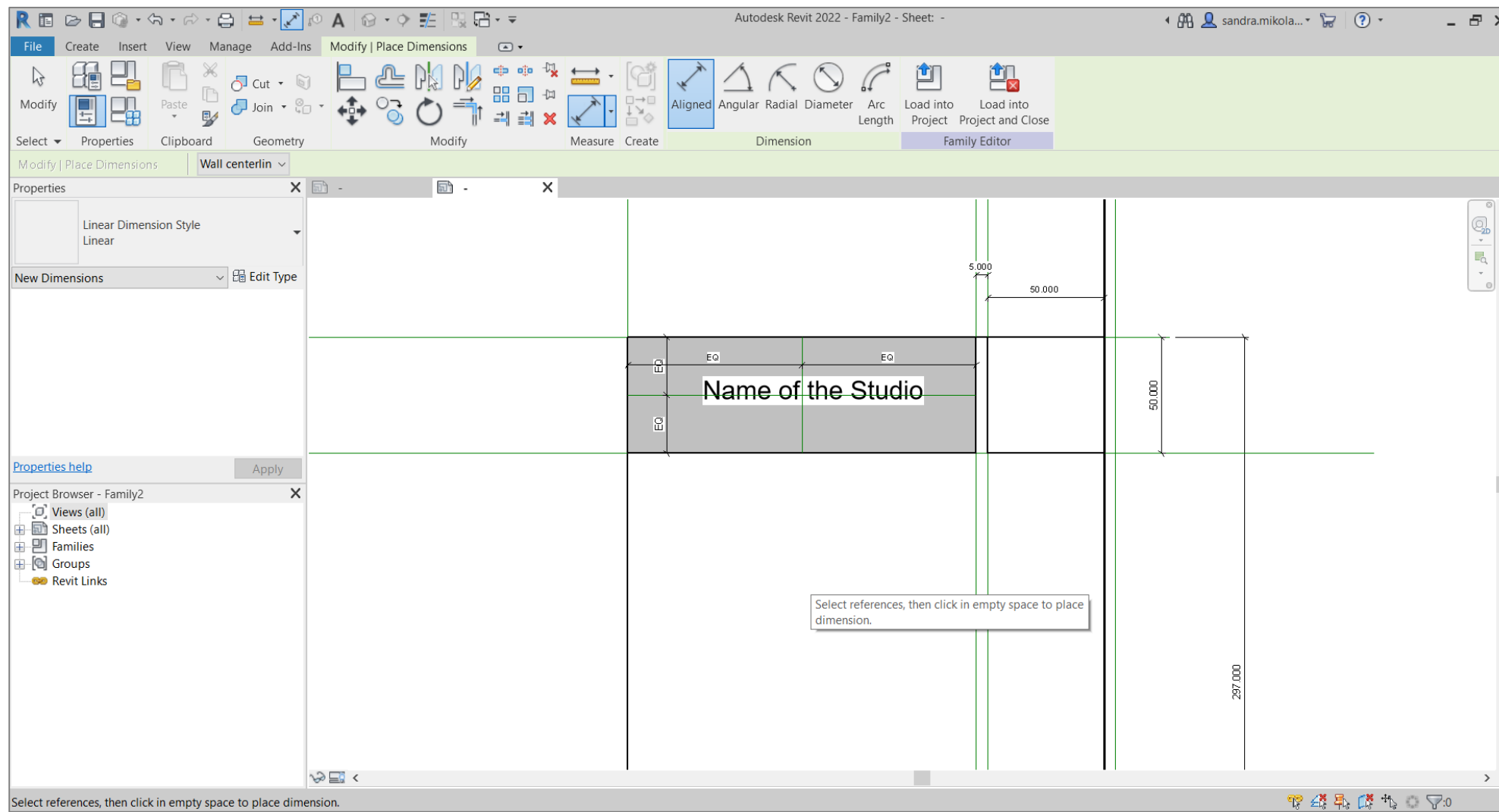


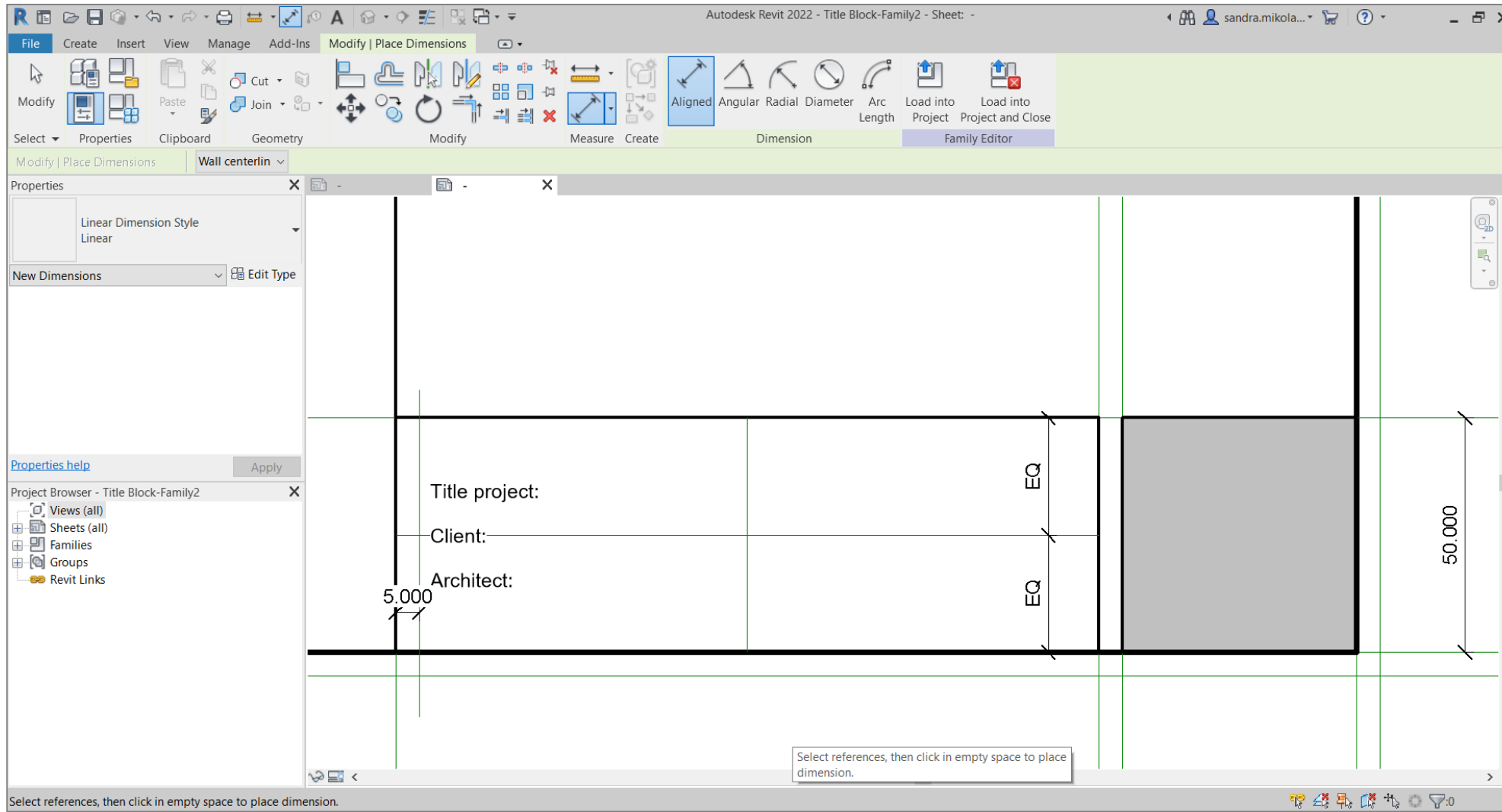
The screenshot shows the Autodesk Revit 2022 Family Editor interface. The main window displays a sheet frame with dimension lines and labels. The 'Family