VERSIÓN 3.0

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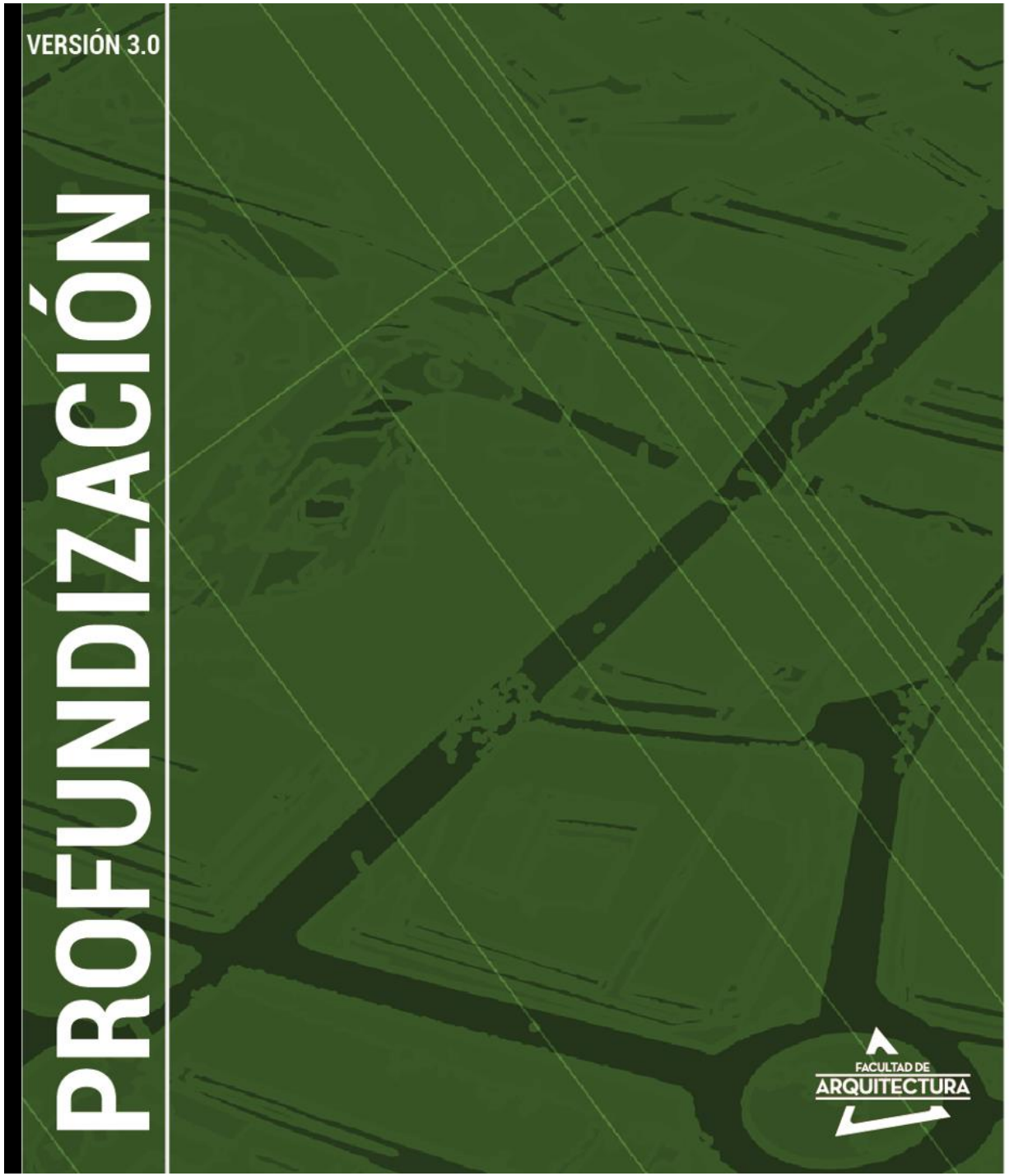


FACULTAD DE ARQUITECTURA

CÁLCULO ESTRUCTURAL

NÚCLEO III
PROFUNDIZACIÓN

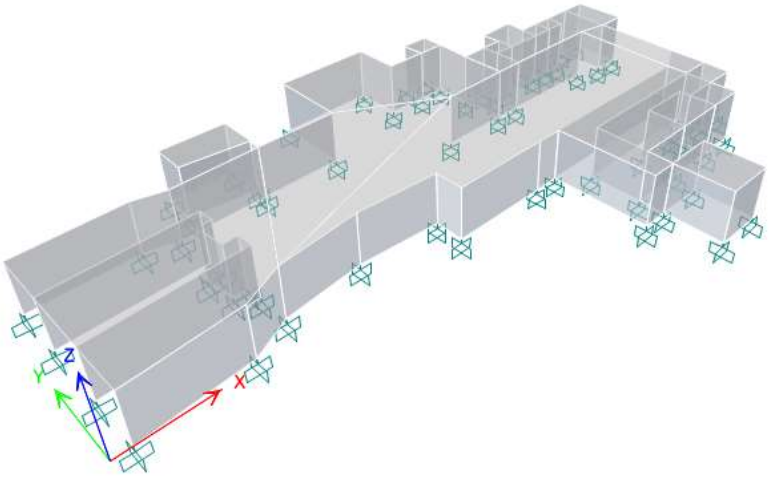
UNIVERSIDAD La Gran Colombia

PROPUESTA PARA EL DISEÑO E IMPLEMENTACIÓN DE UNA PLANTA PROCESADORA DE TRUCHA PARA LA PARCIALIDAD INDÍGENA DE LA COMUNIDAD DE LA VIRGINIA EN EL CORREGIMIENTO DE AMOYÁ, DEL PUEBLO PIJAO, MUNICIPIO DE CHAPARRAL EN EL TOLIMA.

La documentación aquí presentada hace parte del proceso de investigación, en el que se recibieron asesorías con personal profesional especialista en los temas específicos requeridos para el desarrollo de la propuesta a nivel académico, tales como: urbanismo, industrialización, estructuras, arquitectura, entre otros, que ayudaron a obtener los resultados finales para solucionar la problemática existente desde la academia.

La información aquí suministrada solo podrá ser utilizada dentro del ámbito académico y como parte del proceso de seguimiento de la labor de investigación desarrollada, por tal motivo se aclara que no debe ser tomada como ejemplo ni implementada en ninguna otra circunstancia, espacio, motivo o razón. En el caso de que alguien se interese en hacer realidad el proyecto aquí presentado y decida construir el diseño resultado del proyecto de investigación, deberá realizar los estudios técnicos previos en cuanto a sistema estructural, proyección arquitectónica, estudio de suelos y demás requisitos necesarios para las entidades pertinentes.

ETABS®



Project Report

Model File: PLANTA, Revision 0
24/05/2023

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1 Structure Data

This chapter provides model geometry information, including items such as story levels, point coordinates, and element connectivity.

1.1 Story Data

Table 1.1 - Story Definitions

Tower	Name	Height m	Master Story	Similar To	Splice Story	Color
T1	CUBIERTA	5,5	No	None	No	Gray8Dark

1.2 Grid Data

Table 1.2 - Grid Definitions - General

Tower	Name	Type	Ux m	Uy m	Rz deg	Story Range	Bubble Size mm	Color
T1	G1	Cartesian	0	0	0	Default	800	Gray6

Table 1.3 - Grid Definitions - Grid Lines

Name	Grid Line Type	ID	Ordinate m	Bubble Location	Visible
G1	X (Cartesian)	A	0	End	Yes
G1	X (Cartesian)		1,59	End	Yes
G1	X (Cartesian)		2,14	End	Yes
G1	X (Cartesian)		3,34	End	Yes
G1	X (Cartesian)	B	3,82	End	Yes
G1	X (Cartesian)		4,8	End	Yes
G1	X (Cartesian)		6,09	End	Yes
G1	X (Cartesian)		7,95	End	Yes
G1	X (Cartesian)	C	9,17	End	Yes
G1	X (Cartesian)	D	12,2	End	Yes
G1	X (Cartesian)		12,81	End	Yes
G1	X (Cartesian)		14,45	End	Yes
G1	X (Cartesian)	E	15,08	End	Yes
G1	Y (Cartesian)	1	0	Start	Yes
G1	Y (Cartesian)	2	2,8	Start	Yes

1.3 Point Coordinates

Table 1.4 - Point Bays

Label	Is Auto Point	X m	Y m	DZBelow m
1	No	55,5155	14,5351	0
2	Yes	41,3248	7,234	0
3	No	11,8898	0,7202	0
4	No	15,9003	2,5903	0
5	No	24,1051	3,4527	0
6	No	32,6477	2,8826	0
7	No	32,6477	-0,1674	0

Table 1.4 - Point Bays (continued)

Label	Is Auto Point	X m	Y m	DZBelow m
8	No	42,9572	-0,0736	0
9	No	63,7572	-0,0736	0
10	No	63,7572	-7,9736	0
11	No	48,4072	-7,9736	0
12	No	48,4072	-16,6736	0
13	No	53,5072	-16,6736	0
14	No	53,5072	-10,6236	0
15	No	32,7955	25,3301	0
16	No	48,4072	-10,6486	0
17	No	45,6072	-10,6486	0
19	No	45,6322	-0,0736	0
20	No	42,9705	25,3301	0
21	No	42,9705	20,3301	0
22	No	47,3205	20,3301	0
23	No	47,3205	22,9551	0
24	No	50,2205	22,9551	0
25	No	48,4072	-2,3786	0
26	No	63,7572	-2,3786	0
28	No	50,2205	20,3301	0
29	No	50,2205	16,4051	0
30	No	55,5155	16,4101	0
31	No	50,2205	11,5051	0
32	No	1,59	0	0
33	No	42,9705	11,5051	0
34	No	53,1155	11,5051	0
35	No	53,1155	14,5351	0
36	No	59,5405	14,5351	0
37	No	53,1155	16,4101	0
38	No	59,5405	18,6351	0
39	No	63,9655	11,5051	0
41	No	55,5055	18,6351	0
42	No	54,5072	-7,9736	0
43	No	54,5072	-3,9486	0
44	No	59,9072	-3,9486	0
45	No	67,05	16,395	0
46	No	59,9072	-7,9736	0
47	No	59,9072	-5,1536	0
48	No	63,7672	-5,1536	0
49	No	67,0572	-2,3786	0
50	No	67,0672	-5,1536	0
51	No	67,0572	1,7464	0
52	No	1,59	5,325	0
53	No	59,54	16,395	0
54	No	61,88	16,395	0
55	No	15,8954	6,0747	0

Table 1.4 - Point Bays (continued)

Label	Is Auto Point	X m	Y m	DZBelow m
56	No	15,7537	7,6935	0
57	No	14,3093	7,5672	0
58	No	13,9662	10,7896	0
59	No	63,965	16,395	0
60	No	69,955	16,395	0
61	No	15,4376	10,8925	0
62	No	15,2938	12,5362	0
63	No	63,965	14,515	0
64	No	1,5772	12,0572	0
65	No	1,5772	17,4322	0
66	No	11,8959	17,7925	0
67	No	15,1318	16,9255	0
68	No	61,88	14,525	0
70	No	24,1054	17,0821	0
71	No	24,2405	18,6262	0
72	No	17,4031	19,3449	0
73	No	17,4031	22,8199	0
74	No	24,2531	22,8199	0
76	No	32,6541	17,2313	0
78	No	69,955	10,795	0
80	No	67,045	10,795	0

1.4 Area Connectivity

Table 1.5 - Floor Bays

Label	NumPoints	PointNumber	PointBay
F1	9	1	32
F1		2	52
F1		3	64
F1		4	65
F1		5	66
F1		6	67
F1		7	70
F1		8	4
F1		9	3
F2	4	1	73
F2		2	72
F2		3	71
F2		4	74
F3	21	1	4
F3		2	5
F3		3	6
F3		4	7
F3		5	8
F3		6	19
F3		7	17

Table 1.5 - Floor Bays (continued)

Label	NumPoints	PointNumber	PointBay
F3		8	16
F3		9	11
F3		10	42
F3		11	46
F3		12	10
F3		13	48
F3		14	50
F3		15	49
F3		16	26
F3		17	9
F3		18	39
F3		19	34
F3		20	31
F3		21	33
F5	5	1	39
F5		2	80
F5		3	51
F5		4	49
F5		5	26
F6	4	1	4
F6		2	33
F6		3	76
F6		4	70
F7	9	1	76
F7		2	15
F7		3	20
F7		4	21
F7		5	22
F7		6	28
F7		7	29
F7		8	31
F7		9	33
F8	4	1	22
F8		2	28
F8		3	24
F8		4	23
F9	15	1	29
F9		2	37
F9		3	30
F9		4	41
F9		5	38
F9		6	53
F9		7	54
F9		8	59
F9		9	45
F9		10	60

Table 1.5 - Floor Bays (continued)

Label	NumPoints	PointNumber	PointBay
F9		11	78
F9		12	80
F9		13	39
F9		14	34
F9		15	31
F10	4	1	12
F10		2	13
F10		3	14
F10		4	16

Table 1.6 - Wall Bays

Label	NumPoints	PointNumber	PointBay	PointStory
W1	4	1	32	Below
W1		2	3	Below
W1		3	3	Same
W1		4	32	Same
W2	4	1	3	Below
W2		2	4	Below
W2		3	4	Same
W2		4	3	Same
W3	4	1	4	Below
W3		2	5	Below
W3		3	5	Same
W3		4	4	Same
W4	4	1	5	Below
W4		2	6	Below
W4		3	6	Same
W4		4	5	Same
W5	4	1	35	Below
W5		2	1	Below
W5		3	1	Same
W5		4	35	Same
W6	4	1	76	Below
W6		2	15	Below
W6		3	15	Same
W6		4	76	Same
W8	4	1	15	Below
W8		2	20	Below
W8		3	20	Same
W8		4	15	Same
W9	4	1	20	Below
W9		2	21	Below
W9		3	21	Same
W9		4	20	Same
W10	4	1	21	Below
W10		2	22	Below

Table 1.6 - Wall Bays (continued)

Label	NumPoints	PointNumber	PointBay	PointStory
W10		3	22	Same
W10		4	21	Same
W11	4	1	22	Below
W11		2	23	Below
W11		3	23	Same
W11		4	22	Same
W12	4	1	23	Below
W12		2	24	Below
W12		3	24	Same
W12		4	23	Same
W14	4	1	24	Below
W14		2	28	Below
W14		3	28	Same
W14		4	24	Same
W15	4	1	22	Below
W15		2	28	Below
W15		3	28	Same
W15		4	22	Same
W16	4	1	28	Below
W16		2	29	Below
W16		3	29	Same
W16		4	28	Same
W17	4	1	1	Below
W17		2	30	Below
W17		3	30	Same
W17		4	1	Same
W18	4	1	29	Below
W18		2	31	Below
W18		3	31	Same
W18		4	29	Same
W19	4	1	31	Below
W19		2	33	Below
W19		3	33	Same
W19		4	31	Same
W20	4	1	31	Below
W20		2	34	Below
W20		3	34	Same
W20		4	31	Same
W21	4	1	6	Below
W21		2	7	Below
W21		3	7	Same
W21		4	6	Same
W22	4	1	7	Below
W22		2	8	Below
W22		3	8	Same
W22		4	7	Same

Table 1.6 - Wall Bays (continued)

Label	NumPoints	PointNumber	PointBay	PointStory
W23	4	1	34	Below
W23		2	35	Below
W23		3	35	Same
W23		4	34	Same
W24	4	1	30	Below
W24		2	37	Below
W24		3	37	Same
W24		4	30	Same
W25	4	1	35	Below
W25		2	37	Below
W25		3	37	Same
W25		4	35	Same
W26	4	1	37	Below
W26		2	29	Below
W26		3	29	Same
W26		4	37	Same
W27	4	1	12	Below
W27		2	13	Below
W27		3	13	Same
W27		4	12	Same
W28	4	1	13	Below
W28		2	14	Below
W28		3	14	Same
W28		4	13	Same
W29	4	1	1	Below
W29		2	36	Below
W29		3	36	Same
W29		4	1	Same
W30	4	1	11	Below
W30		2	16	Below
W30		3	16	Same
W30		4	11	Same
W31	4	1	12	Below
W31		2	16	Below
W31		3	16	Same
W31		4	12	Same
W32	4	1	16	Below
W32		2	14	Below
W32		3	14	Same
W32		4	16	Same
W33	4	1	16	Below
W33		2	17	Below
W33		3	17	Same
W33		4	16	Same
W34	4	1	34	Below
W34		2	39	Below

Table 1.6 - Wall Bays (continued)

Label	NumPoints	PointNumber	PointBay	PointStory
W34		3	39	Same
W34		4	34	Same
W35	4	1	8	Below
W35		2	19	Below
W35		3	19	Same
W35		4	8	Same
W36	4	1	19	Below
W36		2	9	Below
W36		3	9	Same
W36		4	19	Same
W37	4	1	17	Below
W37		2	19	Below
W37		3	19	Same
W37		4	17	Same
W38	4	1	11	Below
W38		2	25	Below
W38		3	25	Same
W38		4	11	Same
W39	4	1	25	Below
W39		2	26	Below
W39		3	26	Same
W39		4	25	Same
W41	4	1	26	Below
W41		2	9	Below
W41		3	9	Same
W41		4	26	Same
W42	4	1	11	Below
W42		2	42	Below
W42		3	42	Same
W42		4	11	Same
W43	4	1	42	Below
W43		2	43	Below
W43		3	43	Same
W43		4	42	Same
W44	4	1	43	Below
W44		2	44	Below
W44		3	44	Same
W44		4	43	Same
W45	4	1	59	Below
W45		2	45	Below
W45		3	45	Same
W45		4	59	Same
W46	4	1	42	Below
W46		2	46	Below
W46		3	46	Same
W46		4	42	Same

Table 1.6 - Wall Bays (continued)

Label	NumPoints	PointNumber	PointBay	PointStory
W47	4	1	38	Below
W47		2	41	Below
W47		3	41	Same
W47		4	38	Same
W48	4	1	46	Below
W48		2	10	Below
W48		3	10	Same
W48		4	46	Same
W49	4	1	46	Below
W49		2	47	Below
W49		3	47	Same
W49		4	46	Same
W50	4	1	47	Below
W50		2	48	Below
W50		3	48	Same
W50		4	47	Same
W51	4	1	47	Below
W51		2	44	Below
W51		3	44	Same
W51		4	47	Same
W52	4	1	10	Below
W52		2	48	Below
W52		3	48	Same
W52		4	10	Same
W53	4	1	48	Below
W53		2	26	Below
W53		3	26	Same
W53		4	48	Same
W54	4	1	26	Below
W54		2	49	Below
W54		3	49	Same
W54		4	26	Same
W55	4	1	48	Below
W55		2	50	Below
W55		3	50	Same
W55		4	48	Same
W56	4	1	50	Below
W56		2	49	Below
W56		3	49	Same
W56		4	50	Same
W57	4	1	49	Below
W57		2	51	Below
W57		3	51	Same
W57		4	49	Same
W58	4	1	30	Below
W58		2	41	Below

Table 1.6 - Wall Bays (continued)

Label	NumPoints	PointNumber	PointBay	PointStory
W58		3	41	Same
W58		4	30	Same
W59	4	1	45	Below
W59		2	60	Below
W59		3	60	Same
W59		4	45	Same
W60	4	1	53	Below
W60		2	54	Below
W60		3	54	Same
W60		4	53	Same
W61	4	1	52	Below
W61		2	55	Below
W61		3	55	Same
W61		4	52	Same
W62	4	1	55	Below
W62		2	56	Below
W62		3	56	Same
W62		4	55	Same
W63	4	1	56	Below
W63		2	57	Below
W63		3	57	Same
W63		4	56	Same
W64	4	1	57	Below
W64		2	58	Below
W64		3	58	Same
W64		4	57	Same
W65	4	1	54	Below
W65		2	59	Below
W65		3	59	Same
W65		4	54	Same
W66	4	1	36	Below
W66		2	53	Below
W66		3	53	Same
W66		4	36	Same
W67	4	1	58	Below
W67		2	61	Below
W67		3	61	Same
W67		4	58	Same
W68	4	1	61	Below
W68		2	62	Below
W68		3	62	Same
W68		4	61	Same
W69	4	1	53	Below
W69		2	38	Below
W69		3	38	Same
W69		4	53	Same

Table 1.6 - Wall Bays (continued)

Label	NumPoints	PointNumber	PointBay	PointStory
W70	4	1	62	Below
W70		2	64	Below
W70		3	64	Same
W70		4	62	Same
W72	4	1	65	Below
W72		2	66	Below
W72		3	66	Same
W72		4	65	Same
W73	4	1	66	Below
W73		2	67	Below
W73		3	67	Same
W73		4	66	Same
W74	4	1	59	Below
W74		2	63	Below
W74		3	63	Same
W74		4	59	Same
W75	4	1	54	Below
W75		2	68	Below
W75		3	68	Same
W75		4	54	Same
W76	4	1	67	Below
W76		2	70	Below
W76		3	70	Same
W76		4	67	Same
W77	4	1	70	Below
W77		2	71	Below
W77		3	71	Same
W77		4	70	Same
W78	4	1	71	Below
W78		2	72	Below
W78		3	72	Same
W78		4	71	Same
W79	4	1	72	Below
W79		2	73	Below
W79		3	73	Same
W79		4	72	Same
W80	4	1	73	Below
W80		2	74	Below
W80		3	74	Same
W80		4	73	Same
W81	4	1	74	Below
W81		2	71	Below
W81		3	71	Same
W81		4	74	Same
W82	4	1	36	Below
W82		2	68	Below

Table 1.6 - Wall Bays (continued)

Label	NumPoints	PointNumber	PointBay	PointStory
W82		3	68	Same
W82		4	36	Same
W83	4	1	70	Below
W83		2	76	Below
W83		3	76	Same
W83		4	70	Same
W84	4	1	68	Below
W84		2	63	Below
W84		3	63	Same
W84		4	68	Same
W88	4	1	60	Below
W88		2	78	Below
W88		3	78	Same
W88		4	60	Same
W90	4	1	78	Below
W90		2	80	Below
W90		3	80	Same
W90		4	78	Same
W91	4	1	80	Below
W91		2	45	Below
W91		3	45	Same
W91		4	80	Same

1.5 Mass

Table 1.7 - Mass Source Definition

Name	Is Default	Include Lateral Mass?	Include Vertical Mass?	Lump Mass?	Source Self Mass?	Source Added Mass?	Source Load Patterns?	Move Mass Centroid?	Load Pattern	Multiplier
MsSrc1	Yes	Yes	No	Yes	No	No	Yes	No	Peso Propio	1
MsSrc1									Adicional	1

Table 1.8 - Centers Of Mass And Rigidity

Story	Diaphragm	Mass X kg	Mass Y kg	XCM m	YCM m	Cum Mass X kg	Cum Mass Y kg	XCCM m	YCCM m	XCR m	YCR m
CUBIERTA	D1	725714,81	725714,81	41,3248	7,234	725714,81	725714,81	41,3248	7,234		

Table 1.9 - Mass Summary by Diaphragm

Story	Diaphragm	Mass X kg	Mass Y kg	Mass Moment of Inertia ton-m2	X Mass Center m	Y Mass Center m
CUBIERTA	D1	725714,81	725714,81	365396,1802	41,3248	7,234

Table 1.10 - Mass Summary by Story

Story	UX kg	UY kg	UZ kg
CUBIERTA	725714,81	725714,81	0
CIMENTACION	635505,71	635505,71	0

Table 1.11 - Mass Summary by Group

Group	Self Mass kg	Self Weight kN	Mass X kg	Mass Y kg	Mass Z kg
All	0	12497,7934	1361220,53	1361220,53	0

2 Properties

This chapter provides property information for materials, frame sections, shell sections, and links.

2.1 Materials

Table 2.1 - Material Properties - General

Material	Type	SymType	Grade	Color	Notes
4000Psi	Concrete	Isotropic	f'c 4000 psi	Gray8Dark	
A416Gr270	Tendon	Uniaxial	Grade 270	Green	
A615Gr60	Rebar	Uniaxial	Grade 60	Blue	

2.2 Shell Sections

Table 2.2 - Area Section Property Definitions - Summary

Name	Type	Element Type	Material	Total Thickness mm	Deck Material	Deck Depth mm
LOSA	Slab	Shell-Thin	4000Psi	1		
MURO	Wall	Shell-Thin	4000Psi	240		

2.3 Reinforcement Sizes

Table 2.3 - Reinforcing Bar Sizes

Name	Diameter mm	Area cm2
#6	19,1	2,8

3 Loads

This chapter provides loading information as applied to the model.

3.1 Load Patterns

Table 3.1 - Load Pattern Definitions

Name	Is Auto Load	Type	Self Weight Multiplier	Auto Load
~LLRF	Yes	Other	0	
Adicional	No	Super Dead	0	
FHEX	No	Seismic	0	User Coefficient
FHEY	No	Seismic	0	User Coefficient
Peso Propio	No	Dead	1	
SX	No	Seismic	0	User Loads
SY	No	Seismic	0	User Loads
Viva	No	Live	0	

3.2 Auto Seismic Loading

User Loads Auto Seismic Load Calculation

This calculation presents the user defined lateral seismic loads for load pattern SX.

Lateral Forces

User Loads Auto Seismic Load Calculation

This calculation presents the user defined lateral seismic loads for load pattern SY.

Lateral Forces

User Coefficient Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern FHEX using the user input coefficients, as calculated by ETABS.

Direction and Eccentricity

Direction = X

Factors and Coefficients

Equivalent Lateral Forces

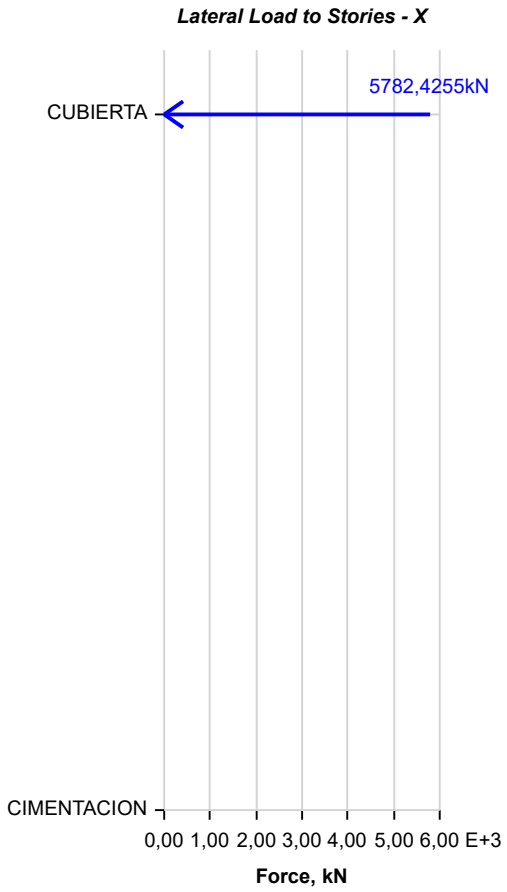
Base Shear Coefficient, C $C = 0,8125$

Base Shear, V $V = CW$

Calculated Base Shear

Direction	Period Used (sec)	C	W (kN)	V (kN)
X	0	0	7116,8313	5782,4255

Applied Story Forces



Story	Elevation	X-Dir	Y-Dir
	m	kN	kN
CUBIERTA	5,5	5782,4255	0
CIMENTACION	0	0	0

User Coefficient Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern FHEY using the user input coefficients, as calculated by ETABS.

