

week7

question1) i want to give a summery about solar radiation base on the information that i achived in the class:

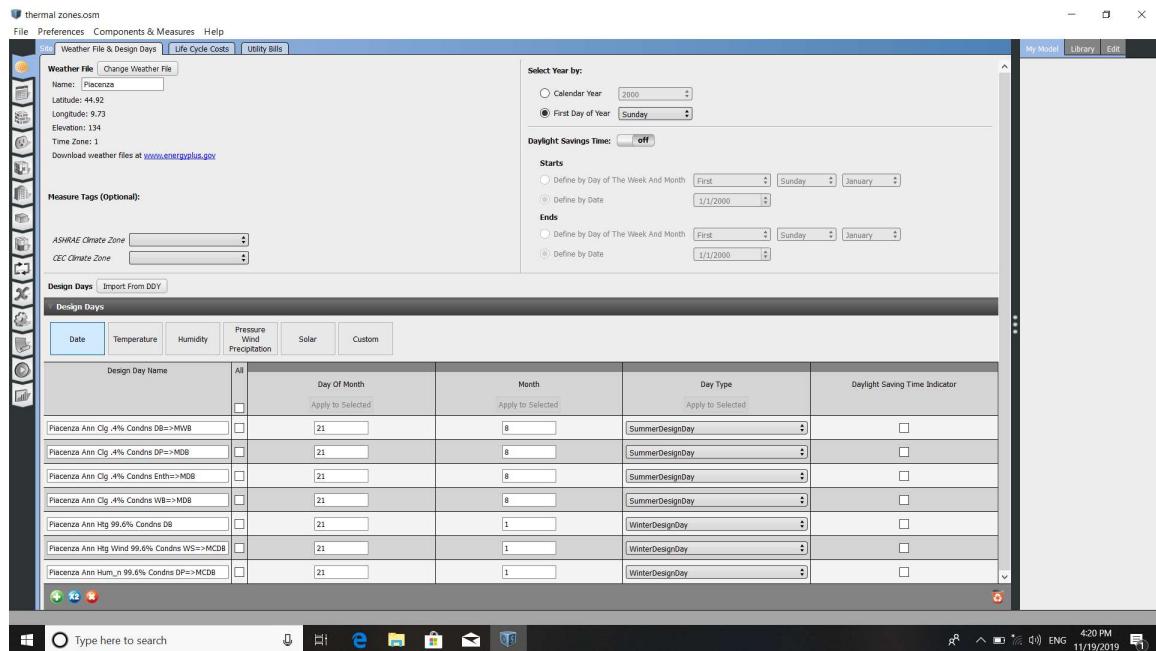
Solar constant is the maximum solar radiation density during the year which is 1367 W/m² and solar radiation is electromagnetic energy which is separated to spectral distribution and irradiance.

Absorption bands is the specific wavelength which some atmospheric components namely ozone, water and carbon dioxide absorb radiation.

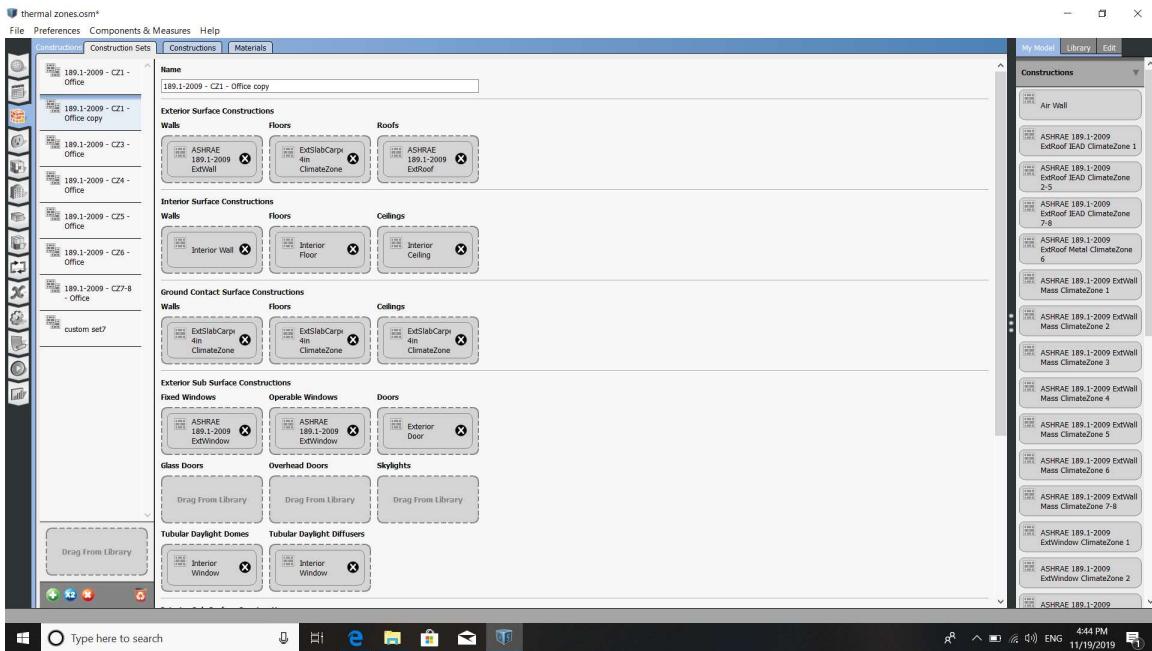
The energy that we gather from the sun depends on:

The altitude and azimuth of the sun, the weather condition which means atmosphere clearness, the site altitude over the sea level and sunshine hours.