Types' dialog box is open, showing the 'Dimensions' section with the following table:

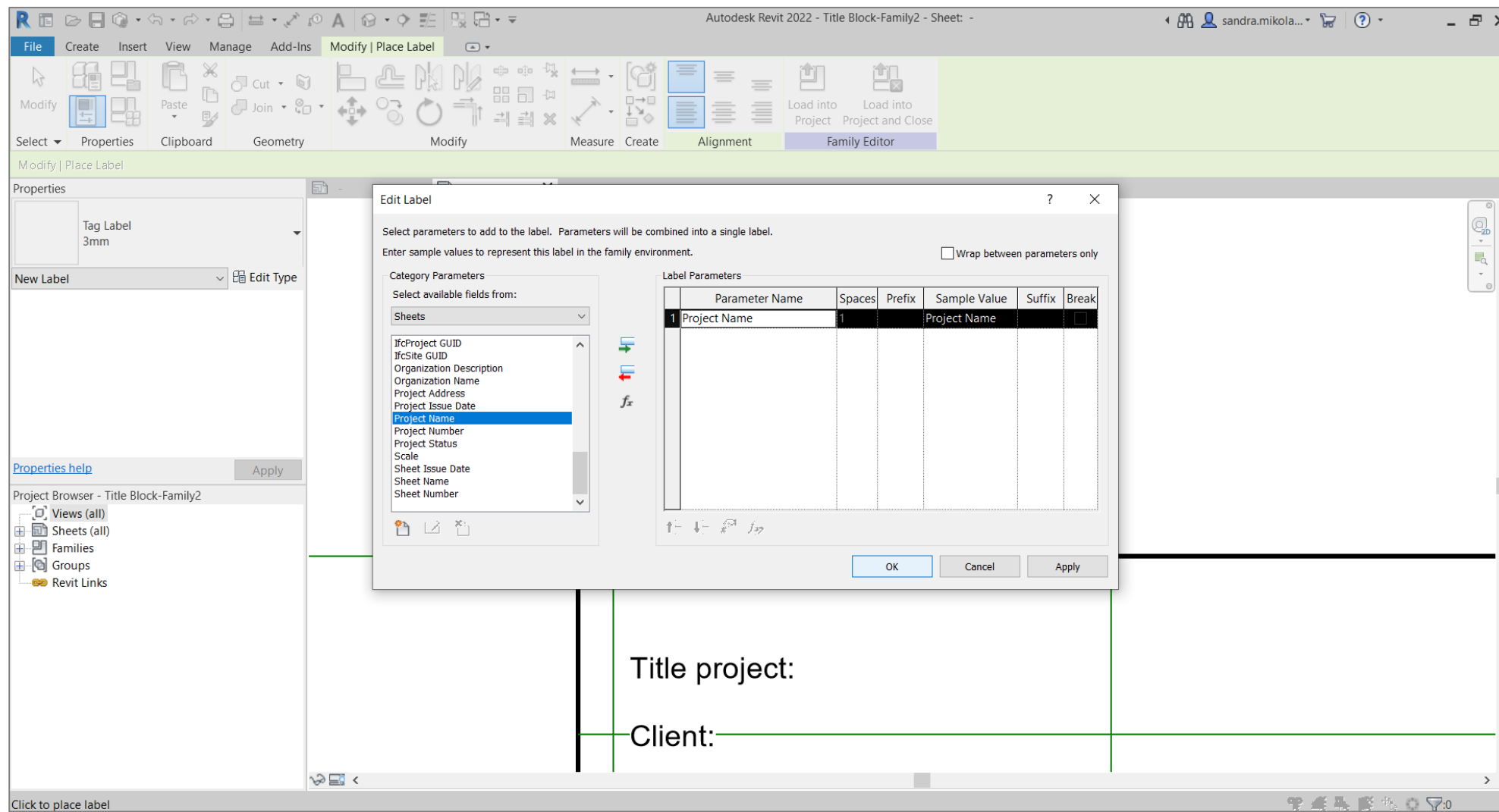
Parameter	Value	Formula	Lock
Height	420.000	=	<input checked="" type="checkbox"/>
