

Company: Company

Project: IE HECTOR MANUEL VIDES BALLESTEROS (MÓDULO 8)

File: C:\IE REGIDOR\MOD8.rcb

Engineer: Name

10:11:54 a. m. 27/06/2025

GENERAL INPUT DATA

Structure type: Three-Dimensional Frame Structure
 Number of Floor Grids = 1
 Building total length = 11.64 m
 Building total width = 8.41 m

STORY INFORMATION

Number of Stories = 1
 Total Frame Height = 3.65 m

Floor	Story Height	Grid No
1	3.65	1
2	-	1

* Story Height in (m)

STRUCTURAL GRID INFORMATION**GRID No 1**

Grid Point	X	Y
R-1'	0.00	0.00
A'-1'	0.00	2.10
B'-1'	0.00	4.20
C'-1'	0.00	6.30
Q-1'	0.00	8.41
R-7	2.24	0.00
A'-7	2.24	2.10
B'-7	2.24	4.20
C'-7	2.24	6.30
Q-7	2.24	8.41
R:7a	4.26	0.00
A':7a	4.26	2.10
B':7a	4.26	4.20
C':7a	4.26	6.30
Q:7a	4.26	8.41
R:7b	6.28	0.00
A':7b	6.28	2.10
B':7b	6.28	4.20
C':7b	6.28	6.30
Q:7b	6.28	8.41
R:7c	8.30	0.00
A':7c	8.30	2.10
B':7c	8.30	4.20
C':7c	8.30	6.30
Q:7c	8.30	8.41
R-10	10.32	0.00
A'-10	10.32	2.10
B'-10	10.32	4.20
C'-10	10.32	6.30
Q-10	10.32	8.41
R-2'	11.64	0.00
A'-2'	11.64	2.10
B'-2'	11.64	4.20
C'-2'	11.64	6.30
Q-2'	11.64	8.41

* Coordinates X & Y are in (m)

MATERIALS

Number of materials = 2

REINFORCED CONCRETE

Mat	Name	f'c Kg/cm2	fy Kg/cm2	fys1 Kg/cm2	fys2 Kg/cm2	E Kg/cm2	G Kg/cm2	w Kg/m3
1	RConcrete1	210	4200	4200	4200	218540	87430	2400.0
2	RConcrete2	280	4200	4200	4200	252350	100940	2400.0

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f'c: Compressive strength of concrete
 fy: Yield strength of longitudinal reinforcement
 fys1: Yield strength of shear reinforcement, bar sizes $\leq 3/8"$
 fys2: Yield strength of shear reinforcement, bar sizes $> 3/8"$

MEMBER DATA

Total number of members..... = 32
 Number of columns..... = 4
 Number of beams = 32
 Number of braces = 0

COLUMN SECTIONS

Number of prismatic sections = 1

Sec	Name	Shape	b (cm)	h (cm)	tw (cm)	tf (cm)	P1 (cm)	P2 (cm)	A (cm ²)	I2 (cm ⁴)	I3 (cm ⁴)	J (cm ⁴)
1	C-40X40	Rectang	40.00	40.00	-	-	-	-	1600.0	213333	213333	315733

COLUMNS

Column	Story	L (m)	Lu (m)	a (m)	c (m)	Theta (o)	Sec -	Mat -	System -
Q-10	1	3.65	3.13	0.00	0.53	90.0	1	2	G&L
R-10	1	3.65	3.13	0.00	0.53	90.0	1	2	G&L
Q-7	1	3.65	3.13	0.00	0.53	90.0	1	2	G&L
R-7	1	3.65	3.13	0.00	0.53	90.0	1	2	G&L

BEAM SECTIONS

Number of prismatic sections = 3

Sec	Name	Shape	b (cm)	h (cm)	tw (cm)	tf (cm)	P1 (cm)	P2 (cm)	A (cm ²)	I2 (cm ⁴)	I3 (cm ⁴)	J (cm ⁴)
1	VG-30X60	Rectang	30.00	60.00	-	-	-	-	1800.0	540000	135000	369900
2	VG-20X60	Rectang	20.00	60.00	-	-	-	-	1200.0	360000	40000	126400
3	VC-30X45	Rectang	30.00	45.00	-	-	-	-	1350.0	227812	101250	234900