Direction and Eccentricity

Direction = Y

Factors and Coefficients

Equivalent Lateral Forces

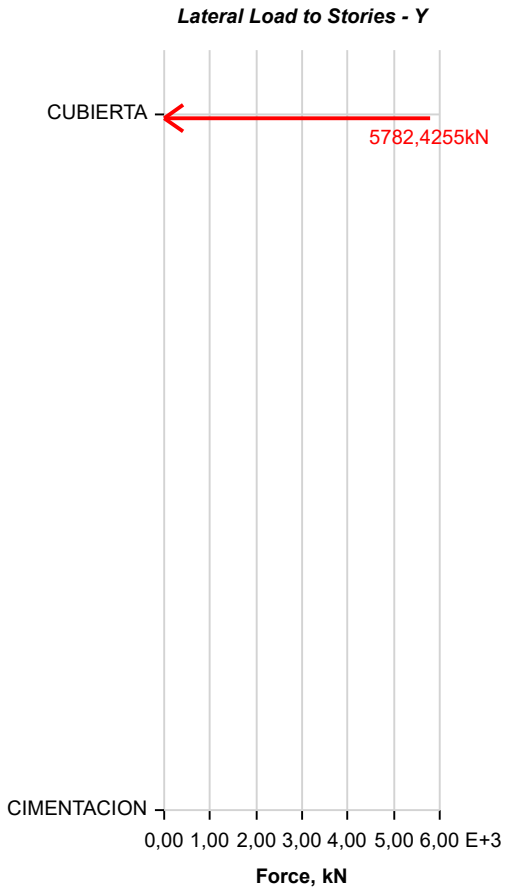
Base Shear Coefficient, C $C = 0,8125$

Base Shear, V $V = CW$

Calculated Base Shear

Direction	Period Used (sec)	C	W (kN)	V (kN)
Y	0	0	7116,8313	5782,4255

Applied Story Forces



Story	Elevation	X-Dir	Y-Dir
	m	kN	kN
CUBIERTA	5,5	0	5782,4255
CIMENTACION	0	0	0

3.3 Functions

3.3.1 Response Spectrum Functions

Table 3.6 - Functions - Response Spectrum - Columbia NSR-10

Name	Period sec	Value	Aa	Av	Ae	Ad	Group of Use	Fa	Fv	Damping Ratio
NSR-10	0	0,8125	0,25	0,2	0,08	0,05	1	1,3	2	0,05
NSR-10	0,1	0,8125								
NSR-10	0,2	0,8125								
NSR-10	0,3	0,8125								
NSR-10	0,4	0,8125								
NSR-10	0,5	0,8125								
NSR-10	0,6	0,8								
NSR-10	0,7	0,685714								
NSR-10	0,8	0,6								
NSR-10	0,9	0,533333								
NSR-10	1	0,48								
NSR-10	1,2	0,4								
NSR-10	1,5	0,32								
NSR-10	1,7	0,282353								
NSR-10	2	0,24								
NSR-10	2,5	0,192								
NSR-10	3	0,16								
NSR-10	3,5	0,137143								
NSR-10	4	0,12								
NSR-10	5	0,09216								
NSR-10	8	0,036								
NSR-10	11	0,019041								
NSR-10	15	0,01024								

3.4 Load Cases

Table 3.7 - Load Case Definitions - Summary

Name	Type
Dead	Linear Static
Adicional	Linear Static
Viva	Linear Static
Modal	Modal - Eigen
SX	Response Spectrum
SY	Response Spectrum
FHEX	Linear Static
FHEY	Linear Static

3.5 Load Combinations

Table 3.8 - Load Combination Definitions

Name	Type	Is Auto	Load Name	SF	Notes
Comb1	Linear Add	No	Dead	1	
Comb1			Adicional	1	
Comb2	Linear Add	No	Comb1	1,4	
Comb3	Linear Add	No	Comb1	1,2	
Comb3			Viva	1,6	
Comb4	Linear Add	No	Comb1	1,2	
Comb4			SX	0,142857	
Comb4			SY	0,042857	
Comb4			Viva	1	
Comb4-1	Linear Add	No	Comb1	1,2	
Comb4-1			SX	0,1429	
Comb4-1			SY	-0,0429	
Comb4-1			Viva	1	
Comb4-2	Linear Add	No	Comb1	1,2	
Comb4-2			SX	-0,1429	
Comb4-2			SY	-0,0429	
Comb4-2			Viva	1	
Comb4-3	Linear Add	No	Comb1	1,2	
Comb4-3			SX	-0,1429	
Comb4-3			SY	0,0429	
Comb4-3			Viva	1	
Comb4-4	Linear Add	No	Comb1	1,2	
Comb4-4			SX	0,0429	
Comb4-4			SY	0,1429	
Comb4-4			Viva	1	
Comb4-5	Linear Add	No	Comb1	1,2	
Comb4-5			SX	-0,0429	
Comb4-5			SY	0,1429	
Comb4-5			Viva	1	
Comb4-6	Linear Add	No	Comb1	1,2	
Comb4-6			SX	-0,0429	
Comb4-6			SY	-0,1429	
Comb4-6			Viva	1	
Comb4-7	Linear Add	No	Comb1	1,2	
Comb4-7			SX	0,0429	
Comb4-7			SY	-0,1429	
Comb4-7			Viva	1	
Comb5	Linear Add	No	Comb1	1	
Comb5			Viva	1	

4 Analysis Results

This chapter provides analysis results.

4.1 Structure Results

Table 4.1 - Base Reactions

Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m	X m	Y m	Z m
Dead	LinStatic		0	0	12497,7934	88780,5663	-521909,4223	0	0	0	0
Adicional	LinStatic		0	0	851,2201	6956,1874	-32508,7234	0	0	0	0
Viva	LinStatic		0	0	1418,7002	11593,6457	-54181,2057	0	0	0	0
SX	LinRespSpec	Max	5781,2541	67,5361	5,698E-07	371,4487	31796,8978	42058,5543	0	0	0
SY	LinRespSpec	Max	67,5361	4250,4215	1,64E-06	23377,3183	371,4488	195251,4449	0	0	0
FHEX	LinStatic		-5782,4255	0	-5,712E-07	-4,926E-06	-31803,34	41829,9877	0	0	0
FHEY	LinStatic		0	-5782,4255	2,09E-06	31803,34	-0,0001	-238957,6912	0	0	0
Comb1	Combination		0	0	13349,0135	95736,7537	-554418,1457	0	0	0	0
Comb2	Combination		0	0	18688,6189	134031,4552	-776185,404	0	0	0	0
Comb3	Combination		0	0	18288,7366	133433,9375	-751991,704	0	0	0	0
Comb4	Combination	Max	828,7879	191,8089	17437,5164	127532,6993	-714924,6474	14376,284	0	0	0
Comb4	Combination	Min	-828,7879	-191,8089	17437,5164	125422,8009	-724041,3138	-14376,284	0	0	0
Comb4-1	Combination	Max	829,0385	191,994	17437,5164	127533,7171	-714923,2687	14386,4544	0	0	0
Comb4-1	Combination	Min	-829,0385	-191,994	17437,5164	125421,7831	-724042,6924	-14386,4544	0	0	0
Comb4-2	Combination	Max	829,0385	191,994	17437,5164	127533,7171	-714923,2687	14386,4544	0	0	0
Comb4-2	Combination	Min	-829,0385	-191,994	17437,5164	125421,7831	-724042,6924	-14386,4544	0	0	0
Comb4-3	Combination	Max	829,0385	191,994	17437,5164	127533,7171	-714923,2687	14386,4544	0	0	0
Comb4-3	Combination	Min	-829,0385	-191,994	17437,5164	125421,7831	-724042,6924	-14386,4544	0	0	0
Comb4-4	Combination	Max	257,6667	610,2825	17437,5164	129834,304	-718065,8136	29705,7435	0	0	0
Comb4-4	Combination	Min	-257,6667	-610,2825	17437,5164	123121,1962	-720900,1475	-29705,7435	0	0	0
Comb4-5	Combination	Max	257,6667	610,2825	17437,5164	129834,304	-718065,8136	29705,7435	0	0	0

Table 4.1 - Base Reactions (continued)

Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m	X m	Y m	Z m
Comb4-5	Combination	Min	-257,6667	-610,2825	17437,5164	123121,1962	-720900,1475	-29705,7435	0	0	0
Comb4-6	Combination	Max	257,6667	610,2825	17437,5164	129834,304	-718065,8136	29705,7435	0	0	0
Comb4-6	Combination	Min	-257,6667	-610,2825	17437,5164	123121,1962	-720900,1475	-29705,7435	0	0	0
Comb4-7	Combination	Max	257,6667	610,2825	17437,5164	129834,304	-718065,8136	29705,7435	0	0	0
Comb4-7	Combination	Min	-257,6667	-610,2825	17437,5164	123121,1962	-720900,1475	-29705,7435	0	0	0
Comb5	Combination		0	0	14767,7137	107330,3994	-608599,3514	0	0	0	0

Table 4.2 - Centers Of Mass And Rigidity

Story	Diaphragm	Mass X kg	Mass Y kg	XCM m	YCM m	Cum Mass X kg	Cum Mass Y kg	XCCM m	YCCM m	XCR m	YCR m
CUBIERTA	D1	725714,81	725714,81	41,3248	7,234	725714,81	725714,81	41,3248	7,234		

Table 4.3 - Diaphragm Center Of Mass Displacements

Story	Diaphragm	Output Case	Case Type	Step Type	UX mm	UY mm	RZ rad	Point	X m	Y m	Z m
CUBIERTA	D1	Dead	LinStatic		-3,761E-06	-6,018E-06	-1,163E-10	7	41,3248	7,234	5,5
CUBIERTA	D1	Adicional	LinStatic		-9,577E-05	-0,0001532	-2,962E-09	7	41,3248	7,234	5,5
CUBIERTA	D1	Viva	LinStatic		-0,0001596	-0,0002554	-4,937E-09	7	41,3248	7,234	5,5
CUBIERTA	D1	SX	LinRespSpec	Max	0,05	0,002	7,968E-08	7	41,3248	7,234	5,5
CUBIERTA	D1	SY	LinRespSpec	Max	0,002	0,101	4E-06	7	41,3248	7,234	5,5
CUBIERTA	D1	FHEX	LinStatic		0,05	-0,001	5,817E-08	7	41,3248	7,234	5,5
CUBIERTA	D1	FHEY	LinStatic		-0,001	0,131	-2E-06	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb1	Combination		-9,954E-05	-0,0001593	-3,078E-09	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb2	Combination		-0,0001394	-0,000223	-4,31E-09	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb3	Combination		-0,0003748	-0,001	-1,159E-08	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb4	Combination	Max	0,007	0,004	1,818E-07	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb4	Combination	Min	-0,007	-0,005	-1,99E-07	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb4-1	Combination	Max	0,007	0,004	1,82E-07	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb4-1	Combination	Min	-0,007	-0,005	-1,992E-07	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb4-2	Combination	Max	0,007	0,004	1,82E-07	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb4-2	Combination	Min	-0,007	-0,005	-1,992E-07	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb4-3	Combination	Max	0,007	0,004	1,82E-07	7	41,3248	7,234	5,5

Table 4.3 - Diaphragm Center Of Mass Displacements (continued)

Story	Diaphragm	Output Case	Case Type	Step Type	UX mm	UY mm	RZ rad	Point	X m	Y m	Z m
CUBIERTA	D1	Comb4-3	Combination	Min	-0,007	-0,005	-1,992E-07	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb4-4	Combination	Max	0,002	0,014	1E-06	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb4-4	Combination	Min	-0,003	-0,015	-1E-06	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb4-5	Combination	Max	0,002	0,014	1E-06	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb4-5	Combination	Min	-0,003	-0,015	-1E-06	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb4-6	Combination	Max	0,002	0,014	1E-06	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb4-6	Combination	Min	-0,003	-0,015	-1E-06	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb4-7	Combination	Max	0,002	0,014	1E-06	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb4-7	Combination	Min	-0,003	-0,015	-1E-06	7	41,3248	7,234	5,5
CUBIERTA	D1	Comb5	Combination		-0,0002592	-0,0004147	-8,015E-09	7	41,3248	7,234	5,5

4.2 Story Results

Table 4.4 - Story Max Over Avg Displacements

Story	Output Case	Case Type	Step Type	Direction	Maximum mm	Average mm	Ratio
CUBIERTA	Dead	LinStatic		X	6,542E-06	4,099E-06	1,596
CUBIERTA	Dead	LinStatic		Y	9,348E-06	5,371E-06	1,74
CUBIERTA	Adicional	LinStatic		X	0,0001666	0,0001044	1,596
CUBIERTA	Adicional	LinStatic		Y	0,000238	0,0001368	1,74
CUBIERTA	Viva	LinStatic		X	0,0002777	0,000174	1,596
CUBIERTA	Viva	LinStatic		Y	0,0003967	0,000228	1,74
CUBIERTA	SX	LinRespSpec	Max	X	0,05	0,05	1,011
CUBIERTA	SY	LinRespSpec	Max	X	0,101	0,051	1,989
CUBIERTA	SY	LinRespSpec	Max	Y	0,24	0,161	1,495
CUBIERTA	FHEX	LinStatic		X	0,051	0,05	1,024
CUBIERTA	FHEY	LinStatic		Y	0,206	0,142	1,452
CUBIERTA	Comb1	Combination		X	0,0001731	0,0001085	1,596
CUBIERTA	Comb1	Combination		Y	0,0002474	0,0001421	1,74
CUBIERTA	Comb2	Combination		X	0,0002424	0,0001519	1,596
CUBIERTA	Comb2	Combination		Y	0,0003464	0,000199	1,74
CUBIERTA	Comb3	Combination		X	0,001	0,0004085	1,596
CUBIERTA	Comb3	Combination		Y	0,001	0,001	1,74
CUBIERTA	Comb4	Combination	Max	X	0,011	0,009	1,226
CUBIERTA	Comb4	Combination	Max	Y	0,011	0,007	1,565
CUBIERTA	Comb4	Combination	Min	X	0,012	0,01	1,23
CUBIERTA	Comb4	Combination	Min	Y	0,011	0,008	1,454

Table 4.4 - Story Max Over Avg Displacements (continued)

Story	Output Case	Case Type	Step Type	Direction	Maximum mm	Average mm	Ratio
CUBIERTA	Comb4-1	Combination	Max	X	0,011	0,009	1,227
CUBIERTA	Comb4-1	Combination	Max	Y	0,011	0,007	1,565
CUBIERTA	Comb4-1	Combination	Min	X	0,012	0,01	1,23
CUBIERTA	Comb4-1	Combination	Min	Y	0,011	0,008	1,454
CUBIERTA	Comb4-2	Combination	Max	X	0,011	0,009	1,227
CUBIERTA	Comb4-2	Combination	Max	Y	0,011	0,007	1,565
CUBIERTA	Comb4-2	Combination	Min	X	0,012	0,01	1,23
CUBIERTA	Comb4-2	Combination	Min	Y	0,011	0,008	1,454
CUBIERTA	Comb4-3	Combination	Max	X	0,011	0,009	1,227
CUBIERTA	Comb4-3	Combination	Max	Y	0,011	0,007	1,565
CUBIERTA	Comb4-3	Combination	Min	X	0,012	0,01	1,23
CUBIERTA	Comb4-3	Combination	Min	Y	0,011	0,008	1,454
CUBIERTA	Comb4-4	Combination	Max	X	0,016	0,009	1,785
CUBIERTA	Comb4-4	Combination	Max	Y	0,034	0,023	1,513
CUBIERTA	Comb4-4	Combination	Min	X	0,017	0,01	1,745
CUBIERTA	Comb4-4	Combination	Min	Y	0,035	0,023	1,479
CUBIERTA	Comb4-5	Combination	Max	X	0,016	0,009	1,785
CUBIERTA	Comb4-5	Combination	Max	Y	0,034	0,023	1,513
CUBIERTA	Comb4-5	Combination	Min	X	0,017	0,01	1,745
CUBIERTA	Comb4-5	Combination	Min	Y	0,035	0,023	1,479
CUBIERTA	Comb4-6	Combination	Max	X	0,016	0,009	1,785
CUBIERTA	Comb4-6	Combination	Max	Y	0,034	0,023	1,513
CUBIERTA	Comb4-6	Combination	Min	X	0,017	0,01	1,745
CUBIERTA	Comb4-6	Combination	Min	Y	0,035	0,023	1,479
CUBIERTA	Comb4-7	Combination	Max	X	0,016	0,009	1,785
CUBIERTA	Comb4-7	Combination	Max	Y	0,034	0,023	1,513
CUBIERTA	Comb4-7	Combination	Min	X	0,017	0,01	1,745
CUBIERTA	Comb4-7	Combination	Min	Y	0,035	0,023	1,479
CUBIERTA	Comb5	Combination		X	0,0004508	0,0002825	1,596
CUBIERTA	Comb5	Combination		Y	0,001	0,0003701	1,74

Table 4.5 - Story Drifts

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
CUBIERTA	Dead	LinStatic		X	0	13	53,5072	-16,6736	5,5
CUBIERTA	Dead	LinStatic		Y	0	78	69,955	10,795	5,5
CUBIERTA	Adicional	LinStatic		X	3,029E-08	13	53,5072	-16,6736	5,5
CUBIERTA	Adicional	LinStatic		Y	4,328E-08	78	69,955	10,795	5,5
CUBIERTA	Viva	LinStatic		X	5,048E-08	13	53,5072	-16,6736	5,5
CUBIERTA	Viva	LinStatic		Y	7,213E-08	78	69,955	10,795	5,5
CUBIERTA	SX	LinRespSpec	Max	X	9E-06	20	42,9705	25,3301	5,5
CUBIERTA	SY	LinRespSpec	Max	X	1,8E-05	13	53,5072	-16,6736	5,5
CUBIERTA	SY	LinRespSpec	Max	Y	4,4E-05	65	1,5772	17,4322	5,5
CUBIERTA	FHEX	LinStatic		X	9E-06	13	53,5072	-16,6736	5,5
CUBIERTA	FHEY	LinStatic		Y	3,7E-05	65	1,5772	17,4322	5,5

Table 4.5 - Story Drifts (continued)

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
CUBIERTA	Comb1	Combination		X	3,148E-08	13	53,5072	-16,6736	5,5
CUBIERTA	Comb1	Combination		Y	4,498E-08	78	69,955	10,795	5,5
CUBIERTA	Comb2	Combination		X	4,407E-08	13	53,5072	-16,6736	5,5
CUBIERTA	Comb2	Combination		Y	6,297E-08	78	69,955	10,795	5,5
CUBIERTA	Comb3	Combination		X	1,185E-07	13	53,5072	-16,6736	5,5
CUBIERTA	Comb3	Combination		Y	1,694E-07	78	69,955	10,795	5,5
CUBIERTA	Comb4	Combination	Max	X	2E-06	13	53,5072	-16,6736	5,5
CUBIERTA	Comb4	Combination	Max	Y	2E-06	65	1,5772	17,4322	5,5
CUBIERTA	Comb4	Combination	Min	X	2E-06	13	53,5072	-16,6736	5,5
CUBIERTA	Comb4	Combination	Min	Y	2E-06	65	1,5772	17,4322	5,5
CUBIERTA	Comb4-1	Combination	Max	X	2E-06	13	53,5072	-16,6736	5,5
CUBIERTA	Comb4-1	Combination	Max	Y	2E-06	65	1,5772	17,4322	5,5
CUBIERTA	Comb4-1	Combination	Min	X	2E-06	13	53,5072	-16,6736	5,5
CUBIERTA	Comb4-1	Combination	Min	Y	2E-06	65	1,5772	17,4322	5,5
CUBIERTA	Comb4-2	Combination	Max	X	2E-06	13	53,5072	-16,6736	5,5
CUBIERTA	Comb4-2	Combination	Max	Y	2E-06	65	1,5772	17,4322	5,5
CUBIERTA	Comb4-2	Combination	Min	X	2E-06	13	53,5072	-16,6736	5,5
CUBIERTA	Comb4-2	Combination	Min	Y	2E-06	65	1,5772	17,4322	5,5
CUBIERTA	Comb4-3	Combination	Max	X	2E-06	13	53,5072	-16,6736	5,5
CUBIERTA	Comb4-3	Combination	Max	Y	2E-06	65	1,5772	17,4322	5,5
CUBIERTA	Comb4-3	Combination	Min	X	2E-06	13	53,5072	-16,6736	5,5
CUBIERTA	Comb4-3	Combination	Min	Y	2E-06	65	1,5772	17,4322	5,5
CUBIERTA	Comb4-4	Combination	Max	X	3E-06	13	53,5072	-16,6736	5,5
CUBIERTA	Comb4-4	Combination	Max	Y	6E-06	65	1,5772	17,4322	5,5
CUBIERTA	Comb4-4	Combination	Min	X	3E-06	13	53,5072	-16,6736	5,5
CUBIERTA	Comb4-4	Combination	Min	Y	6E-06	65	1,5772	17,4322	5,5
CUBIERTA	Comb4-5	Combination	Max	X	3E-06	13	53,5072	-16,6736	5,5
CUBIERTA	Comb4-5	Combination	Max	Y	6E-06	65	1,5772	17,4322	5,5
CUBIERTA	Comb4-5	Combination	Min	X	3E-06	13	53,5072	-16,6736	5,5
CUBIERTA	Comb4-5	Combination	Min	Y	6E-06	65	1,5772	17,4322	5,5
CUBIERTA	Comb4-6	Combination	Max	X	3E-06	13	53,5072	-16,6736	5,5
CUBIERTA	Comb4-6	Combination	Max	Y	6E-06	65	1,5772	17,4322	5,5
CUBIERTA	Comb4-6	Combination	Min	X	3E-06	13	53,5072	-16,6736	5,5
CUBIERTA	Comb4-6	Combination	Min	Y	6E-06	65	1,5772	17,4322	5,5
CUBIERTA	Comb4-7	Combination	Max	X	3E-06	13	53,5072	-16,6736	5,5
CUBIERTA	Comb4-7	Combination	Max	Y	6E-06	65	1,5772	17,4322	5,5
CUBIERTA	Comb4-7	Combination	Min	X	3E-06	13	53,5072	-16,6736	5,5
CUBIERTA	Comb4-7	Combination	Min	Y	6E-06	65	1,5772	17,4322	5,5
CUBIERTA	Comb5	Combination		X	8,196E-08	13	53,5072	-16,6736	5,5
CUBIERTA	Comb5	Combination		Y	1,171E-07	78	69,955	10,795	5,5

Table 4.6 - Story Forces

Story	Output Case	Case Type	Step Type	Location	P kN	VX kN	VY kN	T kN-m	MX kN-m	MY kN-m
CUBIERTA	Dead	LinStatic		Top	33,429	0	0	0	273,1825	-1276,6783
CUBIERTA	Dead	LinStatic		Bottom	12497,7934	0	0	0	88780,5663	-521909,4223
CUBIERTA	Adicional	LinStatic		Top	851,2201	0	0	0	6956,1874	-32508,7234
CUBIERTA	Adicional	LinStatic		Bottom	851,2201	0	0	0	6956,1874	-32508,7234
CUBIERTA	Viva	LinStatic		Top	1418,7002	0	0	0	11593,6457	-54181,2057
CUBIERTA	Viva	LinStatic		Bottom	1418,7002	0	0	0	11593,6457	-54181,2057
CUBIERTA	SX	LinRespSpec	Max	Top	5,698E-07	5781,2541	67,5361	42058,5543	4,984E-06	1,705E-05
CUBIERTA	SX	LinRespSpec	Max	Bottom	5,698E-07	5781,2541	67,5361	42058,5543	371,4487	31796,8978
CUBIERTA	SY	LinRespSpec	Max	Top	1,64E-06	67,5361	4250,4215	195251,4449	2,142E-05	0,0001
CUBIERTA	SY	LinRespSpec	Max	Bottom	1,64E-06	67,5361	4250,4215	195251,4449	23377,3183	371,4488
CUBIERTA	FHEX	LinStatic		Top	-5,712E-07	-5782,4255	0	41829,9877	-4,926E-06	1,678E-05
CUBIERTA	FHEX	LinStatic		Bottom	-5,712E-07	-5782,4255	0	41829,9877	-4,926E-06	-31803,34
CUBIERTA	FHEY	LinStatic		Top	2,09E-06	0	-5782,4255	-238957,6912	2,515E-05	-0,0001
CUBIERTA	FHEY	LinStatic		Bottom	2,09E-06	0	-5782,4255	-238957,6912	31803,34	-0,0001
CUBIERTA	Comb1	Combination		Top	884,6491	0	0	0	7229,3699	-33785,4017
CUBIERTA	Comb1	Combination		Bottom	13349,0135	0	0	0	95736,7537	-554418,1457
CUBIERTA	Comb2	Combination		Top	1238,5088	0	0	0	10121,1178	-47299,5623
CUBIERTA	Comb2	Combination		Bottom	18688,6189	0	0	0	134031,4552	-776185,404
CUBIERTA	Comb3	Combination		Top	3331,4993	0	0	0	27225,0769	-127232,4111
CUBIERTA	Comb3	Combination		Bottom	18288,7366	0	0	0	133433,9375	-751991,704
CUBIERTA	Comb4	Combination	Max	Top	2480,2792	828,7879	191,8089	14376,284	20268,8895	-94723,6877
CUBIERTA	Comb4	Combination	Max	Bottom	17437,5164	828,7879	191,8089	14376,284	127532,6993	-714924,6474
CUBIERTA	Comb4	Combination	Min	Top	2480,2792	-828,7879	-191,8089	-14376,284	20268,8895	-94723,6877
CUBIERTA	Comb4	Combination	Min	Bottom	17437,5164	-828,7879	-191,8089	-14376,284	125422,8009	-724041,3138
CUBIERTA	Comb4-1	Combination	Max	Top	2480,2792	829,0385	191,994	14386,4544	20268,8895	-94723,6877
CUBIERTA	Comb4-1	Combination	Max	Bottom	17437,5164	829,0385	191,994	14386,4544	127533,7171	-714923,2687
CUBIERTA	Comb4-1	Combination	Min	Top	2480,2792	-829,0385	-191,994	-14386,4544	20268,8895	-94723,6877
CUBIERTA	Comb4-1	Combination	Min	Bottom	17437,5164	-829,0385	-191,994	-14386,4544	125421,7831	-724042,6924
CUBIERTA	Comb4-2	Combination	Max	Top	2480,2792	829,0385	191,994	14386,4544	20268,8895	-94723,6877
CUBIERTA	Comb4-2	Combination	Max	Bottom	17437,5164	829,0385	191,994	14386,4544	127533,7171	-714923,2687
CUBIERTA	Comb4-2	Combination	Min	Top	2480,2792	-829,0385	-191,994	-14386,4544	20268,8895	-94723,6877
CUBIERTA	Comb4-2	Combination	Min	Bottom	17437,5164	-829,0385	-191,994	-14386,4544	125421,7831	-724042,6924

Table 4.6 - Story Forces (continued)

Story	Output Case	Case Type	Step Type	Location	P kN	VX kN	VY kN	T kN-m	MX kN-m	MY kN-m
CUBIERTA	Comb4-3	Combination	Max	Top	2480,2792	829,0385	191,994	14386,4544	20268,8895	-94723,6877
CUBIERTA	Comb4-3	Combination	Max	Bottom	17437,5164	829,0385	191,994	14386,4544	127533,7171	-714923,2687
CUBIERTA	Comb4-3	Combination	Min	Top	2480,2792	-829,0385	-191,994	-14386,4544	20268,8895	-94723,6877
CUBIERTA	Comb4-3	Combination	Min	Bottom	17437,5164	-829,0385	-191,994	-14386,4544	125421,7831	-724042,6924
CUBIERTA	Comb4-4	Combination	Max	Top	2480,2792	257,6667	610,2825	29705,7435	20268,8895	-94723,6877
CUBIERTA	Comb4-4	Combination	Max	Bottom	17437,5164	257,6667	610,2825	29705,7435	129834,304	-718065,8136
CUBIERTA	Comb4-4	Combination	Min	Top	2480,2792	-257,6667	-610,2825	-29705,7435	20268,8895	-94723,6877
CUBIERTA	Comb4-4	Combination	Min	Bottom	17437,5164	-257,6667	-610,2825	-29705,7435	123121,1962	-720900,1475
CUBIERTA	Comb4-5	Combination	Max	Top	2480,2792	257,6667	610,2825	29705,7435	20268,8895	-94723,6877
CUBIERTA	Comb4-5	Combination	Max	Bottom	17437,5164	257,6667	610,2825	29705,7435	129834,304	-718065,8136
CUBIERTA	Comb4-5	Combination	Min	Top	2480,2792	-257,6667	-610,2825	-29705,7435	20268,8895	-94723,6877
CUBIERTA	Comb4-5	Combination	Min	Bottom	17437,5164	-257,6667	-610,2825	-29705,7435	123121,1962	-720900,1475
CUBIERTA	Comb4-6	Combination	Max	Top	2480,2792	257,6667	610,2825	29705,7435	20268,8895	-94723,6877
CUBIERTA	Comb4-6	Combination	Max	Bottom	17437,5164	257,6667	610,2825	29705,7435	129834,304	-718065,8136
CUBIERTA	Comb4-6	Combination	Min	Top	2480,2792	-257,6667	-610,2825	-29705,7435	20268,8895	-94723,6877
CUBIERTA	Comb4-6	Combination	Min	Bottom	17437,5164	-257,6667	-610,2825	-29705,7435	123121,1962	-720900,1475
CUBIERTA	Comb4-7	Combination	Max	Top	2480,2792	257,6667	610,2825	29705,7435	20268,8895	-94723,6877
CUBIERTA	Comb4-7	Combination	Max	Bottom	17437,5164	257,6667	610,2825	29705,7435	129834,304	-718065,8136
CUBIERTA	Comb4-7	Combination	Min	Top	2480,2792	-257,6667	-610,2825	-29705,7435	20268,8895	-94723,6877
CUBIERTA	Comb4-7	Combination	Min	Bottom	17437,5164	-257,6667	-610,2825	-29705,7435	123121,1962	-720900,1475
CUBIERTA	Comb5	Combination		Top	2303,3493	0	0	0	18823,0155	-87966,6073
CUBIERTA	Comb5	Combination		Bottom	14767,7137	0	0	0	107330,3994	-608599,3514