Internal rectangle 5 mm	10.000	=	<input checked="" type="checkbox"/>
Width	594.000	=	<input checked="" type="checkbox"/>

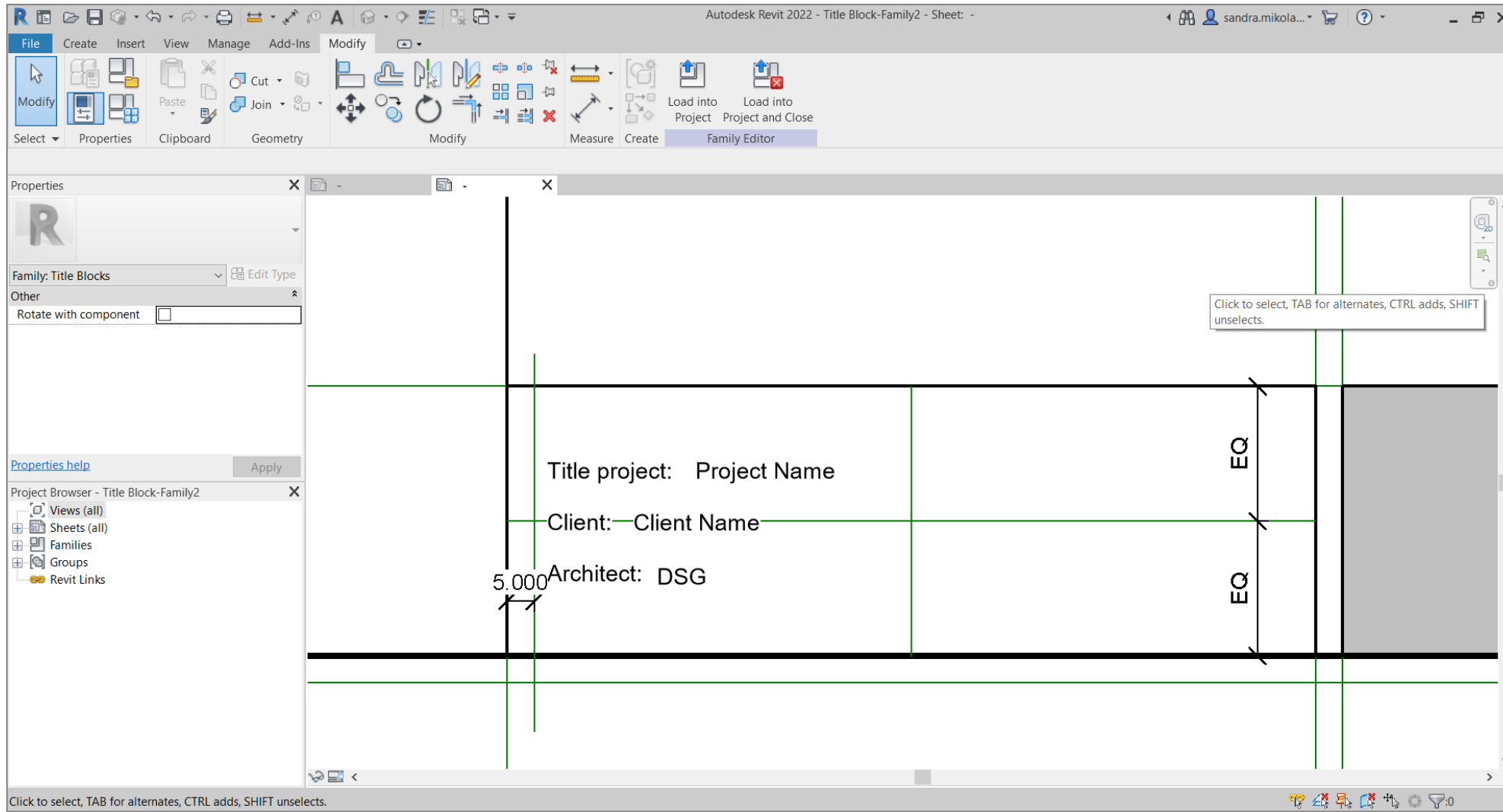
The dialog box also includes a search bar, a 'Manage Lookup Tables' button, and 'OK', 'Cancel', and 'Apply' buttons. The main window shows a sheet frame with dimension lines and labels: 'Height = 420.000', 'Width = 594.000', and 'Internal rectangle 5 mm = 10.000'. The 'Family Editor' ribbon is active, and the 'Properties' panel is visible on the left.