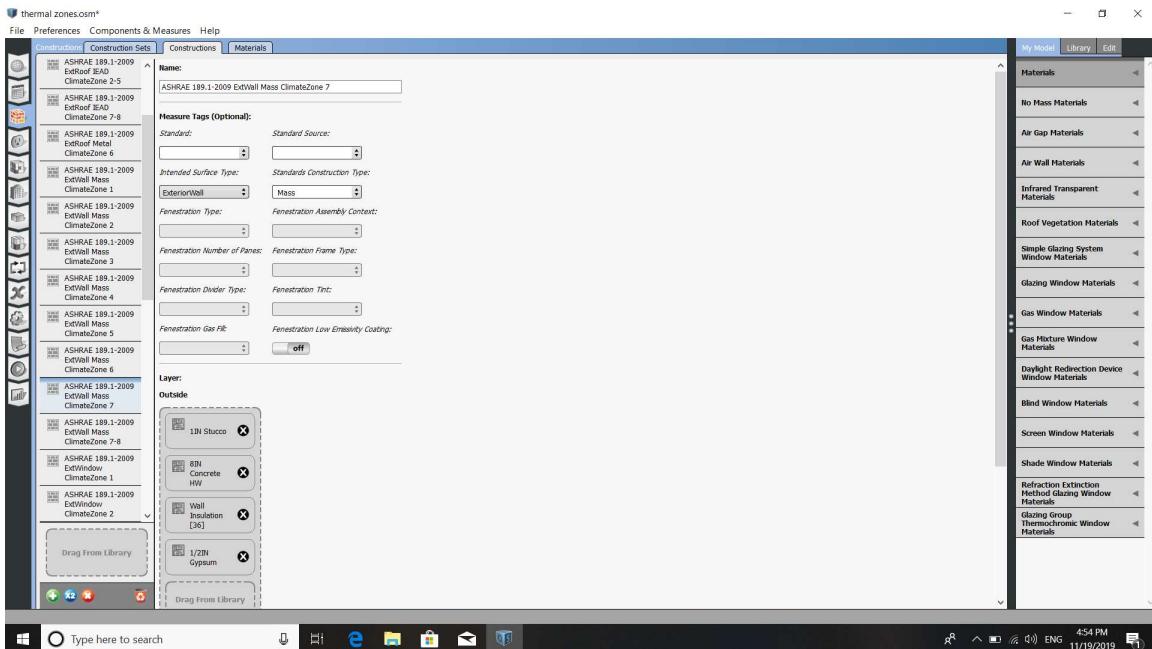
question2) As we produced the previous stages in the task6,now we have:



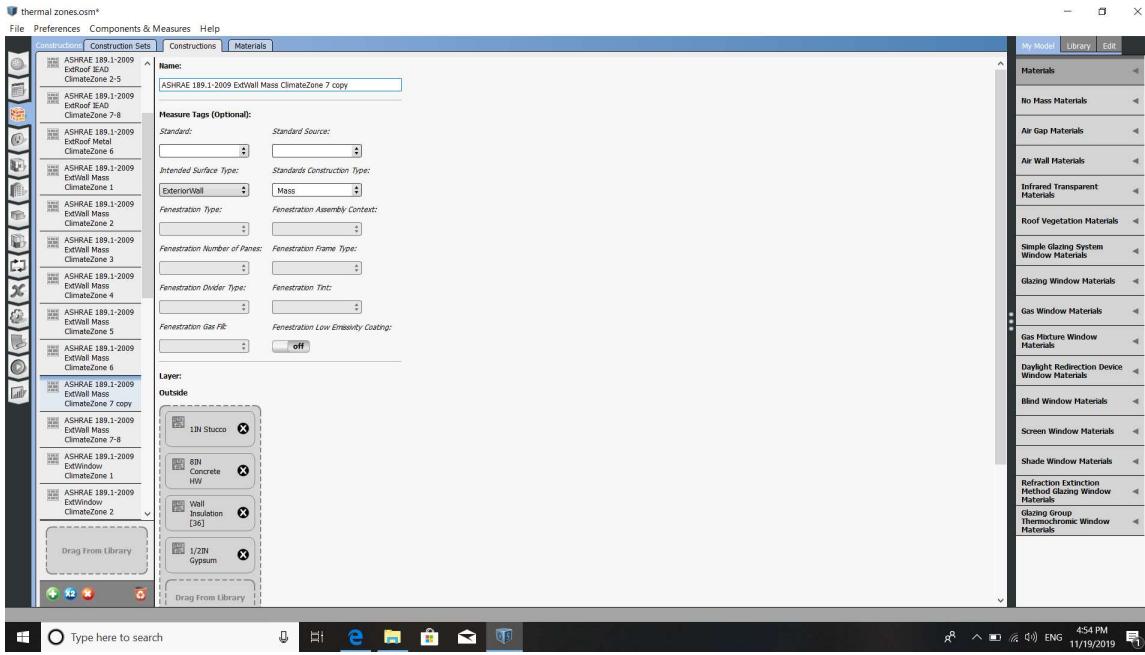
in the next stage we are going to change the features of the building.so we need to duplicate the layer and rename it and do our changes in the new one in the construction tab.