4.3 Modal Results

Table 4.7 - Modal Periods And Frequencies

Case	Mode	Period sec	Frequency cyc/sec	CircFreq rad/sec	Eigenvalue rad2/sec2
Modal	1	0,029	34,195	214,8565	46163,3089
Modal	2	0,021	47,755	300,0515	90030,8822
Modal	3	0,016	63,581	399,4888	159591,287

Table 4.8 - Modal Participating Mass Ratios (Part 1 of 2)

Case	Mode	Period sec	UX	UY	UZ	SumUX	SumUY	SumUZ	RX	RY	RZ
Modal	1	0,029	0,0002	0,508	0	0,0002	0,508	0	0,508	0,0002	0,501
Modal	2	0,021	2,877E-05	0,492	0	0,0002	1	0	0,492	2,877E-05	0,4987
Modal	3	0,016	0,9998	3,399E-05	0	1	1	0	3,399E-05	0,9998	0,0003

Table 4.8 - Modal Participating Mass Ratios (Part 2 of 2)

Case	Mode	SumRX	SumRY	SumRZ
Modal	1	0,508	0,0002	0,501
Modal	2	1	0,0002	0,9997
Modal	3	1	1	1

Table 4.9 - Modal Load Participation Ratios

Case	ItemType	Item	Static %	Dynamic %
Modal	Acceleration	UX	100	100
Modal	Acceleration	UY	100	100
Modal	Acceleration	UZ	0	0

Table 4.10 - Modal Direction Factors

Case	Mode	Period sec	UX	UY	UZ	RZ
Modal	1	0,029	0	0,508	0	0,492
Modal	2	0,021	0	0,492	0	0,508
Modal	3	0,016	1	0	0	0

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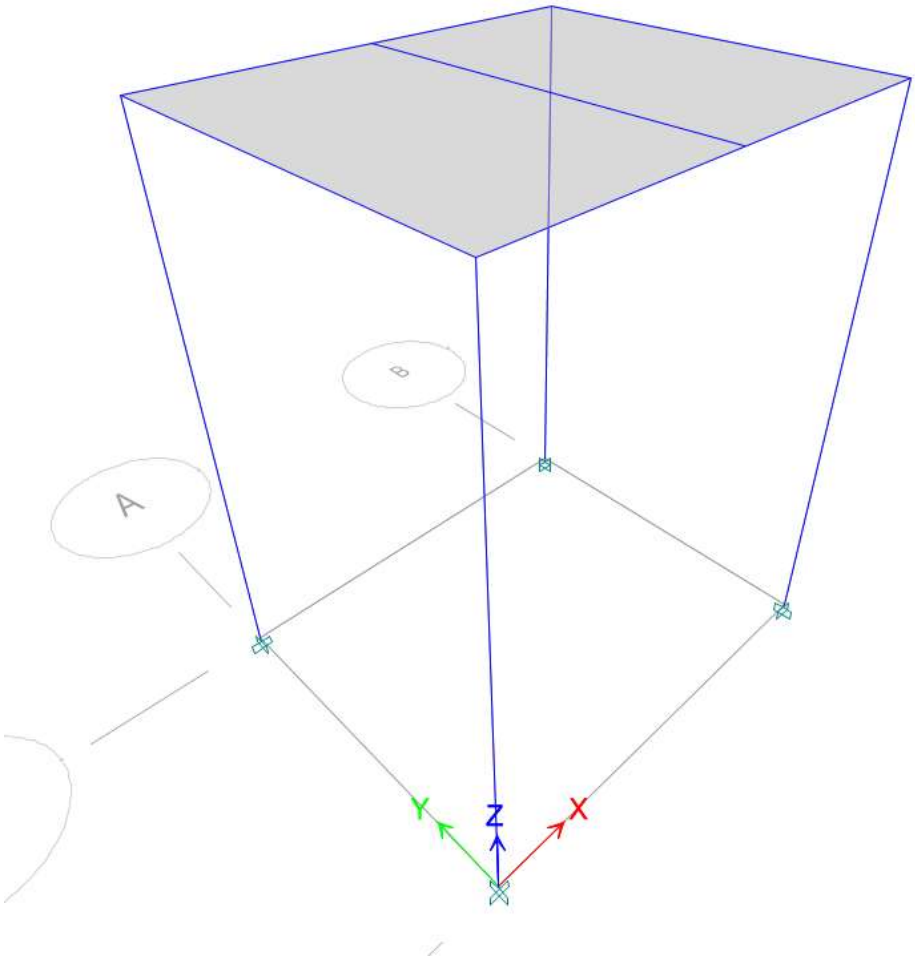


Project Report

CELADURİA

Model File: CELADURÍA, Revision 0

04/05/2023

1 Structure Data

This chapter provides model geometry information, including items such as story levels, point coordinates, and element connectivity.

1.1 Story Data

Table 1.1 - Story Definitions

Tower	Name	Height m	Master Story	Similar To	Splice Story	Color
T1	CUBIERTA	3.9	No	None	No	Gray8Dark

1.2 Grid Data

Table 1.2 - Grid Definitions - General

Tower	Name	Type	Ux m	Uy m	Rz deg	Story Range	Bubble Size mm	Color
T1	G1	Cartesian	0	0	0	Default	1250	Gray6

Table 1.3 - Grid Definitions - Grid Lines

Name	Grid Line Type	ID	Ordinate m	Bubble Location	Visible
G1	X (Cartesian)	A	0	End	Yes
G1	X (Cartesian)	B	3	End	Yes
G1	Y (Cartesian)	1	0	Start	Yes
G1	Y (Cartesian)	2	2.54	Start	Yes

1.3 Point Coordinates

Table 1.4 - Point Bays

Label	Is Auto Point	X m	Y m	DZBelow m
1	No	0	0	0
2	Yes	1.5	1.27	0
3	No	0	2.54	0
10	No	3	2.54	0
11	No	3	0	0
13	No	1.5	0	0
14	No	1.5	2.54	0

1.4 Line Connectivity

Table 1.5 - Column Bays

Label	PointBayI	PointBayJ	IEndStory
C4	1	1	Below
C5	3	3	Below
C6	10	10	Below
C7	11	11	Below

Table 1.6 - Beam Bays

Label	PointBayI	PointBayJ
B7	3	10
B8	1	3
B9	11	10
B10	1	11
B11	13	14

1.5 Area Connectivity

Table 1.7 - Floor Bays

Label	NumPoints	PointNumber	PointBay
F1	4	1	1
F1		2	11
F1		3	10
F1		4	3

1.6 Mass

Table 1.8 - Mass Source Definition

Name	Is Default	Include Lateral Mass?	Include Vertical Mass?	Lump Mass?	Source Self Mass?	Source Added Mass?	Source Load Patterns?	Move Mass Centroid?	Load Pattern	Multiplier
MsSrc1	Yes	Yes	No	Yes	No	No	Yes	No	Peso Propio	1
MsSrc1									Adicional	1

Table 1.9 - Centers Of Mass And Rigidity

Story	Diaphragm	Mass X kg	Mass Y kg	XCM m	YCM m	Cum Mass X kg	Cum Mass Y kg	XCCM m	YCCM m	XCR m	YCR m
CUBIERTA	D1	5066.5	5066.5	1.5	1.27	5066.5	5066.5	1.5	1.27		

Table 1.10 - Mass Summary by Diaphragm

Story	Diaphragm	Mass X kg	Mass Y kg	Mass Moment of Inertia ton-m2	X Mass Center m	Y Mass Center m
CUBIERTA	D1	5066.5	5066.5	16.0464	1.5	1.27

Table 1.11 - Mass Summary by Story

Story	UX kg	UY kg	UZ kg
CUBIERTA	5066.5	5066.5	0
CIMENTACION	1686.74	1686.74	0

Table 1.12 - Mass Summary by Group

Group	Self Mass kg	Self Weight kN	Mass X kg	Mass Y kg	Mass Z kg
All	0	51.3677	6753.24	6753.24	0

1.7 Groups

Table 1.13 - Group Definitions

Name	Color	Steel Design?	Concrete Design?	Composite Design?
All	Yellow	No	No	No

2 Properties

This chapter provides property information for materials, frame sections, shell sections, and links.

2.1 Materials

Table 2.1 - Material Properties - General

Material	Type	SymType	Grade	Color	Notes
3000Psi	Concrete	Isotropic	f'c 3000 psi	Yellow	
4000Psi	Concrete	Isotropic	f'c 4000 psi	Gray8Dark	
A416Gr270	Tendon	Uniaxial	Grade 270	Green	
A572Gr50	Steel	Isotropic	Grade 50	White	
A615Gr60	Rebar	Uniaxial	Grade 60	Blue	
A992Fy50	Steel	Isotropic	Grade 50	Yellow	

2.2 Frame Sections

Table 2.2 - Frame Section Property Definitions - Summary (Part 1 of 3)

Name	Material	Shape	Color	Area cm2	J cm4	I33 cm4	I22 cm4	As2 cm2	As3 cm2	S33Pos cm3
COLUMNA	3000Psi	Concrete Rectangular	Green	900	114075	67500	67500	750	750	4500
HE300A	A992Fy50	Steel I/Wide Flange	Gray8Dark	113	87.8	18260	6310	24.7	70	1259.3
HE340A	A572Gr50	Steel I/Wide Flange	Red	133	131	27690	7436	31.4	82.5	1678.2
HE360A	A572Gr50	Steel I/Wide Flange	Magenta	143	153	33090	7887	35	87.5	1890.9
IPE200	A572Gr50	Steel I/Wide Flange	Blue	28.5	6.9	1943	142	11.2	14.2	194.3
IPE220	A572Gr50	Steel I/Wide Flange	Cyan	33.4	9	2772	205	13	16.9	252
IPE240	A572Gr50	Steel I/Wide Flange	Red	39.1	13	3892	284	14.9	19.6	324.3
IPE360	A572Gr50	Steel I/Wide Flange	Blue	72.7	37.4	16270	1043	28.8	36	903.9
IPE400	A572Gr50	Steel I/Wide Flange	Magenta	84.5	51.3	23130	1318	34.4	40.5	1156.5

Table 2.2 - Frame Section Property Definitions - Summary (Part 2 of 3)

S33Neg cm3	S22Pos cm3	S22Neg cm3	Z33 cm3	Z22 cm3	R33 mm	R22 mm	Cw cm6	Fillet Radius mm	CG Offset 3 mm	CG Offset 2 mm	PNA Offset 3 mm	PNA Offset 2 mm
4500	4500	4500	6750	6750	86.6	86.6			0	0	0	0
1259.3	420.7	420.7	1383	641	127.1	74.7	1199772	27	0	0	0	0
1678.2	495.7	495.7	1850	756	144.3	74.8	1824364.3	27	0	0	0	0
1890.9	525.8	525.8	2088	802	152.1	74.3	2176576.2	27	0	0	0	0
194.3	28.4	28.4	221	44.6	82.6	22.3	12988.1	12	0	0	0	0
252	37.3	37.3	285	58.1	91.1	24.8	22672.3	12	0	0	0	0
324.3	47.3	47.3	367	73.9	99.8	27	37391.2	15	0	0	0	0
903.9	122.7	122.7	1019	191	149.6	37.9	313580.3	18	0	0	0	0
1156.5	146.4	146.4	1307	229	165.4	39.5	490048.5	21	0	0	0	0

Table 2.2 - Frame Section Property Definitions - Summary (Part 3 of 3)

As2 Modifier	As3 Modifier	J Modifier	I33 Modifier	I22 Modifier	Mass Modifier	Weight Modifier
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1

2.3 Shell Sections

Table 2.3 - Area Section Property Definitions - Summary

Name	Type	Element Type	Material	Total Thickness mm	Deck Material	Deck Depth mm
LAMINA COLABORANTE	Deck	Membrane	3000Psi	100	A572Gr50	45
Stiff1	Slab	Shell-Thin	4000Psi	100		
Wall1	Wall	Shell-Thin	4000Psi	250		

2.4 Reinforcement Sizes

Table 2.4 - Reinforcing Bar Sizes

Name	Diameter mm	Area cm2
#2	6.4	0.3
#3	9.5	0.7
#4	12.7	1.3
#5	15.9	2
#6	19.1	2.8
#7	22.2	3.9
#8	25.4	5.1
#9	28.7	6.5
#10	32.3	8.2
#11	35.8	10.1
#14	43	14.5
#18	57.3	25.8

2.5 Links

Table 2.5 - Link Property Definitions - Summary

Name	Type	Degrees of Freedom	Mass kg	Weight kN	Defined Length m	Defined Area m2
Link1	Linear	U1	0	0	1	1

2.6 Spring Properties

Table 2.6 - Spring Property Definitions - Isolated Column Footings

Name	Length mm	Width mm	Thickness mm	Embedment Source	Color	Notes
ZAPATA	1000	1000	350	Program Determined	Red	

2.7 Tendon Sections

Table 2.7 - Tendon Section Properties

Name	Material	StrandArea cm2	Color	Notes
Tendon1	A416Gr270	1	Yellow	

3 Assignments

This chapter provides a listing of the assignments applied to the model.

3.1 Joint Assignments

Table 3.1 - Joint Assignments - Summary

Story	Label	UniqueName	Diaphragm	Restraints
CUBIERTA	1	5	From Area	
CUBIERTA	3	1	From Area	
CUBIERTA	10	3	From Area	
CUBIERTA	11	8	From Area	
CUBIERTA	13	10	From Area	
CUBIERTA	14	11	From Area	
CUBIERTA	2	7	D1	
CIMENTACION	1	6	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	3	2	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	10	4	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	11	9	From Area	UX; UY; UZ; RX; RY; RZ

3.2 Frame Assignments

Table 3.2 - Frame Assignments - Summary

Story	Label	UniqueName	Design Type	Length m	Analysis Section	Design Section	Max Station Spacing m	Min Number Stations	Releases
CUBIERTA	B7	5	Beam	3	IPE240	IPE240	0.5		
CUBIERTA	B8	6	Beam	2.54	IPE240	IPE240	0.5		
CUBIERTA	B9	7	Beam	2.54	IPE240	IPE240	0.5		
CUBIERTA	B10	8	Beam	3	IPE240	IPE240	0.5		
CUBIERTA	B11	9	Beam	2.54	IPE200	IPE200	0.5		Yes
CUBIERTA	C4	3	Column	3.9	COLUMNA	COLUMNA		3	
CUBIERTA	C5	1	Column	3.9	COLUMNA	COLUMNA		3	
CUBIERTA	C6	2	Column	3.9	COLUMNA	COLUMNA		3	
CUBIERTA	C7	4	Column	3.9	COLUMNA	COLUMNA		3	

3.3 Shell Assignments

Table 3.3 - Area Assignments - Summary

Story	Label	UniqueName	Section Property	Property Type	Diaphragm
CUBIERTA	F1	1	LAMINA COLABORANTE	Deck	D1

4 Loads

This chapter provides loading information as applied to the model.

4.1 Load Patterns

Table 4.1 - Load Pattern Definitions

Name	Is Auto Load	Type	Self Weight Multiplier	Auto Load
~LLRF	Yes	Other	0	
Adicional	No	Super Dead	0	
FHEX	No	Seismic	0	User Coefficient
FHEY	No	Seismic	0	User Coefficient
Peso Propio	No	Dead	1	
SX	No	Seismic	0	User Loads
SY	No	Seismic	0	User Loads
Viva	No	Live	0	

4.2 Auto Seismic Loading

User Loads Auto Seismic Load Calculation

This calculation presents the user defined lateral seismic loads for load pattern SX.

Lateral Forces

User Loads Auto Seismic Load Calculation

This calculation presents the user defined lateral seismic loads for load pattern SY.

Lateral Forces

User Coefficient Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern FHEX using the user input coefficients, as calculated by ETABS.

Direction and Eccentricity

Direction = X

Factors and Coefficients

Equivalent Lateral Forces

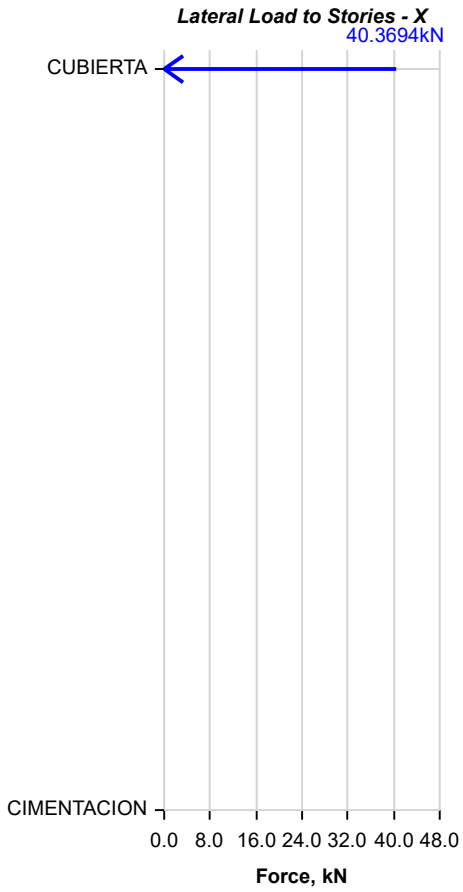
Base Shear Coefficient, C $C = 0.8125$

Base Shear, V $V = CW$

Calculated Base Shear

Direction	Period Used (sec)	C	W (kN)	V (kN)
X	0	0	49.6854	40.3694

Applied Story Forces



Story	Elevation	X-Dir	Y-Dir
	m	kN	kN
CUBIERTA	3.9	40.3694	0
CIMENTACION	0	0	0

User Coefficient Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern FHEY using the user input coefficients, as calculated by ETABS.

Direction and Eccentricity

Direction = Y

Factors and Coefficients

Equivalent Lateral Forces

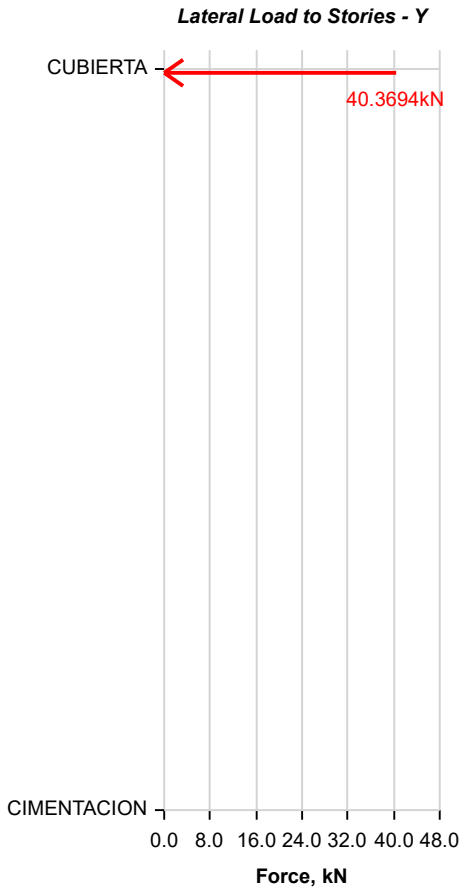
Base Shear Coefficient, C $C = 0.8125$

Base Shear, V $V = CW$

Calculated Base Shear

Direction	Period Used (sec)	C	W (kN)	V (kN)
Y	0	0	49.6854	40.3694

Applied Story Forces



Story	Elevation	X-Dir	Y-Dir
	m	kN	kN
CUBIERTA	3.9	0	40.3694
CIMENTACION	0	0	0

4.3 Applied Loads

4.3.1 Area Loads

Table 4.6 - Area Load Assignments - Uniform

Story	Label	UniqueName	Load Pattern	Direction	Load kN/m2
CUBIERTA	F1	1	Viva	Gravity	1.8
CUBIERTA	F1	1	Adicional	Gravity	1.95

4.4 Functions

4.4.1 Response Spectrum Functions

Table 4.7 - Functions - Response Spectrum - Columbia NSR-10

Name	Period sec	Value	Aa	Av	Ae	Ad	Group of Use	Fa	Fv	Damping Ratio
NSR-10	0	0.8125	0.25	0.2	0.08	0.05	1	1.3	2	0.05
NSR-10	0.1	0.8125								
NSR-10	0.2	0.8125								
NSR-10	0.3	0.8125								
NSR-10	0.4	0.8125								
NSR-10	0.5	0.8125								
NSR-10	0.6	0.8								
NSR-10	0.7	0.685714								
NSR-10	0.8	0.6								
NSR-10	0.9	0.533333								
NSR-10	1	0.48								
NSR-10	1.2	0.4								
NSR-10	1.5	0.32								
NSR-10	1.7	0.282353								
NSR-10	2	0.24								
NSR-10	2.5	0.192								
NSR-10	3	0.16								
NSR-10	3.5	0.137143								
NSR-10	4	0.12								
NSR-10	5	0.09216								
NSR-10	8	0.036								
NSR-10	11	0.019041								
NSR-10	15	0.01024								

4.5 Load Cases

Table 4.8 - Load Case Definitions - Summary

Name	Type
Dead	Linear Static
Adicional	Linear Static
Viva	Linear Static
Modal	Modal - Eigen
SX	Response Spectrum

Table 4.8 - Load Case Definitions - Summary (continued)

Name	Type
SY	Response Spectrum
FHEX	Linear Static
FHEY	Linear Static

4.6 Load Combinations

Table 4.9 - Load Combination Definitions

Name	Type	Is Auto	Load Name	SF	Notes
Comb1	Linear Add	No	Dead	1	
Comb1			Adicional	1	
Comb2	Linear Add	No	Comb1	1.4	
Comb3	Linear Add	No	Comb1	1.2	
Comb3			Viva	1.6	
Comb4	Linear Add	No	Comb1	1.2	
Comb4			SX	0.142857	
Comb4			SY	0.042857	
Comb4			Viva	1	
Comb4-1	Linear Add	No	Comb1	1.2	
Comb4-1			SX	0.1429	
Comb4-1			SY	-0.0429	
Comb4-1			Viva	1	
Comb4-2	Linear Add	No	Comb1	1.2	
Comb4-2			SX	-0.1429	
Comb4-2			SY	-0.0429	
Comb4-2			Viva	1	
Comb4-3	Linear Add	No	Comb1	1.2	
Comb4-3			SX	-0.1429	
Comb4-3			SY	0.0429	
Comb4-3			Viva	1	
Comb4-4	Linear Add	No	Comb1	1.2	
Comb4-4			SX	0.0429	
Comb4-4			SY	0.1429	
Comb4-4			Viva	1	
Comb4-5	Linear Add	No	Comb1	1.2	
Comb4-5			SX	-0.0429	
Comb4-5			SY	0.1429	
Comb4-5			Viva	1	
Comb4-6	Linear Add	No	Comb1	1.2	
Comb4-6			SX	-0.0429	
Comb4-6			SY	-0.1429	
Comb4-6			Viva	1	
Comb4-7	Linear Add	No	Comb1	1.2	
Comb4-7			SX	0.0429	
Comb4-7			SY	-0.1429	
Comb4-7			Viva	1	
Comb5	Linear Add	No	Comb1	1	

Table 4.9 - Load Combination Definitions (continued)

Name	Type	Is Auto	Load Name	SF	Notes
Comb5			Viva	1	

5 Analysis Results

This chapter provides analysis results.

5.1 Structure Results

Table 5.1 - Base Reactions

Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m	X m	Y m	Z m
Dead	LinStatic		0	0	51.3677	65.237	-77.0516	0	0	0	0
Adicional	LinStatic		0	0	14.859	18.8709	-22.2885	0	0	0	0
Viva	LinStatic		0	0	13.716	17.4193	-20.574	0	0	0	0
SX	LinRespSpec	Max	40.3694	0	0	0	157.4406	51.2691	0	0	0
SY	LinRespSpec	Max	0	40.3694	0	157.4406	0	60.5541	0	0	0
FHEX	LinStatic		-40.3694	0	0	0	-157.4406	51.2691	0	0	0
FHEY	LinStatic		0	-40.3694	0	157.4406	0	-60.5541	0	0	0
Comb1	Combination		0	0	66.2267	84.1079	-99.3401	0	0	0	0
Comb2	Combination		0	0	92.7174	117.7511	-139.0761	0	0	0	0
Comb3	Combination		0	0	101.4176	128.8004	-152.1265	0	0	0	0
Comb4	Combination	Max	5.7671	1.7301	93.188	125.0963	-117.2906	9.9193	0	0	0
Comb4	Combination	Min	-5.7671	-1.7301	93.188	111.6014	-162.2736	-9.9193	0	0	0
Comb4-1	Combination	Max	5.7688	1.7318	93.188	125.103	-117.2838	9.9241	0	0	0
Comb4-1	Combination	Min	-5.7688	-1.7318	93.188	111.5946	-162.2803	-9.9241	0	0	0
Comb4-2	Combination	Max	5.7688	1.7318	93.188	125.103	-117.2838	9.9241	0	0	0
Comb4-2	Combination	Min	-5.7688	-1.7318	93.188	111.5946	-162.2803	-9.9241	0	0	0
Comb4-3	Combination	Max	5.7688	1.7318	93.188	125.103	-117.2838	9.9241	0	0	0
Comb4-3	Combination	Min	-5.7688	-1.7318	93.188	111.5946	-162.2803	-9.9241	0	0	0
Comb4-4	Combination	Max	1.7318	5.7688	93.188	140.8471	-133.0279	10.8526	0	0	0
Comb4-4	Combination	Min	-1.7318	-5.7688	93.188	95.8506	-146.5363	-10.8526	0	0	0
Comb4-5	Combination	Max	1.7318	5.7688	93.188	140.8471	-133.0279	10.8526	0	0	0
Comb4-5	Combination	Min	-1.7318	-5.7688	93.188	95.8506	-146.5363	-10.8526	0	0	0
Comb4-6	Combination	Max	1.7318	5.7688	93.188	140.8471	-133.0279	10.8526	0	0	0
Comb4-6	Combination	Min	-1.7318	-5.7688	93.188	95.8506	-146.5363	-10.8526	0	0	0
Comb4-7	Combination	Max	1.7318	5.7688	93.188	140.8471	-133.0279	10.8526	0	0	0
Comb4-7	Combination	Min	-1.7318	-5.7688	93.188	95.8506	-146.5363	-10.8526	0	0	0
Comb5	Combination		0	0	79.9427	101.5272	-119.9141	0	0	0	0

Table 5.2 - Centers Of Mass And Rigidity

Story	Diaphragm	Mass X kg	Mass Y kg	XCM m	YCM m	Cum Mass X kg	Cum Mass Y kg	XCCM m	YCCM m	XCR m	YCR m
CUBIERTA	D1	5066.5	5066.5	1.5	1.27	5066.5	5066.5	1.5	1.27		

Table 5.3 - Diaphragm Center Of Mass Displacements

Story	Diaphragm	Output Case	Case Type	Step Type	UX mm	UY mm	RZ rad	Point	X m	Y m	Z m
CUBIERTA	D1	Dead	LinStatic		0	0	0	7	1.5	1.27	3.9
CUBIERTA	D1	Adicional	LinStatic		0	0	0	7	1.5	1.27	3.9
CUBIERTA	D1	Viva	LinStatic		0	0	0	7	1.5	1.27	3.9

Table 5.3 - Diaphragm Center Of Mass Displacements (continued)