BEAMS

Beam	Floor	L (m)	Lu (m)	a (m)	c (m)	Sec -	Mat -	System -
R(7-10)	1	8.08	7.68	0.20	0.20	3	2	G&L
Q(7-10)	1	8.08	7.68	0.20	0.20	3	2	G&L
R(1'-7)	2	2.24	2.04	0.00	0.20	1	2	G&L
R(7-10)	2	8.08	7.68	0.20	0.20	1	2	G&L
R(10-2')	2	1.32	1.12	0.20	0.00	1	2	G&L
A'(1'-7)	2	2.24	2.09	0.00	0.15	2	2	G
A'(10-2')	2	1.32	1.17	0.15	0.00	2	2	G
B'(1'-7)	2	2.24	2.09	0.00	0.15	2	2	G
B'(10-2')	2	1.32	1.17	0.15	0.00	2	2	G
C'(1'-7)	2	2.24	2.09	0.00	0.15	2	2	G
C'(10-2')	2	1.32	1.17	0.15	0.00	2	2	G
Q(1'-7)	2	2.24	2.04	0.00	0.20	1	2	G&L
Q(7-10)	2	8.08	7.68	0.20	0.20	1	2	G&L
Q(10-2')	2	1.32	1.12	0.20	0.00	1	2	G&L
7(R-Q)	1	8.41	8.01	0.20	0.20	3	2	G&L
10(R-Q)	1	8.41	8.01	0.20	0.20	3	2	G&L

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Beam	Floor	L	Lu	a	c	Sec	Mat	System
1' (R-A')	2	2.10	1.95	0.15	0.00	2	2	G
1' (A'-B')	2	2.10	2.10	0.00	0.00	2	2	G
1' (B'-C')	2	2.10	2.10	0.00	0.00	2	2	G
1' (C'-Q)	2	2.11	1.96	0.00	0.15	2	2	G
7 (R-A')	2	2.10	1.90	0.20	0.00	1	2	G&L
7 (A'-B')	2	2.10	2.10	0.00	0.00	1	2	G&L
7 (B'-C')	2	2.10	2.10	0.00	0.00	1	2	G&L
7 (C'-Q)	2	2.11	1.91	0.00	0.20	1	2	G&L
10 (R-A')	2	2.10	1.90	0.20	0.00	1	2	G&L
10 (A'-B')	2	2.10	2.10	0.00	0.00	1	2	G&L
10 (B'-C')	2	2.10	2.10	0.00	0.00	1	2	G&L
10 (C'-Q)	2	2.11	1.91	0.00	0.20	1	2	G&L
2' (R-A')	2	2.10	1.95	0.15	0.00	2	2	G
2' (A'-B')	2	2.10	2.10	0.00	0.00	2	2	G
2' (B'-C')	2	2.10	2.10	0.00	0.00	2	2	G
2' (C'-Q)	2	2.11	1.96	0.00	0.15	2	2	G

FOUNDATION SOIL PROPERTIES

Number of soil properties = 1

Soil	Name	Pressure Distribution	Allowable gross pres. Pa T/m2	Increase Pa Combinations incl.EQ & WL (%)	MODULUS OF SUBGRADE REACTION Gravity load Analysis, Kg T/m3	Lateral load Analysis, Ks T/m3
1	Soil1	Linear	7.4	33	400.0	400.0

* Values of subgrade reaction are used only on footings with rotations and/or vert-displac. permitted.

FOUNDATION BEAM DATA

Number of foundation beams = 4

FOUNDATION BEAMS

Beam	Floor	L (m)	Lu (m)	a (m)	c (m)	TWidth (m)	Sec -	Mat -	Soil -	System -
R(7-10)	1	8.08	7.68	0.20	0.20	1.00	3	2	1	G&L
Q(7-10)	1	8.08	7.68	0.20	0.20	1.00	3	2	1	G&L
7 (R-Q)	1	8.41	8.01	0.20	0.20	1.00	3	2	1	G&L
10 (R-Q)	1	8.41	8.01	0.20	0.20	1.00	3	2	1	G&L

