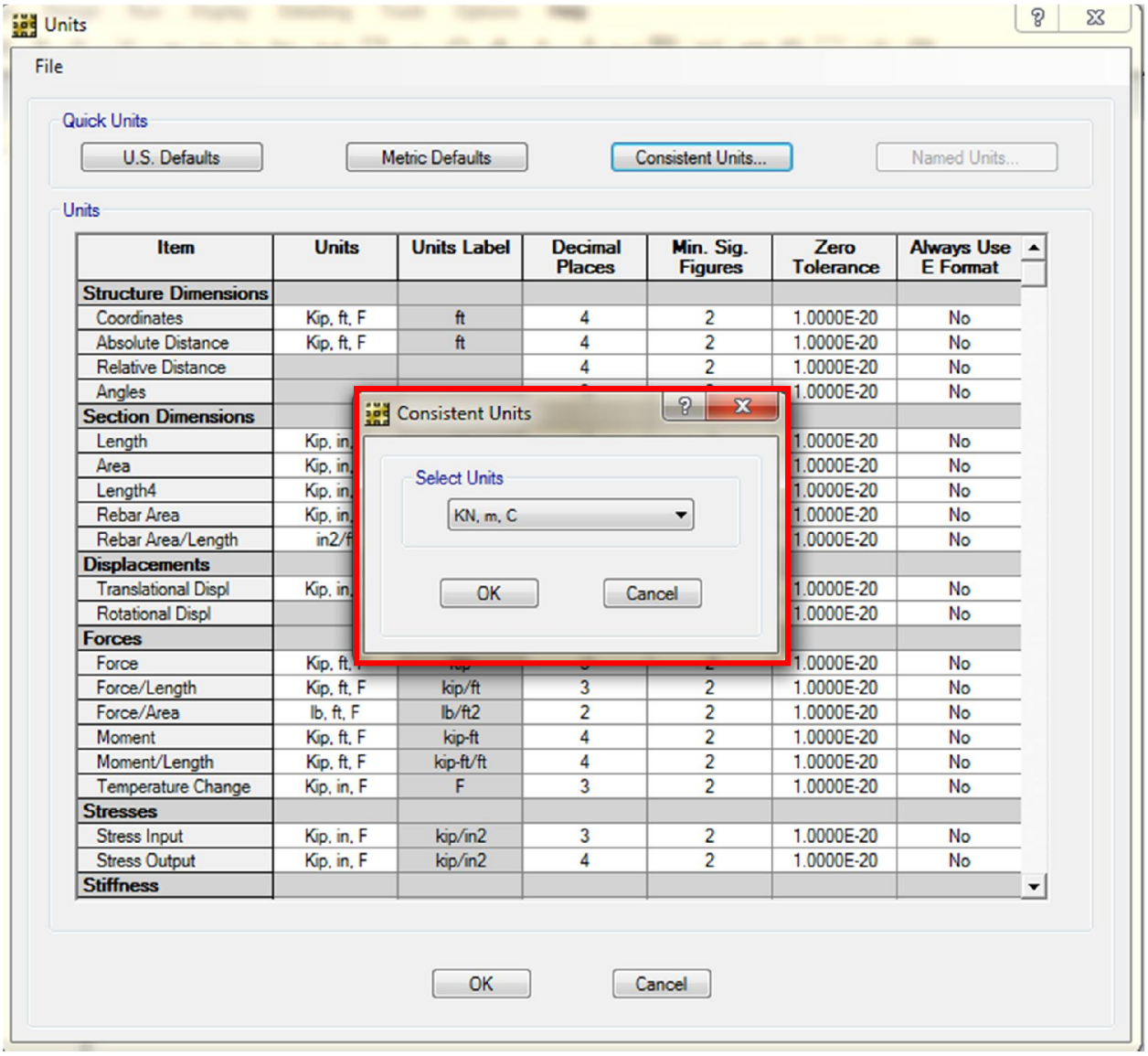
HƯỚNG DẪN MÔ HÌNH SÀN BẰNG SAFE 2014

Bước 1 Chọn đơn vị trong mô hình



Item	Units	Units Label	Decimal Places	Min. Sig. Figures	Zero Tolerance	Always Use E Format
Structure Dimensions						
Coordinates	Kip, ft, F	ft	4	2	1.0000E-20	No
Absolute Distance	Kip, ft, F	ft	4	2	1.0000E-20	No
Relative Distance			4	2	1.0000E-20	No
Angles					1.0000E-20	No
Section Dimensions						
Length	Kip, in,				1.0000E-20	No
Area	Kip, in,				1.0000E-20	No
Length4	Kip, in,				1.0000E-20	No
Rebar Area	Kip, in,				1.0000E-20	No
Rebar Area/Length	in2/f				1.0000E-20	No
Displacements						
Translational Displ	Kip, in,				1.0000E-20	No
Rotational Displ					1.0000E-20	No
Forces						
Force	Kip, ft,				1.0000E-20	No
Force/Length	Kip, ft, F	kip/ft	3	2	1.0000E-20	No
Force/Area	lb, ft, F	lb/ft2	2	2	1.0000E-20	No
Moment	Kip, ft, F	kip-ft	4	2	1.0000E-20	No
Moment/Length	Kip, ft, F	kip-ft/ft	4	2	1.0000E-20	No
Temperature Change	Kip, in, F	F	3	2	1.0000E-20	No
Stresses						
Stress Input	Kip, in, F	kip/in2	3	2	1.0000E-20	No
Stress Output	Kip, in, F	kip/in2	4	2	1.0000E-20	No
Stiffness						

Bước 2 Khai báo hệ lưới trục theo phương X và Y

Hiệu chỉnh khoảng cách giữa các đường lưới theo kiểu Spacing

Hiệu chỉnh chiều cao tầng : Storey Height Below

Coordinate System

Edit

Coordinate System Name: GLOBAL

Display Grid Data as: Ordinates / Spacing

X Grid Data

Grid ID	X Ordinate (m)	Visibility	Bubble Loc
	-1.5	Show	End
A	0	Show	End
	4	Show	End
	5	Show	End
B	9	Show	End
C	18	Show	End

Y Grid Data

Grid ID	Y Ordinate (m)	Visibility	Bubble Loc
	-1.5	Show	Start
1	0	Show	Start
	4	Show	Start
2	8	Show	Start
	12	Show	Start
3	16	Show	Start