Story	Diaphragm	Output Case	Case Type	Step Type	UX mm	UY mm	RZ rad	Point	X m	Y m	Z m
CUBIERTA	D1	SX	LinRespSpec	Max	6.014	0	0	7	1.5	1.27	3.9
CUBIERTA	D1	SY	LinRespSpec	Max	0	5.768	0	7	1.5	1.27	3.9
CUBIERTA	D1	FHEX	LinStatic		6.014	0	0	7	1.5	1.27	3.9
CUBIERTA	D1	FHEY	LinStatic		0	5.768	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb1	Combination		0	0	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb2	Combination		0	0	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb3	Combination		0	0	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb4	Combination	Max	0.859	0.247	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb4	Combination	Min	-0.859	-0.247	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb4-1	Combination	Max	0.859	0.247	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb4-1	Combination	Min	-0.859	-0.247	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb4-2	Combination	Max	0.859	0.247	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb4-2	Combination	Min	-0.859	-0.247	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb4-3	Combination	Max	0.859	0.247	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb4-3	Combination	Min	-0.859	-0.247	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb4-4	Combination	Max	0.258	0.824	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb4-4	Combination	Min	-0.258	-0.824	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb4-5	Combination	Max	0.258	0.824	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb4-5	Combination	Min	-0.258	-0.824	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb4-6	Combination	Max	0.258	0.824	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb4-6	Combination	Min	-0.258	-0.824	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb4-7	Combination	Max	0.258	0.824	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb4-7	Combination	Min	-0.258	-0.824	0	7	1.5	1.27	3.9
CUBIERTA	D1	Comb5	Combination		0	0	0	7	1.5	1.27	3.9

5.2 Story Results

Table 5.4 - Story Max Over Avg Displacements

Story	Output Case	Case Type	Step Type	Direction	Maximum mm	Average mm	Ratio
CUBIERTA	Dead	LinStatic		X	0	0	1.288
CUBIERTA	Dead	LinStatic		Y	0	0	1.074
CUBIERTA	Adicional	LinStatic		Y	0	0	1
CUBIERTA	Viva	LinStatic		Y	0	0	1.007
CUBIERTA	SX	LinRespSpec	Max	X	6.014	6.014	1
CUBIERTA	SY	LinRespSpec	Max	Y	5.768	5.768	1
CUBIERTA	FHEX	LinStatic		X	6.014	6.014	1
CUBIERTA	FHEY	LinStatic		Y	5.768	5.768	1
CUBIERTA	Comb1	Combination		X	0	0	1.202
CUBIERTA	Comb1	Combination		Y	0	0	1.027
CUBIERTA	Comb2	Combination		X	0	0	1.202
CUBIERTA	Comb2	Combination		Y	0	0	1.027
CUBIERTA	Comb3	Combination		Y	0	0	1.018
CUBIERTA	Comb4	Combination	Max	X	0.859	0.859	1
CUBIERTA	Comb4	Combination	Max	Y	0.247	0.247	1
CUBIERTA	Comb4	Combination	Min	X	0.859	0.859	1

Table 5.4 - Story Max Over Avg Displacements (continued)

Story	Output Case	Case Type	Step Type	Direction	Maximum mm	Average mm	Ratio
CUBIERTA	Comb4	Combination	Min	Y	0.247	0.247	1
CUBIERTA	Comb4-1	Combination	Max	X	0.859	0.859	1
CUBIERTA	Comb4-1	Combination	Max	Y	0.247	0.247	1
CUBIERTA	Comb4-1	Combination	Min	X	0.859	0.859	1
CUBIERTA	Comb4-1	Combination	Min	Y	0.247	0.247	1
CUBIERTA	Comb4-2	Combination	Max	X	0.859	0.859	1
CUBIERTA	Comb4-2	Combination	Max	Y	0.247	0.247	1
CUBIERTA	Comb4-2	Combination	Min	X	0.859	0.859	1
CUBIERTA	Comb4-2	Combination	Min	Y	0.247	0.247	1
CUBIERTA	Comb4-3	Combination	Max	X	0.859	0.859	1
CUBIERTA	Comb4-3	Combination	Max	Y	0.247	0.247	1
CUBIERTA	Comb4-3	Combination	Min	X	0.859	0.859	1
CUBIERTA	Comb4-3	Combination	Min	Y	0.247	0.247	1
CUBIERTA	Comb4-4	Combination	Max	X	0.258	0.258	1
CUBIERTA	Comb4-4	Combination	Max	Y	0.824	0.824	1
CUBIERTA	Comb4-4	Combination	Min	X	0.258	0.258	1
CUBIERTA	Comb4-4	Combination	Min	Y	0.824	0.824	1
CUBIERTA	Comb4-5	Combination	Max	X	0.258	0.258	1
CUBIERTA	Comb4-5	Combination	Max	Y	0.824	0.824	1
CUBIERTA	Comb4-5	Combination	Min	X	0.258	0.258	1
CUBIERTA	Comb4-5	Combination	Min	Y	0.824	0.824	1
CUBIERTA	Comb4-6	Combination	Max	X	0.258	0.258	1
CUBIERTA	Comb4-6	Combination	Max	Y	0.824	0.824	1
CUBIERTA	Comb4-6	Combination	Min	X	0.258	0.258	1
CUBIERTA	Comb4-6	Combination	Min	Y	0.824	0.824	1
CUBIERTA	Comb4-7	Combination	Max	X	0.258	0.258	1
CUBIERTA	Comb4-7	Combination	Max	Y	0.824	0.824	1
CUBIERTA	Comb4-7	Combination	Min	X	0.258	0.258	1
CUBIERTA	Comb4-7	Combination	Min	Y	0.824	0.824	1
CUBIERTA	Comb5	Combination		Y	0	0	1.02

Table 5.5 - Story Drifts

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
CUBIERTA	Dead	LinStatic		X	0	11	3	0	3.9
CUBIERTA	Dead	LinStatic		Y	0	11	3	0	3.9
CUBIERTA	Adicional	LinStatic		Y	0	11	3	0	3.9
CUBIERTA	Viva	LinStatic		Y	0	11	3	0	3.9
CUBIERTA	SX	LinRespSpec	Max	X	0.001542	10	3	2.54	3.9
CUBIERTA	SY	LinRespSpec	Max	Y	0.001479	1	0	0	3.9
CUBIERTA	FHEX	LinStatic		X	0.001542	10	3	2.54	3.9
CUBIERTA	FHEY	LinStatic		Y	0.001479	1	0	0	3.9
CUBIERTA	Comb1	Combination		X	0	11	3	0	3.9
CUBIERTA	Comb1	Combination		Y	0	11	3	0	3.9
CUBIERTA	Comb2	Combination		X	0	11	3	0	3.9

Table 5.5 - Story Drifts (continued)

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
CUBIERTA	Comb2	Combination		Y	0	11	3	0	3.9
CUBIERTA	Comb3	Combination		Y	0	11	3	0	3.9
CUBIERTA	Comb4	Combination	Max	X	0.00022	10	3	2.54	3.9
CUBIERTA	Comb4	Combination	Max	Y	6.3E-05	1	0	0	3.9
CUBIERTA	Comb4	Combination	Min	X	0.00022	10	3	2.54	3.9
CUBIERTA	Comb4	Combination	Min	Y	6.3E-05	1	0	0	3.9
CUBIERTA	Comb4-1	Combination	Max	X	0.00022	10	3	2.54	3.9
CUBIERTA	Comb4-1	Combination	Max	Y	6.3E-05	1	0	0	3.9
CUBIERTA	Comb4-1	Combination	Min	X	0.00022	10	3	2.54	3.9
CUBIERTA	Comb4-1	Combination	Min	Y	6.3E-05	1	0	0	3.9
CUBIERTA	Comb4-2	Combination	Max	X	0.00022	10	3	2.54	3.9
CUBIERTA	Comb4-2	Combination	Max	Y	6.3E-05	1	0	0	3.9
CUBIERTA	Comb4-2	Combination	Min	X	0.00022	10	3	2.54	3.9
CUBIERTA	Comb4-2	Combination	Min	Y	6.3E-05	1	0	0	3.9
CUBIERTA	Comb4-3	Combination	Max	X	0.00022	10	3	2.54	3.9
CUBIERTA	Comb4-3	Combination	Max	Y	6.3E-05	1	0	0	3.9
CUBIERTA	Comb4-3	Combination	Min	X	0.00022	10	3	2.54	3.9
CUBIERTA	Comb4-3	Combination	Min	Y	6.3E-05	1	0	0	3.9
CUBIERTA	Comb4-4	Combination	Max	X	6.6E-05	10	3	2.54	3.9
CUBIERTA	Comb4-4	Combination	Max	Y	0.000211	1	0	0	3.9
CUBIERTA	Comb4-4	Combination	Min	X	6.6E-05	10	3	2.54	3.9
CUBIERTA	Comb4-4	Combination	Min	Y	0.000211	1	0	0	3.9
CUBIERTA	Comb4-5	Combination	Max	X	6.6E-05	10	3	2.54	3.9
CUBIERTA	Comb4-5	Combination	Max	Y	0.000211	1	0	0	3.9
CUBIERTA	Comb4-5	Combination	Min	X	6.6E-05	10	3	2.54	3.9
CUBIERTA	Comb4-5	Combination	Min	Y	0.000211	1	0	0	3.9
CUBIERTA	Comb4-6	Combination	Max	X	6.6E-05	10	3	2.54	3.9
CUBIERTA	Comb4-6	Combination	Max	Y	0.000211	1	0	0	3.9
CUBIERTA	Comb4-6	Combination	Min	X	6.6E-05	10	3	2.54	3.9
CUBIERTA	Comb4-6	Combination	Min	Y	0.000211	1	0	0	3.9
CUBIERTA	Comb4-7	Combination	Max	X	6.6E-05	10	3	2.54	3.9
CUBIERTA	Comb4-7	Combination	Max	Y	0.000211	1	0	0	3.9
CUBIERTA	Comb4-7	Combination	Min	X	6.6E-05	10	3	2.54	3.9
CUBIERTA	Comb4-7	Combination	Min	Y	0.000211	1	0	0	3.9
CUBIERTA	Comb5	Combination		Y	0	11	3	0	3.9

Table 5.6 - Story Forces

Story	Output Case	Case Type	Step Type	Location	P kN	VX kN	VY kN	T kN-m	MX kN-m	MY kN-m
CUBIERTA	Dead	LinStatic		Top	18.2851	0	0	0	23.2221	-27.4276
CUBIERTA	Dead	LinStatic		Bottom	51.3677	0	0	0	65.237	-77.0516
CUBIERTA	Adicional	LinStatic		Top	14.859	0	0	0	18.8709	-22.2885
CUBIERTA	Adicional	LinStatic		Bottom	14.859	0	0	0	18.8709	-22.2885
CUBIERTA	Viva	LinStatic		Top	13.716	0	0	0	17.4193	-20.574
CUBIERTA	Viva	LinStatic		Bottom	13.716	0	0	0	17.4193	-20.574

Table 5.6 - Story Forces (continued)

Story	Output Case	Case Type	Step Type	Location	P kN	VX kN	VY kN	T kN-m	MX kN-m	MY kN-m
CUBIERTA	SX	LinRespSpec	Max	Top	0	40.3694	0	51.2691	0	0
CUBIERTA	SX	LinRespSpec	Max	Bottom	0	40.3694	0	51.2691	0	157.4406
CUBIERTA	SY	LinRespSpec	Max	Top	0	0	40.3694	60.5541	0	0
CUBIERTA	SY	LinRespSpec	Max	Bottom	0	0	40.3694	60.5541	157.4406	0
CUBIERTA	FHEX	LinStatic		Top	0	-40.3694	0	51.2691	0	0
CUBIERTA	FHEX	LinStatic		Bottom	0	-40.3694	0	51.2691	0	-157.4406
CUBIERTA	FHEY	LinStatic		Top	0	0	-40.3694	-60.5541	0	0
CUBIERTA	FHEY	LinStatic		Bottom	0	0	-40.3694	-60.5541	157.4406	0
CUBIERTA	Comb1	Combination		Top	33.1441	0	0	0	42.093	-49.7161
CUBIERTA	Comb1	Combination		Bottom	66.2267	0	0	0	84.1079	-99.3401
CUBIERTA	Comb2	Combination		Top	46.4017	0	0	0	58.9302	-69.6026
CUBIERTA	Comb2	Combination		Bottom	92.7174	0	0	0	117.7511	-139.0761
CUBIERTA	Comb3	Combination		Top	61.7185	0	0	0	78.3825	-92.5777
CUBIERTA	Comb3	Combination		Bottom	101.4176	0	0	0	128.8004	-152.1265
CUBIERTA	Comb4	Combination	Max	Top	53.4889	5.7671	1.7301	9.9193	67.9309	-80.2333
CUBIERTA	Comb4	Combination	Max	Bottom	93.188	5.7671	1.7301	9.9193	125.0963	-117.2906
CUBIERTA	Comb4	Combination	Min	Top	53.4889	-5.7671	-1.7301	-9.9193	67.9309	-80.2333
CUBIERTA	Comb4	Combination	Min	Bottom	93.188	-5.7671	-1.7301	-9.9193	111.6014	-162.2736
CUBIERTA	Comb4-1	Combination	Max	Top	53.4889	5.7688	1.7318	9.9241	67.9309	-80.2333
CUBIERTA	Comb4-1	Combination	Max	Bottom	93.188	5.7688	1.7318	9.9241	125.103	-117.2838
CUBIERTA	Comb4-1	Combination	Min	Top	53.4889	-5.7688	-1.7318	-9.9241	67.9309	-80.2333
CUBIERTA	Comb4-1	Combination	Min	Bottom	93.188	-5.7688	-1.7318	-9.9241	111.5946	-162.2803
CUBIERTA	Comb4-2	Combination	Max	Top	53.4889	5.7688	1.7318	9.9241	67.9309	-80.2333
CUBIERTA	Comb4-2	Combination	Max	Bottom	93.188	5.7688	1.7318	9.9241	125.103	-117.2838
CUBIERTA	Comb4-2	Combination	Min	Top	53.4889	-5.7688	-1.7318	-9.9241	67.9309	-80.2333
CUBIERTA	Comb4-2	Combination	Min	Bottom	93.188	-5.7688	-1.7318	-9.9241	111.5946	-162.2803
CUBIERTA	Comb4-3	Combination	Max	Top	53.4889	5.7688	1.7318	9.9241	67.9309	-80.2333
CUBIERTA	Comb4-3	Combination	Max	Bottom	93.188	5.7688	1.7318	9.9241	125.103	-117.2838
CUBIERTA	Comb4-3	Combination	Min	Top	53.4889	-5.7688	-1.7318	-9.9241	67.9309	-80.2333
CUBIERTA	Comb4-3	Combination	Min	Bottom	93.188	-5.7688	-1.7318	-9.9241	111.5946	-162.2803
CUBIERTA	Comb4-4	Combination	Max	Top	53.4889	1.7318	5.7688	10.8526	67.9309	-80.2333
CUBIERTA	Comb4-4	Combination	Max	Bottom	93.188	1.7318	5.7688	10.8526	140.8471	-133.0279
CUBIERTA	Comb4-4	Combination	Min	Top	53.4889	-1.7318	-5.7688	-10.8526	67.9309	-80.2333
CUBIERTA	Comb4-4	Combination	Min	Bottom	93.188	-1.7318	-5.7688	-10.8526	95.8506	-146.5363
CUBIERTA	Comb4-5	Combination	Max	Top	53.4889	1.7318	5.7688	10.8526	67.9309	-80.2333
CUBIERTA	Comb4-5	Combination	Max	Bottom	93.188	1.7318	5.7688	10.8526	140.8471	-133.0279
CUBIERTA	Comb4-5	Combination	Min	Top	53.4889	-1.7318	-5.7688	-10.8526	67.9309	-80.2333
CUBIERTA	Comb4-5	Combination	Min	Bottom	93.188	-1.7318	-5.7688	-10.8526	95.8506	-146.5363
CUBIERTA	Comb4-6	Combination	Max	Top	53.4889	1.7318	5.7688	10.8526	67.9309	-80.2333
CUBIERTA	Comb4-6	Combination	Max	Bottom	93.188	1.7318	5.7688	10.8526	140.8471	-133.0279
CUBIERTA	Comb4-6	Combination	Min	Top	53.4889	-1.7318	-5.7688	-10.8526	67.9309	-80.2333
CUBIERTA	Comb4-6	Combination	Min	Bottom	93.188	-1.7318	-5.7688	-10.8526	95.8506	-146.5363
CUBIERTA	Comb4-7	Combination	Max	Top	53.4889	1.7318	5.7688	10.8526	67.9309	-80.2333
CUBIERTA	Comb4-7	Combination	Max	Bottom	93.188	1.7318	5.7688	10.8526	140.8471	-133.0279
CUBIERTA	Comb4-7	Combination	Min	Top	53.4889	-1.7318	-5.7688	-10.8526	67.9309	-80.2333

Table 5.6 - Story Forces (continued)

Story	Output Case	Case Type	Step Type	Location	P kN	VX kN	VY kN	T kN-m	MX kN-m	MY kN-m
CUBIERTA	Comb4-7	Combination	Min	Bottom	93.188	-1.7318	-5.7688	-10.8526	95.8506	-146.5363
CUBIERTA	Comb5	Combination		Top	46.8601	0	0	0	59.5123	-70.2901
CUBIERTA	Comb5	Combination		Bottom	79.9427	0	0	0	101.5272	-119.9141

5.3 Point Results

Table 5.7 - Joint Reactions

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	1	6	Dead	LinStatic		0.5109	0.2698	12.8419	-0.3478	0.6585	0
CIMENTACION	1	6	Adicional	LinStatic		0.4161	0.2259	3.7148	-0.2911	0.5364	0
CIMENTACION	1	6	Viva	LinStatic		0.3841	0.2085	3.429	-0.2688	0.4951	0
CIMENTACION	1	6	SX	LinRespSpec	Max	10.0923	0	9.9075	0	24.4989	0
CIMENTACION	1	6	SY	LinRespSpec	Max	0	10.0923	12.0722	24.0285	0	0
CIMENTACION	1	6	FHEX	LinStatic		-10.0923	0	-9.9075	0	-24.4989	0
CIMENTACION	1	6	FHEY	LinStatic		0	-10.0923	-12.0722	24.0285	0	0
CIMENTACION	1	6	Comb1	Combination		0.927	0.4957	16.5567	-0.639	1.1948	0
CIMENTACION	1	6	Comb2	Combination		1.2978	0.694	23.1793	-0.8945	1.6728	0
CIMENTACION	1	6	Comb3	Combination		1.727	0.9285	25.3544	-1.1968	2.226	0
CIMENTACION	1	6	Comb4	Combination	Max	2.9383	1.2359	25.2297	-0.0057	5.4288	0
CIMENTACION	1	6	Comb4	Combination	Min	0.0548	0.3709	21.3643	-2.0653	-1.5709	0
CIMENTACION	1	6	Comb4-1	Combination	Max	2.9387	1.2363	25.2307	-0.0047	5.4298	0
CIMENTACION	1	6	Comb4-1	Combination	Min	0.0543	0.3704	21.3633	-2.0663	-1.572	0
CIMENTACION	1	6	Comb4-2	Combination	Max	2.9387	1.2363	25.2307	-0.0047	5.4298	0
CIMENTACION	1	6	Comb4-2	Combination	Min	0.0543	0.3704	21.3633	-2.0663	-1.572	0
CIMENTACION	1	6	Comb4-3	Combination	Max	2.9387	1.2363	25.2307	-0.0047	5.4298	0
CIMENTACION	1	6	Comb4-3	Combination	Min	0.0543	0.3704	21.3633	-2.0663	-1.572	0
CIMENTACION	1	6	Comb4-4	Combination	Max	1.9295	2.2456	25.4472	2.3982	2.9799	0
CIMENTACION	1	6	Comb4-4	Combination	Min	1.0636	-0.6388	21.1469	-4.4692	0.8779	0
CIMENTACION	1	6	Comb4-5	Combination	Max	1.9295	2.2456	25.4472	2.3982	2.9799	0
CIMENTACION	1	6	Comb4-5	Combination	Min	1.0636	-0.6388	21.1469	-4.4692	0.8779	0
CIMENTACION	1	6	Comb4-6	Combination	Max	1.9295	2.2456	25.4472	2.3982	2.9799	0
CIMENTACION	1	6	Comb4-6	Combination	Min	1.0636	-0.6388	21.1469	-4.4692	0.8779	0
CIMENTACION	1	6	Comb4-7	Combination	Max	1.9295	2.2456	25.4472	2.3982	2.9799	0
CIMENTACION	1	6	Comb4-7	Combination	Min	1.0636	-0.6388	21.1469	-4.4692	0.8779	0
CIMENTACION	1	6	Comb5	Combination		1.3111	0.7042	19.9857	-0.9077	1.6899	0
CIMENTACION	3	2	Dead	LinStatic		0.5109	-0.2698	12.8419	0.3478	0.6585	0
CIMENTACION	3	2	Adicional	LinStatic		0.4161	-0.2259	3.7148	0.2911	0.5364	0
CIMENTACION	3	2	Viva	LinStatic		0.3841	-0.2085	3.429	0.2688	0.4951	0
CIMENTACION	3	2	SX	LinRespSpec	Max	10.0923	0	9.9075	0	24.4989	0
CIMENTACION	3	2	SY	LinRespSpec	Max	0	10.0923	12.0722	24.0285	0	0
CIMENTACION	3	2	FHEX	LinStatic		-10.0923	0	-9.9075	0	-24.4989	0
CIMENTACION	3	2	FHEY	LinStatic		0	-10.0923	12.0722	24.0285	0	0
CIMENTACION	3	2	Comb1	Combination		0.927	-0.4957	16.5567	0.639	1.1948	0
CIMENTACION	3	2	Comb2	Combination		1.2978	-0.694	23.1793	0.8945	1.6728	0
CIMENTACION	3	2	Comb3	Combination		1.727	-0.9285	25.3544	1.1968	2.226	0

Table 5.7 - Joint Reactions (continued)

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	3	2	Comb4	Combination	Max	2.9383	-0.3709	25.2297	2.0653	5.4288	0
CIMENTACION	3	2	Comb4	Combination	Min	0.0548	-1.2359	21.3643	0.0057	-1.5709	0
CIMENTACION	3	2	Comb4-1	Combination	Max	2.9387	-0.3704	25.2307	2.0663	5.4298	0
CIMENTACION	3	2	Comb4-1	Combination	Min	0.0543	-1.2363	21.3633	0.0047	-1.572	0
CIMENTACION	3	2	Comb4-2	Combination	Max	2.9387	-0.3704	25.2307	2.0663	5.4298	0
CIMENTACION	3	2	Comb4-2	Combination	Min	0.0543	-1.2363	21.3633	0.0047	-1.572	0
CIMENTACION	3	2	Comb4-3	Combination	Max	2.9387	-0.3704	25.2307	2.0663	5.4298	0
CIMENTACION	3	2	Comb4-3	Combination	Min	0.0543	-1.2363	21.3633	0.0047	-1.572	0
CIMENTACION	3	2	Comb4-4	Combination	Max	1.9295	0.6388	25.4472	4.4692	2.9799	0
CIMENTACION	3	2	Comb4-4	Combination	Min	1.0636	-2.2456	21.1469	-2.3982	0.8779	0
CIMENTACION	3	2	Comb4-5	Combination	Max	1.9295	0.6388	25.4472	4.4692	2.9799	0
CIMENTACION	3	2	Comb4-5	Combination	Min	1.0636	-2.2456	21.1469	-2.3982	0.8779	0
CIMENTACION	3	2	Comb4-6	Combination	Max	1.9295	0.6388	25.4472	4.4692	2.9799	0
CIMENTACION	3	2	Comb4-6	Combination	Min	1.0636	-2.2456	21.1469	-2.3982	0.8779	0
CIMENTACION	3	2	Comb4-7	Combination	Max	1.9295	0.6388	25.4472	4.4692	2.9799	0
CIMENTACION	3	2	Comb4-7	Combination	Min	1.0636	-2.2456	21.1469	-2.3982	0.8779	0
CIMENTACION	3	2	Comb5	Combination		1.3111	-0.7042	19.9857	0.9077	1.6899	0
CIMENTACION	10	4	Dead	LinStatic		-0.5109	-0.2698	12.8419	0.3478	-0.6585	0
CIMENTACION	10	4	Adicional	LinStatic		-0.4161	-0.2259	3.7148	0.2911	-0.5364	0
CIMENTACION	10	4	Viva	LinStatic		-0.3841	-0.2085	3.429	0.2688	-0.4951	0
CIMENTACION	10	4	SX	LinRespSpec	Max	10.0923	0	9.9075	0	24.4989	0
CIMENTACION	10	4	SY	LinRespSpec	Max	0	10.0923	12.0722	24.0285	0	0
CIMENTACION	10	4	FHEX	LinStatic		-10.0923	0	9.9075	0	-24.4989	0
CIMENTACION	10	4	FHEY	LinStatic		0	-10.0923	12.0722	24.0285	0	0
CIMENTACION	10	4	Comb1	Combination		-0.927	-0.4957	16.5567	0.639	-1.1948	0
CIMENTACION	10	4	Comb2	Combination		-1.2978	-0.694	23.1793	0.8945	-1.6728	0
CIMENTACION	10	4	Comb3	Combination		-1.727	-0.9285	25.3544	1.1968	-2.226	0
CIMENTACION	10	4	Comb4	Combination	Max	-0.0548	-0.3709	25.2297	2.0653	1.5709	0
CIMENTACION	10	4	Comb4	Combination	Min	-2.9383	-1.2359	21.3643	0.0057	-5.4288	0
CIMENTACION	10	4	Comb4-1	Combination	Max	-0.0543	-0.3704	25.2307	2.0663	1.572	0
CIMENTACION	10	4	Comb4-1	Combination	Min	-2.9387	-1.2363	21.3633	0.0047	-5.4298	0
CIMENTACION	10	4	Comb4-2	Combination	Max	-0.0543	-0.3704	25.2307	2.0663	1.572	0
CIMENTACION	10	4	Comb4-2	Combination	Min	-2.9387	-1.2363	21.3633	0.0047	-5.4298	0
CIMENTACION	10	4	Comb4-3	Combination	Max	-0.0543	-0.3704	25.2307	2.0663	1.572	0
CIMENTACION	10	4	Comb4-3	Combination	Min	-2.9387	-1.2363	21.3633	0.0047	-5.4298	0
CIMENTACION	10	4	Comb4-4	Combination	Max	-1.0636	0.6388	25.4472	4.4692	-0.8779	0
CIMENTACION	10	4	Comb4-4	Combination	Min	-1.9295	-2.2456	21.1469	-2.3982	-2.9799	0
CIMENTACION	10	4	Comb4-5	Combination	Max	-1.0636	0.6388	25.4472	4.4692	-0.8779	0
CIMENTACION	10	4	Comb4-5	Combination	Min	-1.9295	-2.2456	21.1469	-2.3982	-2.9799	0
CIMENTACION	10	4	Comb4-6	Combination	Max	-1.0636	0.6388	25.4472	4.4692	-0.8779	0
CIMENTACION	10	4	Comb4-6	Combination	Min	-1.9295	-2.2456	21.1469	-2.3982	-2.9799	0
CIMENTACION	10	4	Comb4-7	Combination	Max	-1.0636	0.6388	25.4472	4.4692	-0.8779	0
CIMENTACION	10	4	Comb4-7	Combination	Min	-1.9295	-2.2456	21.1469	-2.3982	-2.9799	0
CIMENTACION	10	4	Comb5	Combination		-1.3111	-0.7042	19.9857	0.9077	-1.6899	0
CIMENTACION	11	9	Dead	LinStatic		-0.5109	0.2698	12.8419	-0.3478	-0.6585	0

Table 5.7 - Joint Reactions (continued)

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	11	9	Adicional	LinStatic		-0.4161	0.2259	3.7148	-0.2911	-0.5364	0
CIMENTACION	11	9	Viva	LinStatic		-0.3841	0.2085	3.429	-0.2688	-0.4951	0
CIMENTACION	11	9	SX	LinRespSpec	Max	10.0923	0	9.9075	0	24.4989	0
CIMENTACION	11	9	SY	LinRespSpec	Max	0	10.0923	12.0722	24.0285	0	0
CIMENTACION	11	9	FHEX	LinStatic		-10.0923	0	9.9075	0	-24.4989	0
CIMENTACION	11	9	FHEY	LinStatic		0	-10.0923	-12.0722	24.0285	0	0
CIMENTACION	11	9	Comb1	Combination		-0.927	0.4957	16.5567	-0.639	-1.1948	0
CIMENTACION	11	9	Comb2	Combination		-1.2978	0.694	23.1793	-0.8945	-1.6728	0
CIMENTACION	11	9	Comb3	Combination		-1.727	0.9285	25.3544	-1.1968	-2.226	0
CIMENTACION	11	9	Comb4	Combination	Max	-0.0548	1.2359	25.2297	-0.0057	1.5709	0
CIMENTACION	11	9	Comb4	Combination	Min	-2.9383	0.3709	21.3643	-2.0653	-5.4288	0
CIMENTACION	11	9	Comb4-1	Combination	Max	-0.0543	1.2363	25.2307	-0.0047	1.572	0
CIMENTACION	11	9	Comb4-1	Combination	Min	-2.9387	0.3704	21.3633	-2.0663	-5.4298	0
CIMENTACION	11	9	Comb4-2	Combination	Max	-0.0543	1.2363	25.2307	-0.0047	1.572	0
CIMENTACION	11	9	Comb4-2	Combination	Min	-2.9387	0.3704	21.3633	-2.0663	-5.4298	0
CIMENTACION	11	9	Comb4-3	Combination	Max	-0.0543	1.2363	25.2307	-0.0047	1.572	0
CIMENTACION	11	9	Comb4-3	Combination	Min	-2.9387	0.3704	21.3633	-2.0663	-5.4298	0
CIMENTACION	11	9	Comb4-4	Combination	Max	-1.0636	2.2456	25.4472	2.3982	-0.8779	0
CIMENTACION	11	9	Comb4-4	Combination	Min	-1.9295	-0.6388	21.1469	-4.4692	-2.9799	0
CIMENTACION	11	9	Comb4-5	Combination	Max	-1.0636	2.2456	25.4472	2.3982	-0.8779	0
CIMENTACION	11	9	Comb4-5	Combination	Min	-1.9295	-0.6388	21.1469	-4.4692	-2.9799	0
CIMENTACION	11	9	Comb4-6	Combination	Max	-1.0636	2.2456	25.4472	2.3982	-0.8779	0
CIMENTACION	11	9	Comb4-6	Combination	Min	-1.9295	-0.6388	21.1469	-4.4692	-2.9799	0
CIMENTACION	11	9	Comb4-7	Combination	Max	-1.0636	2.2456	25.4472	2.3982	-0.8779	0
CIMENTACION	11	9	Comb4-7	Combination	Min	-1.9295	-0.6388	21.1469	-4.4692	-2.9799	0
CIMENTACION	11	9	Comb5	Combination		-1.3111	0.7042	19.9857	-0.9077	-1.6899	0

5.4 Modal Results

Table 5.8 - Modal Periods And Frequencies

Case	Mode	Period sec	Frequency cyc/sec	CircFreq rad/sec	Eigenvalue rad2/sec2
Modal	1	0.173	5.793	36.3982	1324.8272
Modal	2	0.169	5.915	37.1669	1381.3806
Modal	3	0.131	7.661	48.1346	2316.9371

Table 5.9 - Modal Participating Mass Ratios (Part 1 of 2)

Case	Mode	Period sec	UX	UY	UZ	SumUX	SumUY	SumUZ	RX	RY	RZ	SumRX
Modal	1	0.173	1	0	0	1	0	0	0	1	0	0
Modal	2	0.169	0	1	0	1	1	0	1	0	0	1
Modal	3	0.131	0	0	0	1	1	0	0	0	1	1

Table 5.9 - Modal Participating Mass Ratios (Part 2 of 2)

SumRY	SumRZ
1	0
1	0
1	1

Table 5.10 - Modal Load Participation Ratios

Case	ItemType	Item	Static %	Dynamic %
Modal	Acceleration	UX	100	100
Modal	Acceleration	UY	100	100
Modal	Acceleration	UZ	0	0

Table 5.11 - Modal Direction Factors

Case	Mode	Period sec	UX	UY	UZ	RZ
Modal	1	0.173	1	0	0	0
Modal	2	0.169	0	1	0	0
Modal	3	0.131	0	0	0	1

6 Design Data

This chapter provides design data and results.