GROUND SUPPORT DATA

Total number of ground supports = 4

K = Spring constant(ton/cm)

Characteristics for All Degrees of Freedom
Value = K Dash = free C = constrained

Support	Floor	Type	Ux	Uy	Uz	TetX	TetY	TetZ
R-7	1	Fixed	C	C	C	C	C	C
Q-7	1	Fixed	C	C	C	C	C	C
R-10	1	Fixed	C	C	C	C	C	C
Q-10	1	Fixed	C	C	C	C	C	C

SUMMARY OF TOTAL FLOOR LOADS

LOAD CASE 1 : SELFW (D0)

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Floor	Force (ton)			Moment (ton-m)		
	Px	Py	Pz	Mx	My	Mz
2	0.00	0.00	29.45	0.0	0.0	0.0
1	0.00	0.00	7.12	0.0	0.0	0.0
Total	0.00	0.00	36.57	0.0	0.0	0.0

LOAD CASE 2 : DEAD (DL)

Floor	Force (ton)			Moment (ton-m)		
	Px	Py	Pz	Mx	My	Mz
2	0.00	0.00	23.40	0.0	0.0	0.0
1	0.00	0.00	0.00	0.0	0.0	0.0
Total	0.00	0.00	23.40	0.0	0.0	0.0

LOAD CASE 3 : ROOF L (RFL)

Floor	Force (ton)			Moment (ton-m)		
	Px	Py	Pz	Mx	My	Mz
2	0.00	0.00	9.38	0.0	0.0	0.0
1	0.00	0.00	0.00	0.0	0.0	0.0
Total	0.00	0.00	9.38	0.0	0.0	0.0

LOAD CASE 4 : EARTHQUAKE X (EQX) - TYPE : SPECTRAL

Floor	Force (ton)			Acc. Tors. Mom. (ton-m)		
	Px	Py	Pz	Mx	My	Mz
2	37.99	0.00	0.00	0.0	0.0	16.0
1	0.00	0.00	0.00	0.0	0.0	0.0
Total	37.99	0.00	0.00	0.0	0.0	16.0

LOAD CASE 5 : EARTHQUAKE Y (EQY) - TYPE : SPECTRAL

Floor	Force (ton)			Acc. Tors. Mom. (ton-m)		
	Px	Py	Pz	Mx	My	Mz
2	0.00	37.70	0.00	0.0	0.0	22.0
1	0.00	0.00	0.00	0.0	0.0	0.0
Total	0.00	37.70	0.00	0.0	0.0	22.0

LOAD CASE 6 : WIND X (WLX)

Floor	Force (ton)			Moment (ton-m)		
	Px	Py	Pz	Mx	My	Mz
2	1.05	0.00	0.00	0.0	0.0	0.5
1	0.00	0.00	0.00	0.0	0.0	0.0
Total	1.05	0.00	0.00	0.0	0.0	0.5

LOAD CASE 7 : WIND Y (WLY)

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Floor	Force (ton)			Moment (ton-m)		
	Px	Py	Pz	Mx	My	Mz
2	0.00	1.53	0.00	0.0	0.0	0.9
1	0.00	1.07	0.00	0.0	0.0	0.0
Total	0.00	2.60	0.00	0.0	0.0	0.9

SUMMARY QUANTITY OF MATERIALS

COLUMNS

Item	Section	Material	Length m	Weight/Len ton/m	Total Weight ton
1	C-40X40	RConcrete2	12.50	0.384	4.80
TOTAL =					4.80

BEAMS

Item	Section	Material	Length m	Weight/Len ton/m	Total Weight ton
1	VG-30X60	RConcrete2	38.90	0.432	16.80
2	VG-20X60	RConcrete2	26.75	0.288	7.70
TOTAL =					24.51

FOUNDATION BEAMS

Item	Section	Material	Length m	Weight/Len ton/m	Total Weight ton
1	VC-30X45	RConcrete2	32.18	0.324	10.43
TOTAL =					10.43

SLABS

Item	Section	Material	Area m²	Weight/Area ton/m²	Total Weight ton
1	Cubierta Plana w =2.4		29.94	0.300	8.98
2	Cubierta Liviana w =2.4		67.95	0.024	1.63
TOTAL =					10.61