Options

Hide All Grid Lines

Bubble Size: 1.25 m

Grid Color

Reorder Ordinates

Model Datum: 0 m

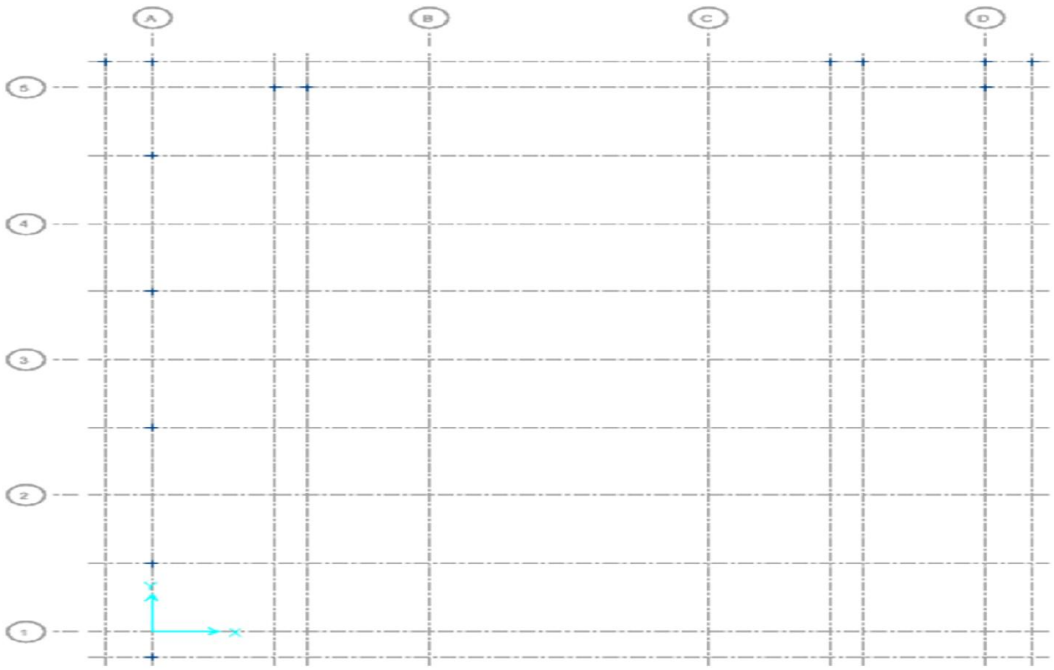
Story Height Above: 0 m

Story Height Below: 3 m

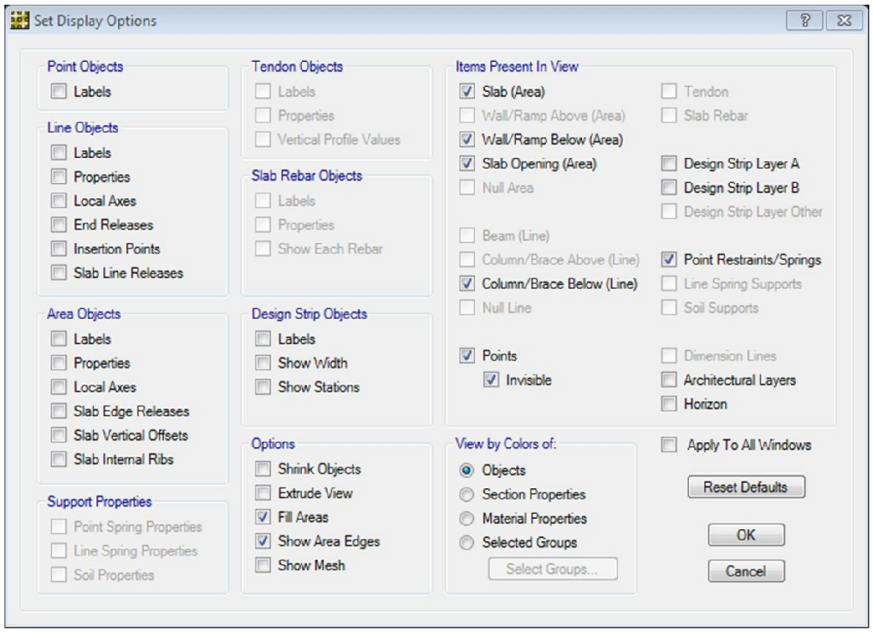
General Grid Data

Grid ID	X1 (m)	Y1 (m)	X2 (m)	Y2 (m)	Visibility	Bubble Loc

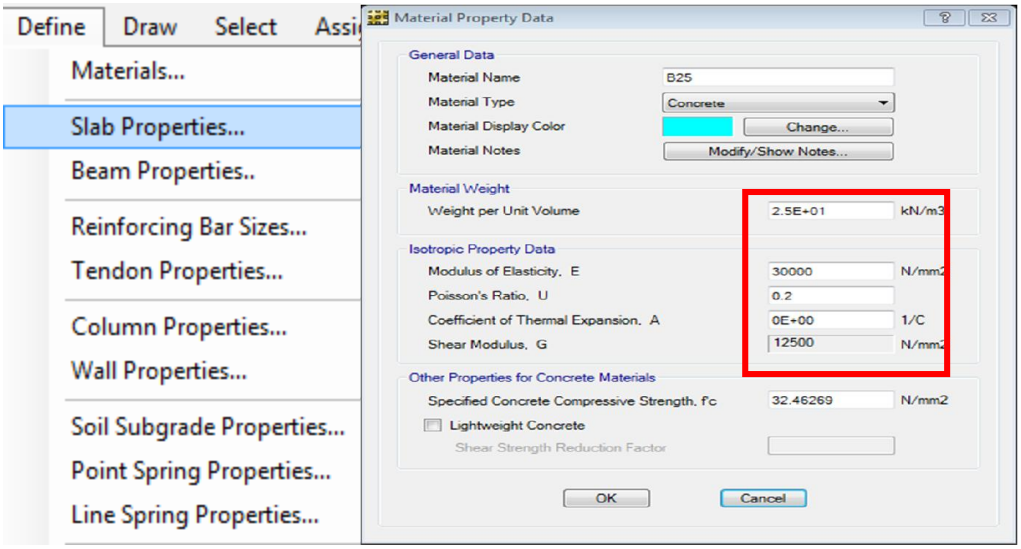
OK Cancel



Chọn Set display option, bỏ chọn Horizon

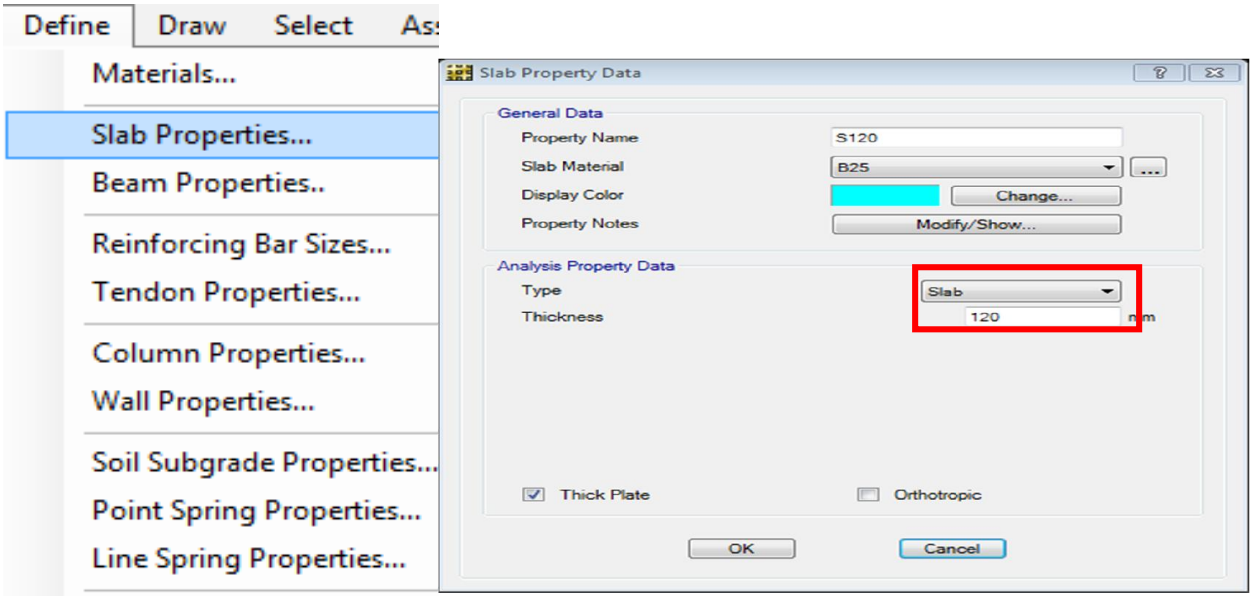


Bước 3 Khai báo vật liệu

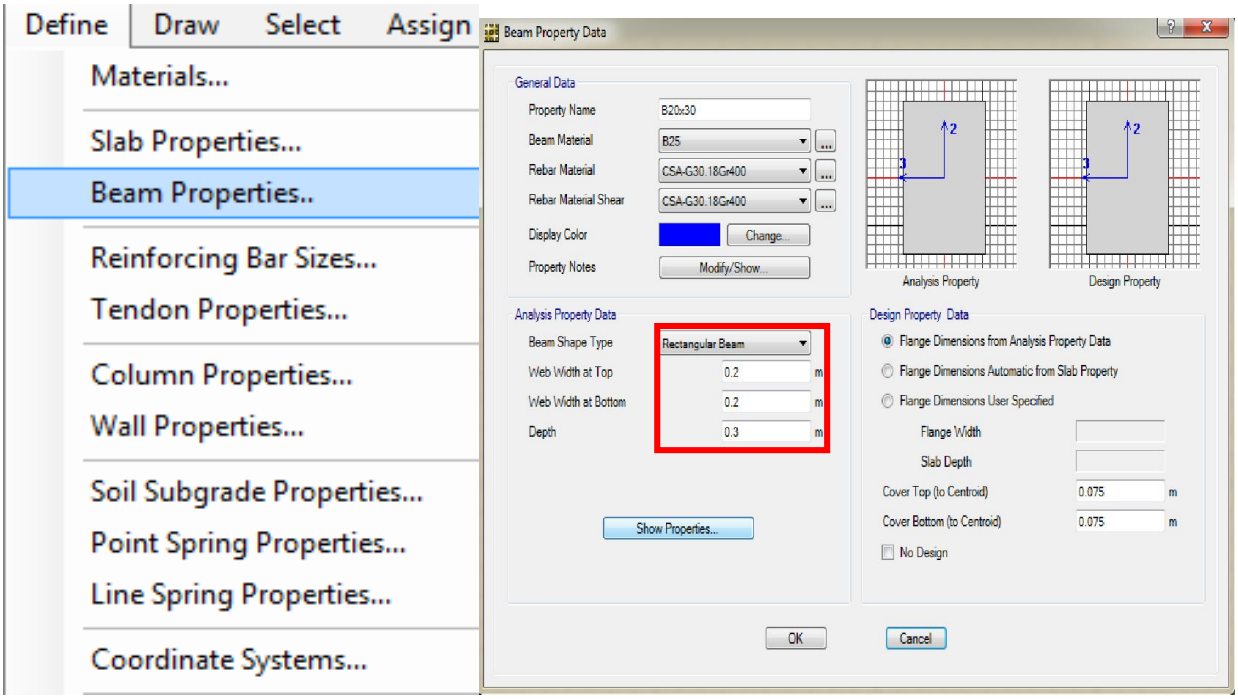


Bước 4 Khai báo tiết diện

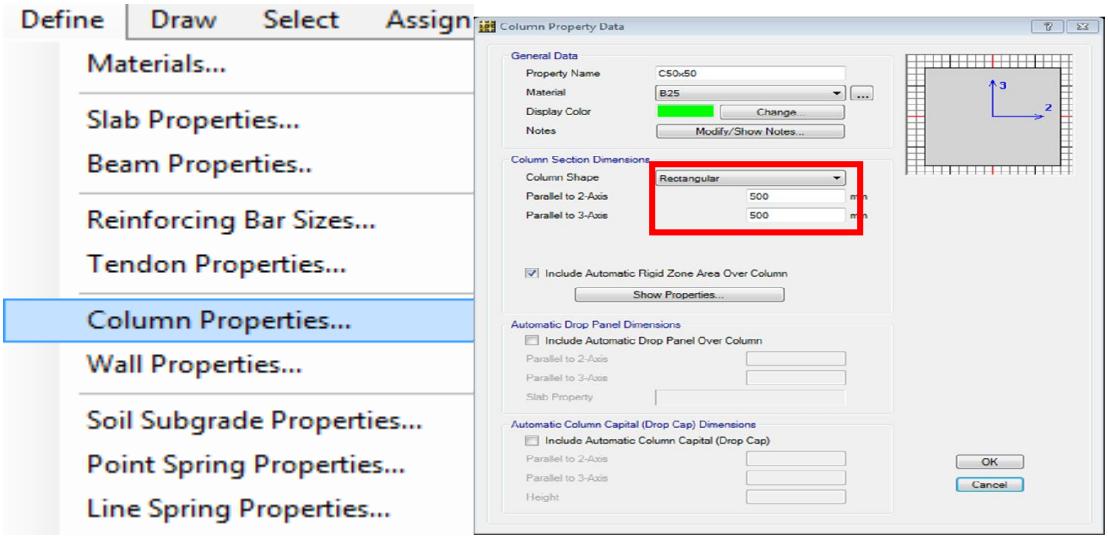
1. **Sàn**


Define
Draw
Select
Materials...
Slab Properties...
Beam Properties..
Reinforcing Bar Sizes...
Tendon Properties...
Column Properties...
Wall Properties...
Soil Subgrade Properties...
Point Spring Properties...
Line Spring Properties...
Slab Property Data
General Data
Property Name
S120
Slab Material
B25
Display Color
Change...
Property Notes
Modify/Show...
Analysis Property Data