6.1 Steel Frame Design

Table 6.1 - Steel Frame Design Preferences - AISC 360-16

Item	Value
Multi-Response Design	Step-by-Step - All
Frame Type	SMF
Seismic Design Category	D
Importance Factor	1
Design System Rho	7
Design System Sds	0.5
Design System R	7
Design System Omega0	3
Design System Cd	5.5
Design Provision	LRFD
Analysis Method	Direct Analysis
Second Order Method	General 2nd Order
Stiffness Reduction Method	Tau-b Fixed
Add Notional Load Case	No
Beta Factor	1.3
Beta Omega Factor	1.6
Phi (Bending)	0.9
Phi (Compression)	0.9
Phi (Tension-Yielding)	0.9
Phi (Tension-Fracture)	0.75
Phi (Shear)	0.9
Phi (Shear-Short Webbed Rolled I)	1
Phi (Torsion)	0.9
Ignore Seismic Code?	Yes
Ignore Special Seismic Load?	Yes
Doubler Plate Plug-Welded?	Yes
HSS Welding Type	ERW
Reduced HSS Thickness	No
Consider Deflection?	Yes
DL Ratio	120
SDL+LL Ratio	120
LL Ratio	360
Total Ratio	240
Total Camber Limit	240
Pattern Live Load Factor	0.75
D/C Ratio Limit	0.95
Maximum Iterations	1

Table 6.2 - Steel Frame Design Overwrites - AISC 360-16 (Part 1 of 5)

Story	Label	Unique Name	Design Type	Design Section	Frame Type	Omega0	Connection Type	Relative Hinge Distance Sh/L Left
CUBIERTA	B7	5	Beam	Program Determined	Program Determined	0	Program Determined	0
CUBIERTA	B8	6	Beam	Program Determined	Program Determined	0	Program Determined	0
CUBIERTA	B9	7	Beam	Program Determined	Program Determined	0	Program Determined	0
CUBIERTA	B10	8	Beam	Program Determined	Program Determined	0	Program Determined	0

Table 6.2 - Steel Frame Design Overwrites - AISC 360-16 (Part 2 of 5)

Yield Line Yc/h Parameter	Relative Hinge Distance Sh/L Right	BRB Beta Factor	BRB Beta*Omega Factor	Perform RBS Capacity Design	Check Deflection?	Deflection Type	DL Ratio
0	0	0	0	Program Determined	Program Determined	Program Determined	0
0	0	0	0	Program Determined	Program Determined	Program Determined	0
0	0	0	0	Program Determined	Program Determined	Program Determined	0
0	0	0	0	Program Determined	Program Determined	Program Determined	0

Table 6.2 - Steel Frame Design Overwrites - AISC 360-16 (Part 3 of 5)

LL Ratio	Total Ratio	Camber Ratio	Specified Camber mm	Net Area Ratio	LLRF	Unbraced Length Ratio Major	Unbraced Length Ratio Minor	Unbraced Length Ratio (LTB)	Effective Length Factor 1 Major	Effective Length Factor 1 Minor
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0

Table 6.2 - Steel Frame Design Overwrites - AISC 360-16 (Part 4 of 5)

Effective Length Factor 2 Minor	Effective Length Factor (KLTB)	Moment Coefficient (Cm Major)	Moment Coefficient (Cm Minor)	Bending Coefficient (Cb)	Nonsway Moment Factor (B1 Major)	Nonsway Moment Factor (B1 Minor)	Sway Moment Factor (B2 Major)	Sway Moment Factor (B2 Minor)
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

Table 6.2 - Steel Frame Design Overwrites - AISC 360-16 (Part 5 of 5)

HSS Welding Type?	Yield stress, Fy MPa	Expected to specified Fy ratio, Ry	Compressive Capacity, Pnc kN	Tensile Capacity, Pnt kN	Major Bending Capacity, Mn3 kN-m	Minor Bending Capacity, Mn2 kN-m	Major Shear Capacity, Vn2 kN	Minor Shear Capacity, Vn3 kN
Program Determined	0	0	0	0	0	0	0	0
Program Determined	0	0	0	0	0	0	0	0
Program Determined	0	0	0	0	0	0	0	0
Program Determined	0	0	0	0	0	0	0	0

Table 6.3 - Steel Beam Envelope - AISC 360-16

Story	Label	UniqueName	Section	Moment Interaction Check	PMM Combo	V22 Ratio	V33 Ratio	Section Class	Conn. V I-End kN	Conn. V J-End kN
CUBIERTA	B7	5	IPE240	0.063 = 0 + 0.063 + 0	Comb3	0.027	0	Seismic HD	8.227	8.227
CUBIERTA	B8	6	IPE240	0.027 = 0 + 0.027 + 0	Comb4-7	0.025	0	Seismic HD	7.559	7.559
CUBIERTA	B9	7	IPE240	0.027 = 0 + 0.027 + 0	Comb4-7	0.025	0	Seismic HD	7.559	7.559
CUBIERTA	B10	8	IPE240	0.063 = 0 + 0.063 + 0	Comb3	0.027	0	Seismic HD	8.227	8.227

6.2 Concrete Frame Design

Table 6.4 - Concrete Column Overwrites - ACI 318-19 (Part 1 of 2)

Story	Label	Unique Name	Design Type	Design Section	Frame Type	LLRF	Unbraced Length Ratio (Major)	Unbraced Length Ratio (Minor)
CUBIERTA	C4	3	Column	Program Determined	Program Determined	0	0	0
CUBIERTA	C5	1	Column	Program Determined	Program Determined	0	0	0
CUBIERTA	C6	2	Column	Program Determined	Program Determined	0	0	0
CUBIERTA	C7	4	Column	Program Determined	Program Determined	0	0	0

Table 6.4 - Concrete Column Overwrites - ACI 318-19 (Part 2 of 2)

Effective Length Factor (K Major)	Effective Length Factor (K Minor)	Moment Coefficient (Cm Major)	Moment Coefficient (Cm Minor)	Non Sway Moment Factor (Dns Major)	Non Sway Moment Factor (Dns Minor)	Sway Moment Factor (Ds Major)	Sway Moment Factor (Ds Minor)	Consider Minimum Eccentricity?
0	0	0	0	0	0	0	0	Program Determined
0	0	0	0	0	0	0	0	Program Determined
0	0	0	0	0	0	0	0	Program Determined
0	0	0	0	0	0	0	0	Program Determined

Table 6.5 - Concrete Column PMM Envelope - ACI 318-19

Story	Label	UniqueName	Section	Location	P kN	M Major kN-m	M Minor kN-m	PMM Combo	PMM Ratio or Rebar %
CUBIERTA	C4	3	COLUMNA	Top	12.0493	5.3637	2.4761	Comb4-3	0.116
CUBIERTA	C4	3	COLUMNA	Bottom	25.2307	-5.5071	-2.0958	Comb4-3	0.109
CUBIERTA	C5	1	COLUMNA	Top	12.0493	5.3637	-2.4761	Comb4-3	0.116
CUBIERTA	C5	1	COLUMNA	Bottom	25.2307	-5.5071	2.0958	Comb4-3	0.109
CUBIERTA	C6	2	COLUMNA	Top	12.0493	-5.3637	-2.4761	Comb4-3	0.116
CUBIERTA	C6	2	COLUMNA	Bottom	25.2307	5.5071	2.0958	Comb4-3	0.109
CUBIERTA	C7	4	COLUMNA	Top	12.0493	-5.3637	2.4761	Comb4-3	0.116
CUBIERTA	C7	4	COLUMNA	Bottom	25.2307	5.5071	-2.0958	Comb4-3	0.109

Table 6.6 - Concrete Column Shear Envelope - ACI 318-19

Story	Label	UniqueName	Section	Location	V Major kN	V Major Combo	At Major mm2/m	V Minor kN	V Minor Combo	At Minor mm2/m
CUBIERTA	C4	3	COLUMNA	Top	1.9295		0	2.2456		0
CUBIERTA	C4	3	COLUMNA	Bottom	1.9295		0	2.2456		0
CUBIERTA	C5	1	COLUMNA	Top	1.9295		0	2.2456		0
CUBIERTA	C5	1	COLUMNA	Bottom	1.9295		0	2.2456		0
CUBIERTA	C6	2	COLUMNA	Top	1.9295		0	2.2456		0
CUBIERTA	C6	2	COLUMNA	Bottom	1.9295		0	2.2456		0
CUBIERTA	C7	4	COLUMNA	Top	1.9295		0	2.2456		0
CUBIERTA	C7	4	COLUMNA	Bottom	1.9295		0	2.2456		0

Table 6.7 - Concrete Joint Envelope - ACI 318-19

Story	Label	UniqueName	Section	B/C Major Combo	B/C Major Ratio	B/C Minor Combo	B/C Minor Ratio	JS Major Combo	JS Major Ratio	JS Minor Combo	JS Minor Ratio
CUBIERTA	C4	3	COLUMNA								
CUBIERTA	C5	1	COLUMNA								
CUBIERTA	C6	2	COLUMNA								
CUBIERTA	C7	4	COLUMNA								

6.3 Composite Beam Design

Table 6.8 - Composite Beam Design Preferences - AISC 360-16

Item	Value
Shored?	No
Middle Range %	70
Pattern Live Load Factor	0.75
D/C Ratio Limit	1
Minimum PCC %	25
Maximum PCC %	100
Single Segment?	No
Min. Long. Spacing mm	114.3

Table 6.8 - Composite Beam Design Preferences - AISC 360-16 (continued)

Item	Value
Max. Long. Spacing mm	914.4
Min. Trans. Spacing mm	76.2
Max. Studs Per Row	3
Position of Studs	Weak Position
Camber?	Yes
Camber DL %	80
Min. Beam Depth mm	342.9
Min. Web Thick. mm	6.4
Min. Beam Span m	7.3152
Min. Camber, abs mm	19.1
Minimum Camber, L/	900
Camber Abs. Max Limit mm	152.4
Camber Max Ratio	180
Camber Interval mm	6.35
Round Camber Down?	True
Pre-Comp DL Ratio	0
SDL+LL Ratio	240
LL Ratio	360
Net Ratio	240
Ieff reduction Factor	1
Vibration Criterion	Walking
Occupancy Category	Paper Office
Walking Acceleration Limit, a0/g	0.005
Damping Ratio - Walking	0.025
Optimize Price?	Yes
Steel Price ($)	1
Stud Price ($)	2
Camber Price ($)	0.1
phi-b	0.9
phi-bcpp	0.9
phi-v	0.9
Reaction Factor	1

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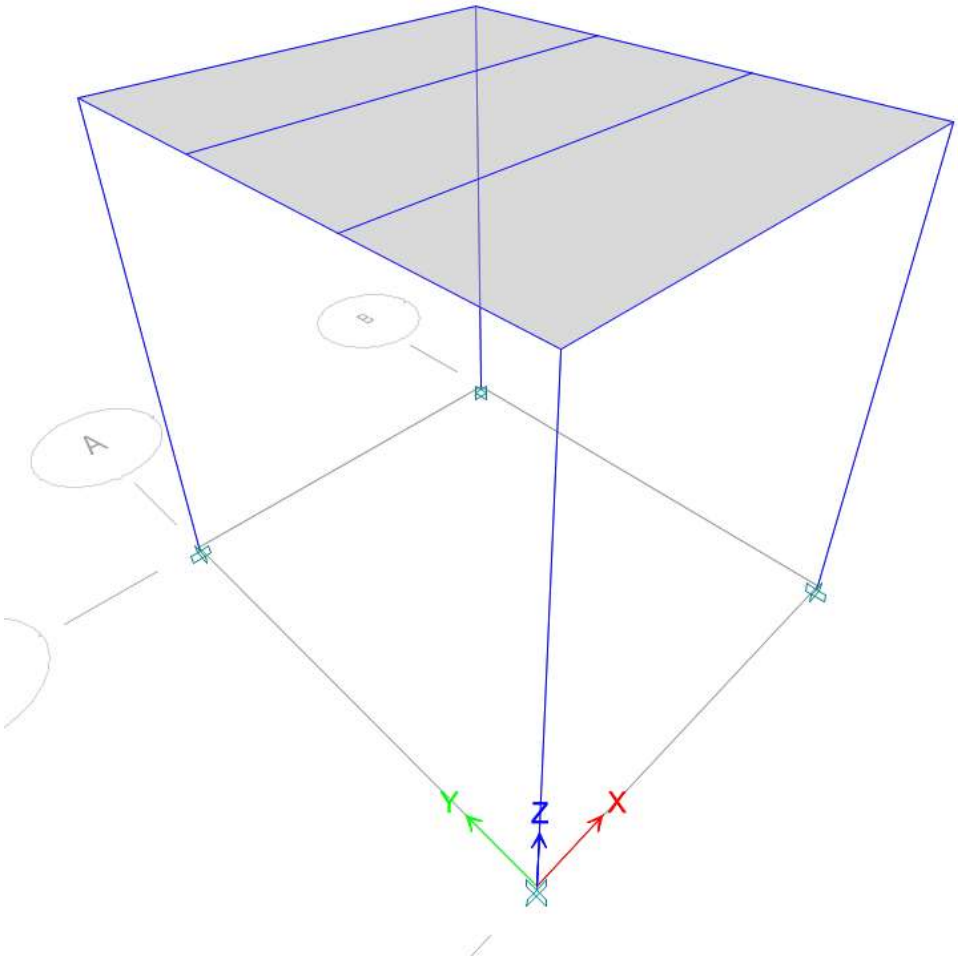


Project Report

CUARTO BASURAS

Model File: BASURAS, Revision 0

04/05/2023

1 Structure Data

This chapter provides model geometry information, including items such as story levels, point coordinates, and element connectivity.

1.1 Story Data

Table 1.1 - Story Definitions

Tower	Name	Height m	Master Story	Similar To	Splice Story	Color
T1	CUBIERTA	4.15	No	None	No	Gray8Dark

1.2 Grid Data

Table 1.2 - Grid Definitions - General

Tower	Name	Type	Ux m	Uy m	Rz deg	Story Range	Bubble Size mm	Color
T1	G1	Cartesian	0	0	0	Default	1250	Gray6

Table 1.3 - Grid Definitions - Grid Lines

Name	Grid Line Type	ID	Ordinate m	Bubble Location	Visible
G1	X (Cartesian)	A	0	End	Yes
G1	X (Cartesian)	B	3.6	End	Yes
G1	Y (Cartesian)	1	0	Start	Yes
G1	Y (Cartesian)	2	4.25	Start	Yes

1.3 Point Coordinates

Table 1.4 - Point Bays

Label	Is Auto Point	X m	Y m	DZBelow m
1	No	0	0	0
2	No	0	4.25	0
3	Yes	1.8	2.125	0
4	No	3.6	1.4167	0
5	No	0	1.4167	0
7	No	3.6	4.25	0
8	No	3.6	2.8333	0
9	No	0	2.8333	0
12	No	3.6	0	0

1.4 Line Connectivity

Table 1.5 - Column Bays

Label	PointBayI	PointBayJ	IEndStory
C1	2	2	Below
C2	7	7	Below
C3	12	12	Below
C4	1	1	Below

Table 1.6 - Beam Bays

Label	PointBayI	PointBayJ
B1	1	2
B2	12	7
B3	1	12
B4	2	7
B5	5	4
B6	9	8

1.5 Area Connectivity

Table 1.7 - Floor Bays

Label	NumPoints	PointNumber	PointBay
F3	4	1	2
F3		2	7
F3		3	12
F3		4	1

1.6 Mass

Table 1.8 - Mass Source Definition

Name	Is Default	Include Lateral Mass?	Include Vertical Mass?	Lump Mass?	Source Self Mass?	Source Added Mass?	Source Load Patterns?	Move Mass Centroid?	Load Pattern	Multiplier
MsSrc1	Yes	Yes	No	Yes	No	No	Yes	No	Peso Propio	1
MsSrc1									Adicional	1

Table 1.9 - Centers Of Mass And Rigidity

Story	Diaphragm	Mass X kg	Mass Y kg	XCM m	YCM m	Cum Mass X kg	Cum Mass Y kg	XCCM m	YCCM m	XCR m	YCR m
CUBIERTA	D1	18661.32	18661.32	1.8	2.125	18661.32	18661.32	1.8	2.125		

Table 1.10 - Mass Summary by Diaphragm

Story	Diaphragm	Mass X kg	Mass Y kg	Mass Moment of Inertia ton-m2	X Mass Center m	Y Mass Center m
CUBIERTA	D1	18661.32	18661.32	127.8589	1.8	2.125

Table 1.11 - Mass Summary by Story

Story	UX kg	UY kg	UZ kg
CUBIERTA	18661.32	18661.32	0
CIMENTACION	1794.87	1794.87	0

Table 1.12 - Mass Summary by Group

Group	Self Mass kg	Self Weight kN	Mass X kg	Mass Y kg	Mass Z kg
All	0	70.7716	20456.18	20456.18	0

1.7 Groups

Table 1.13 - Group Definitions

Name	Color	Steel Design?	Concrete Design?	Composite Design?
All	Yellow	No	No	No

2 Properties

This chapter provides property information for materials, frame sections, shell sections, and links.

2.1 Materials

Table 2.1 - Material Properties - General

Material	Type	SymType	Grade	Color	Notes
3000Psi	Concrete	Isotropic	f'c 3000 psi	Yellow	
4000Psi	Concrete	Isotropic	f'c 4000 psi	Gray8Dark	
A416Gr270	Tendon	Uniaxial	Grade 270	Green	
A572Gr50	Steel	Isotropic	Grade 50	White	
A615Gr60	Rebar	Uniaxial	Grade 60	Blue	
A992Fy50	Steel	Isotropic	Grade 50	Yellow	

2.2 Frame Sections

Table 2.2 - Frame Section Property Definitions - Summary (Part 1 of 3)

Name	Material	Shape	Color	Area cm2	J cm4	I33 cm4	I22 cm4	As2 cm2	As3 cm2	S33Pos cm3
COLUMNA	3000Psi	Concrete Rectangular	Green	900	114075	67500	67500	750	750	4500
HE300A	A992Fy50	Steel I/Wide Flange	Gray8Dark	113	87.8	18260	6310	24.7	70	1259.3
HE340A	A572Gr50	Steel I/Wide Flange	Red	133	131	27690	7436	31.4	82.5	1678.2
HE360A	A572Gr50	Steel I/Wide Flange	Magenta	143	153	33090	7887	35	87.5	1890.9
IPE200	A572Gr50	Steel I/Wide Flange	Blue	28.5	6.9	1943	142	11.2	14.2	194.3
IPE220	A572Gr50	Steel I/Wide Flange	Cyan	33.4	9	2772	205	13	16.9	252
IPE240	A572Gr50	Steel I/Wide Flange	Red	39.1	13	3892	284	14.9	19.6	324.3
IPE360	A572Gr50	Steel I/Wide Flange	Blue	72.7	37.4	16270	1043	28.8	36	903.9
IPE400	A572Gr50	Steel I/Wide Flange	Magenta	84.5	51.3	23130	1318	34.4	40.5	1156.5

Table 2.2 - Frame Section Property Definitions - Summary (Part 2 of 3)

S33Neg cm3	S22Pos cm3	S22Neg cm3	Z33 cm3	Z22 cm3	R33 mm	R22 mm	Cw cm6	Fillet Radius mm	CG Offset 3 mm	CG Offset 2 mm	PNA Offset 3 mm	PNA Offset 2 mm
4500	4500	4500	6750	6750	86.6	86.6			0	0	0	0
1259.3	420.7	420.7	1383	641	127.1	74.7	1199772	27	0	0	0	0
1678.2	495.7	495.7	1850	756	144.3	74.8	1824364.3	27	0	0	0	0
1890.9	525.8	525.8	2088	802	152.1	74.3	2176576.2	27	0	0	0	0
194.3	28.4	28.4	221	44.6	82.6	22.3	12988.1	12	0	0	0	0
252	37.3	37.3	285	58.1	91.1	24.8	22672.3	12	0	0	0	0
324.3	47.3	47.3	367	73.9	99.8	27	37391.2	15	0	0	0	0
903.9	122.7	122.7	1019	191	149.6	37.9	313580.3	18	0	0	0	0
1156.5	146.4	146.4	1307	229	165.4	39.5	490048.5	21	0	0	0	0

Table 2.2 - Frame Section Property Definitions - Summary (Part 3 of 3)

As2 Modifier	As3 Modifier	J Modifier	I33 Modifier	I22 Modifier	Mass Modifier	Weight Modifier
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1

2.3 Shell Sections

Table 2.3 - Area Section Property Definitions - Summary

Name	Type	Element Type	Material	Total Thickness mm	Deck Material	Deck Depth mm
LAMINA COLABORANTE	Deck	Membrane	3000Psi	100	A572Gr50	45
Stiff1	Slab	Shell-Thin	4000Psi	100		
Wall1	Wall	Shell-Thin	4000Psi	250		

2.4 Reinforcement Sizes

Table 2.4 - Reinforcing Bar Sizes

Name	Diameter mm	Area cm2
#2	6.4	0.3
#3	9.5	0.7
#4	12.7	1.3
#5	15.9	2
#6	19.1	2.8
#7	22.2	3.9
#8	25.4	5.1
#9	28.7	6.5
#10	32.3	8.2
#11	35.8	10.1
#14	43	14.5
#18	57.3	25.8

2.5 Links

Table 2.5 - Link Property Definitions - Summary

Name	Type	Degrees of Freedom	Mass kg	Weight kN	Defined Length m	Defined Area m2
Link1	Linear	U1	0	0	1	1

2.6 Spring Properties

Table 2.6 - Spring Property Definitions - Isolated Column Footings

Name	Length mm	Width mm	Thickness mm	Embedment Source	Color	Notes
ZAPATA	1000	1000	350	Program Determined	Red	

2.7 Tendon Sections

Table 2.7 - Tendon Section Properties

Name	Material	StrandArea cm2	Color	Notes
Tendon1	A416Gr270	1	Yellow	

3 Assignments

This chapter provides a listing of the assignments applied to the model.

3.1 Joint Assignments

Table 3.1 - Joint Assignments - Summary

Story	Label	UniqueName	Diaphragm	Restraints
CUBIERTA	1	38	From Area	
CUBIERTA	2	27	From Area	
CUBIERTA	7	33	From Area	
CUBIERTA	12	44	From Area	
CUBIERTA	4	5	From Area	
CUBIERTA	5	6	From Area	
CUBIERTA	8	8	From Area	
CUBIERTA	9	9	From Area	
CUBIERTA	3	7	D1	
CIMENTACION	1	3	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	2	1	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	7	2	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	12	4	From Area	UX; UY; UZ; RX; RY; RZ

3.2 Frame Assignments

Table 3.2 - Frame Assignments - Summary

Story	Label	UniqueName	Design Type	Length m	Analysis Section	Design Section	Max Station Spacing m	Min Number Stations	Releases
CUBIERTA	B1	10	Beam	4.25	IPE240	IPE240	0.5		
CUBIERTA	B2	11	Beam	4.25	IPE240	IPE240	0.5		
CUBIERTA	B3	12	Beam	3.6	IPE240	IPE240	0.5		
CUBIERTA	B4	13	Beam	3.6	IPE240	IPE240	0.5		
CUBIERTA	B5	5	Beam	3.6	IPE200	IPE200	0.5		Yes
CUBIERTA	B6	6	Beam	3.6	IPE200	IPE200	0.5		Yes
CUBIERTA	C1	1	Column	4.15	COLUMNA	COLUMNA		3	
CUBIERTA	C2	2	Column	4.15	COLUMNA	COLUMNA		3	
CUBIERTA	C3	4	Column	4.15	COLUMNA	COLUMNA		3	
CUBIERTA	C4	3	Column	4.15	COLUMNA	COLUMNA		3	

3.3 Shell Assignments

Table 3.3 - Area Assignments - Summary

Story	Label	UniqueName	Section Property	Property Type	Diaphragm	Axis Angle deg
CUBIERTA	F3	2	LAMINA COLABORANTE	Deck	D1	90

4 Loads

This chapter provides loading information as applied to the model.

4.1 Load Patterns

Table 4.1 - Load Pattern Definitions

Name	Is Auto Load	Type	Self Weight Multiplier	Auto Load
~LLRF	Yes	Other	0	
Adicional	No	Super Dead	0	
FHEX	No	Seismic	0	User Coefficient
FHEY	No	Seismic	0	User Coefficient
Peso Propio	No	Dead	1	
SX	No	Seismic	0	User Loads
SY	No	Seismic	0	User Loads
Viva	No	Live	0	

4.2 Auto Seismic Loading

User Loads Auto Seismic Load Calculation

This calculation presents the user defined lateral seismic loads for load pattern SX.

Lateral Forces

User Loads Auto Seismic Load Calculation

This calculation presents the user defined lateral seismic loads for load pattern SY.

Lateral Forces

User Coefficient Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern FHEX using the user input coefficients, as calculated by ETABS.