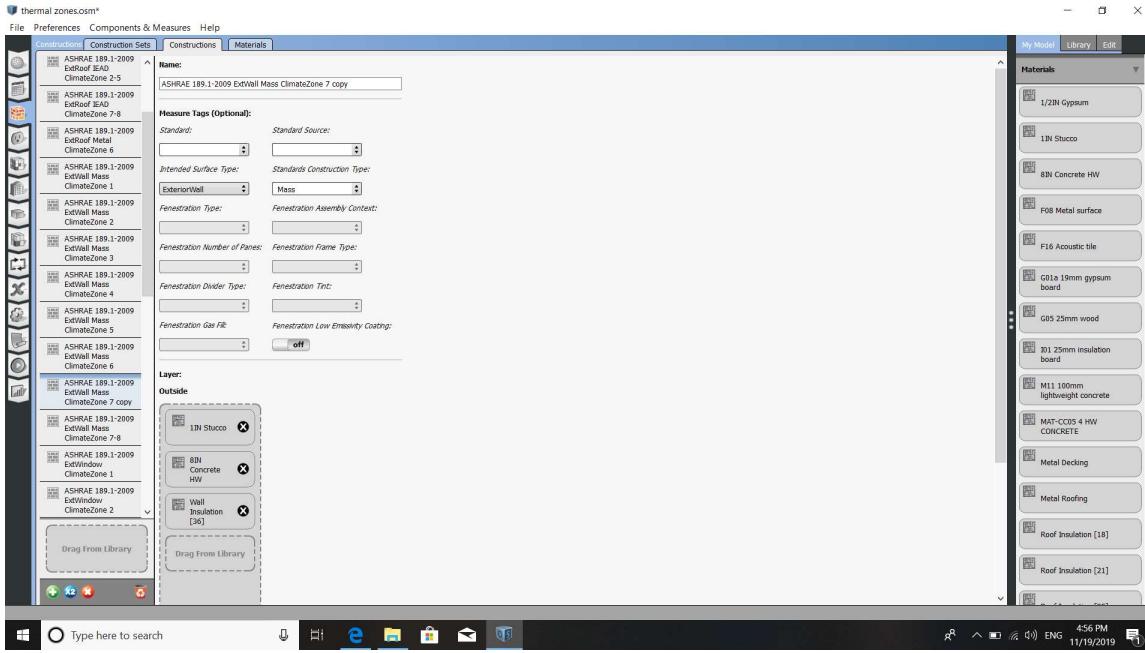
As we know, this data are based on the default of the software. so we need to change the materials and ... base on the data and the kind of material that we want to use in our design. so we have to delete some layers and add those we want. we have to be careful that the order is important in the calculations.

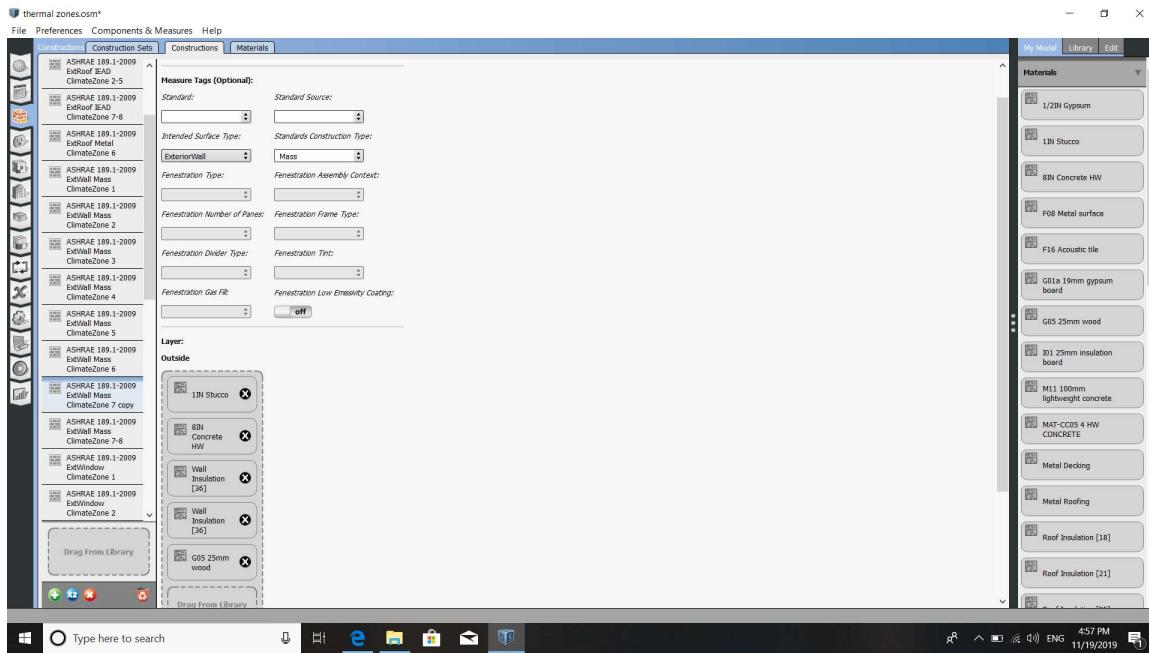


first, we are going to find the wall that we want and then we will provide a copy of that.