Type
Slab
Thickness
120
Thick Plate
Orthotropic
OK
Cancel

2. Dầm

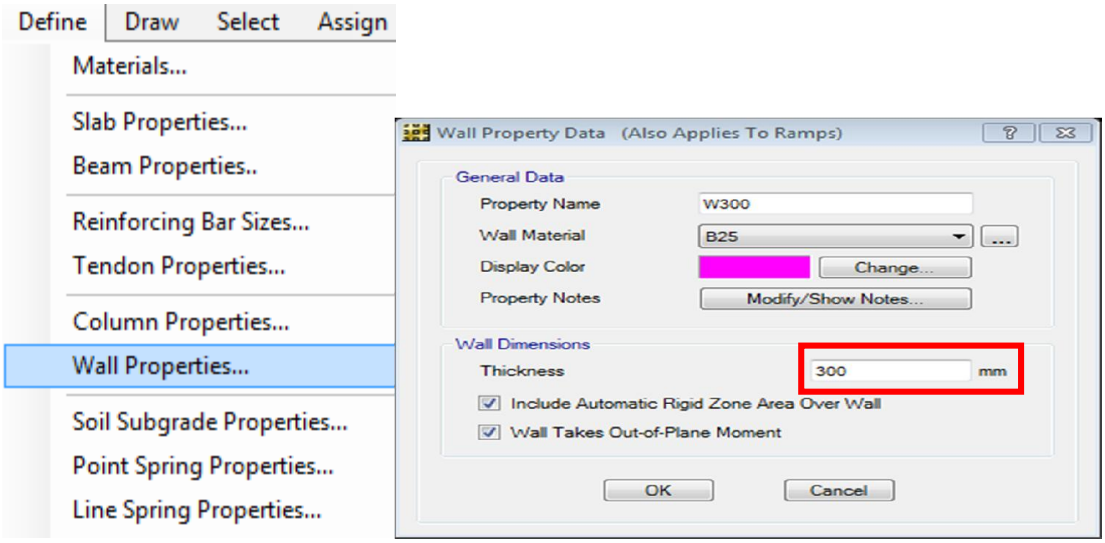

Define
Draw
Select
Assign
Materials...
Slab Properties...
Beam Properties..
Reinforcing Bar Sizes...
Tendon Properties...
Column Properties...
Wall Properties...
Soil Subgrade Properties...
Point Spring Properties...
Line Spring Properties...
Coordinate Systems...
Beam Property Data
General Data
Property Name
B20x30
Beam Material
B25
Rebar Material
CSA-G30.18Gr400
Rebar Material Shear
CSA-G30.18Gr400
Display Color
Change...
Property Notes
Modify/Show...
Analysis Property
Design Property
Analysis Property Data
Beam Shape Type
Rectangular Beam
Web Width at Top
0.2
Web Width at Bottom
0.2
Depth
0.3
Show Properties...
Design Property Data
Flange Dimensions from Analysis Property Data
Flange Dimensions Automatic from Slab Property
Flange Dimensions User Specified
Flange Width
Slab Depth
Cover Top (to Centroid)
0.075
Cover Bottom (to Centroid)
0.075
No Design
OK
Cancel