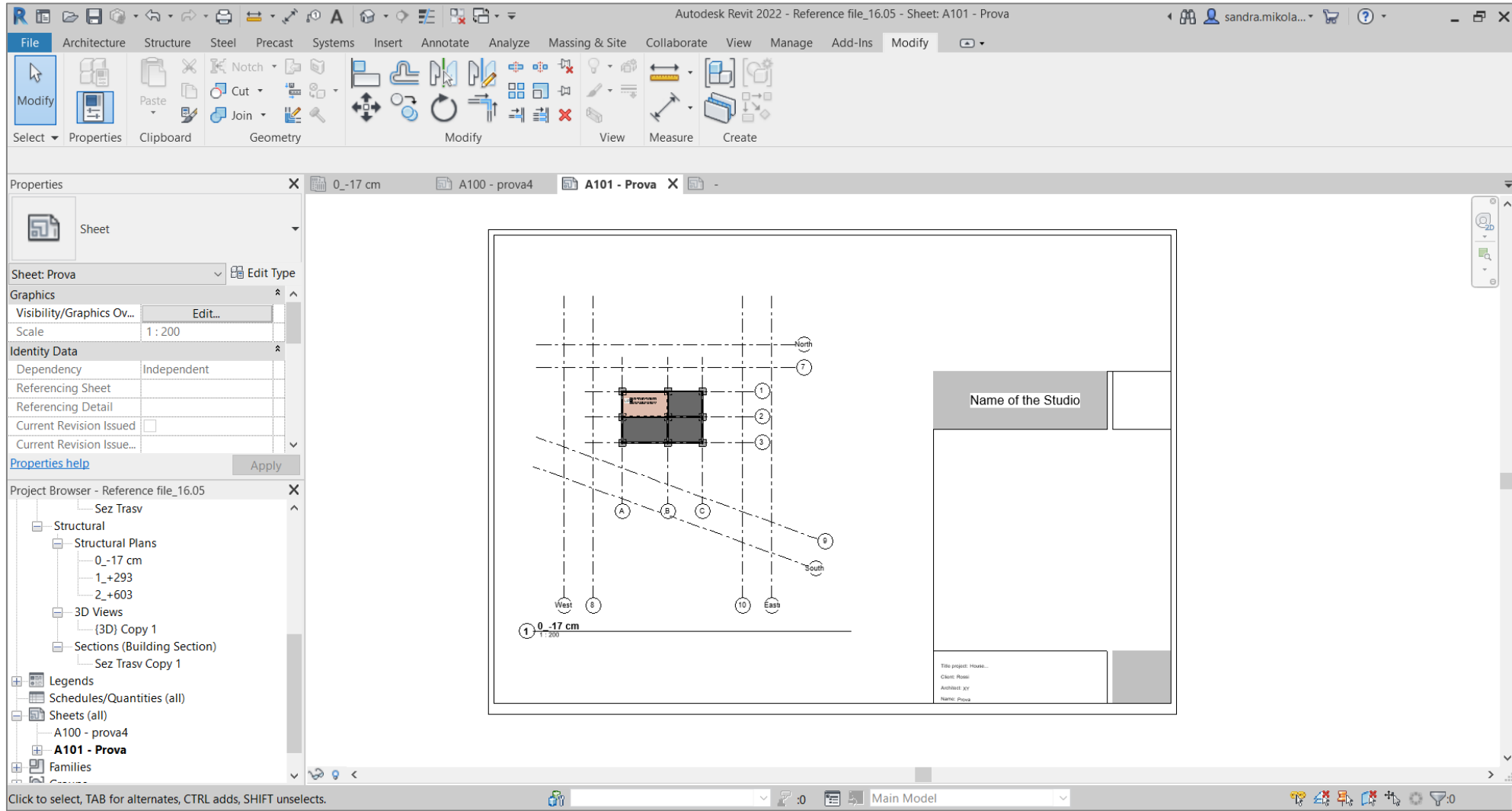


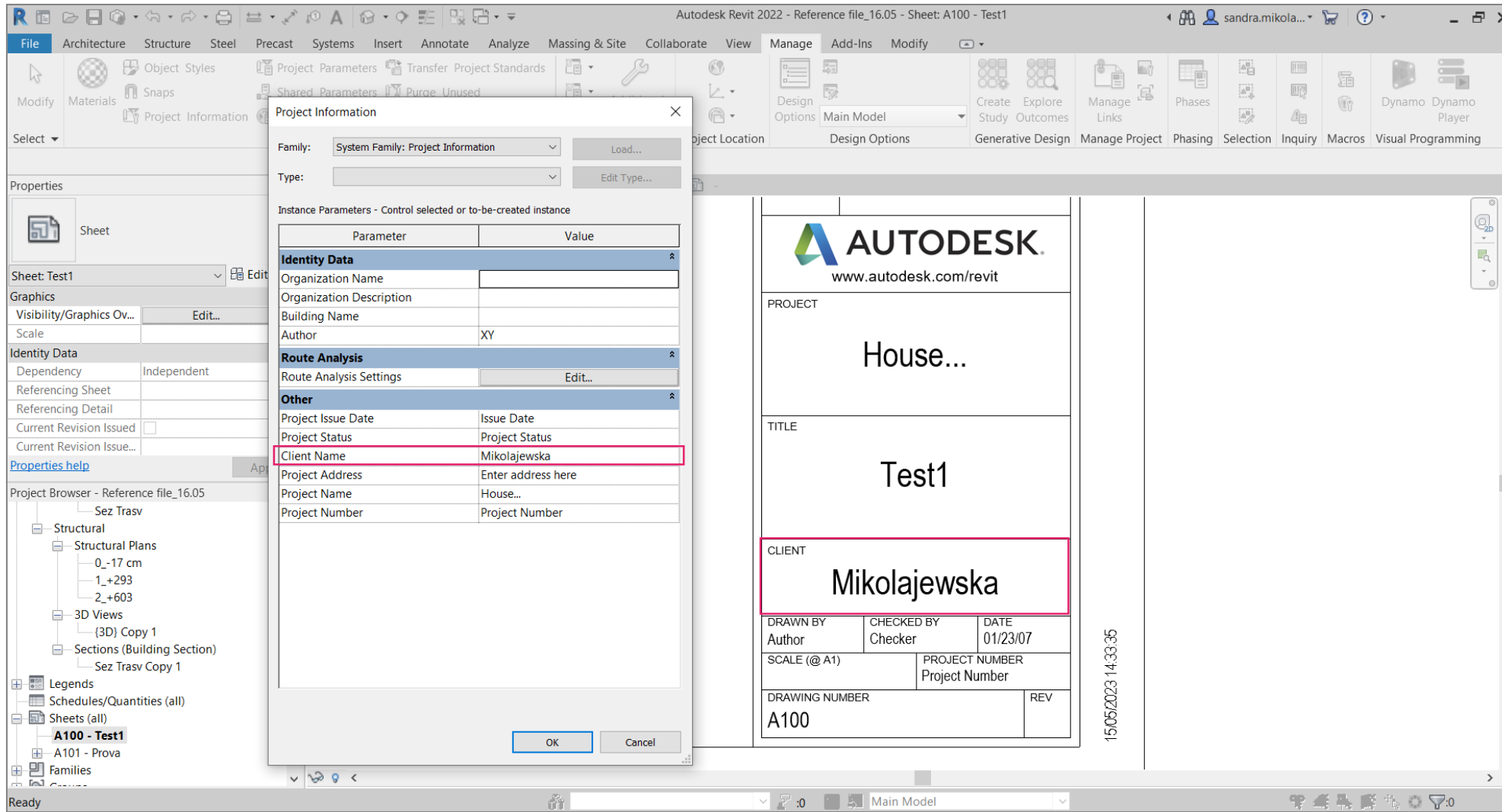