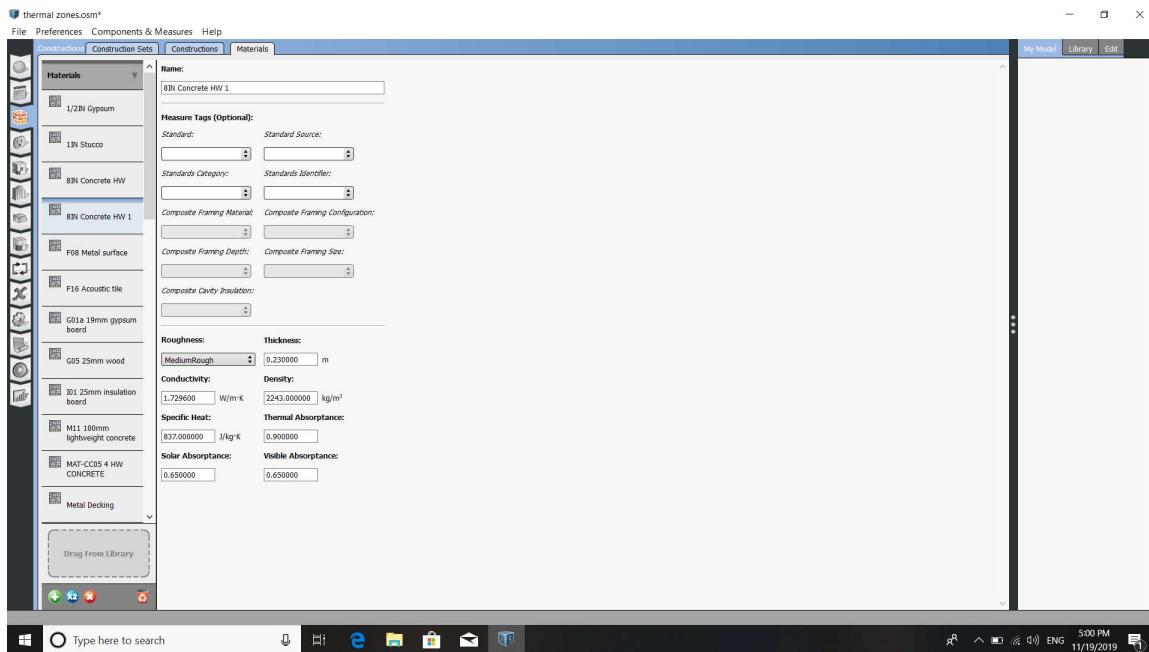


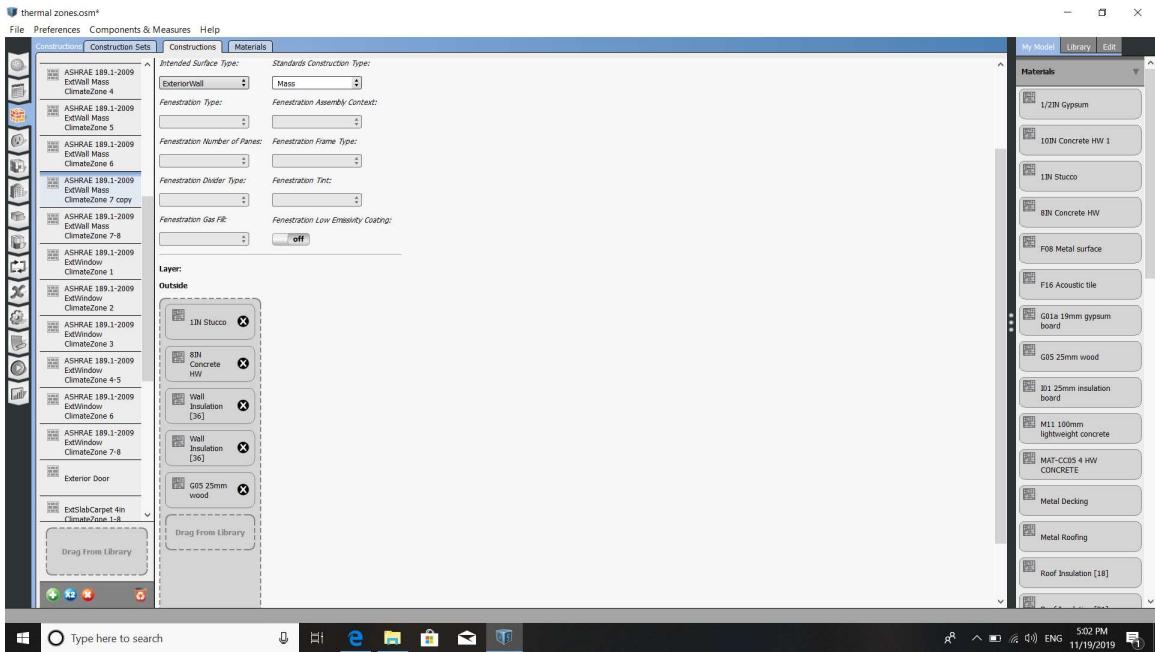
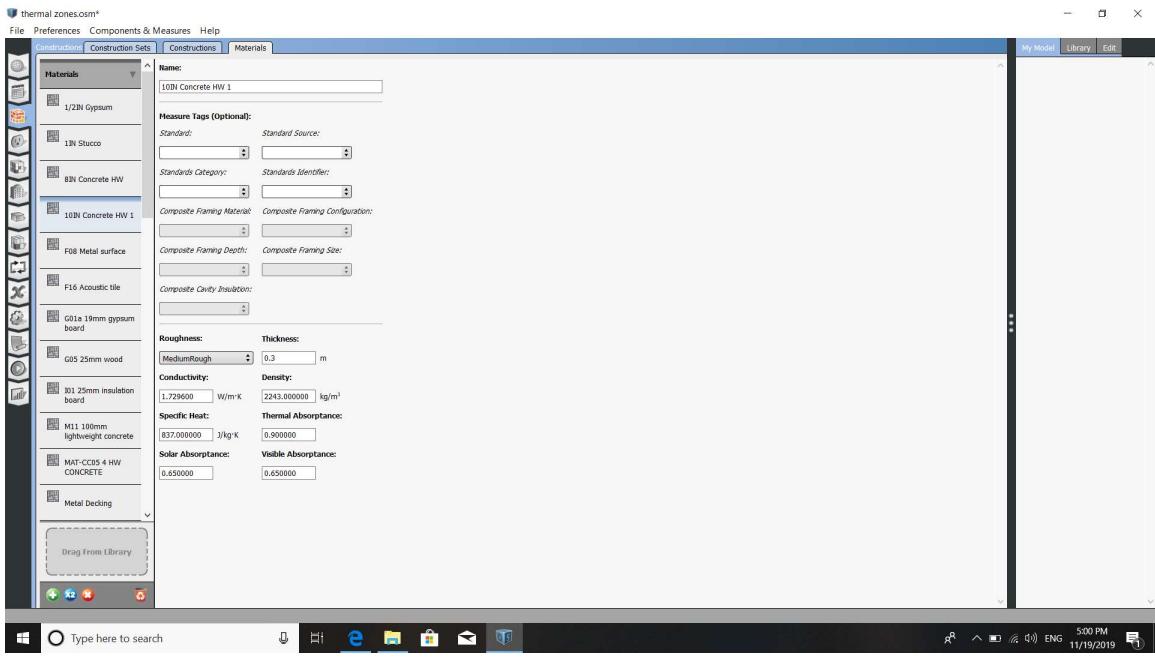
in this stage, we want to delete the gypsum and add the wood in the last layer.