3. Cột

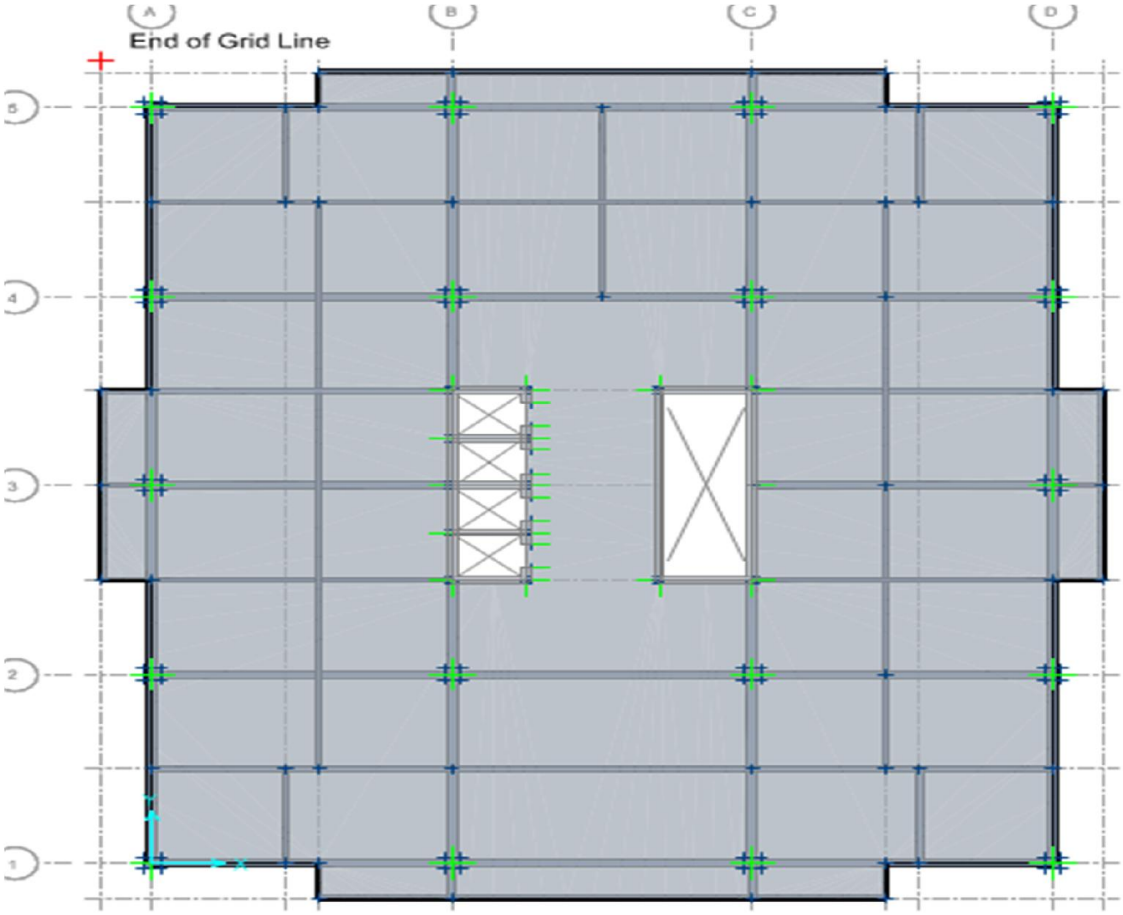


Cột (Chọn Include Automatic Rigid Zone Area Over Column)