Direction and Eccentricity

Direction = X

Factors and Coefficients

Equivalent Lateral Forces

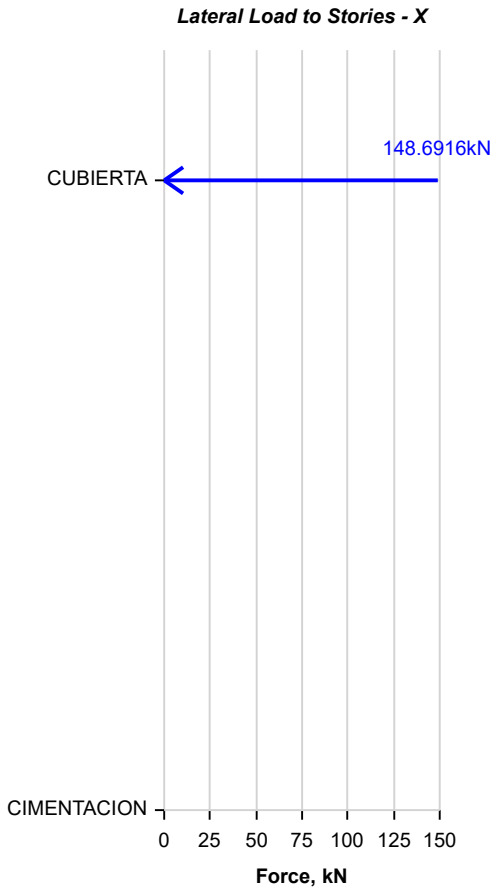
Base Shear Coefficient, C $C = 0.8125$

Base Shear, V $V = CW$

Calculated Base Shear

Direction	Period Used (sec)	C	W (kN)	V (kN)
X	0	0	183.005	148.6916

Applied Story Forces



Story	Elevation	X-Dir	Y-Dir
	m	kN	kN
CUBIERTA	4.15	148.6916	0
CIMENTACION	0	0	0

User Coefficient Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern FHEY using the user input coefficients, as calculated by ETABS.

Direction and Eccentricity

Direction = Y

Factors and Coefficients

Equivalent Lateral Forces

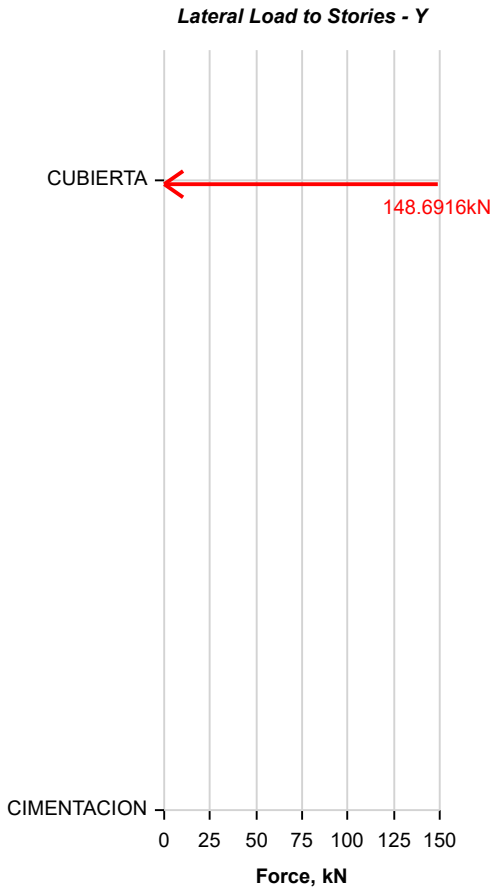
Base Shear Coefficient, C $C = 0.8125$

Base Shear, V $V = CW$

Calculated Base Shear

Direction	Period Used (sec)	C	W (kN)	V (kN)
Y	0	0	183.005	148.6916

Applied Story Forces



Story	Elevation	X-Dir	Y-Dir
	m	kN	kN
CUBIERTA	4.15	0	148.6916
CIMENTACION	0	0	0

4.3 Applied Loads

4.3.1 Point Loads

Table 4.6 - Joint Loads Assignments - Force

Story	Label	UniqueName	Load Pattern	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m	X Dimension mm	Y Dimension mm
CUBIERTA	1	38	Adicional	0	0	-25	0	0	0	0	0
CUBIERTA	2	27	Adicional	0	0	-25	0	0	0	0	0
CUBIERTA	7	33	Adicional	0	0	-25	0	0	0	0	0
CUBIERTA	12	44	Adicional	0	0	-25	0	0	0	0	0

4.3.2 Area Loads

Table 4.7 - Area Load Assignments - Uniform

Story	Label	UniqueName	Load Pattern	Direction	Load kN/m2
CUBIERTA	F3	2	Viva	Gravity	1.8
CUBIERTA	F3	2	Adicional	Gravity	1.95

4.4 Functions

4.4.1 Response Spectrum Functions

Table 4.8 - Functions - Response Spectrum - Columbia NSR-10

Name	Period sec	Value	Aa	Av	Ae	Ad	Group of Use	Fa	Fv	Damping Ratio
NSR-10	0	0.8125	0.25	0.2	0.08	0.05	1	1.3	2	0.05
NSR-10	0.1	0.8125								
NSR-10	0.2	0.8125								
NSR-10	0.3	0.8125								
NSR-10	0.4	0.8125								
NSR-10	0.5	0.8125								
NSR-10	0.6	0.8								
NSR-10	0.7	0.685714								
NSR-10	0.8	0.6								
NSR-10	0.9	0.533333								
NSR-10	1	0.48								
NSR-10	1.2	0.4								
NSR-10	1.5	0.32								
NSR-10	1.7	0.282353								
NSR-10	2	0.24								
NSR-10	2.5	0.192								
NSR-10	3	0.16								
NSR-10	3.5	0.137143								
NSR-10	4	0.12								

Table 4.8 - Functions - Response Spectrum - Columbia NSR-10 (continued)

Name	Period sec	Value	Aa	Av	Ae	Ad	Group of Use	Fa	Fv	Damping Ratio
NSR-10	5	0.09216								
NSR-10	8	0.036								
NSR-10	11	0.019041								
NSR-10	15	0.01024								

4.5 Load Cases

Table 4.9 - Load Case Definitions - Summary

Name	Type
Dead	Linear Static
Adicional	Linear Static
Viva	Linear Static
Modal	Modal - Eigen
SX	Response Spectrum
SY	Response Spectrum
FHEX	Linear Static
FHEY	Linear Static

4.6 Load Combinations

Table 4.10 - Load Combination Definitions

Name	Type	Is Auto	Load Name	SF	Notes
Comb1	Linear Add	No	Dead	1	
Comb1			Adicional	1	
Comb2	Linear Add	No	Comb1	1.4	
Comb3	Linear Add	No	Comb1	1.2	
Comb3			Viva	1.6	
Comb4	Linear Add	No	Comb1	1.2	
Comb4			SX	0.142857	
Comb4			SY	0.042857	
Comb4			Viva	1	
Comb4-1	Linear Add	No	Comb1	1.2	
Comb4-1			SX	0.1429	
Comb4-1			SY	-0.0429	
Comb4-1			Viva	1	
Comb4-2	Linear Add	No	Comb1	1.2	
Comb4-2			SX	-0.1429	
Comb4-2			SY	-0.0429	
Comb4-2			Viva	1	
Comb4-3	Linear Add	No	Comb1	1.2	
Comb4-3			SX	-0.1429	
Comb4-3			SY	0.0429	
Comb4-3			Viva	1	
Comb4-4	Linear Add	No	Comb1	1.2	

Table 4.10 - Load Combination Definitions (continued)

Name	Type	Is Auto	Load Name	SF	Notes
Comb4-4			SX	0.0429	
Comb4-4			SY	0.1429	
Comb4-4			Viva	1	
Comb4-5	Linear Add	No	Comb1	1.2	
Comb4-5			SX	-0.0429	
Comb4-5			SY	0.1429	
Comb4-5			Viva	1	
Comb4-6	Linear Add	No	Comb1	1.2	
Comb4-6			SX	-0.0429	
Comb4-6			SY	-0.1429	
Comb4-6			Viva	1	
Comb4-7	Linear Add	No	Comb1	1.2	
Comb4-7			SX	0.0429	
Comb4-7			SY	-0.1429	
Comb4-7			Viva	1	
Comb5	Linear Add	No	Comb1	1	
Comb5			Viva	1	

5 Analysis Results

This chapter provides analysis results.

5.1 Structure Results

Table 5.1 - Base Reactions

Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m	X m	Y m	Z m
Dead	LinStatic		0	0	70.7716	150.3897	-127.389	0	0	0	0
Adicional	LinStatic		0	0	129.835	275.8994	-233.703	0	0	0	0
Viva	LinStatic		0	0	27.54	58.5225	-49.572	0	0	0	0
SX	LinRespSpec	Max	148.6916	0	0	0	617.0699	315.9695	0	0	0
SY	LinRespSpec	Max	0	148.6916	0	617.0699	0	267.6448	0	0	0
FHEX	LinStatic		-148.6916	0	0	0	-617.0699	315.9696	0	0	0
FHEY	LinStatic		0	-148.6916	0	617.0699	0	-267.6448	0	0	0
Comb1	Combination		0	0	200.6066	426.2891	-361.092	0	0	0	0
Comb2	Combination		0	0	280.8493	596.8048	-505.5287	0	0	0	0
Comb3	Combination		0	0	284.792	605.1829	-512.6255	0	0	0	0
Comb4	Combination	Max	21.2417	6.3725	268.268	596.5153	-394.7295	56.609	0	0	0
Comb4	Combination	Min	-21.2417	-6.3725	268.268	543.6236	-571.0352	-56.609	0	0	0
Comb4-1	Combination	Max	21.248	6.3789	268.268	596.5417	-394.7031	56.634	0	0	0
Comb4-1	Combination	Min	-21.248	-6.3789	268.268	543.5971	-571.0616	-56.634	0	0	0
Comb4-2	Combination	Max	21.248	6.3789	268.268	596.5417	-394.7031	56.634	0	0	0
Comb4-2	Combination	Min	-21.248	-6.3789	268.268	543.5971	-571.0616	-56.634	0	0	0
Comb4-3	Combination	Max	21.248	6.3789	268.268	596.5417	-394.7031	56.634	0	0	0
Comb4-3	Combination	Min	-21.248	-6.3789	268.268	543.5971	-571.0616	-56.634	0	0	0
Comb4-4	Combination	Max	6.3789	21.248	268.268	658.2487	-456.41	51.8015	0	0	0
Comb4-4	Combination	Min	-6.3789	-21.248	268.268	481.8901	-509.3546	-51.8015	0	0	0
Comb4-5	Combination	Max	6.3789	21.248	268.268	658.2487	-456.41	51.8015	0	0	0
Comb4-5	Combination	Min	-6.3789	-21.248	268.268	481.8901	-509.3546	-51.8015	0	0	0
Comb4-6	Combination	Max	6.3789	21.248	268.268	658.2487	-456.41	51.8015	0	0	0
Comb4-6	Combination	Min	-6.3789	-21.248	268.268	481.8901	-509.3546	-51.8015	0	0	0
Comb4-7	Combination	Max	6.3789	21.248	268.268	658.2487	-456.41	51.8015	0	0	0
Comb4-7	Combination	Min	-6.3789	-21.248	268.268	481.8901	-509.3546	-51.8015	0	0	0
Comb5	Combination		0	0	228.1466	484.8116	-410.664	0	0	0	0

Table 5.2 - Centers Of Mass And Rigidity

Story	Diaphragm	Mass X kg	Mass Y kg	XCM m	YCM m	Cum Mass X kg	Cum Mass Y kg	XCCM m	YCCM m	XCR m	YCR m
CUBIERTA	D1	18661.32	18661.32	1.8	2.125	18661.32	18661.32	1.8	2.125		

Table 5.3 - Diaphragm Center Of Mass Displacements

Story	Diaphragm	Output Case	Case Type	Step Type	UX mm	UY mm	RZ rad	Point	X m	Y m	Z m
CUBIERTA	D1	Dead	LinStatic		0	0	0	7	1.8	2.125	4.15
CUBIERTA	D1	Adicional	LinStatic		0	0	0	7	1.8	2.125	4.15
CUBIERTA	D1	Viva	LinStatic		0	0	0	7	1.8	2.125	4.15

Table 5.3 - Diaphragm Center Of Mass Displacements (continued)

Story	Diaphragm	Output Case	Case Type	Step Type	UX mm	UY mm	RZ rad	Point	X m	Y m	Z m
CUBIERTA	D1	SX	LinRespSpec	Max	27.488	5.362E-12	0	7	1.8	2.125	4.15
CUBIERTA	D1	SY	LinRespSpec	Max	5.362E-12	28.861	0	7	1.8	2.125	4.15
CUBIERTA	D1	FHEX	LinStatic		27.488	0	0	7	1.8	2.125	4.15
CUBIERTA	D1	FHEY	LinStatic		0	28.861	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb1	Combination		0	0	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb2	Combination		0	0	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb3	Combination		0	0	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb4	Combination	Max	3.927	1.237	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb4	Combination	Min	-3.927	-1.237	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb4-1	Combination	Max	3.928	1.238	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb4-1	Combination	Min	-3.928	-1.238	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb4-2	Combination	Max	3.928	1.238	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb4-2	Combination	Min	-3.928	-1.238	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb4-3	Combination	Max	3.928	1.238	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb4-3	Combination	Min	-3.928	-1.238	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb4-4	Combination	Max	1.179	4.124	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb4-4	Combination	Min	-1.179	-4.124	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb4-5	Combination	Max	1.179	4.124	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb4-5	Combination	Min	-1.179	-4.124	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb4-6	Combination	Max	1.179	4.124	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb4-6	Combination	Min	-1.179	-4.124	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb4-7	Combination	Max	1.179	4.124	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb4-7	Combination	Min	-1.179	-4.124	0	7	1.8	2.125	4.15
CUBIERTA	D1	Comb5	Combination		0	0	0	7	1.8	2.125	4.15

5.2 Story Results

Table 5.4 - Story Max Over Avg Displacements

Story	Output Case	Case Type	Step Type	Direction	Maximum mm	Average mm	Ratio
CUBIERTA	Dead	LinStatic		X	0	0	1.997
CUBIERTA	Adicional	LinStatic		X	0	0	1.507
CUBIERTA	Adicional	LinStatic		Y	0	0	2.112
CUBIERTA	Viva	LinStatic		X	0	0	1.098
CUBIERTA	SX	LinRespSpec	Max	X	27.488	27.488	1
CUBIERTA	SY	LinRespSpec	Max	Y	28.861	28.861	1
CUBIERTA	FHEX	LinStatic		X	27.488	27.488	1
CUBIERTA	FHEY	LinStatic		Y	28.861	28.861	1
CUBIERTA	Comb1	Combination		X	0	0	13.282
CUBIERTA	Comb1	Combination		Y	0	0	4.406
CUBIERTA	Comb2	Combination		X	0	0	13.282
CUBIERTA	Comb2	Combination		Y	0	0	4.406
CUBIERTA	Comb3	Combination		X	0	0	1.578
CUBIERTA	Comb3	Combination		Y	0	0	4.27
CUBIERTA	Comb4	Combination	Max	X	3.927	3.927	1
CUBIERTA	Comb4	Combination	Max	Y	1.237	1.237	1

Table 5.4 - Story Max Over Avg Displacements (continued)

Story	Output Case	Case Type	Step Type	Direction	Maximum mm	Average mm	Ratio
CUBIERTA	Comb4	Combination	Min	X	3.927	3.927	1
CUBIERTA	Comb4	Combination	Min	Y	1.237	1.237	1
CUBIERTA	Comb4-1	Combination	Max	X	3.928	3.928	1
CUBIERTA	Comb4-1	Combination	Max	Y	1.238	1.238	1
CUBIERTA	Comb4-1	Combination	Min	X	3.928	3.928	1
CUBIERTA	Comb4-1	Combination	Min	Y	1.238	1.238	1
CUBIERTA	Comb4-2	Combination	Max	X	3.928	3.928	1
CUBIERTA	Comb4-2	Combination	Max	Y	1.238	1.238	1
CUBIERTA	Comb4-2	Combination	Min	X	3.928	3.928	1
CUBIERTA	Comb4-2	Combination	Min	Y	1.238	1.238	1
CUBIERTA	Comb4-3	Combination	Max	X	3.928	3.928	1
CUBIERTA	Comb4-3	Combination	Max	Y	1.238	1.238	1
CUBIERTA	Comb4-3	Combination	Min	X	3.928	3.928	1
CUBIERTA	Comb4-3	Combination	Min	Y	1.238	1.238	1
CUBIERTA	Comb4-4	Combination	Max	X	1.179	1.179	1
CUBIERTA	Comb4-4	Combination	Max	Y	4.124	4.124	1
CUBIERTA	Comb4-4	Combination	Min	X	1.179	1.179	1
CUBIERTA	Comb4-4	Combination	Min	Y	4.124	4.124	1
CUBIERTA	Comb4-5	Combination	Max	X	1.179	1.179	1
CUBIERTA	Comb4-5	Combination	Max	Y	4.124	4.124	1
CUBIERTA	Comb4-5	Combination	Min	X	1.179	1.179	1
CUBIERTA	Comb4-5	Combination	Min	Y	4.124	4.124	1
CUBIERTA	Comb4-6	Combination	Max	X	1.179	1.179	1
CUBIERTA	Comb4-6	Combination	Max	Y	4.124	4.124	1
CUBIERTA	Comb4-6	Combination	Min	X	1.179	1.179	1
CUBIERTA	Comb4-6	Combination	Min	Y	4.124	4.124	1
CUBIERTA	Comb4-7	Combination	Max	X	1.179	1.179	1
CUBIERTA	Comb4-7	Combination	Max	Y	4.124	4.124	1
CUBIERTA	Comb4-7	Combination	Min	X	1.179	1.179	1
CUBIERTA	Comb4-7	Combination	Min	Y	4.124	4.124	1
CUBIERTA	Comb5	Combination		X	0	0	1.73
CUBIERTA	Comb5	Combination		Y	0	0	4.298

Table 5.5 - Story Drifts

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
CUBIERTA	Dead	LinStatic		X	0	12	3.6	0	4.15
CUBIERTA	Adicional	LinStatic		X	0	7	3.6	4.25	4.15
CUBIERTA	Adicional	LinStatic		Y	0	12	3.6	0	4.15
CUBIERTA	Viva	LinStatic		X	0	12	3.6	0	4.15
CUBIERTA	SX	LinRespSpec	Max	X	0.006624	12	3.6	0	4.15
CUBIERTA	SY	LinRespSpec	Max	Y	0.006955	1	0	0	4.15
CUBIERTA	FHEX	LinStatic		X	0.006624	12	3.6	0	4.15
CUBIERTA	FHEY	LinStatic		Y	0.006955	1	0	0	4.15
CUBIERTA	Comb1	Combination		X	0	12	3.6	0	4.15

Table 5.5 - Story Drifts (continued)

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
CUBIERTA	Comb1	Combination		Y	0	12	3.6	0	4.15
CUBIERTA	Comb2	Combination		X	0	12	3.6	0	4.15
CUBIERTA	Comb2	Combination		Y	0	12	3.6	0	4.15
CUBIERTA	Comb3	Combination		X	0	12	3.6	0	4.15
CUBIERTA	Comb3	Combination		Y	0	12	3.6	0	4.15
CUBIERTA	Comb4	Combination	Max	X	0.000946	12	3.6	0	4.15
CUBIERTA	Comb4	Combination	Max	Y	0.000298	1	0	0	4.15
CUBIERTA	Comb4	Combination	Min	X	0.000946	12	3.6	0	4.15
CUBIERTA	Comb4	Combination	Min	Y	0.000298	1	0	0	4.15
CUBIERTA	Comb4-1	Combination	Max	X	0.000946	12	3.6	0	4.15
CUBIERTA	Comb4-1	Combination	Max	Y	0.000298	1	0	0	4.15
CUBIERTA	Comb4-1	Combination	Min	X	0.000946	12	3.6	0	4.15
CUBIERTA	Comb4-1	Combination	Min	Y	0.000298	1	0	0	4.15
CUBIERTA	Comb4-2	Combination	Max	X	0.000946	12	3.6	0	4.15
CUBIERTA	Comb4-2	Combination	Max	Y	0.000298	1	0	0	4.15
CUBIERTA	Comb4-2	Combination	Min	X	0.000946	12	3.6	0	4.15
CUBIERTA	Comb4-2	Combination	Min	Y	0.000298	1	0	0	4.15
CUBIERTA	Comb4-3	Combination	Max	X	0.000946	12	3.6	0	4.15
CUBIERTA	Comb4-3	Combination	Max	Y	0.000298	1	0	0	4.15
CUBIERTA	Comb4-3	Combination	Min	X	0.000946	12	3.6	0	4.15
CUBIERTA	Comb4-3	Combination	Min	Y	0.000298	1	0	0	4.15
CUBIERTA	Comb4-4	Combination	Max	X	0.000284	12	3.6	0	4.15
CUBIERTA	Comb4-4	Combination	Max	Y	0.000994	1	0	0	4.15
CUBIERTA	Comb4-4	Combination	Min	X	0.000284	12	3.6	0	4.15
CUBIERTA	Comb4-4	Combination	Min	Y	0.000994	1	0	0	4.15
CUBIERTA	Comb4-5	Combination	Max	X	0.000284	12	3.6	0	4.15
CUBIERTA	Comb4-5	Combination	Max	Y	0.000994	1	0	0	4.15
CUBIERTA	Comb4-5	Combination	Min	X	0.000284	12	3.6	0	4.15
CUBIERTA	Comb4-5	Combination	Min	Y	0.000994	1	0	0	4.15
CUBIERTA	Comb4-6	Combination	Max	X	0.000284	12	3.6	0	4.15
CUBIERTA	Comb4-6	Combination	Max	Y	0.000994	1	0	0	4.15
CUBIERTA	Comb4-6	Combination	Min	X	0.000284	12	3.6	0	4.15
CUBIERTA	Comb4-6	Combination	Min	Y	0.000994	1	0	0	4.15
CUBIERTA	Comb4-7	Combination	Max	X	0.000284	12	3.6	0	4.15
CUBIERTA	Comb4-7	Combination	Max	Y	0.000994	1	0	0	4.15
CUBIERTA	Comb4-7	Combination	Min	X	0.000284	12	3.6	0	4.15
CUBIERTA	Comb4-7	Combination	Min	Y	0.000994	1	0	0	4.15
CUBIERTA	Comb5	Combination		X	0	12	3.6	0	4.15
CUBIERTA	Comb5	Combination		Y	0	12	3.6	0	4.15

Table 5.6 - Story Forces

Story	Output Case	Case Type	Step Type	Location	P kN	VX kN	VY kN	T kN-m	MX kN-m	MY kN-m
CUBIERTA	Dead	LinStatic		Top	35.5683	0	0	0	75.5827	-64.023
CUBIERTA	Dead	LinStatic		Bottom	70.7716	0	0	0	150.3897	-127.389
CUBIERTA	Adicional	LinStatic		Top	129.835	0	0	0	275.8994	-233.703
CUBIERTA	Adicional	LinStatic		Bottom	129.835	0	0	0	275.8994	-233.703
CUBIERTA	Viva	LinStatic		Top	27.54	0	0	0	58.5225	-49.572
CUBIERTA	Viva	LinStatic		Bottom	27.54	0	0	0	58.5225	-49.572
CUBIERTA	SX	LinRespSpec	Max	Top	0	148.6916	0	315.9695	0	0
CUBIERTA	SX	LinRespSpec	Max	Bottom	0	148.6916	0	315.9695	0	617.0699
CUBIERTA	SY	LinRespSpec	Max	Top	0	0	148.6916	267.6448	0	0
CUBIERTA	SY	LinRespSpec	Max	Bottom	0	0	148.6916	267.6448	617.0699	0
CUBIERTA	FHEX	LinStatic		Top	0	-148.6916	0	315.9696	0	0
CUBIERTA	FHEX	LinStatic		Bottom	0	-148.6916	0	315.9696	0	-617.0699
CUBIERTA	FHEY	LinStatic		Top	0	0	-148.6916	-267.6448	0	0
CUBIERTA	FHEY	LinStatic		Bottom	0	0	-148.6916	-267.6448	617.0699	0
CUBIERTA	Comb1	Combination		Top	165.4033	0	0	0	351.4821	-297.726
CUBIERTA	Comb1	Combination		Bottom	200.6066	0	0	0	426.2891	-361.092
CUBIERTA	Comb2	Combination		Top	231.5647	0	0	0	492.0749	-416.8164
CUBIERTA	Comb2	Combination		Bottom	280.8493	0	0	0	596.8048	-505.5287
CUBIERTA	Comb3	Combination		Top	242.548	0	0	0	515.4145	-436.5864
CUBIERTA	Comb3	Combination		Bottom	284.792	0	0	0	605.1829	-512.6255
CUBIERTA	Comb4	Combination	Max	Top	226.024	21.2417	6.3725	56.609	480.301	-406.8432
CUBIERTA	Comb4	Combination	Max	Bottom	268.268	21.2417	6.3725	56.609	596.5153	-394.7295
CUBIERTA	Comb4	Combination	Min	Top	226.024	-21.2417	-6.3725	-56.609	480.301	-406.8432
CUBIERTA	Comb4	Combination	Min	Bottom	268.268	-21.2417	-6.3725	-56.609	543.6236	-571.0352
CUBIERTA	Comb4-1	Combination	Max	Top	226.024	21.248	6.3789	56.634	480.301	-406.8432
CUBIERTA	Comb4-1	Combination	Max	Bottom	268.268	21.248	6.3789	56.634	596.5417	-394.7031
CUBIERTA	Comb4-1	Combination	Min	Top	226.024	-21.248	-6.3789	-56.634	480.301	-406.8432
CUBIERTA	Comb4-1	Combination	Min	Bottom	268.268	-21.248	-6.3789	-56.634	543.5971	-571.0616
CUBIERTA	Comb4-2	Combination	Max	Top	226.024	21.248	6.3789	56.634	480.301	-406.8432
CUBIERTA	Comb4-2	Combination	Max	Bottom	268.268	21.248	6.3789	56.634	596.5417	-394.7031
CUBIERTA	Comb4-2	Combination	Min	Top	226.024	-21.248	-6.3789	-56.634	480.301	-406.8432
CUBIERTA	Comb4-2	Combination	Min	Bottom	268.268	-21.248	-6.3789	-56.634	543.5971	-571.0616
CUBIERTA	Comb4-3	Combination	Max	Top	226.024	21.248	6.3789	56.634	480.301	-406.8432
CUBIERTA	Comb4-3	Combination	Max	Bottom	268.268	21.248	6.3789	56.634	596.5417	-394.7031
CUBIERTA	Comb4-3	Combination	Min	Top	226.024	-21.248	-6.3789	-56.634	480.301	-406.8432
CUBIERTA	Comb4-3	Combination	Min	Bottom	268.268	-21.248	-6.3789	-56.634	543.5971	-571.0616
CUBIERTA	Comb4-4	Combination	Max	Top	226.024	6.3789	21.248	51.8015	480.301	-406.8432
CUBIERTA	Comb4-4	Combination	Max	Bottom	268.268	6.3789	21.248	51.8015	658.2487	-456.41
CUBIERTA	Comb4-4	Combination	Min	Top	226.024	-6.3789	-21.248	-51.8015	480.301	-406.8432
CUBIERTA	Comb4-4	Combination	Min	Bottom	268.268	-6.3789	-21.248	-51.8015	481.8901	-509.3546
CUBIERTA	Comb4-5	Combination	Max	Top	226.024	6.3789	21.248	51.8015	480.301	-406.8432
CUBIERTA	Comb4-5	Combination	Max	Bottom	268.268	6.3789	21.248	51.8015	658.2487	-456.41
CUBIERTA	Comb4-5	Combination	Min	Top	226.024	-6.3789	-21.248	-51.8015	480.301	-406.8432
CUBIERTA	Comb4-5	Combination	Min	Bottom	268.268	-6.3789	-21.248	-51.8015	481.8901	-509.3546
CUBIERTA	Comb4-6	Combination	Max	Top	226.024	6.3789	21.248	51.8015	480.301	-406.8432

Table 5.6 - Story Forces (continued)

