

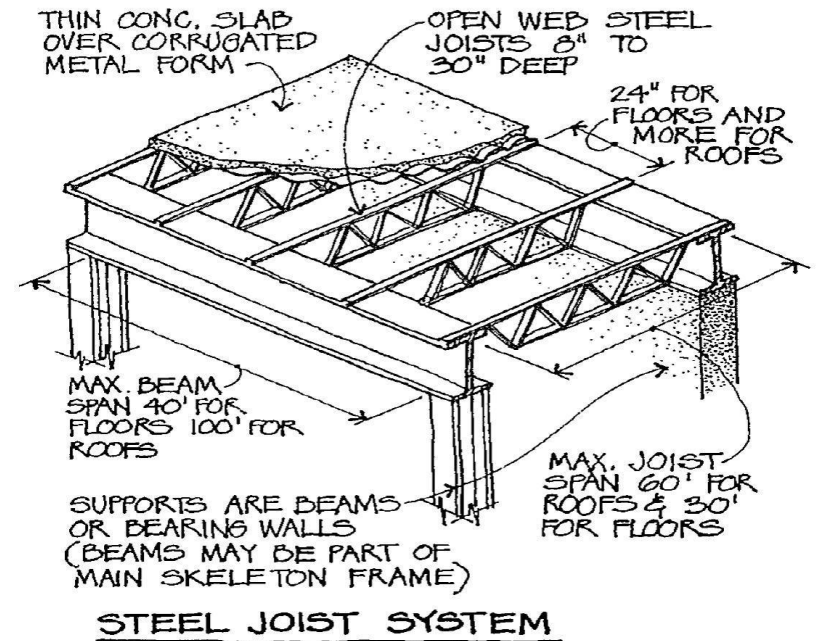
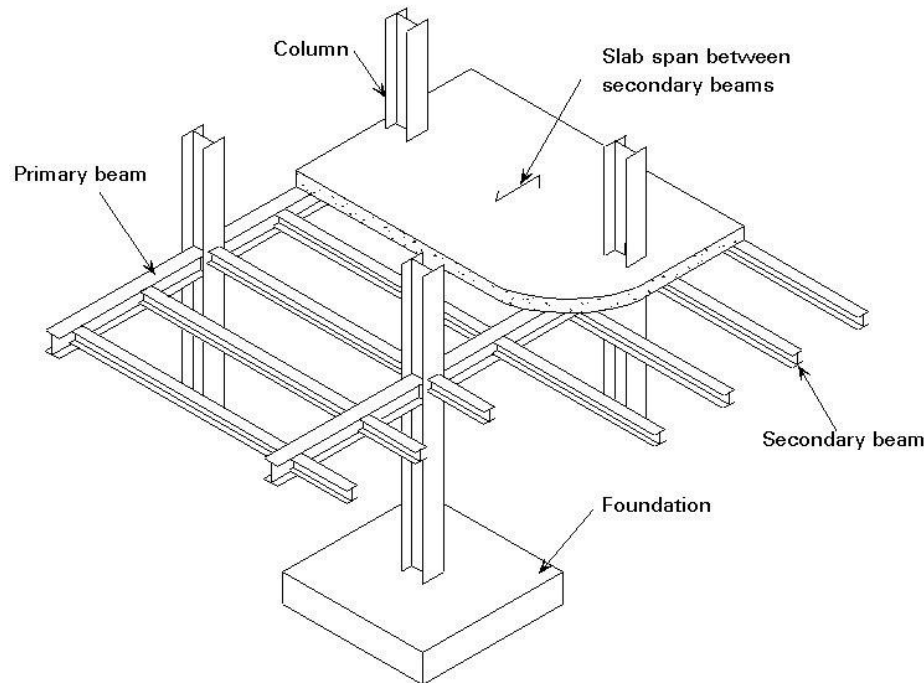