4. Vách

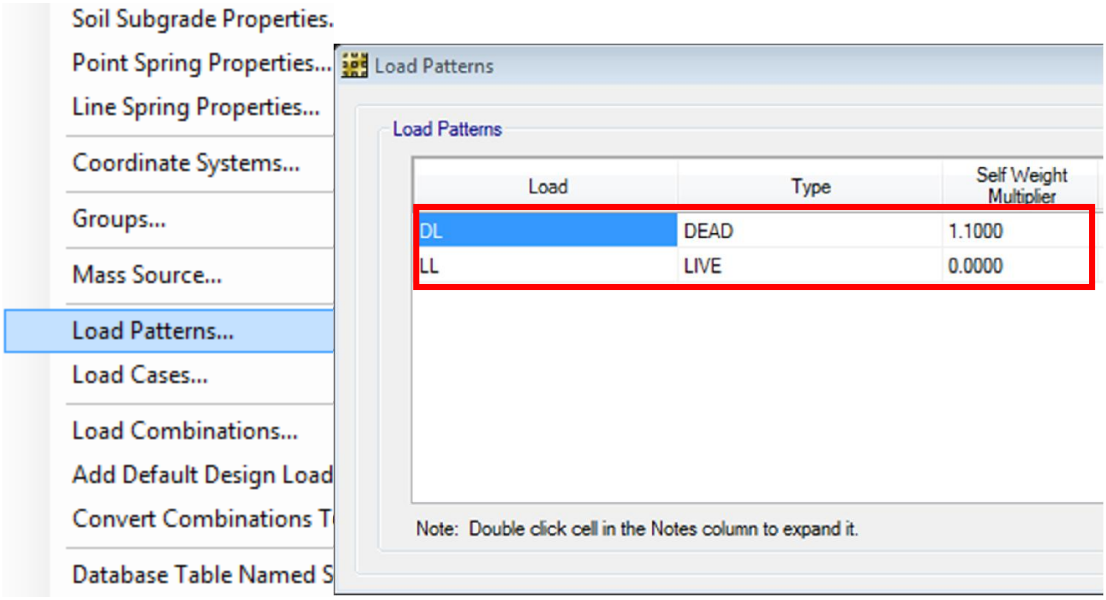


Bước 5 Mô hình sàn

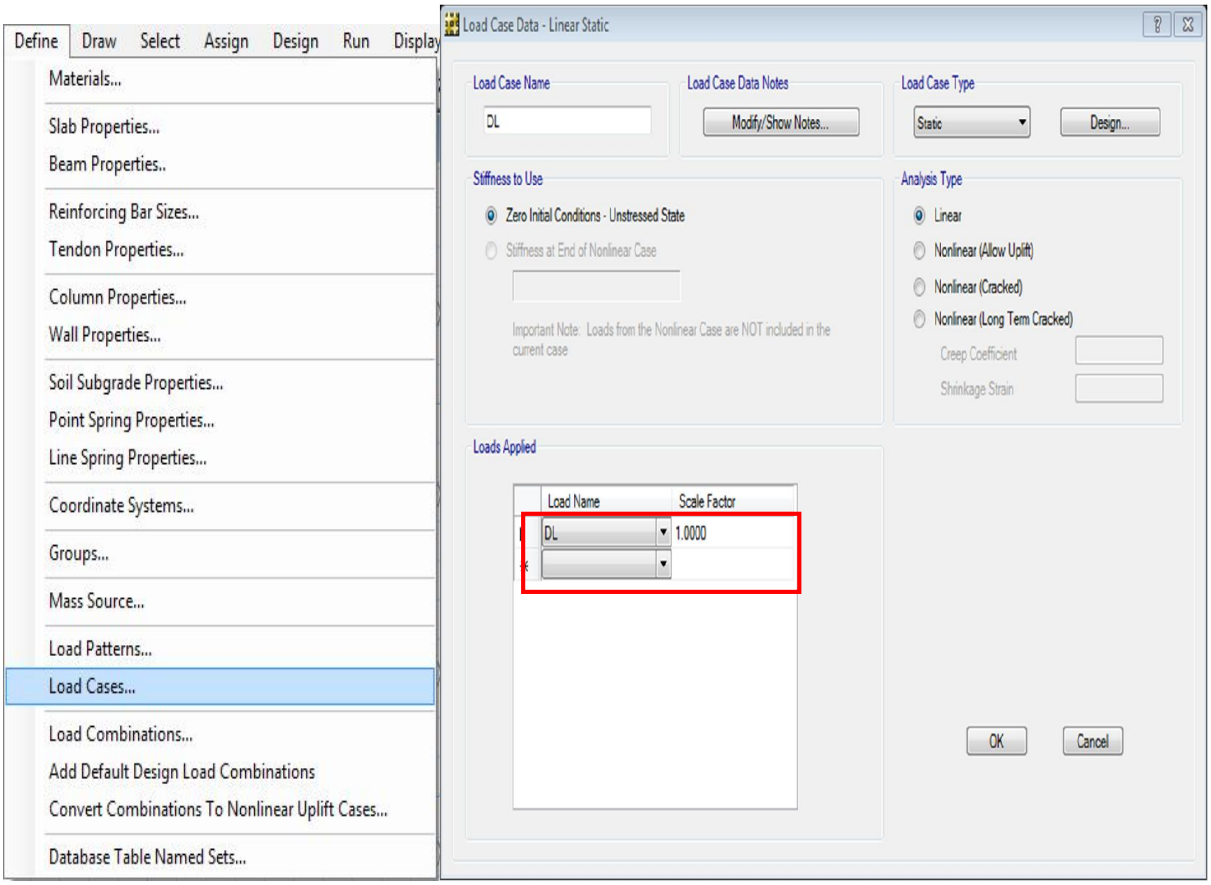


Bước 6 Gián tải trọng

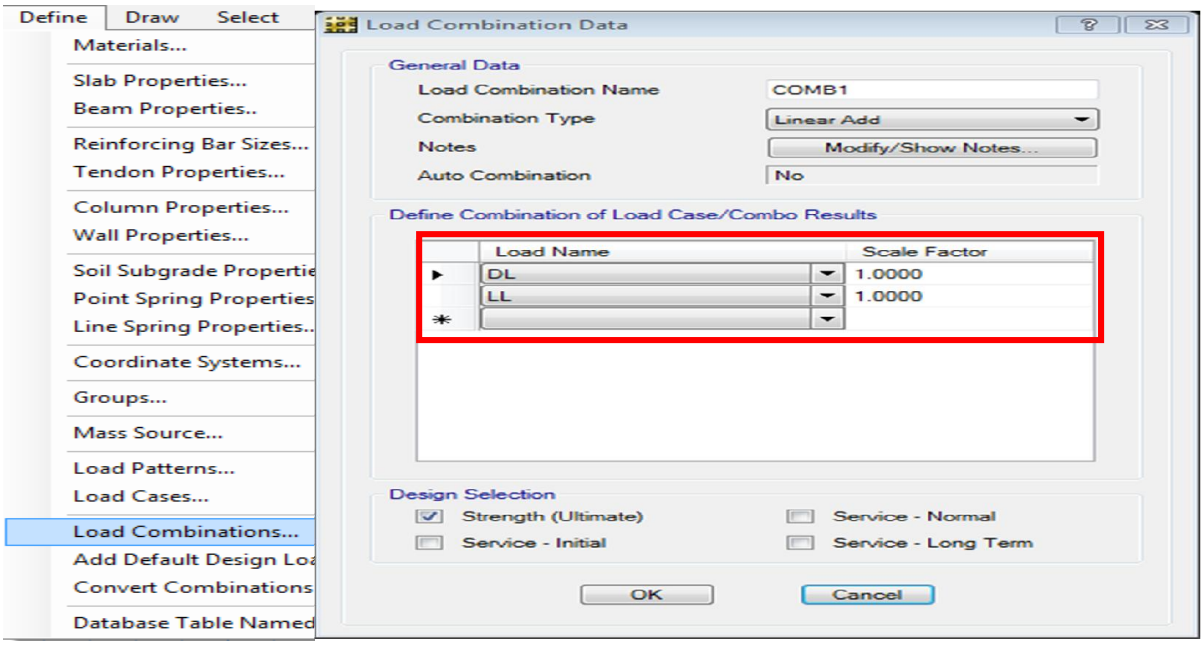
Khai báo tải bản thân



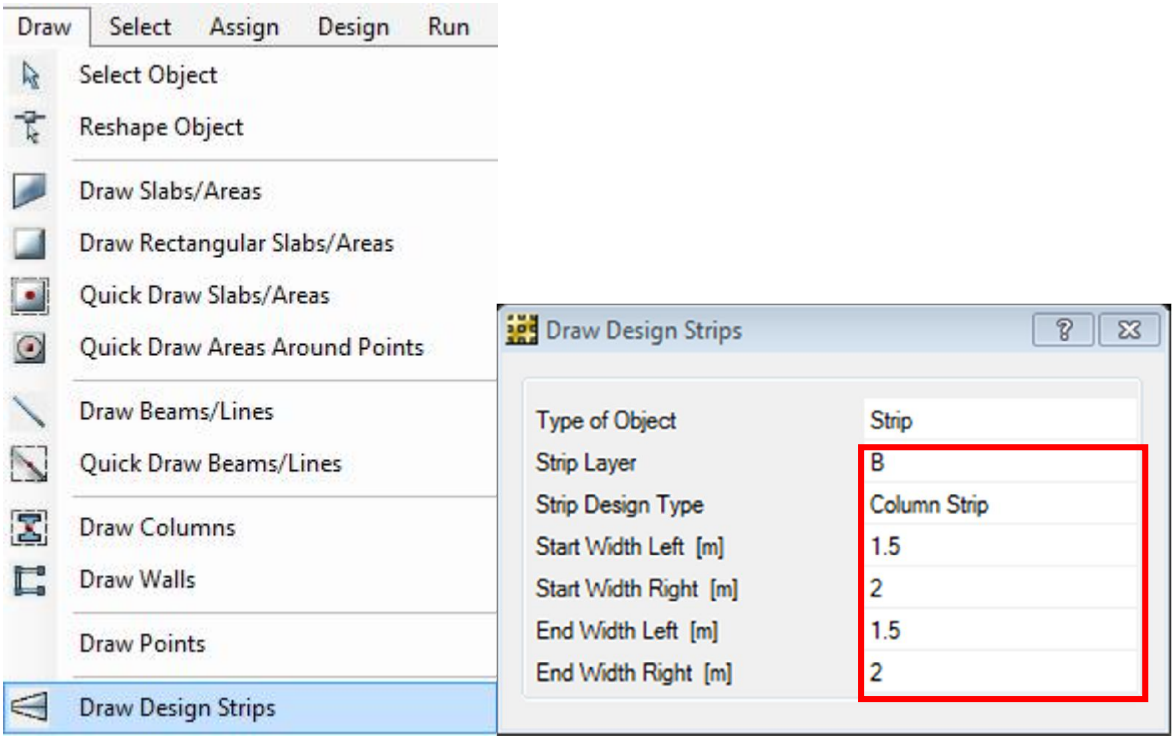
Trường hợp tải trọng