Story	Output Case	Case Type	Step Type	Location	P kN	VX kN	VY kN	T kN-m	MX kN-m	MY kN-m
CUBIERTA	Comb4-6	Combination	Max	Bottom	268.268	6.3789	21.248	51.8015	658.2487	-456.41
CUBIERTA	Comb4-6	Combination	Min	Top	226.024	-6.3789	-21.248	-51.8015	480.301	-406.8432
CUBIERTA	Comb4-6	Combination	Min	Bottom	268.268	-6.3789	-21.248	-51.8015	481.8901	-509.3546
CUBIERTA	Comb4-7	Combination	Max	Top	226.024	6.3789	21.248	51.8015	480.301	-406.8432
CUBIERTA	Comb4-7	Combination	Max	Bottom	268.268	6.3789	21.248	51.8015	658.2487	-456.41
CUBIERTA	Comb4-7	Combination	Min	Top	226.024	-6.3789	-21.248	-51.8015	480.301	-406.8432
CUBIERTA	Comb4-7	Combination	Min	Bottom	268.268	-6.3789	-21.248	-51.8015	481.8901	-509.3546
CUBIERTA	Comb5	Combination		Top	192.9433	0	0	0	410.0046	-347.298
CUBIERTA	Comb5	Combination		Bottom	228.1466	0	0	0	484.8116	-410.664

5.3 Point Results

Table 5.7 - Joint Reactions

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	1	3	Dead	LinStatic		0.5195	1.6305	17.6929	-2.2385	0.7132	0
CIMENTACION	1	3	Adicional	LinStatic		0.4298	1.3958	32.4588	-1.9163	0.5901	0
CIMENTACION	1	3	Viva	LinStatic		0.3968	1.2884	6.885	-1.7689	0.5447	0
CIMENTACION	1	3	SX	LinRespSpec	Max	37.1729	0	31.5846	0	97.4153	0
CIMENTACION	1	3	SY	LinRespSpec	Max	0	37.1729	25.6631	99.7333	0	0
CIMENTACION	1	3	FHEX	LinStatic		-37.1729	0	-31.5846	0	-97.4153	0
CIMENTACION	1	3	FHEY	LinStatic		0	-37.1729	-25.6631	99.7333	0	0
CIMENTACION	1	3	Comb1	Combination		0.9493	3.0263	50.1517	-4.1548	1.3033	0
CIMENTACION	1	3	Comb2	Combination		1.329	4.2368	70.2123	-5.8168	1.8247	0
CIMENTACION	1	3	Comb3	Combination		1.774	5.693	71.198	-7.8161	2.4356	0
CIMENTACION	1	3	Comb4	Combination	Max	6.8464	6.5131	72.6789	-2.4804	16.0252	0
CIMENTACION	1	3	Comb4	Combination	Min	-3.7745	3.3268	61.4551	-11.029	-11.8077	0
CIMENTACION	1	3	Comb4-1	Combination	Max	6.8479	6.5147	72.6814	-2.4762	16.0294	0
CIMENTACION	1	3	Comb4-1	Combination	Min	-3.7761	3.3252	61.4526	-11.0333	-11.8119	0
CIMENTACION	1	3	Comb4-2	Combination	Max	6.8479	6.5147	72.6814	-2.4762	16.0294	0
CIMENTACION	1	3	Comb4-2	Combination	Min	-3.7761	3.3252	61.4526	-11.0333	-11.8119	0
CIMENTACION	1	3	Comb4-3	Combination	Max	6.8479	6.5147	72.6814	-2.4762	16.0294	0
CIMENTACION	1	3	Comb4-3	Combination	Min	-3.7761	3.3252	61.4526	-11.0333	-11.8119	0
CIMENTACION	1	3	Comb4-4	Combination	Max	3.1307	10.232	72.0892	7.4972	6.2878	0
CIMENTACION	1	3	Comb4-4	Combination	Min	-0.0588	-0.3921	62.0448	-21.0066	-2.0704	0
CIMENTACION	1	3	Comb4-5	Combination	Max	3.1307	10.232	72.0892	7.4972	6.2878	0
CIMENTACION	1	3	Comb4-5	Combination	Min	-0.0588	-0.3921	62.0448	-21.0066	-2.0704	0
CIMENTACION	1	3	Comb4-6	Combination	Max	3.1307	10.232	72.0892	7.4972	6.2878	0
CIMENTACION	1	3	Comb4-6	Combination	Min	-0.0588	-0.3921	62.0448	-21.0066	-2.0704	0
CIMENTACION	1	3	Comb4-7	Combination	Max	3.1307	10.232	72.0892	7.4972	6.2878	0
CIMENTACION	1	3	Comb4-7	Combination	Min	-0.0588	-0.3921	62.0448	-21.0066	-2.0704	0
CIMENTACION	1	3	Comb5	Combination		1.3461	4.3147	57.0367	-5.9238	1.8481	0
CIMENTACION	2	1	Dead	LinStatic		0.5195	-1.6305	17.6929	2.2385	0.7132	0
CIMENTACION	2	1	Adicional	LinStatic		0.4298	-1.3958	32.4588	1.9163	0.5901	0
CIMENTACION	2	1	Viva	LinStatic		0.3968	-1.2884	6.885	1.7689	0.5447	0
CIMENTACION	2	1	SX	LinRespSpec	Max	37.1729	0	31.5846	0	97.4153	0

Table 5.7 - Joint Reactions (continued)

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	2	1	SY	LinRespSpec	Max	0	37.1729	25.6631	99.7333	0	0
CIMENTACION	2	1	FHEX	LinStatic		-37.1729	0	-31.5846	0	-97.4153	0
CIMENTACION	2	1	FHEY	LinStatic		0	-37.1729	25.6631	99.7333	0	0
CIMENTACION	2	1	Comb1	Combination		0.9493	-3.0263	50.1517	4.1548	1.3033	0
CIMENTACION	2	1	Comb2	Combination		1.329	-4.2368	70.2123	5.8168	1.8247	0
CIMENTACION	2	1	Comb3	Combination		1.774	-5.693	71.198	7.8161	2.4356	0
CIMENTACION	2	1	Comb4	Combination	Max	6.8464	-3.3268	72.6789	11.029	16.0252	0
CIMENTACION	2	1	Comb4	Combination	Min	-3.7745	-6.5131	61.4551	2.4804	-11.8077	0
CIMENTACION	2	1	Comb4-1	Combination	Max	6.8479	-3.3252	72.6814	11.0333	16.0294	0
CIMENTACION	2	1	Comb4-1	Combination	Min	-3.7761	-6.5147	61.4526	2.4762	-11.8119	0
CIMENTACION	2	1	Comb4-2	Combination	Max	6.8479	-3.3252	72.6814	11.0333	16.0294	0
CIMENTACION	2	1	Comb4-2	Combination	Min	-3.7761	-6.5147	61.4526	2.4762	-11.8119	0
CIMENTACION	2	1	Comb4-3	Combination	Max	6.8479	-3.3252	72.6814	11.0333	16.0294	0
CIMENTACION	2	1	Comb4-3	Combination	Min	-3.7761	-6.5147	61.4526	2.4762	-11.8119	0
CIMENTACION	2	1	Comb4-4	Combination	Max	3.1307	0.3921	72.0892	21.0066	6.2878	0
CIMENTACION	2	1	Comb4-4	Combination	Min	-0.0588	-10.232	62.0448	-7.4972	-2.0704	0
CIMENTACION	2	1	Comb4-5	Combination	Max	3.1307	0.3921	72.0892	21.0066	6.2878	0
CIMENTACION	2	1	Comb4-5	Combination	Min	-0.0588	-10.232	62.0448	-7.4972	-2.0704	0
CIMENTACION	2	1	Comb4-6	Combination	Max	3.1307	0.3921	72.0892	21.0066	6.2878	0
CIMENTACION	2	1	Comb4-6	Combination	Min	-0.0588	-10.232	62.0448	-7.4972	-2.0704	0
CIMENTACION	2	1	Comb4-7	Combination	Max	3.1307	0.3921	72.0892	21.0066	6.2878	0
CIMENTACION	2	1	Comb4-7	Combination	Min	-0.0588	-10.232	62.0448	-7.4972	-2.0704	0
CIMENTACION	2	1	Comb5	Combination		1.3461	-4.3147	57.0367	5.9238	1.8481	0
CIMENTACION	7	2	Dead	LinStatic		-0.5195	-1.6305	17.6929	2.2385	-0.7132	0
CIMENTACION	7	2	Adicional	LinStatic		-0.4298	-1.3958	32.4588	1.9163	-0.5901	0
CIMENTACION	7	2	Viva	LinStatic		-0.3968	-1.2884	6.885	1.7689	-0.5447	0
CIMENTACION	7	2	SX	LinRespSpec	Max	37.1729	0	31.5846	0	97.4153	0
CIMENTACION	7	2	SY	LinRespSpec	Max	0	37.1729	25.6631	99.7333	0	0
CIMENTACION	7	2	FHEX	LinStatic		-37.1729	0	31.5846	0	-97.4153	0
CIMENTACION	7	2	FHEY	LinStatic		0	-37.1729	25.6631	99.7333	0	0
CIMENTACION	7	2	Comb1	Combination		-0.9493	-3.0263	50.1517	4.1548	-1.3033	0
CIMENTACION	7	2	Comb2	Combination		-1.329	-4.2368	70.2123	5.8168	-1.8247	0
CIMENTACION	7	2	Comb3	Combination		-1.774	-5.693	71.198	7.8161	-2.4356	0
CIMENTACION	7	2	Comb4	Combination	Max	3.7745	-3.3268	72.6789	11.029	11.8077	0
CIMENTACION	7	2	Comb4	Combination	Min	-6.8464	-6.5131	61.4551	2.4804	-16.0252	0
CIMENTACION	7	2	Comb4-1	Combination	Max	3.7761	-3.3252	72.6814	11.0333	11.8119	0
CIMENTACION	7	2	Comb4-1	Combination	Min	-6.8479	-6.5147	61.4526	2.4762	-16.0294	0
CIMENTACION	7	2	Comb4-2	Combination	Max	3.7761	-3.3252	72.6814	11.0333	11.8119	0
CIMENTACION	7	2	Comb4-2	Combination	Min	-6.8479	-6.5147	61.4526	2.4762	-16.0294	0
CIMENTACION	7	2	Comb4-3	Combination	Max	3.7761	-3.3252	72.6814	11.0333	11.8119	0
CIMENTACION	7	2	Comb4-3	Combination	Min	-6.8479	-6.5147	61.4526	2.4762	-16.0294	0
CIMENTACION	7	2	Comb4-4	Combination	Max	0.0588	0.3921	72.0892	21.0066	2.0704	0
CIMENTACION	7	2	Comb4-4	Combination	Min	-3.1307	-10.232	62.0448	-7.4972	-6.2878	0
CIMENTACION	7	2	Comb4-5	Combination	Max	0.0588	0.3921	72.0892	21.0066	2.0704	0
CIMENTACION	7	2	Comb4-5	Combination	Min	-3.1307	-10.232	62.0448	-7.4972	-6.2878	0

Table 5.7 - Joint Reactions (continued)

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	7	2	Comb4-6	Combination	Max	0.0588	0.3921	72.0892	21.0066	2.0704	0
CIMENTACION	7	2	Comb4-6	Combination	Min	-3.1307	-10.232	62.0448	-7.4972	-6.2878	0
CIMENTACION	7	2	Comb4-7	Combination	Max	0.0588	0.3921	72.0892	21.0066	2.0704	0
CIMENTACION	7	2	Comb4-7	Combination	Min	-3.1307	-10.232	62.0448	-7.4972	-6.2878	0
CIMENTACION	7	2	Comb5	Combination		-1.3461	-4.3147	57.0367	5.9238	-1.8481	0
CIMENTACION	12	4	Dead	LinStatic		-0.5195	1.6305	17.6929	-2.2385	-0.7132	0
CIMENTACION	12	4	Adicional	LinStatic		-0.4298	1.3958	32.4588	-1.9163	-0.5901	0
CIMENTACION	12	4	Viva	LinStatic		-0.3968	1.2884	6.885	-1.7689	-0.5447	0
CIMENTACION	12	4	SX	LinRespSpec	Max	37.1729	0	31.5846	0	97.4153	0
CIMENTACION	12	4	SY	LinRespSpec	Max	0	37.1729	25.6631	99.7333	0	0
CIMENTACION	12	4	FHEX	LinStatic		-37.1729	0	31.5846	0	-97.4153	0
CIMENTACION	12	4	FHEY	LinStatic		0	-37.1729	-25.6631	99.7333	0	0
CIMENTACION	12	4	Comb1	Combination		-0.9493	3.0263	50.1517	-4.1548	-1.3033	0
CIMENTACION	12	4	Comb2	Combination		-1.329	4.2368	70.2123	-5.8168	-1.8247	0
CIMENTACION	12	4	Comb3	Combination		-1.774	5.693	71.198	-7.8161	-2.4356	0
CIMENTACION	12	4	Comb4	Combination	Max	3.7745	6.5131	72.6789	-2.4804	11.8077	0
CIMENTACION	12	4	Comb4	Combination	Min	-6.8464	3.3268	61.4551	-11.029	-16.0252	0
CIMENTACION	12	4	Comb4-1	Combination	Max	3.7761	6.5147	72.6814	-2.4762	11.8119	0
CIMENTACION	12	4	Comb4-1	Combination	Min	-6.8479	3.3252	61.4526	-11.0333	-16.0294	0
CIMENTACION	12	4	Comb4-2	Combination	Max	3.7761	6.5147	72.6814	-2.4762	11.8119	0
CIMENTACION	12	4	Comb4-2	Combination	Min	-6.8479	3.3252	61.4526	-11.0333	-16.0294	0
CIMENTACION	12	4	Comb4-3	Combination	Max	3.7761	6.5147	72.6814	-2.4762	11.8119	0
CIMENTACION	12	4	Comb4-3	Combination	Min	-6.8479	3.3252	61.4526	-11.0333	-16.0294	0
CIMENTACION	12	4	Comb4-4	Combination	Max	0.0588	10.232	72.0892	7.4972	2.0704	0
CIMENTACION	12	4	Comb4-4	Combination	Min	-3.1307	-0.3921	62.0448	-21.0066	-6.2878	0
CIMENTACION	12	4	Comb4-5	Combination	Max	0.0588	10.232	72.0892	7.4972	2.0704	0
CIMENTACION	12	4	Comb4-5	Combination	Min	-3.1307	-0.3921	62.0448	-21.0066	-6.2878	0
CIMENTACION	12	4	Comb4-6	Combination	Max	0.0588	10.232	72.0892	7.4972	2.0704	0
CIMENTACION	12	4	Comb4-6	Combination	Min	-3.1307	-0.3921	62.0448	-21.0066	-6.2878	0
CIMENTACION	12	4	Comb4-7	Combination	Max	0.0588	10.232	72.0892	7.4972	2.0704	0
CIMENTACION	12	4	Comb4-7	Combination	Min	-3.1307	-0.3921	62.0448	-21.0066	-6.2878	0
CIMENTACION	12	4	Comb5	Combination		-1.3461	4.3147	57.0367	-5.9238	-1.8481	0

5.4 Modal Results

Table 5.8 - Modal Periods And Frequencies

Case	Mode	Period sec	Frequency cyc/sec	CircFreq rad/sec	Eigenvalue rad2/sec2
Modal	1	0.378	2.644	16.6155	276.0748
Modal	2	0.369	2.71	17.0257	289.8732
Modal	3	0.314	3.18	19.9827	399.3087

Table 5.9 - Modal Participating Mass Ratios (Part 1 of 2)

Case	Mode	Period sec	UX	UY	UZ	SumUX	SumUY	SumUZ	RX	RY	RZ	SumRX
Modal	1	0.378	0	1	0	0	1	0	1	0	0	1
Modal	2	0.369	1	0	0	1	1	0	0	1	0	1
Modal	3	0.314	0	0	0	1	1	0	0	0	1	1

Table 5.9 - Modal Participating Mass Ratios (Part 2 of 2)

SumRY	SumRZ
0	0
1	0
1	1

Table 5.10 - Modal Load Participation Ratios

Case	ItemType	Item	Static %	Dynamic %
Modal	Acceleration	UX	100	100
Modal	Acceleration	UY	100	100
Modal	Acceleration	UZ	0	0

Table 5.11 - Modal Direction Factors

Case	Mode	Period sec	UX	UY	UZ	RZ
Modal	1	0.378	0	1	0	0
Modal	2	0.369	1	0	0	0
Modal	3	0.314	0	0	0	1

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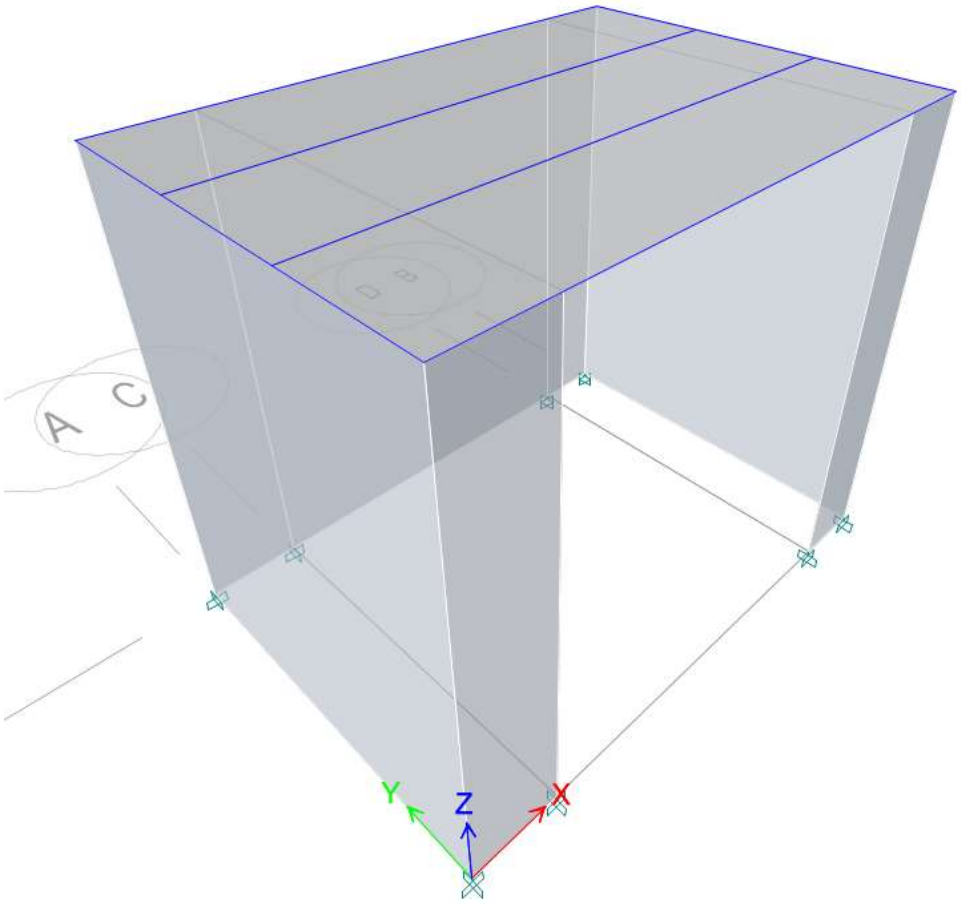


Project Report

CUARTO DE MÁQUINAS

Model File: CUARTO DE MÁQUINAS, Revision 0

04/05/2023

1 Structure Data

This chapter provides model geometry information, including items such as story levels, point coordinates, and element connectivity.

1.1 Story Data

Table 1.1 - Story Definitions

Tower	Name	Height m	Master Story	Similar To	Splice Story	Color
T1	PISO 1	2.6	No	None	No	Gray8Dark

1.2 Grid Data

Table 1.2 - Grid Definitions - General

Tower	Name	Type	Ux m	Uy m	Rz deg	Story Range	Bubble Size mm	Color
T1	G1	Cartesian	0	0	0	Default	1250	Gray6

Table 1.3 - Grid Definitions - Grid Lines

Name	Grid Line Type	ID	Ordinate m	Bubble Location	Visible
G1	X (Cartesian)	A	0	End	Yes
G1	X (Cartesian)	C	0.5	End	Yes
G1	X (Cartesian)	D	2.6	End	Yes
G1	X (Cartesian)	B	3	End	Yes
G1	Y (Cartesian)	1	0	Start	Yes
G1	Y (Cartesian)	2	2.15	Start	Yes

1.3 Point Coordinates

Table 1.4 - Point Bays

Label	Is Auto Point	X m	Y m	DZBelow m
1	No	0	0	0
3	No	0	2.15	0
5	No	0.5	0	0
6	No	0.5	2.15	0
7	No	2.6	0	0
8	No	2.6	2.15	0
9	No	3	2.15	0
14	No	3	0	0
17	No	3	0.7167	0
19	No	3	1.4333	0
34	No	0	0.7167	0
35	No	0	1.4333	0

1.4 Line Connectivity

Table 1.5 - Beam Bays

Label	PointBayI	PointBayJ
B11	34	17
B13	35	19
B14	1	14
B16	3	9
B17	1	3
B18	14	9

1.5 Area Connectivity

Table 1.6 - Floor Bays

Label	NumPoints	PointNumber	PointBay
F1	4	1	1
F1		2	14
F1		3	9
F1		4	3

Table 1.7 - Wall Bays

Label	NumPoints	PointNumber	PointBay	PointStory
W1	4	1	1	Below
W1		2	3	Below
W1		3	3	Same
W1		4	1	Same
W4	4	1	14	Below
W4		2	9	Below
W4		3	9	Same
W4		4	14	Same
W9	4	1	1	Below
W9		2	5	Below
W9		3	5	Same
W9		4	1	Same
W10	4	1	7	Below
W10		2	14	Below
W10		3	14	Same
W10		4	7	Same
W14	4	1	3	Below
W14		2	6	Below
W14		3	6	Same
W14		4	3	Same
W15	4	1	6	Below
W15		2	8	Below
W15		3	8	Same
W15		4	6	Same
W16	4	1	8	Below
W16		2	9	Below
W16		3	9	Same

Table 1.7 - Wall Bays (continued)

Label	NumPoints	PointNumber	PointBay	PointStory
W16		4	8	Same

1.6 Mass

Table 1.8 - Mass Source Definition

Name	Is Default	Include Lateral Mass?	Include Vertical Mass?	Lump Mass?	Source Self Mass?	Source Added Mass?	Source Load Patterns?	Move Mass Centroid?	Load Pattern	Multiplier
MsSrc1	Yes	Yes	No	Yes	No	No	Yes	No	Peso Propio	1
MsSrc1									Adicional	1

Table 1.9 - Mass Summary by Story

Story	UX kg	UY kg	UZ kg
PISO 1	12349.27	12349.27	0
CIMENTACION	3073.62	3073.62	0

Table 1.10 - Mass Summary by Group

Group	Self Mass kg	Self Weight kN	Mass X kg	Mass Y kg	Mass Z kg
All	0	87.1694	15422.89	15422.89	0

1.7 Groups

Table 1.11 - Group Definitions

Name	Color	Steel Design?	Concrete Design?	Composite Design?
All	Yellow	No	No	No

2 Properties

This chapter provides property information for materials, frame sections, shell sections, and links.

2.1 Materials

Table 2.1 - Material Properties - General

Material	Type	SymType	Grade	Color	Notes
3000Psi	Concrete	Isotropic	f'c 3000 psi	Yellow	
4000Psi	Concrete	Isotropic	f'c 4000 psi	Gray8Dark	
A416Gr270	Tendon	Uniaxial	Grade 270	Green	
A572Gr50	Steel	Isotropic	Grade 50	White	
A615Gr60	Rebar	Uniaxial	Grade 60	Blue	
A992Fy50	Steel	Isotropic	Grade 50	Yellow	

2.2 Frame Sections

Table 2.2 - Frame Section Property Definitions - Summary (Part 1 of 3)

Name	Material	Shape	Color	Area cm2	J cm4	I33 cm4	I22 cm4	As2 cm2	As3 cm2	S33Pos cm3
VIGA	4000Psi	Concrete Rectangular	Magenta	1050	152551.3	107187.5	78750	875	875	6125
VIGUETA	4000Psi	Concrete Rectangular	Cyan	700	60031.9	71458.3	23333.3	583.3	583.3	4083.3

Table 2.2 - Frame Section Property Definitions - Summary (Part 2 of 3)

S33Neg cm3	S22Pos cm3	S22Neg cm3	Z33 cm3	Z22 cm3	R33 mm	R22 mm	CG Offset 3 mm	CG Offset 2 mm	PNA Offset 3 mm	PNA Offset 2 mm	Area Modifier	As2 Modifier
6125	5250	5250	9187.5	7875	101	86.6	0	0	0	0	1	1
4083.3	2333.3	2333.3	6125	3500	101	57.7	0	0	0	0	1	1

Table 2.2 - Frame Section Property Definitions - Summary (Part 3 of 3)

J Modifier	I33 Modifier	I22 Modifier	Mass Modifier	Weight Modifier
1	1	1	1	1
1	1	1	1	1

2.3 Shell Sections

Table 2.3 - Area Section Property Definitions - Summary

Name	Type	Element Type	Material	Total Thickness mm	Deck Material	Deck Depth mm
LAMINA COLABORANTE	Deck	Membrane	3000Psi	100	A572Gr50	45
LOSA	Slab	Shell-Thin	3000Psi	120		
MURO	Wall	Shell-Thick	3000Psi	120		

2.4 Reinforcement Sizes

Table 2.4 - Reinforcing Bar Sizes

Name	Diameter mm	Area cm2
#2	6.4	0.3
#3	9.5	0.7
#4	12.7	1.3
#5	15.9	2
#6	19.1	2.8
#7	22.2	3.9
#8	25.4	5.1
#9	28.7	6.5
#10	32.3	8.2
#11	35.8	10.1
#14	43	14.5
#18	57.3	25.8

2.5 Links

Table 2.5 - Link Property Definitions - Summary

Name	Type	Degrees of Freedom	Mass kg	Weight kN	Defined Length m	Defined Area m2
Link1	Linear	U1	0	0	1	1

2.6 Spring Properties

Table 2.6 - Spring Property Definitions - Isolated Column Footings

Name	Length mm	Width mm	Thickness mm	Embedment Source	Color	Notes
ZAPATA	1000	1000	350	Program Determined	Red	

2.7 Tendon Sections

Table 2.7 - Tendon Section Properties

Name	Material	StrandArea cm2	Color	Notes
Tendon1	A416Gr270	1	Yellow	

3 Assignments

This chapter provides a listing of the assignments applied to the model.

3.1 Joint Assignments

Table 3.1 - Joint Assignments - Summary

Story	Label	UniqueName	Diaphragm	Restraints
PISO 1	1	4	From Area	
PISO 1	14	17	From Area	
PISO 1	3	3	From Area	
PISO 1	5	9	From Area	
PISO 1	6	8	From Area	
PISO 1	7	13	From Area	
PISO 1	8	12	From Area	
PISO 1	9	16	From Area	
PISO 1	17	26	From Area	
PISO 1	19	28	From Area	
PISO 1	34	32	From Area	
PISO 1	35	33	From Area	
CIMENTACION	1	1	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	14	14	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	3	2	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	5	5	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	6	6	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	7	10	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	8	11	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	9	15	From Area	UX; UY; UZ; RX; RY; RZ

3.2 Frame Assignments

Table 3.2 - Frame Assignments - Summary

Story	Label	UniqueName	Design Type	Length m	Analysis Section	Design Section	Max Station Spacing m	Releases
PISO 1	B11	1	Beam	3	VIGUETA	VIGUETA	0.5	Yes
PISO 1	B13	2	Beam	3	VIGUETA	VIGUETA	0.5	Yes
PISO 1	B14	7	Beam	3	VIGUETA	VIGUETA	0.5	
PISO 1	B16	8	Beam	3	VIGUETA	VIGUETA	0.5	
PISO 1	B17	9	Beam	2.15	VIGUETA	VIGUETA	0.5	
PISO 1	B18	10	Beam	2.15	VIGUETA	VIGUETA	0.5	

3.3 Shell Assignments

Table 3.3 - Area Assignments - Summary

Story	Label	UniqueName	Section Property	Property Type
PISO 1	F1	13	LOSA	Slab
PISO 1	W1	1	MURO	Wall
PISO 1	W4	4	MURO	Wall

Table 3.3 - Area Assignments - Summary (continued)

Story	Label	UniqueName	Section Property	Property Type
PISO 1	W9	5	MURO	Wall
PISO 1	W10	6	MURO	Wall
PISO 1	W14	10	MURO	Wall
PISO 1	W15	11	MURO	Wall
PISO 1	W16	12	MURO	Wall

4 Loads

This chapter provides loading information as applied to the model.