# **REVIT Level 2**

## **Session 04**

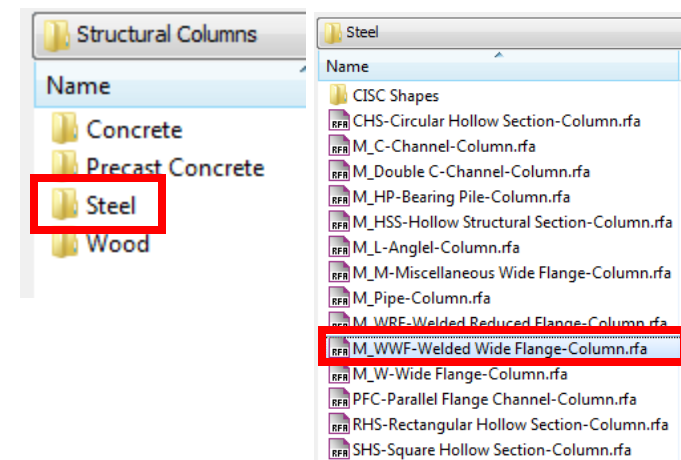
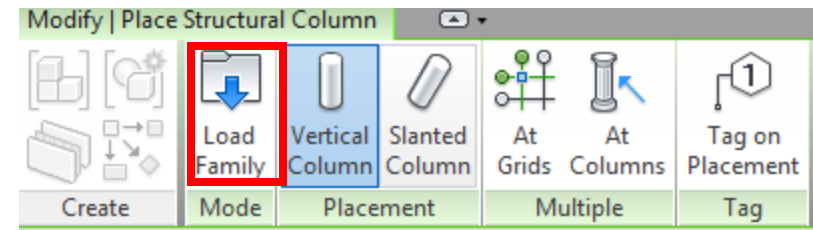
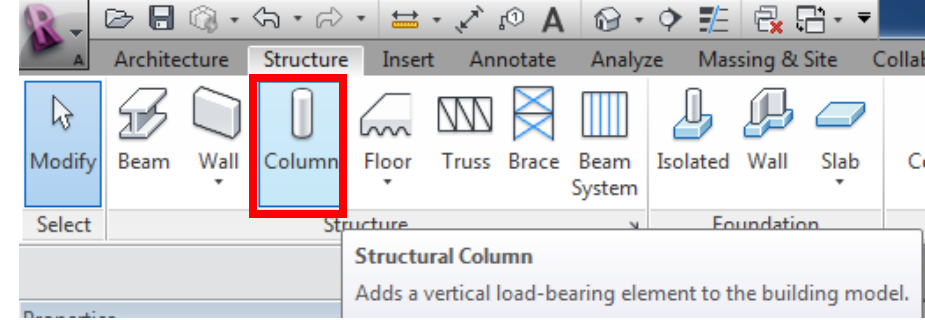
# AGENDA for today

- Adding Steel Columns
  - Adding Foundation walls and footings
  - Adding Isolated Piers and footings
  - Adding structural plans
  - Adding Beams, Joists.
- 
- OPEN SESSION 04– start .rvt file