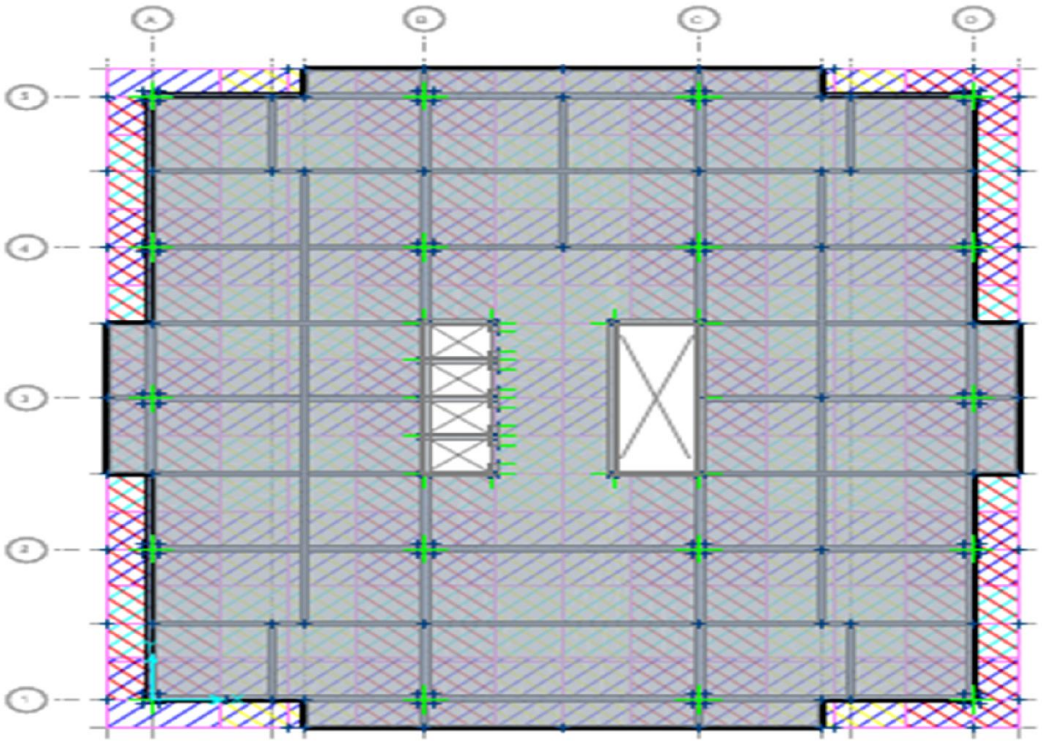


Tổ hợp tải trọng

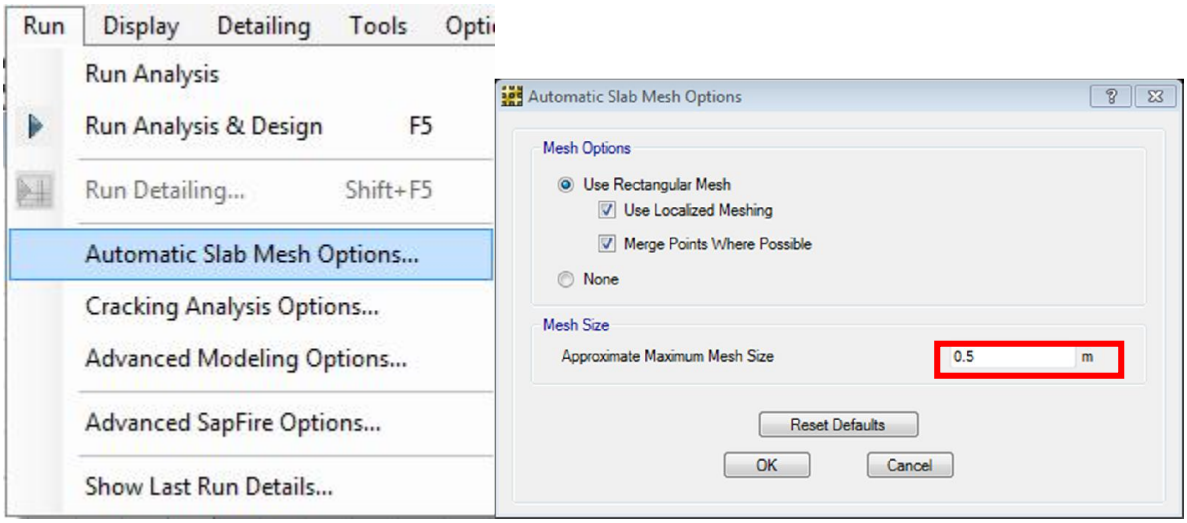


Bước 7 Chia các dãy trips

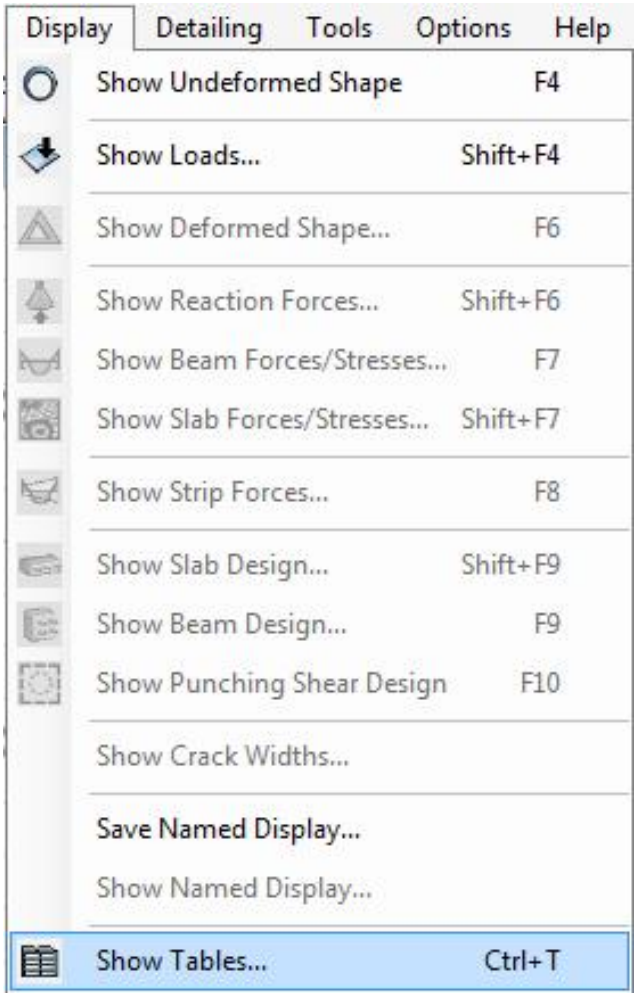


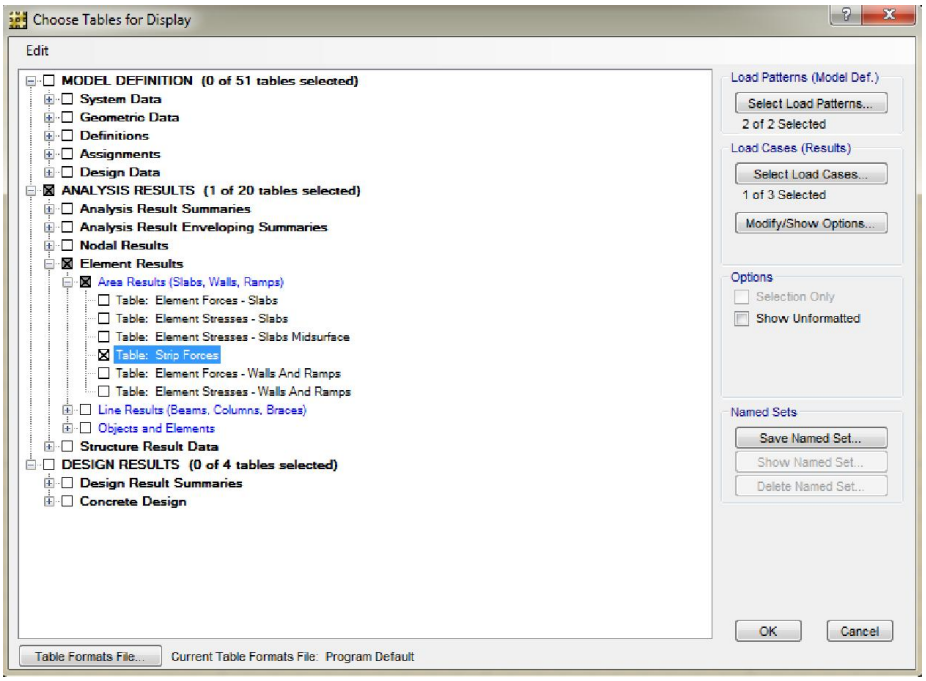


MESH

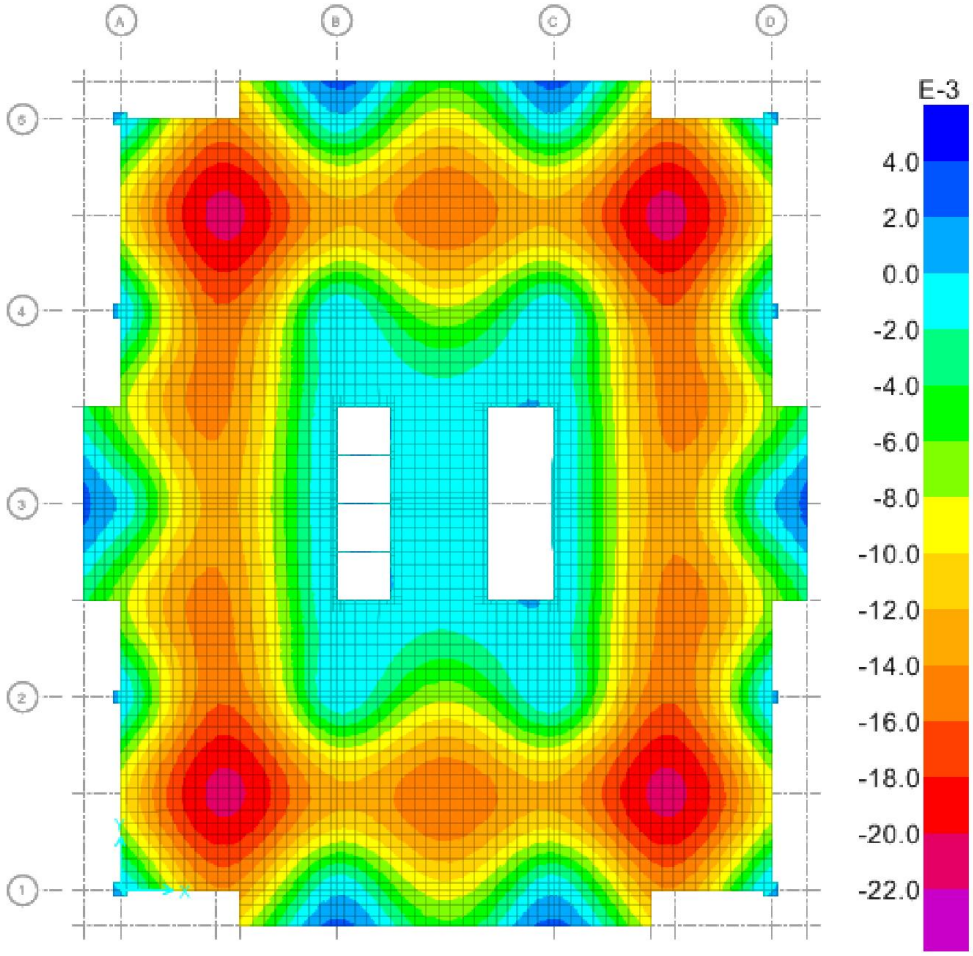