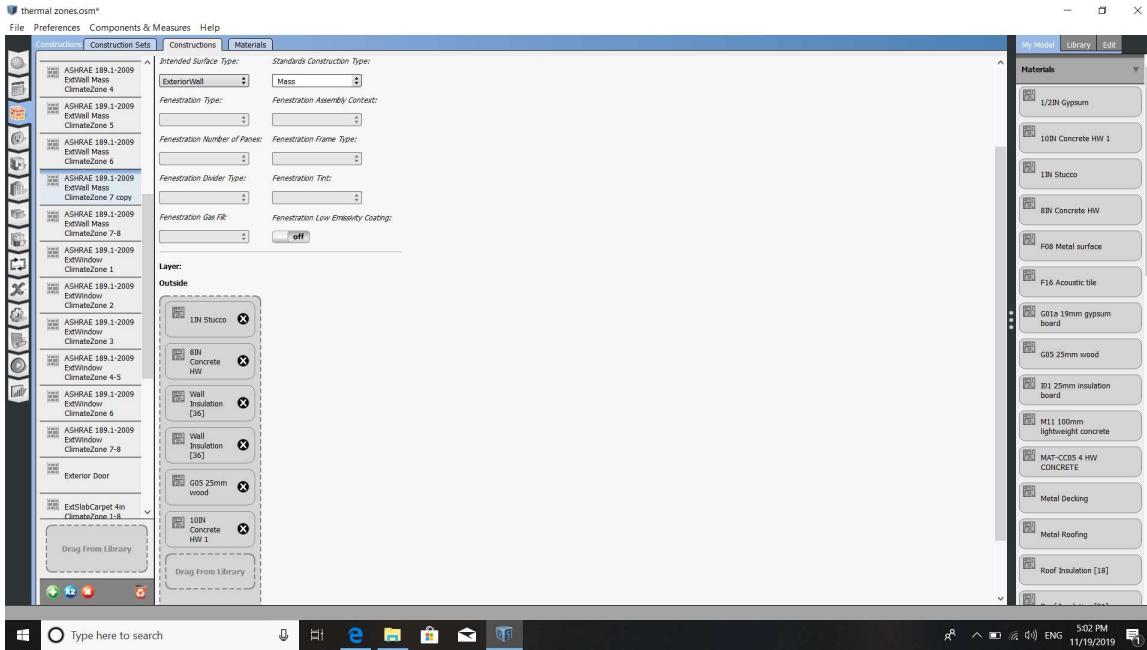




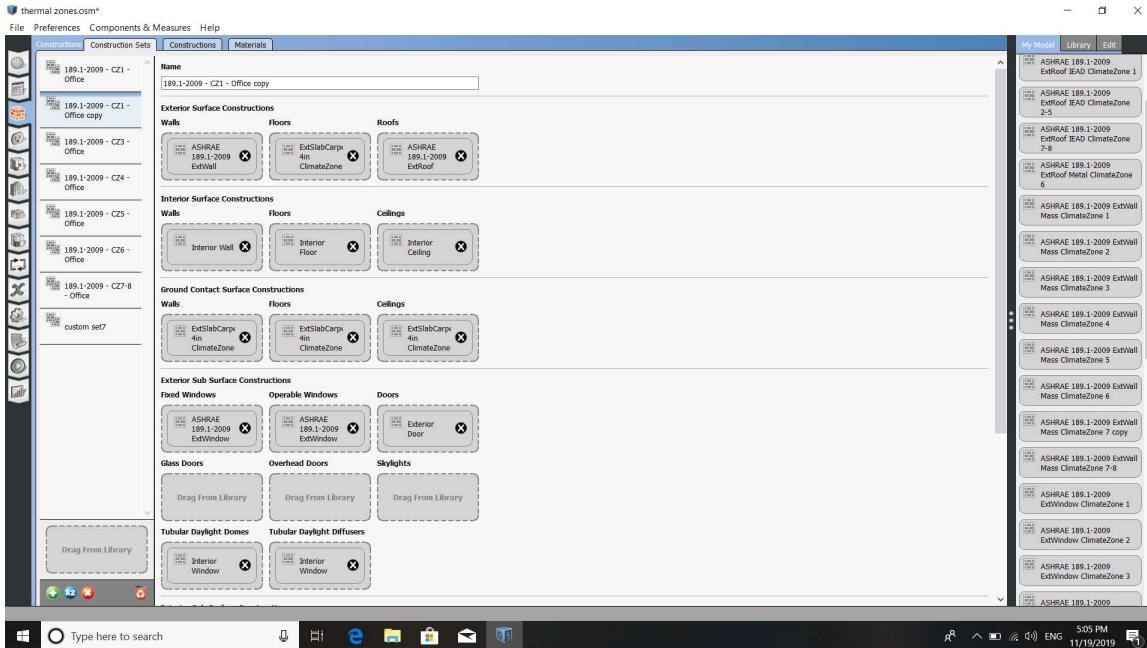
In this stage, I'm going to change the features of the 8 inch concrete material base on our needs and then add it as the layer of the wall.







then we come back to the construction sets tab and we will add the our new wall that it's features have been changed.



then we will go to the spaces tab and we add our new wall to the default construction sets tab.