# Placing structural columns

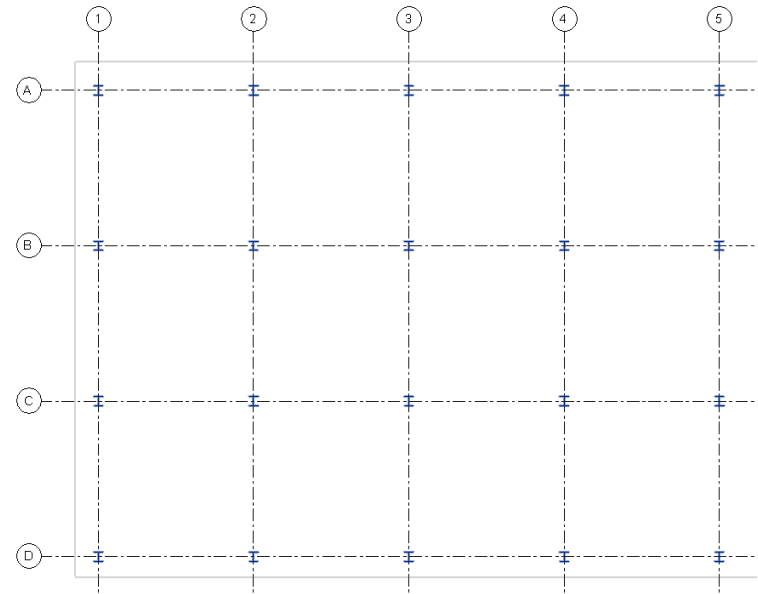
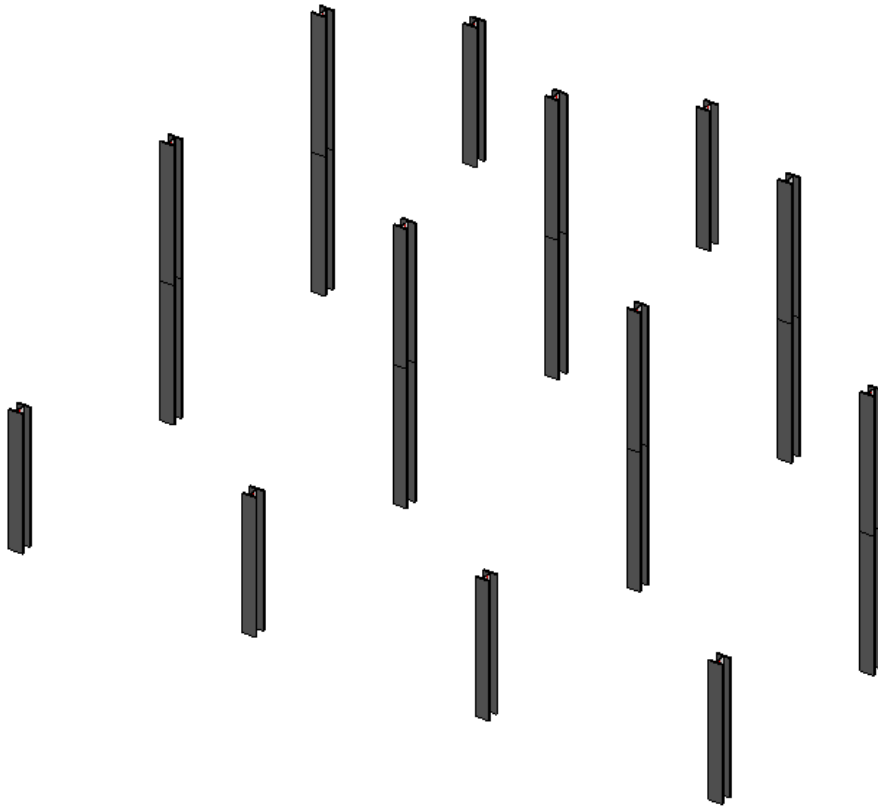
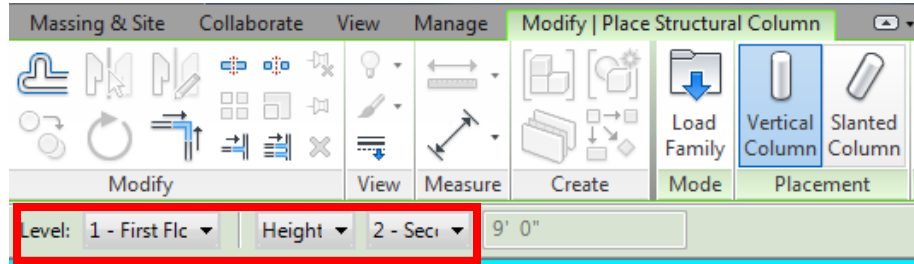
- Structural columns are used to model vertical load-bearing elements in a building. Although structural columns share many of the same properties as architectural columns, structural columns have additional properties defined by their configuration and industry standards. Structural columns differ from architectural columns in behavior as well.
- Structural elements such as beams, braces, and isolated foundations join to structural columns; they do not join to architectural columns.
- You create structural columns by manually placing each column or by using the At Grids tool to add a column to selected grid intersections.
- A few columns are preloaded or you can load them in via load family.