Bước 8 Xuất mô men theo dãy trips

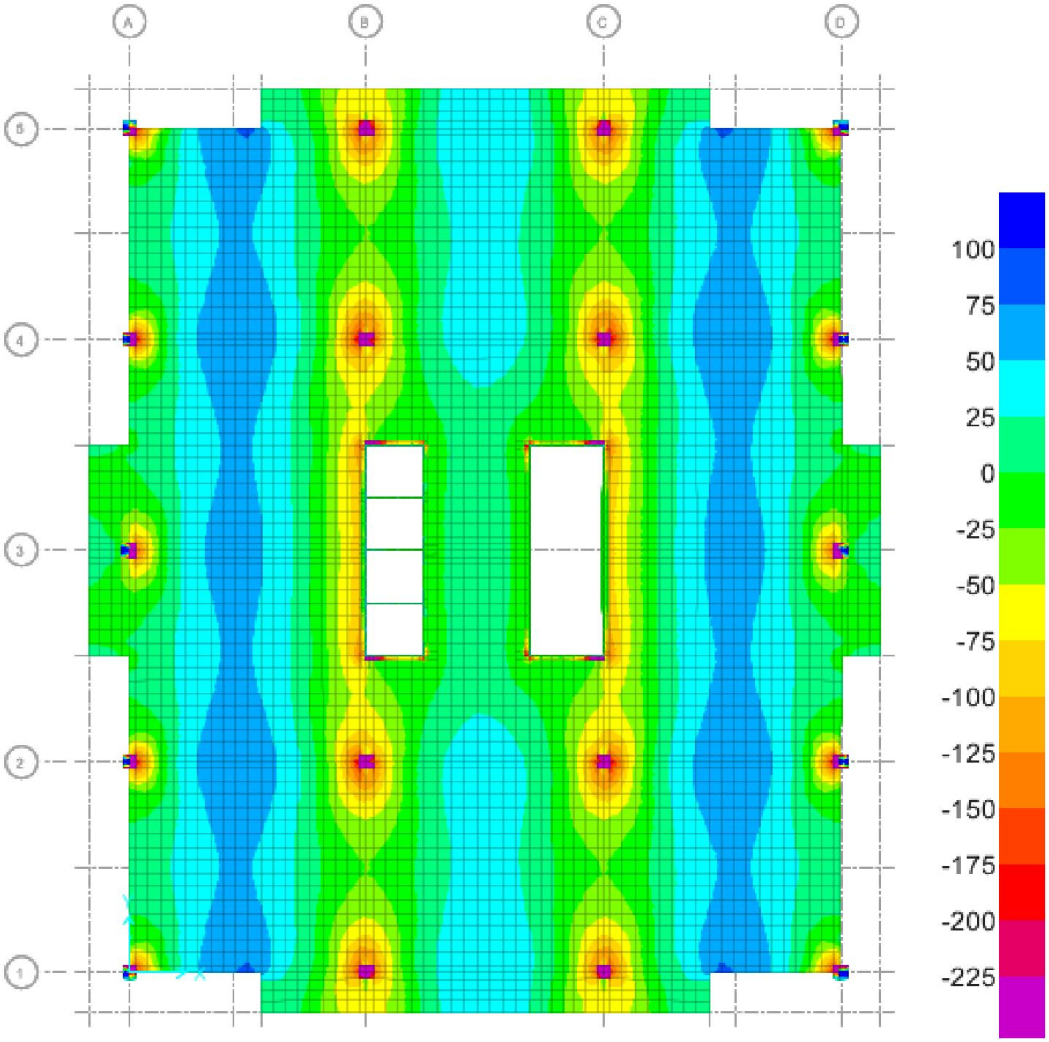




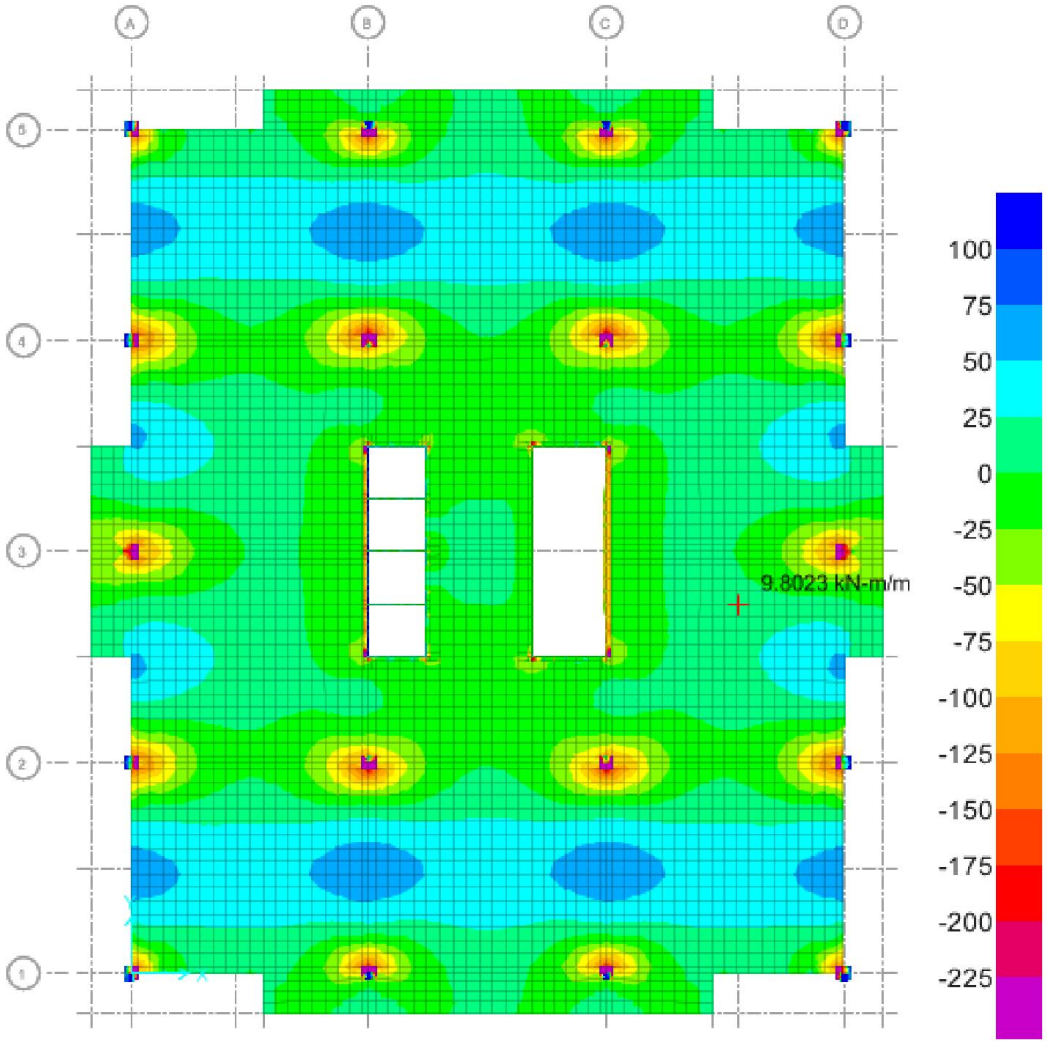
Bước 9 Xuất chuyển vị



a) Mô men phương cạnh ngắn M11(V13)

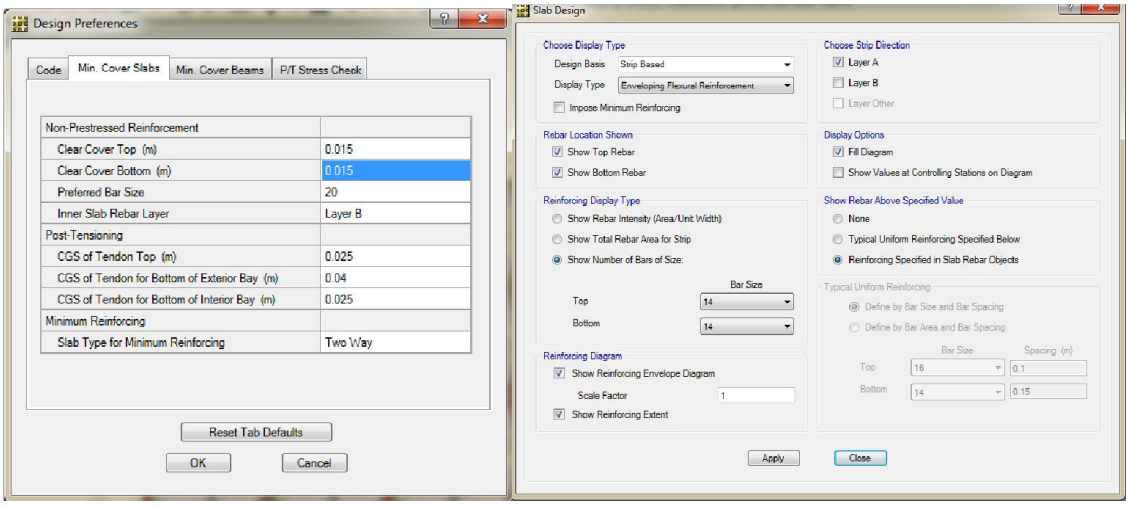


b) Mô men phương cạnh dài M22(V23)