thermal zones.osm*

File Preferences Components & Measures Help

Spaces Properties Loads Surfaces Subsurfaces Interior Partitions Shading

General Airflow Custom

Filters: Story Thermal Zone Space Type

Space Name	All	Story	Thermal Zone	Space Type	Default Construction Set	Default Schedule Set	Part of Total Floor Area
Space 101	<input type="checkbox"/>	Building Story 1	Thermal Zone 1	[189.1-2009 - Office - Op]	[189.1-2009 - C21 - Offc]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Space 102	<input type="checkbox"/>	Building Story 1	Thermal Zone 1	[189.1-2009 - Office - Op]	[189.1-2009 - C21 - Offc]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Space 103	<input type="checkbox"/>	Building Story 1	Thermal Zone 1	[189.1-2009 - Office - Op]	[189.1-2009 - C21 - Offc]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Space 104	<input type="checkbox"/>	Building Story 1	Thermal Zone 1	[189.1-2009 - Office - Op]	[189.1-2009 - C21 - Offc]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Space 105	<input type="checkbox"/>	Building Story 1	Thermal Zone 1	[189.1-2009 - Office - Op]	[189.1-2009 - C21 - Offc]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Space 201	<input type="checkbox"/>	Building Story 2	Thermal Zone 2	[189.1-2009 - Office - Op]	[189.1-2009 - C21 - Offc]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Space 202	<input type="checkbox"/>	Building Story 2	Thermal Zone 2	[189.1-2009 - Office - Op]	[189.1-2009 - C21 - Offc]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Space 203	<input type="checkbox"/>	Building Story 2	Thermal Zone 2	[189.1-2009 - Office - Op]	[189.1-2009 - C21 - Offc]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Space 204	<input type="checkbox"/>	Building Story 2	Thermal Zone 2	[189.1-2009 - Office - Op]	[189.1-2009 - C21 - Offc]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Space 301	<input type="checkbox"/>	Building Story 3	Thermal Zone 3	[189.1-2009 - Office - Op]	[189.1-2009 - C21 - Offc]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Space 304	<input type="checkbox"/>	Building Story 6	Thermal Zone 1	[189.1-2009 - Office - Op]	[189.1-2009 - C21 - Offc]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Space 305	<input type="checkbox"/>	Building Story 3	Thermal Zone 3	[189.1-2009 - Office - Op]	[189.1-2009 - C21 - Offc]	<input type="checkbox"/>	<input checked="" type="checkbox"/>

My Model Library Edit

- Interior Partition Surface
- Building Stories
- Thermal Zones
- Space Types
- Default Construction Sets
- 189.1-2009 - C21 - Office
- 189.1-2009 - C21 - Office copy
- 189.1-2009 - C23 - Office
- 189.1-2009 - C24 - Office
- 189.1-2009 - C25 - Office
- 189.1-2009 - C26 - Office
- 189.1-2009 - CZ7-8 - Office
- custom set7
- Default Schedule Sets
- Design Specification Outdoor Air
- People Definitions
- Lights Definitions

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thermal zones.osm*

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Space 103	<input type="checkbox"/>	Building Story 1	Thermal Zone 1	[189.1-2009 - Office - Op]	[189.1-2009 - C21 - Offc]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Space 104	<input type="checkbox"/>	Building Story 1	Thermal Zone 1	[189.1-2009 - Office - Op]	[189.1-2009 - C21 - Offc]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Space 205	<input type="checkbox"/>	Building Story 2	Thermal Zone 2	[189.1-2009 - Office - Op]	[189.1-2009 - C21 - Offc]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Space 301	<input type="checkbox"/>	Building Story 3	Thermal Zone 3	[189.1-2009 - Office - Op]	[189.1-2009 - C21 - Offc]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Space 302	<input type="checkbox"/>	Building Story 3	Thermal Zone 3	[189.1-2009 - Office - Op]	[189.1-2009 - C21 - Offc]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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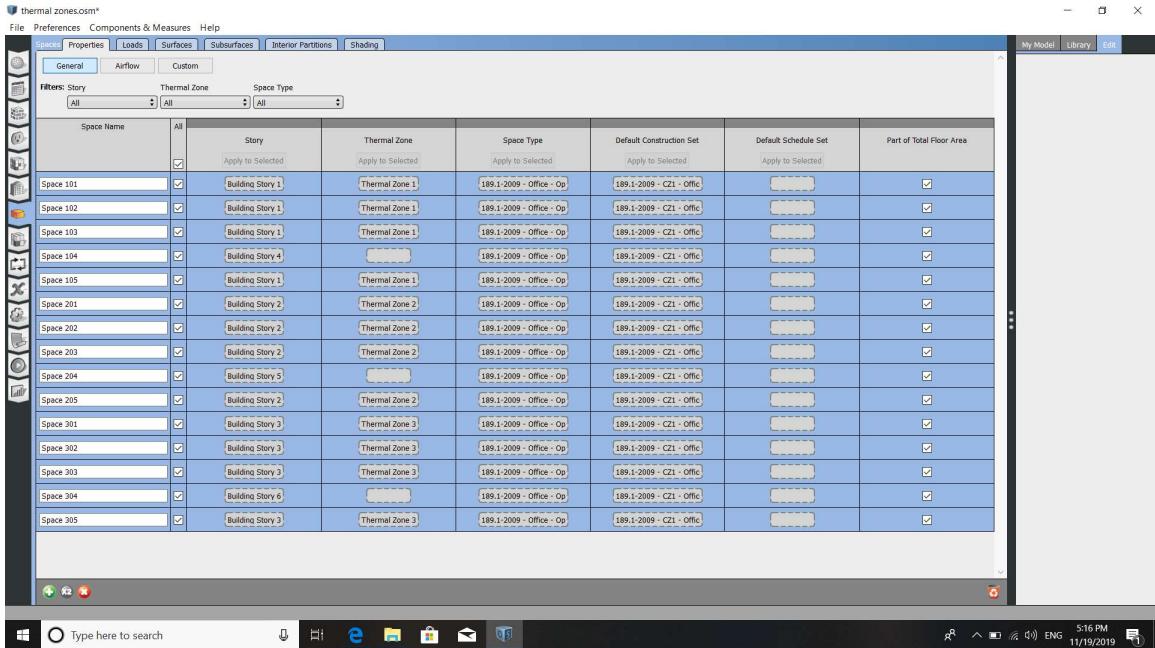
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The screenshot shows the 'thermal zones.osm*' file open in a software application. The main window displays a table of spaces with columns for Space Name, Story, Thermal Zone, Space Type, Default Construction Set, Default Schedule Set, and Part of Total Floor Area. A context menu is visible on the right side of the screen, titled 'OS-DefaultConstructionSet'. It contains several options: 'Name' (set to '189.1-2009 - C21 - Office copy'), 'Default Exterior Surface Constructors Name', 'Default Interior Surface Constructors Name', 'Default Ground Contact Surface Constructors Name', 'Default Exterior SubSurface Constructors Name', 'Default Interior SubSurface Constructors Name', 'Default Sub Surface Constructors 1', 'Interior Partition Construction Name', 'Space Shading Construction Name', 'Building Shading Construction Name', and 'Site Shading Construction Name'. The bottom status bar shows the date and time as '5:14 PM 11/19/2019'.