Specify Types

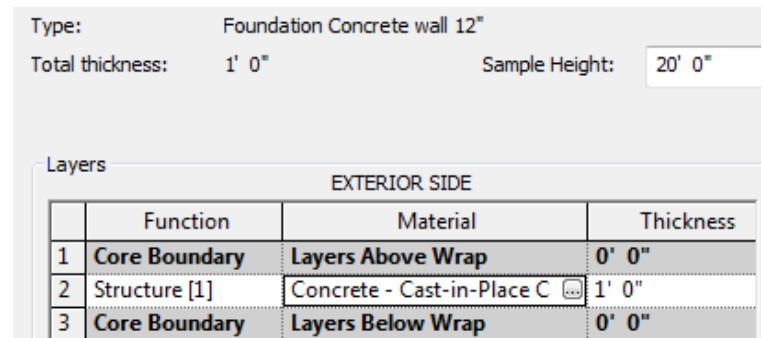
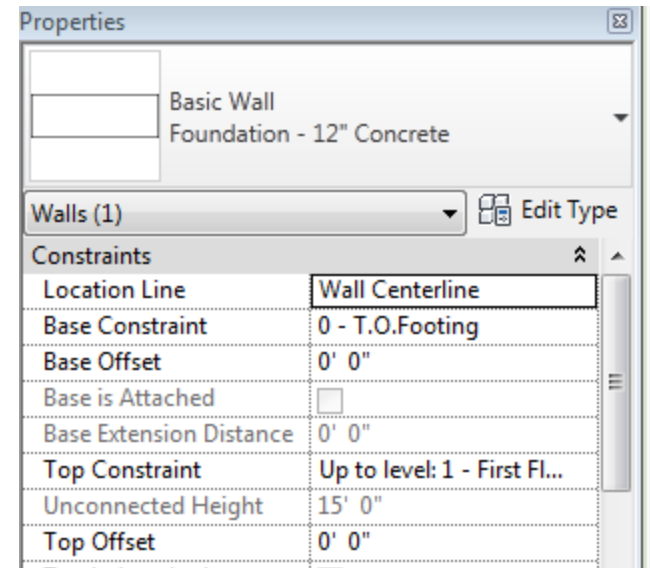
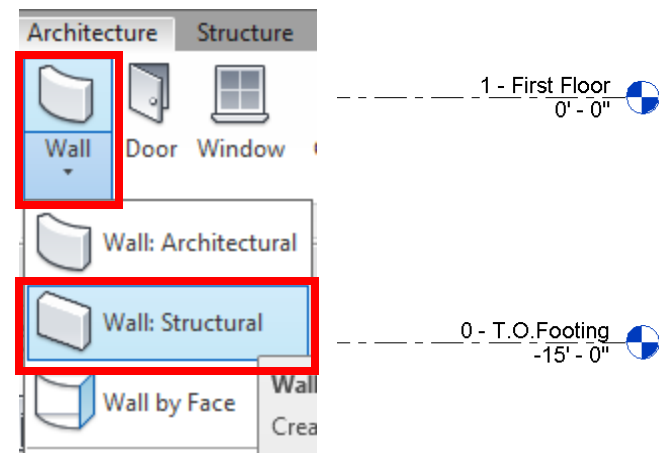
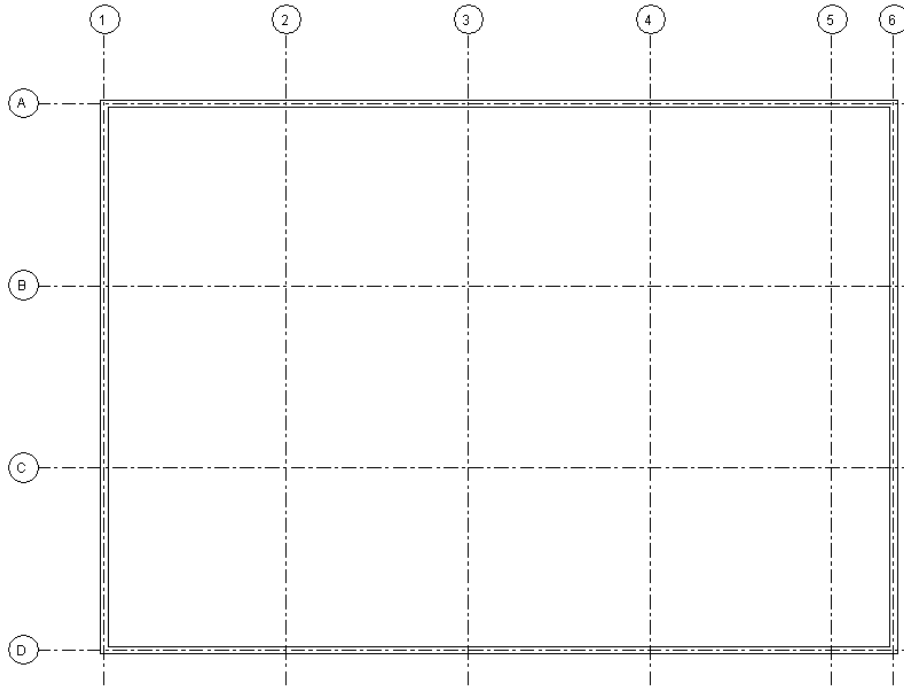
Family:	Types:					
WWF-Welded Wide Flange-C	Type	W	A	d	bf	
		(all)	(all)	(all)	(all)	
	WWF20x150	150	0.31 SF	1' 7 177/256"	1' 7 177/256"	0'
	WWF20x132	132	0.27 SF	1' 7 177/256"	1' 7 177/256"	0'
	WWF18x337	337	0.69 SF	1' 5 23/32"	1' 5 23/32"	0'
	WWF18x275	275	0.56 SF	1' 5 23/32"	1' 5 23/32"	0'
	WWF18x229	229	0.47 SF	1' 5 23/32"	1' 5 23/32"	0'
	WWF18x207	207	0.42 SF	1' 5 23/32"	1' 5 23/32"	0'