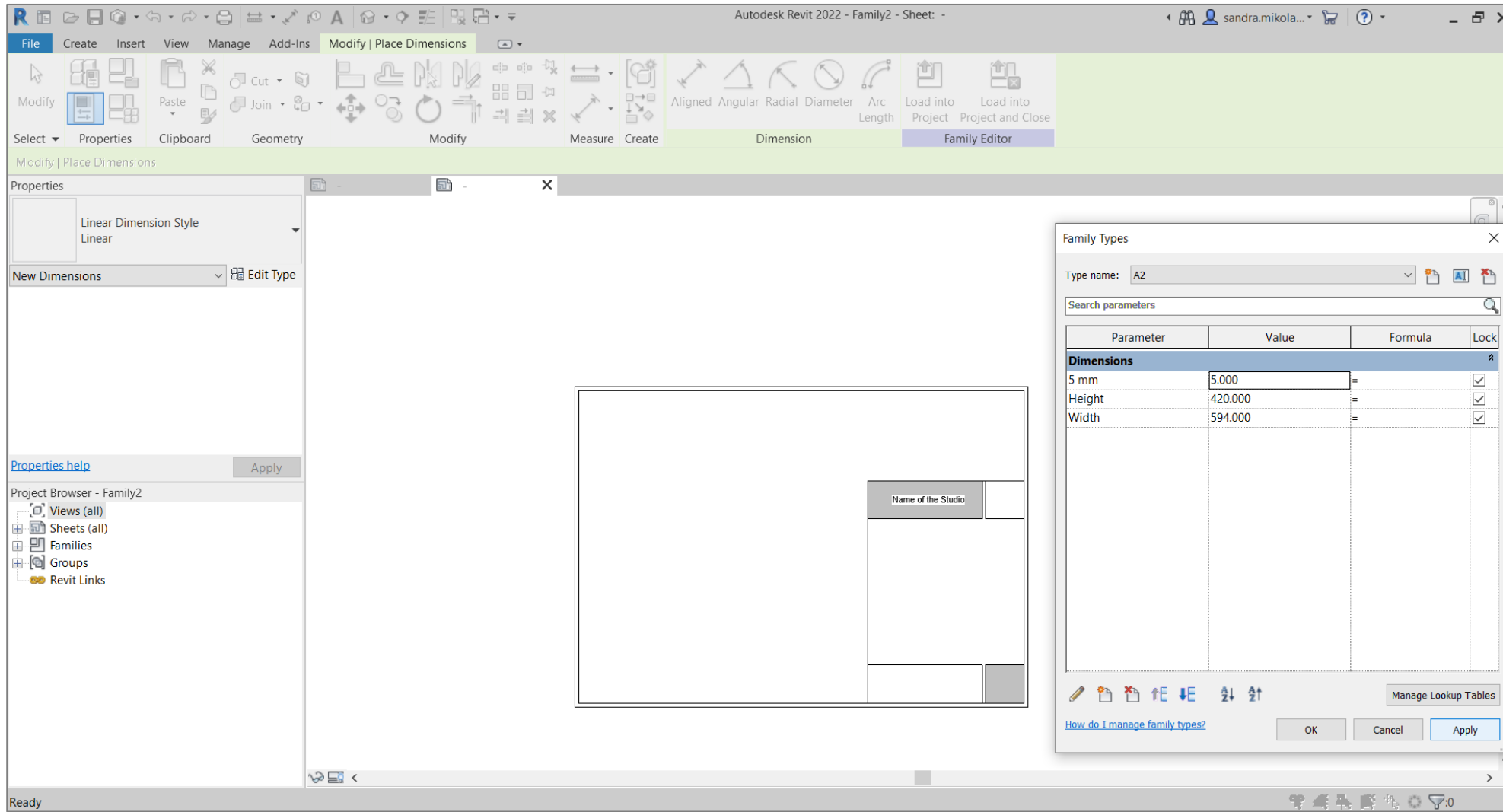












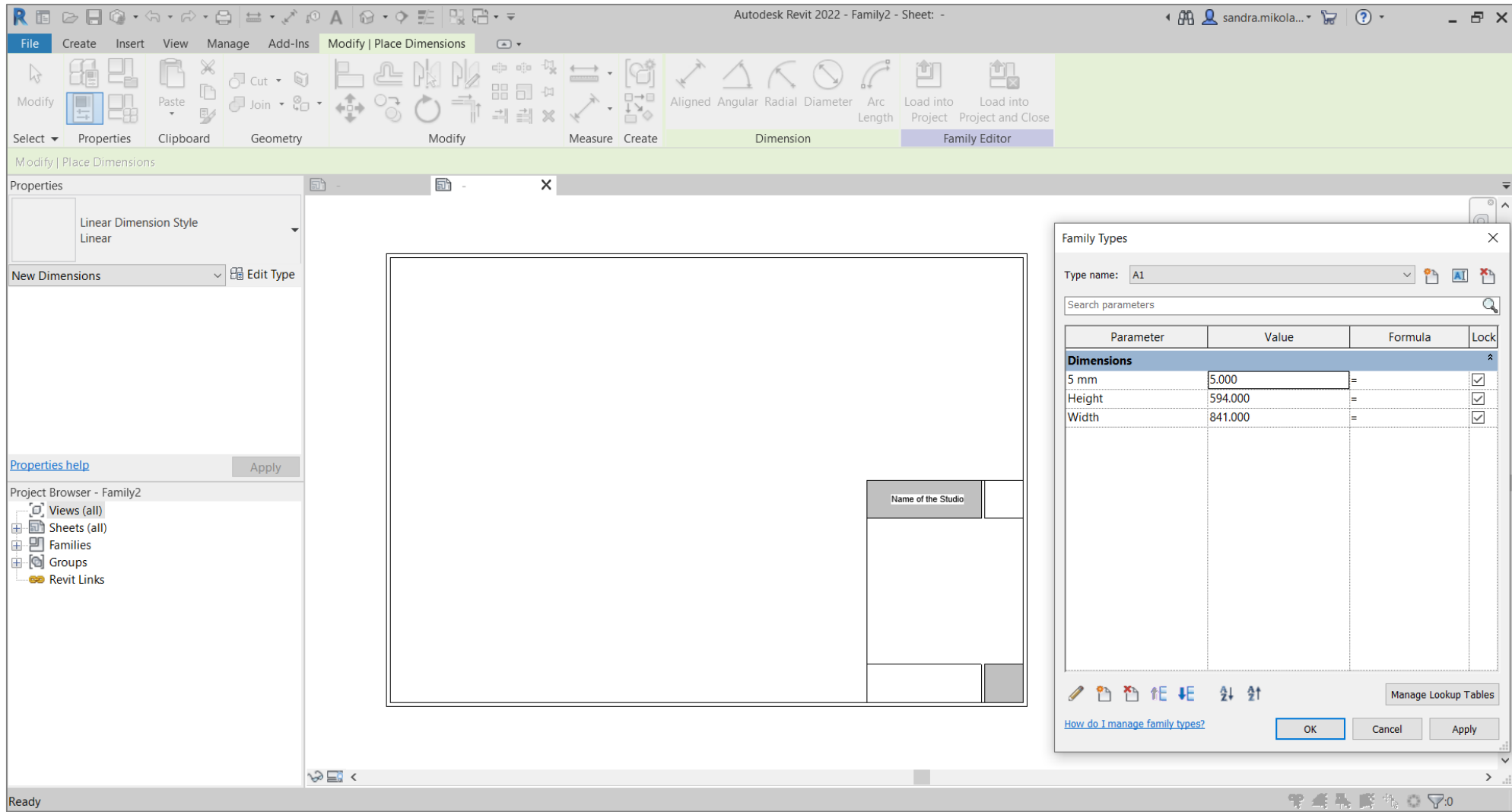
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CUSTOMIZE YOUR OWN **PARAMETRIC TITLE BLOCK** FOR THE EXAM.



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