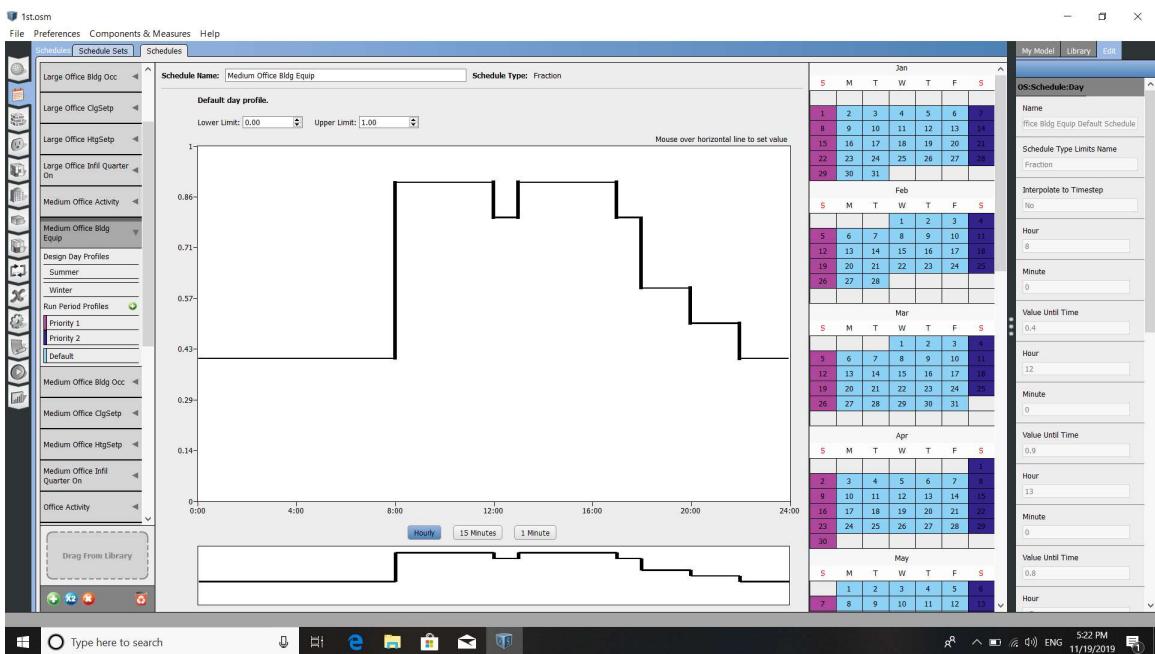
then we apply the change.

This screenshot shows the same interface as the previous one, but with a different selection state. Every row in the table is now highlighted in blue, indicating that all spaces have been selected. The context menu is still visible on the right. The bottom status bar shows the date and time as '5:14 PM 11/19/2019'.