# Vertical columns

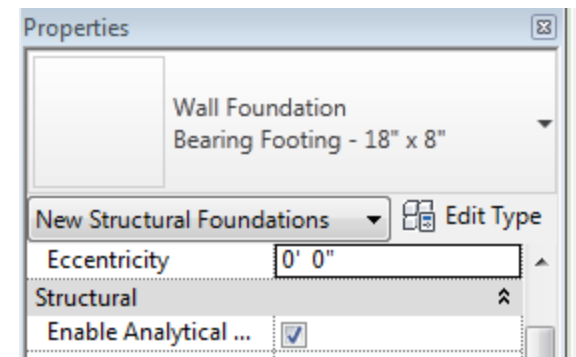
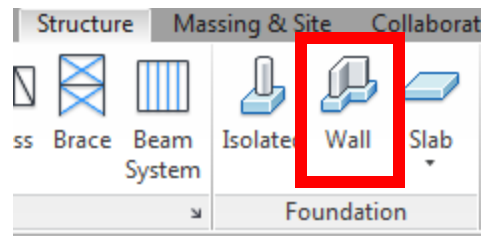


# Foundation Walls

- The structural base of a building that provides stability and rigidity. A wall foundation usually rests on a footing.
- Before we put in the foundation wall, we need to create 1 additional levels: T.O Footing.



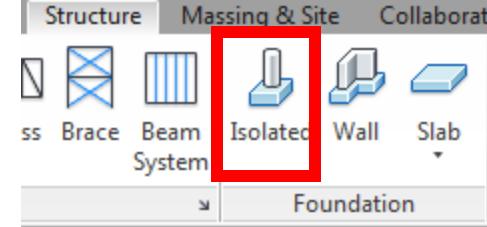
# Footings



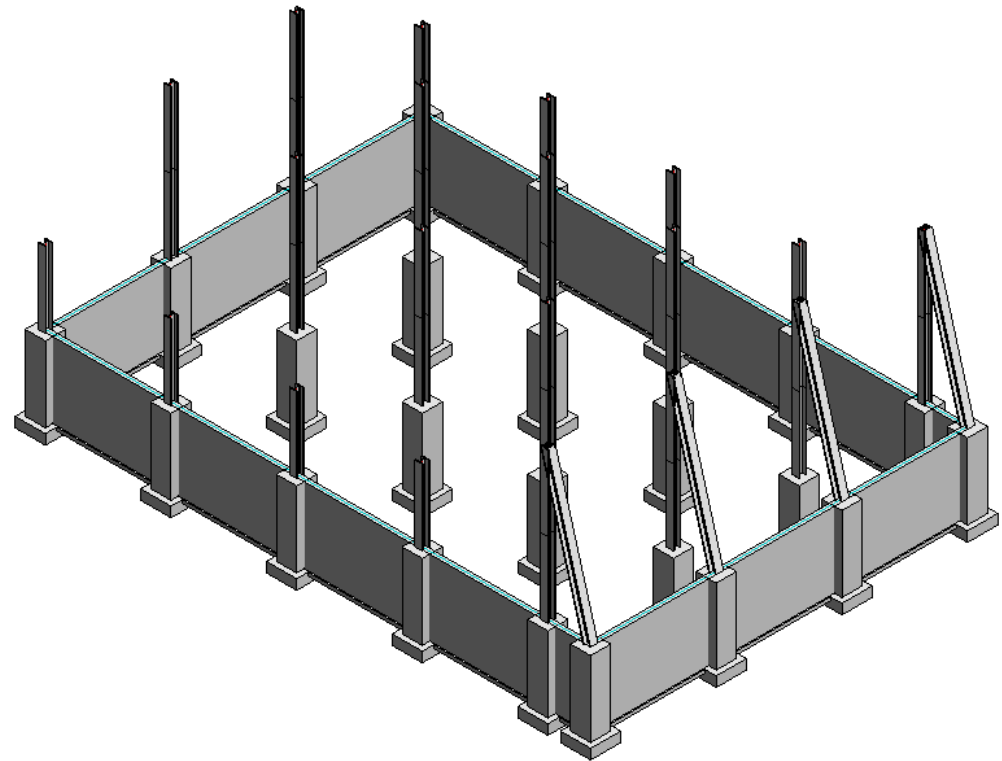
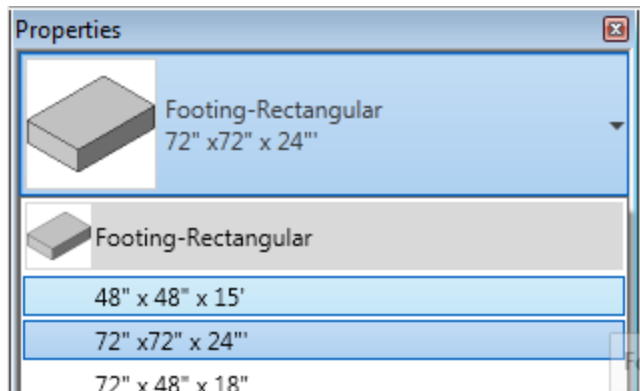
- The base of a foundation that rests directly on the soil. The footing is generally wider than the foundation to distribute its load and provide additional stability for the building.
- To apply the footing, simple select all the foundation walls. Use the tab button to select all adjacent foundation walls.