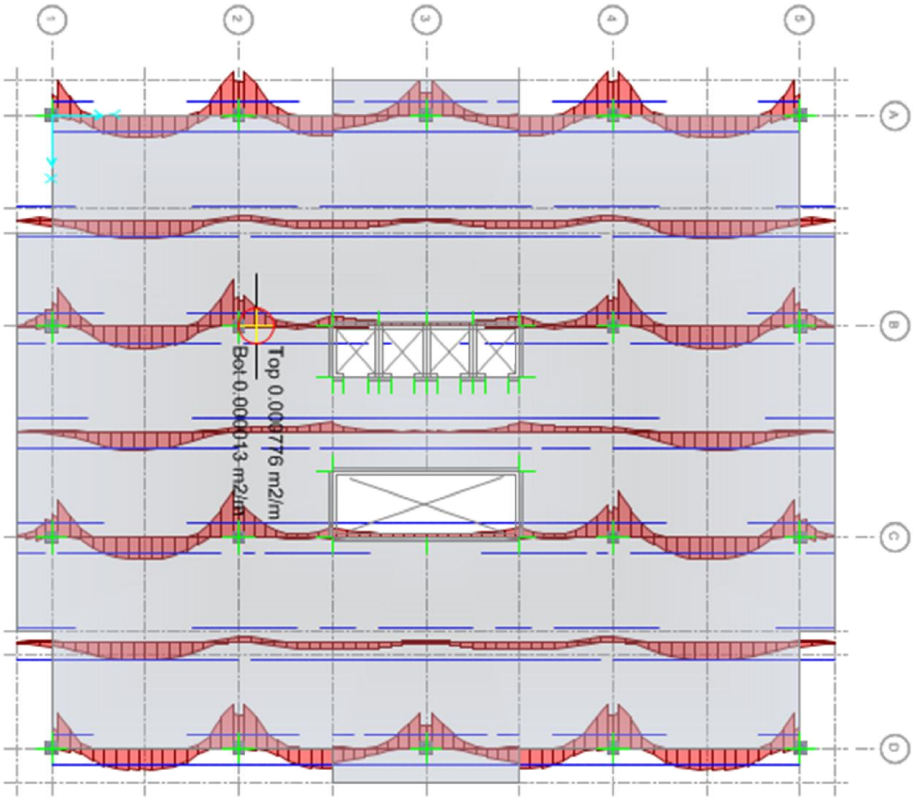


Bước 10 Xem bố trí thép trong sàn

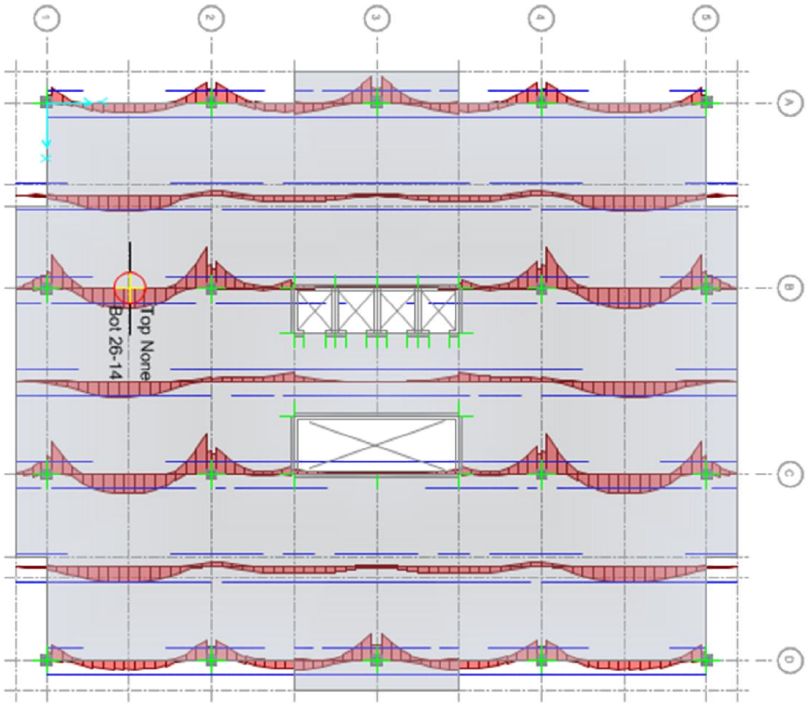
Nhập a bảo vệ và đường kính thép



Xem theo diện tích thép trên m dài



Nhập số lượng diện tích thép theo số cây trên dãy



Kiểm tra diện tích thép