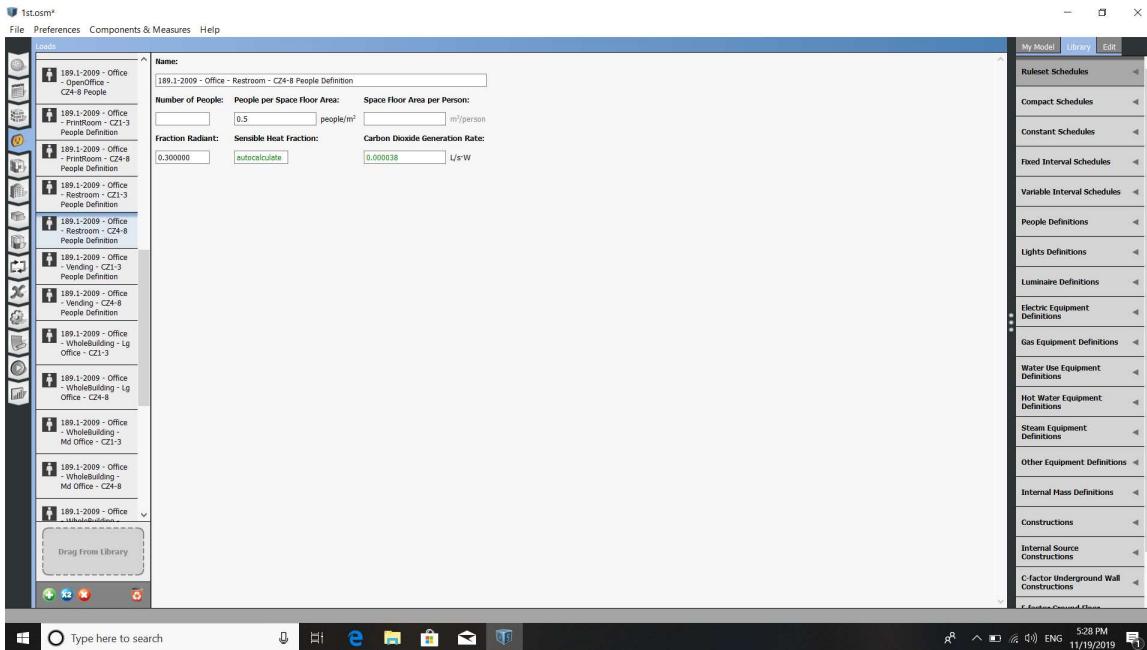
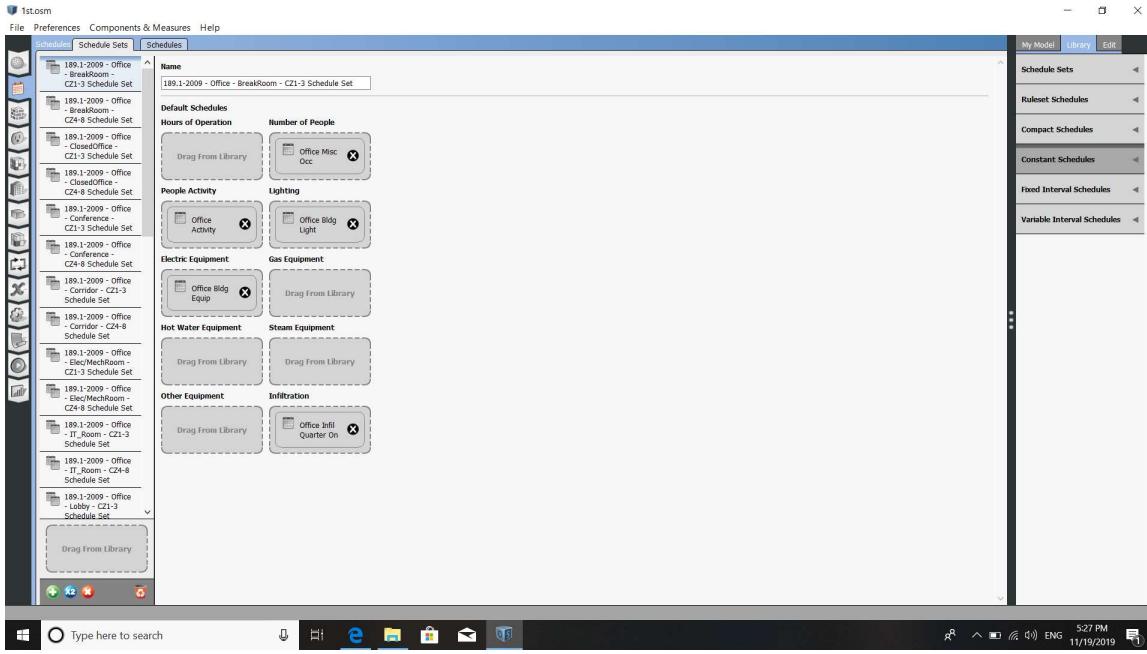
and also we can add it as the same type for other zones.

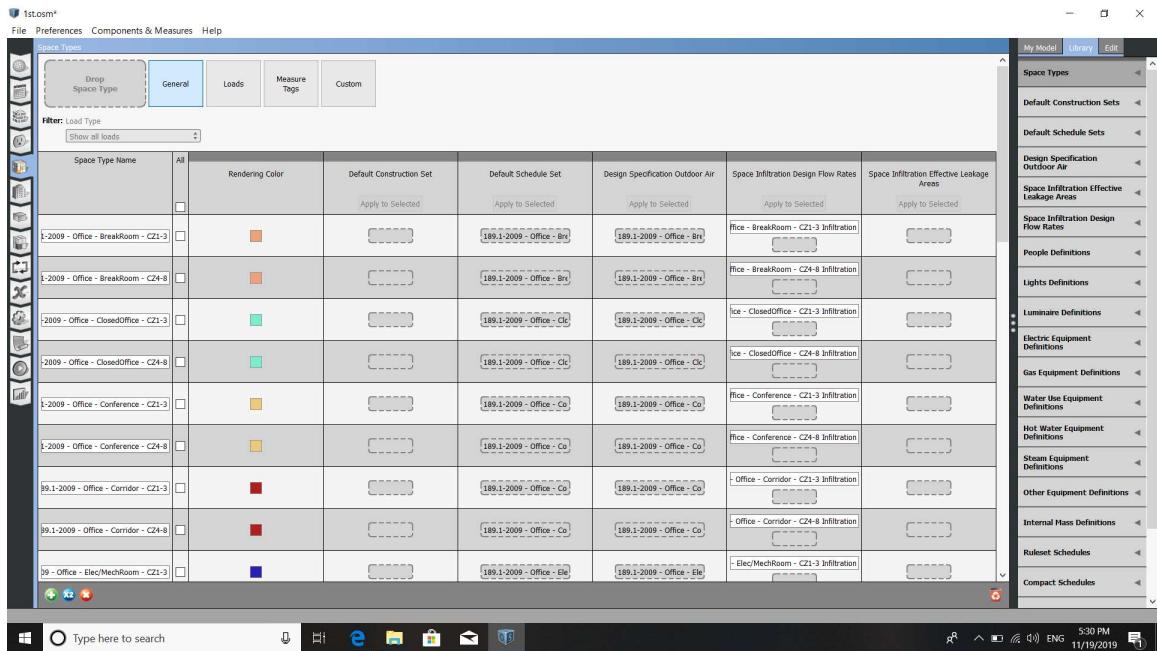


in this stage, we are going to find the special function and give it the schedule based on the information of our design.



and we can make change in the schedule.





and the new data is ready now.