# Pier (isolated footings)



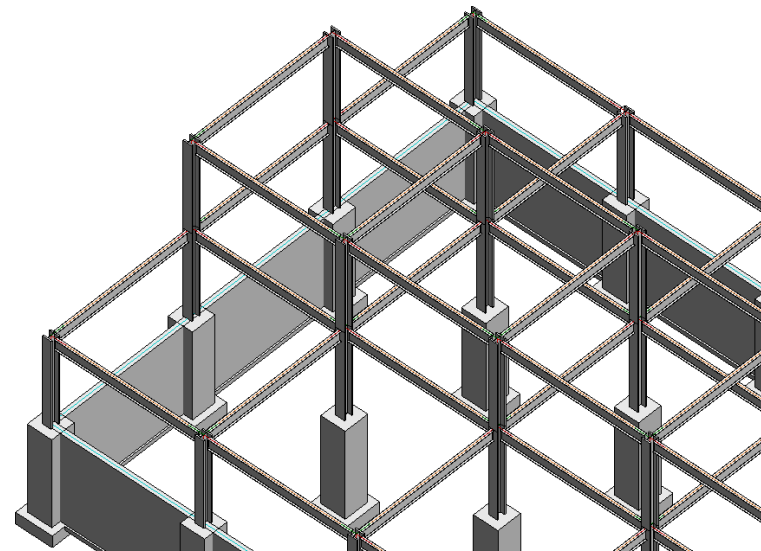
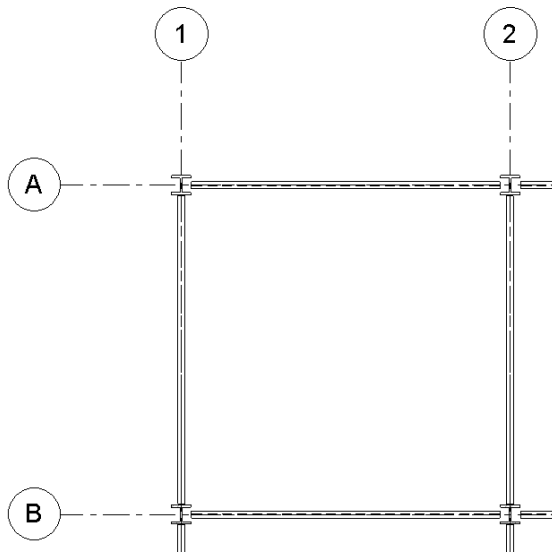
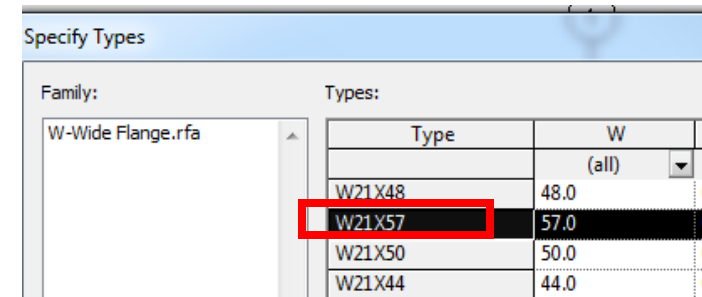
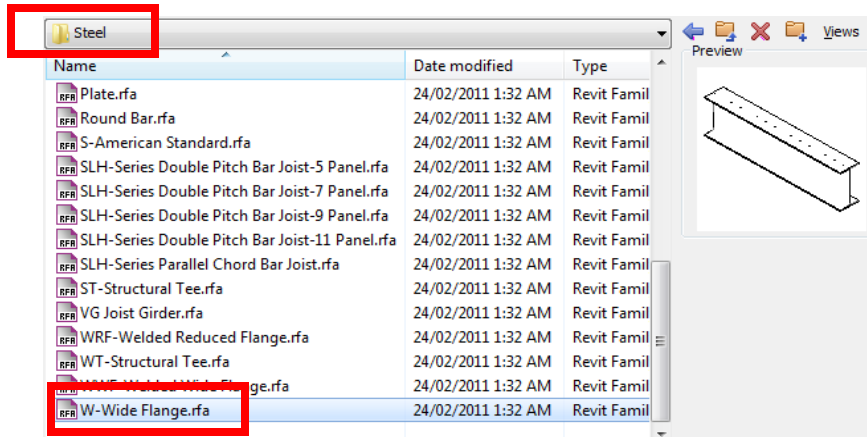
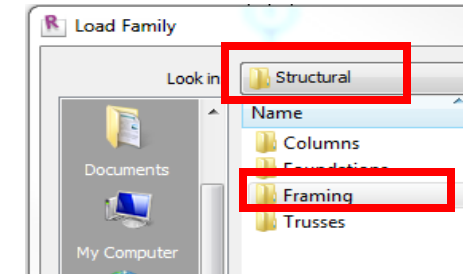
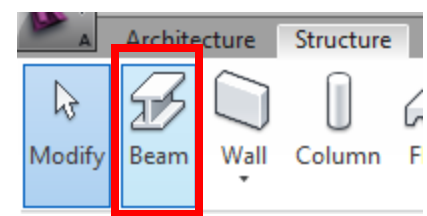
- An isolated footing needs to be placed underneath a column to support the weight of the building.
- Create 2 types by duplicating an existing footing rectangular and changing the dimensions.





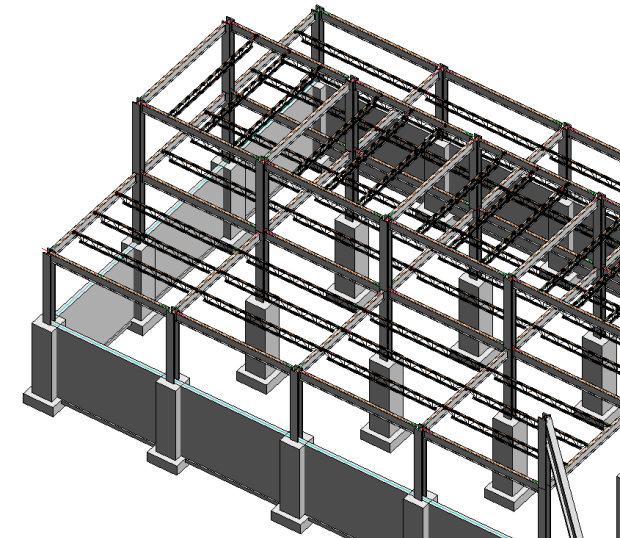
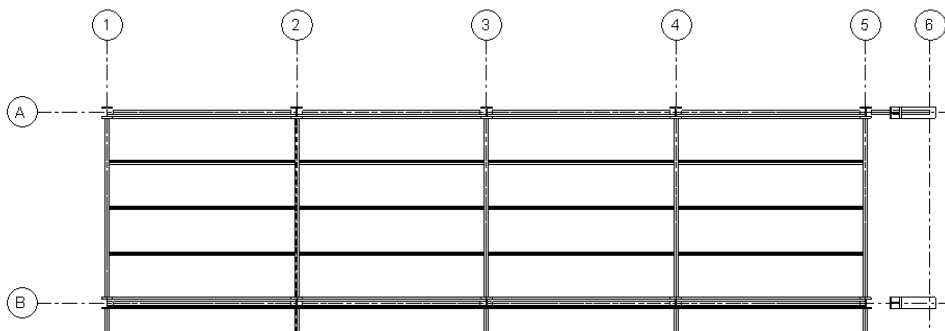
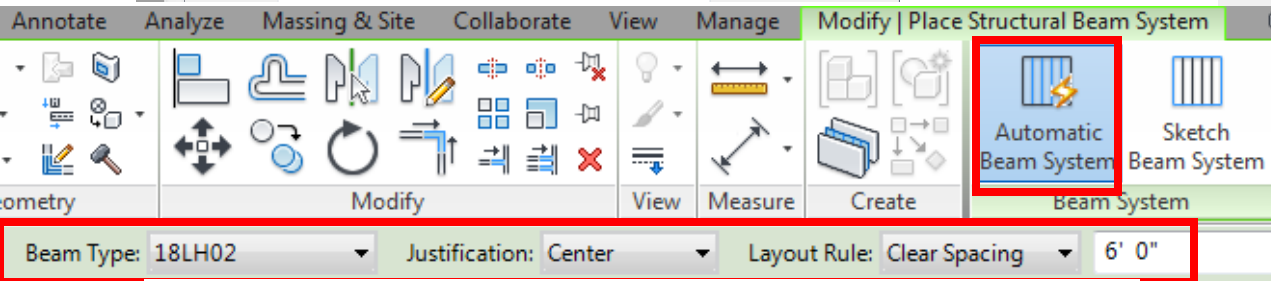
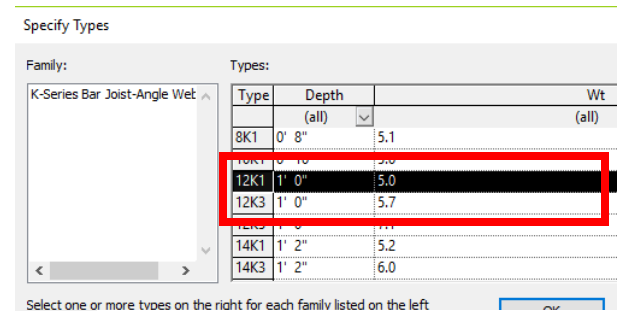
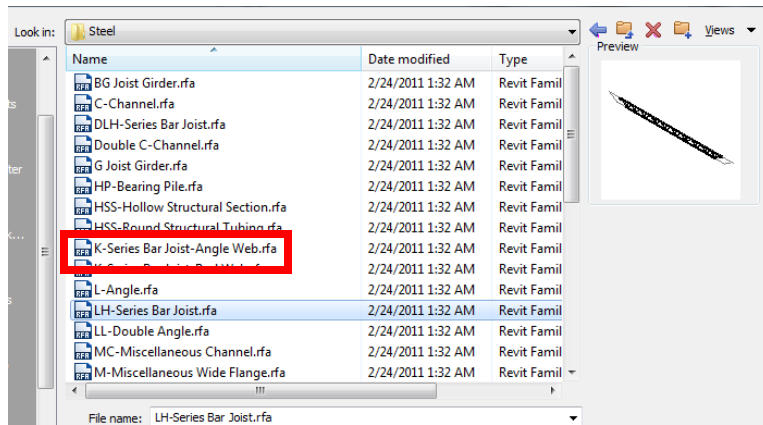
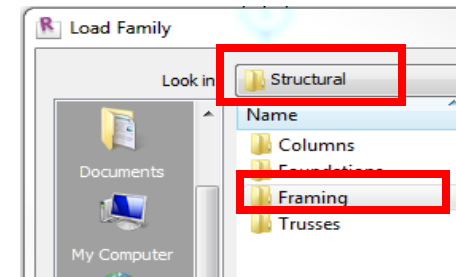
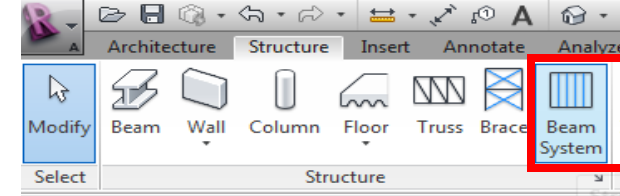
# Beams

- A **beam** is a structural element that is capable of withstanding load primarily by resisting bending.
- You can use the system families or you can load in a family.

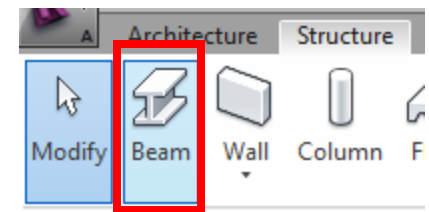


# Beam Systems (Joists)

- Beams within a structural bay.
- You can use the system families or you can load in a family but you will need to load it prior to entering this command using the insert tab.



# Sloped Beam



- There may be times such as on a sloped roof where the beams are also to be sloped.
- The beams are to be created in the same way as a regular beam, make it first horizontal.
- Then edit the start or end level offset (elevation).