4.1 Load Patterns

Table 4.1 - Load Pattern Definitions

Name	Is Auto Load	Type	Self Weight Multiplier	Auto Load
~LLRF	Yes	Other	0	
Adicional	No	Super Dead	0	
FHEX	No	Seismic	0	User Coefficient
FHEY	No	Seismic	0	User Coefficient
Peso Propio	No	Dead	1	
SX	No	Seismic	0	User Loads
SY	No	Seismic	0	User Loads
Viva	No	Live	0	

4.2 Auto Seismic Loading

User Loads Auto Seismic Load Calculation

This calculation presents the user defined lateral seismic loads for load pattern SX.

Lateral Forces

User Loads Auto Seismic Load Calculation

This calculation presents the user defined lateral seismic loads for load pattern SY.

Lateral Forces

User Coefficient Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern FHEX using the user input coefficients, as calculated by ETABS.

Direction and Eccentricity

Direction = X

Factors and Coefficients

Equivalent Lateral Forces

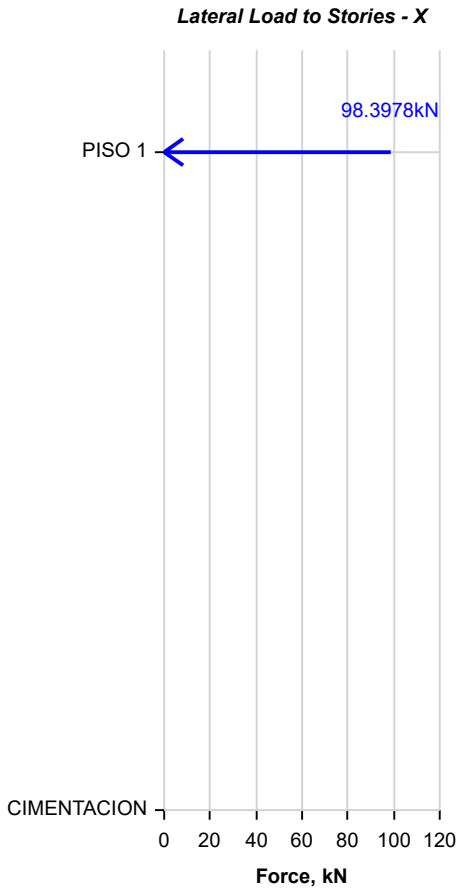
Base Shear Coefficient, C $C = 0.8125$

Base Shear, V $V = CW$

Calculated Base Shear

Direction	Period Used (sec)	C	W (kN)	V (kN)
X	0	0	121.105	98.3978

Applied Story Forces



Story	Elevation	X-Dir	Y-Dir
	m	kN	kN
PISO 1	2.6	98.3978	0
CIMENTACION	0	0	0

User Coefficient Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern FHEY using the user input coefficients, as calculated by ETABS.

Direction and Eccentricity

Direction = Y

Factors and Coefficients

Equivalent Lateral Forces

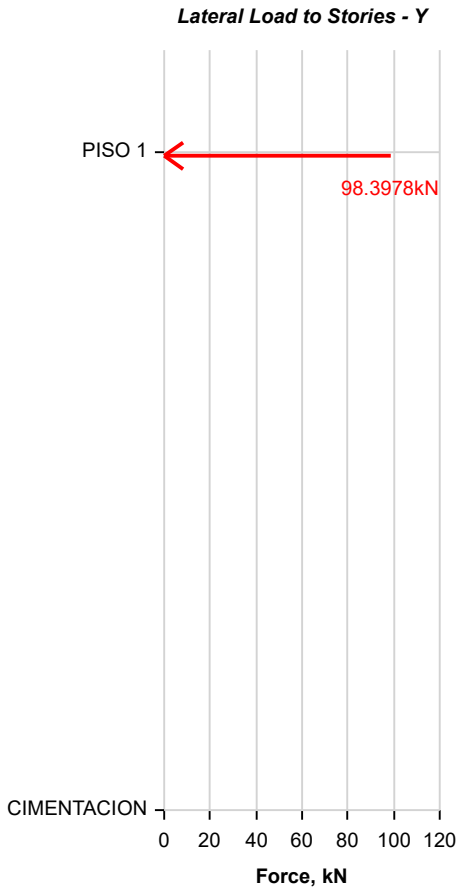
Base Shear Coefficient, C $C = 0.8125$

Base Shear, V $V = CW$

Calculated Base Shear

Direction	Period Used (sec)	C	W (kN)	V (kN)
Y	0	0	121.105	98.3978

Applied Story Forces



Story	Elevation	X-Dir	Y-Dir
	m	kN	kN
PISO 1	2.6	0	98.3978
CIMENTACION	0	0	0

4.3 Applied Loads

4.3.1 Line Loads

Table 4.6 - Frame Loads Assignments - Distributed (Part 1 of 2)

Story	Label	UniqueName	Load Pattern	Load Type	Direction	Distance Type	Relative Distance A	Relative Distance B	Absolute Distance A m	Absolute Distance B m
PISO 1	B14	7	Adicional	Force	Gravity	Relative	0	1	0	3
PISO 1	B16	8	Adicional	Force	Gravity	Relative	0	1	0	3
PISO 1	B17	9	Adicional	Force	Gravity	Relative	0	1	0	2.15
PISO 1	B18	10	Adicional	Force	Gravity	Relative	0	1	0	2.15

Table 4.6 - Frame Loads Assignments - Distributed (Part 2 of 2)

Force A kN/m	Force B kN/m
5	5
5	5
5	5
5	5

4.3.2 Area Loads

Table 4.7 - Area Load Assignments - Uniform

Story	Label	UniqueName	Load Pattern	Direction	Load kN/m2
PISO 1	W15	11	Viva	Gravity	1.8
PISO 1	F1	13	Adicional	Gravity	1.95

4.4 Functions

4.4.1 Response Spectrum Functions

Table 4.8 - Functions - Response Spectrum - Columbia NSR-10

Name	Period sec	Value	Aa	Av	Ae	Ad	Group of Use	Fa	Fv	Damping Ratio
NSR-10	0	0.8125	0.25	0.2	0.08	0.05	1	1.3	2	0.05
NSR-10	0.1	0.8125								
NSR-10	0.2	0.8125								
NSR-10	0.3	0.8125								
NSR-10	0.4	0.8125								
NSR-10	0.5	0.8125								
NSR-10	0.6	0.8								
NSR-10	0.7	0.685714								
NSR-10	0.8	0.6								
NSR-10	0.9	0.533333								
NSR-10	1	0.48								
NSR-10	1.2	0.4								
NSR-10	1.5	0.32								

Table 4.8 - Functions - Response Spectrum - Columbia NSR-10 (continued)

Name	Period sec	Value	Aa	Av	Ae	Ad	Group of Use	Fa	Fv	Damping Ratio
NSR-10	1.7	0.282353								
NSR-10	2	0.24								
NSR-10	2.5	0.192								
NSR-10	3	0.16								
NSR-10	3.5	0.137143								
NSR-10	4	0.12								
NSR-10	5	0.09216								
NSR-10	8	0.036								
NSR-10	11	0.019041								
NSR-10	15	0.01024								

4.5 Load Cases

Table 4.9 - Load Case Definitions - Summary

Name	Type
Dead	Linear Static
Adicional	Linear Static
Viva	Linear Static
Modal	Modal - Eigen
SX	Response Spectrum
SY	Response Spectrum
FHEX	Linear Static
FHEY	Linear Static

4.6 Load Combinations

Table 4.10 - Load Combination Definitions

Name	Type	Is Auto	Load Name	SF	Notes
Comb1	Linear Add	No	Dead	1	
Comb1			Adicional	1	
Comb2	Linear Add	No	Comb1	1.4	
Comb3	Linear Add	No	Comb1	1.2	
Comb3			Viva	1.6	
Comb4	Linear Add	No	Comb1	1.2	
Comb4			SX	0.142857	
Comb4			SY	0.042857	
Comb4			Viva	1	
Comb4-1	Linear Add	No	Comb1	1.2	
Comb4-1			SX	0.1429	
Comb4-1			SY	-0.0429	
Comb4-1			Viva	1	
Comb4-2	Linear Add	No	Comb1	1.2	
Comb4-2			SX	-0.1429	
Comb4-2			SY	-0.0429	

Table 4.10 - Load Combination Definitions (continued)

Name	Type	Is Auto	Load Name	SF	Notes
Comb4-2			Viva	1	
Comb4-3	Linear Add	No	Comb1	1.2	
Comb4-3			SX	-0.1429	
Comb4-3			SY	0.0429	
Comb4-3			Viva	1	
Comb4-4	Linear Add	No	Comb1	1.2	
Comb4-4			SX	0.0429	
Comb4-4			SY	0.1429	
Comb4-4			Viva	1	
Comb4-5	Linear Add	No	Comb1	1.2	
Comb4-5			SX	-0.0429	
Comb4-5			SY	0.1429	
Comb4-5			Viva	1	
Comb4-6	Linear Add	No	Comb1	1.2	
Comb4-6			SX	-0.0429	
Comb4-6			SY	-0.1429	
Comb4-6			Viva	1	
Comb4-7	Linear Add	No	Comb1	1.2	
Comb4-7			SX	0.0429	
Comb4-7			SY	-0.1429	
Comb4-7			Viva	1	
Comb5	Linear Add	No	Comb1	1	
Comb5			Viva	1	

5 Analysis Results

This chapter provides analysis results.

5.1 Structure Results

Table 5.1 - Base Reactions

Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m	X m	Y m	Z m
Dead	LinStatic		0	0	87.1694	110.3036	-129.9822	0	0	0	0
Adicional	LinStatic		0	0	64.0775	68.8833	-96.1163	0	0	0	0
Viva	LinStatic		0	0	9.828	21.1302	-15.2334	0	0	0	0
SX	LinRespSpec	Max	83.4966	0.5661	0	1.472	217.0913	89.7031	0	0	0
SY	LinRespSpec	Max	0.5661	98.3212	0	255.6351	1.472	148.1414	0	0	0
FHEX	LinStatic		-98.3978	0	0	0	-255.8342	112.5199	0	0	0
FHEY	LinStatic		0	-98.3978	0	255.8342	0	-147.2831	0	0	0
Comb1	Combination		0	0	151.2469	179.1869	-226.0984	0	0	0	0
Comb2	Combination		0	0	211.7457	250.8616	-316.5378	0	0	0	0
Comb3	Combination		0	0	197.2211	248.8326	-295.6916	0	0	0	0
Comb4	Combination	Max	11.9524	4.2946	191.3243	247.3205	-255.4754	19.1637	0	0	0
Comb4	Combination	Min	-11.9524	-4.2946	191.3243	224.9884	-317.6277	-19.1637	0	0	0
Comb4-1	Combination	Max	11.956	4.2989	191.3243	247.3315	-255.466	19.1738	0	0	0
Comb4-1	Combination	Min	-11.956	-4.2989	191.3243	224.9774	-317.637	-19.1738	0	0	0
Comb4-2	Combination	Max	11.956	4.2989	191.3243	247.3315	-255.466	19.1738	0	0	0
Comb4-2	Combination	Min	-11.956	-4.2989	191.3243	224.9774	-317.637	-19.1738	0	0	0
Comb4-3	Combination	Max	11.956	4.2989	191.3243	247.3315	-255.466	19.1738	0	0	0
Comb4-3	Combination	Min	-11.956	-4.2989	191.3243	224.9774	-317.637	-19.1738	0	0	0
Comb4-4	Combination	Max	3.6629	14.0744	191.3243	272.7479	-277.028	25.0177	0	0	0
Comb4-4	Combination	Min	-3.6629	-14.0744	191.3243	199.5611	-296.0751	-25.0177	0	0	0
Comb4-5	Combination	Max	3.6629	14.0744	191.3243	272.7479	-277.028	25.0177	0	0	0
Comb4-5	Combination	Min	-3.6629	-14.0744	191.3243	199.5611	-296.0751	-25.0177	0	0	0
Comb4-6	Combination	Max	3.6629	14.0744	191.3243	272.7479	-277.028	25.0177	0	0	0
Comb4-6	Combination	Min	-3.6629	-14.0744	191.3243	199.5611	-296.0751	-25.0177	0	0	0
Comb4-7	Combination	Max	3.6629	14.0744	191.3243	272.7479	-277.028	25.0177	0	0	0
Comb4-7	Combination	Min	-3.6629	-14.0744	191.3243	199.5611	-296.0751	-25.0177	0	0	0
Comb5	Combination		0	0	161.0749	200.3171	-241.3318	0	0	0	0

5.2 Story Results

Table 5.2 - Story Drifts

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
PISO 1	Dead	LinStatic		Y	1E-06	1	0	0	2.6
PISO 1	Adicional	LinStatic		Y	2E-06	14	3	0	2.6
PISO 1	Viva	LinStatic		Y	3.444E-07	8	2.6	2.15	2.6
PISO 1	SX	LinRespSpec	Max	X	4.1E-05	14	3	0	2.6
PISO 1	SX	LinRespSpec	Max	Y	1.3E-05	9	3	2.15	2.6
PISO 1	SY	LinRespSpec	Max	Y	3.2E-05	6	0.5	2.15	2.6
PISO 1	FHEX	LinStatic		X	4E-05	14	3	0	2.6
PISO 1	FHEY	LinStatic		Y	3.2E-05	6	0.5	2.15	2.6

Table 5.2 - Story Drifts (continued)

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
PISO 1	Comb1	Combination		Y	3E-06	14	3	0	2.6
PISO 1	Comb2	Combination		Y	4E-06	14	3	0	2.6
PISO 1	Comb3	Combination		X	1E-06	5	0.5	0	2.6
PISO 1	Comb3	Combination		Y	3E-06	1	0	0	2.6
PISO 1	Comb4	Combination	Max	X	7E-06	5	0.5	0	2.6
PISO 1	Comb4	Combination	Max	Y	1E-06	9	3	2.15	2.6
PISO 1	Comb4	Combination	Min	X	6E-06	7	2.6	0	2.6
PISO 1	Comb4	Combination	Min	Y	6E-06	14	3	0	2.6
PISO 1	Comb4-1	Combination	Max	X	7E-06	5	0.5	0	2.6
PISO 1	Comb4-1	Combination	Max	Y	1E-06	9	3	2.15	2.6
PISO 1	Comb4-1	Combination	Min	X	6E-06	7	2.6	0	2.6
PISO 1	Comb4-1	Combination	Min	Y	6E-06	14	3	0	2.6
PISO 1	Comb4-2	Combination	Max	X	7E-06	5	0.5	0	2.6
PISO 1	Comb4-2	Combination	Max	Y	1E-06	9	3	2.15	2.6
PISO 1	Comb4-2	Combination	Min	X	6E-06	7	2.6	0	2.6
PISO 1	Comb4-2	Combination	Min	Y	6E-06	14	3	0	2.6
PISO 1	Comb4-3	Combination	Max	X	7E-06	5	0.5	0	2.6
PISO 1	Comb4-3	Combination	Max	Y	1E-06	9	3	2.15	2.6
PISO 1	Comb4-3	Combination	Min	X	6E-06	7	2.6	0	2.6
PISO 1	Comb4-3	Combination	Min	Y	6E-06	14	3	0	2.6
PISO 1	Comb4-4	Combination	Max	X	3E-06	5	0.5	0	2.6
PISO 1	Comb4-4	Combination	Max	Y	3E-06	9	3	2.15	2.6
PISO 1	Comb4-4	Combination	Min	X	2E-06	7	2.6	0	2.6
PISO 1	Comb4-4	Combination	Min	Y	8E-06	14	3	0	2.6
PISO 1	Comb4-5	Combination	Max	X	3E-06	5	0.5	0	2.6
PISO 1	Comb4-5	Combination	Max	Y	3E-06	9	3	2.15	2.6
PISO 1	Comb4-5	Combination	Min	X	2E-06	7	2.6	0	2.6
PISO 1	Comb4-5	Combination	Min	Y	8E-06	14	3	0	2.6
PISO 1	Comb4-6	Combination	Max	X	3E-06	5	0.5	0	2.6
PISO 1	Comb4-6	Combination	Max	Y	3E-06	9	3	2.15	2.6
PISO 1	Comb4-6	Combination	Min	X	2E-06	7	2.6	0	2.6
PISO 1	Comb4-6	Combination	Min	Y	8E-06	14	3	0	2.6
PISO 1	Comb4-7	Combination	Max	X	3E-06	5	0.5	0	2.6
PISO 1	Comb4-7	Combination	Max	Y	3E-06	9	3	2.15	2.6
PISO 1	Comb4-7	Combination	Min	X	2E-06	7	2.6	0	2.6
PISO 1	Comb4-7	Combination	Min	Y	8E-06	14	3	0	2.6
PISO 1	Comb5	Combination		X	1E-06	5	0.5	0	2.6
PISO 1	Comb5	Combination		Y	2E-06	1	0	0	2.6

Table 5.3 - Story Forces

Story	Output Case	Case Type	Step Type	Location	P kN	VX kN	VY kN	T kN-m	MX kN-m	MY kN-m
PISO 1	Dead	LinStatic		Top	26.8855	0	0	0	28.9019	-40.3283
PISO 1	Dead	LinStatic		Bottom	87.1694	0	0	0	110.3036	-129.9822
PISO 1	Adicional	LinStatic		Top	64.0775	0	0	0	68.8833	-96.1163

Table 5.3 - Story Forces (continued)

Story	Output Case	Case Type	Step Type	Location	P kN	VX kN	VY kN	T kN-m	MX kN-m	MY kN-m
PISO 1	Adicional	LinStatic		Bottom	64.0775	0	0	0	68.8833	-96.1163
PISO 1	Viva	LinStatic		Top	0	0	0	0	0	0
PISO 1	Viva	LinStatic		Bottom	9.828	0	0	0	21.1302	-15.2334
PISO 1	SX	LinRespSpec	Max	Top	0	83.4966	0.5661	89.7031	0	0
PISO 1	SX	LinRespSpec	Max	Bottom	0	83.4966	0.5661	89.7031	1.472	217.0913
PISO 1	SY	LinRespSpec	Max	Top	0	0.5661	98.3212	148.1414	0	0
PISO 1	SY	LinRespSpec	Max	Bottom	0	0.5661	98.3212	148.1414	255.6351	1.472
PISO 1	FHEX	LinStatic		Top	0	-98.3978	0	112.5199	0	0
PISO 1	FHEX	LinStatic		Bottom	0	-98.3978	0	112.5199	0	-255.8342
PISO 1	FHEY	LinStatic		Top	0	0	-98.3978	-147.2831	0	0
PISO 1	FHEY	LinStatic		Bottom	0	0	-98.3978	-147.2831	255.8342	0
PISO 1	Comb1	Combination		Top	90.963	0	0	0	97.7852	-136.4445
PISO 1	Comb1	Combination		Bottom	151.2469	0	0	0	179.1869	-226.0984
PISO 1	Comb2	Combination		Top	127.3482	0	0	0	136.8993	-191.0223
PISO 1	Comb2	Combination		Bottom	211.7457	0	0	0	250.8616	-316.5378
PISO 1	Comb3	Combination		Top	109.1556	0	0	0	117.3423	-163.7334
PISO 1	Comb3	Combination		Bottom	197.2211	0	0	0	248.8326	-295.6916
PISO 1	Comb4	Combination	Max	Top	109.1556	11.9524	4.2946	19.1637	117.3423	-163.7334
PISO 1	Comb4	Combination	Max	Bottom	191.3243	11.9524	4.2946	19.1637	247.3205	-255.4754
PISO 1	Comb4	Combination	Min	Top	109.1556	-11.9524	-4.2946	-19.1637	117.3423	-163.7334
PISO 1	Comb4	Combination	Min	Bottom	191.3243	-11.9524	-4.2946	-19.1637	224.9884	-317.6277
PISO 1	Comb4-1	Combination	Max	Top	109.1556	11.956	4.2989	19.1738	117.3423	-163.7334
PISO 1	Comb4-1	Combination	Max	Bottom	191.3243	11.956	4.2989	19.1738	247.3315	-255.466
PISO 1	Comb4-1	Combination	Min	Top	109.1556	-11.956	-4.2989	-19.1738	117.3423	-163.7334
PISO 1	Comb4-1	Combination	Min	Bottom	191.3243	-11.956	-4.2989	-19.1738	224.9774	-317.637
PISO 1	Comb4-2	Combination	Max	Top	109.1556	11.956	4.2989	19.1738	117.3423	-163.7334
PISO 1	Comb4-2	Combination	Max	Bottom	191.3243	11.956	4.2989	19.1738	247.3315	-255.466
PISO 1	Comb4-2	Combination	Min	Top	109.1556	-11.956	-4.2989	-19.1738	117.3423	-163.7334
PISO 1	Comb4-2	Combination	Min	Bottom	191.3243	-11.956	-4.2989	-19.1738	224.9774	-317.637
PISO 1	Comb4-3	Combination	Max	Top	109.1556	11.956	4.2989	19.1738	117.3423	-163.7334
PISO 1	Comb4-3	Combination	Max	Bottom	191.3243	11.956	4.2989	19.1738	247.3315	-255.466
PISO 1	Comb4-3	Combination	Min	Top	109.1556	-11.956	-4.2989	-19.1738	117.3423	-163.7334
PISO 1	Comb4-3	Combination	Min	Bottom	191.3243	-11.956	-4.2989	-19.1738	224.9774	-317.637
PISO 1	Comb4-4	Combination	Max	Top	109.1556	3.6629	14.0744	25.0177	117.3423	-163.7334
PISO 1	Comb4-4	Combination	Max	Bottom	191.3243	3.6629	14.0744	25.0177	272.7479	-277.028
PISO 1	Comb4-4	Combination	Min	Top	109.1556	-3.6629	-14.0744	-25.0177	117.3423	-163.7334
PISO 1	Comb4-4	Combination	Min	Bottom	191.3243	-3.6629	-14.0744	-25.0177	199.5611	-296.0751
PISO 1	Comb4-5	Combination	Max	Top	109.1556	3.6629	14.0744	25.0177	117.3423	-163.7334
PISO 1	Comb4-5	Combination	Max	Bottom	191.3243	3.6629	14.0744	25.0177	272.7479	-277.028
PISO 1	Comb4-5	Combination	Min	Top	109.1556	-3.6629	-14.0744	-25.0177	117.3423	-163.7334
PISO 1	Comb4-5	Combination	Min	Bottom	191.3243	-3.6629	-14.0744	-25.0177	199.5611	-296.0751
PISO 1	Comb4-6	Combination	Max	Top	109.1556	3.6629	14.0744	25.0177	117.3423	-163.7334
PISO 1	Comb4-6	Combination	Max	Bottom	191.3243	3.6629	14.0744	25.0177	272.7479	-277.028
PISO 1	Comb4-6	Combination	Min	Top	109.1556	-3.6629	-14.0744	-25.0177	117.3423	-163.7334
PISO 1	Comb4-6	Combination	Min	Bottom	191.3243	-3.6629	-14.0744	-25.0177	199.5611	-296.0751

Table 5.3 - Story Forces (continued)

Story	Output Case	Case Type	Step Type	Location	P kN	VX kN	VY kN	T kN-m	MX kN-m	MY kN-m
PISO 1	Comb4-7	Combination	Max	Top	109.1556	3.6629	14.0744	25.0177	117.3423	-163.7334
PISO 1	Comb4-7	Combination	Max	Bottom	191.3243	3.6629	14.0744	25.0177	272.7479	-277.028
PISO 1	Comb4-7	Combination	Min	Top	109.1556	-3.6629	-14.0744	-25.0177	117.3423	-163.7334
PISO 1	Comb4-7	Combination	Min	Bottom	191.3243	-3.6629	-14.0744	-25.0177	199.5611	-296.0751
PISO 1	Comb5	Combination		Top	90.963	0	0	0	97.7852	-136.4445
PISO 1	Comb5	Combination		Bottom	161.0749	0	0	0	200.3171	-241.3318

5.3 Point Results

Table 5.4 - Joint Reactions

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	1	1	Dead	LinStatic		2.3889	1.669	16.6976	-0.484	0.2612	0.0207
CIMENTACION	1	1	Adicional	LinStatic		3.8553	2.067	16.3128	-1	0.6278	0.0417
CIMENTACION	1	1	Viva	LinStatic		-0.0697	0.0708	0.1207	0.018	-0.0359	-0.0109
CIMENTACION	1	1	SX	LinRespSpec	Max	9.6863	9.605	37.8638	6.8448	7.0459	1.0726
CIMENTACION	1	1	SY	LinRespSpec	Max	5.268	25.2481	46.3167	4.4508	0.643	0.1936
CIMENTACION	1	1	FHEX	LinStatic		-8.4993	1.3004	-44.5815	-4.3413	-4.6919	-0.589
CIMENTACION	1	1	FHEY	LinStatic		-5.347	-25.3319	-46.4862	4.4925	0.6863	-0.1736
CIMENTACION	1	1	Comb1	Combination		6.2442	3.736	33.0104	-1.4839	0.889	0.0624
CIMENTACION	1	1	Comb2	Combination		8.7419	5.2304	46.2146	-2.0775	1.2446	0.0873
CIMENTACION	1	1	Comb3	Combination		7.3815	4.5965	39.8056	-1.7519	1.0093	0.0575
CIMENTACION	1	1	Comb4	Combination	Max	9.0329	7.0082	47.1273	-0.5941	2.065	0.2255
CIMENTACION	1	1	Comb4	Combination	Min	5.8138	2.0998	32.3391	-2.9313	-0.0032	-0.0975
CIMENTACION	1	1	Comb4-1	Combination	Max	9.0335	7.0097	47.1309	-0.5936	2.0653	0.2255
CIMENTACION	1	1	Comb4-1	Combination	Min	5.8132	2.0983	32.3355	-2.9318	-0.0036	-0.0976
CIMENTACION	1	1	Comb4-2	Combination	Max	9.0335	7.0097	47.1309	-0.5936	2.0653	0.2255
CIMENTACION	1	1	Comb4-2	Combination	Min	5.8132	2.0983	32.3355	-2.9318	-0.0036	-0.0976
CIMENTACION	1	1	Comb4-3	Combination	Max	9.0335	7.0097	47.1309	-0.5936	2.0653	0.2255
CIMENTACION	1	1	Comb4-3	Combination	Min	5.8132	2.0983	32.3355	-2.9318	-0.0036	-0.0976
CIMENTACION	1	1	Comb4-4	Combination	Max	8.5917	8.574	47.9762	-0.833	1.425	0.1376
CIMENTACION	1	1	Comb4-4	Combination	Min	6.255	0.534	31.4902	-2.6924	0.6367	-0.0097
CIMENTACION	1	1	Comb4-5	Combination	Max	8.5917	8.574	47.9762	-0.833	1.425	0.1376
CIMENTACION	1	1	Comb4-5	Combination	Min	6.255	0.534	31.4902	-2.6924	0.6367	-0.0097
CIMENTACION	1	1	Comb4-6	Combination	Max	8.5917	8.574	47.9762	-0.833	1.425	0.1376
CIMENTACION	1	1	Comb4-6	Combination	Min	6.255	0.534	31.4902	-2.6924	0.6367	-0.0097
CIMENTACION	1	1	Comb4-7	Combination	Max	8.5917	8.574	47.9762	-0.833	1.425	0.1376
CIMENTACION	1	1	Comb4-7	Combination	Min	6.255	0.534	31.4902	-2.6924	0.6367	-0.0097
CIMENTACION	1	1	Comb5	Combination		6.1745	3.8068	33.1311	-1.4659	0.8531	0.0515
CIMENTACION	14	14	Dead	LinStatic		-2.3637	1.6426	16.3755	-0.4727	-0.2604	-0.0205
CIMENTACION	14	14	Adicional	LinStatic		-3.8071	2.0129	16.3811	-0.9499	-0.6243	-0.0497
CIMENTACION	14	14	Viva	LinStatic		0.0593	0.0901	0.2175	0.0194	0.023	0.0083
CIMENTACION	14	14	SX	LinRespSpec	Max	8.3788	9.3454	38.9125	6.432	7.1494	1.0756
CIMENTACION	14	14	SY	LinRespSpec	Max	5.5103	25.4781	46.1308	4.6517	0.6775	0.1597
CIMENTACION	14	14	FHEX	LinStatic		-7.4696	-1.0978	45.9101	3.9692	-4.8326	-0.6029
CIMENTACION	14	14	FHEY	LinStatic		5.5707	-25.4611	-45.9485	4.6747	-0.7086	0.1447

Table 5.4 - Joint Reactions (continued)

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	14	14	Comb1	Combination		-6.1708	3.6555	32.7566	-1.4226	-0.8847	-0.0703
CIMENTACION	14	14	Comb2	Combination		-8.6392	5.1177	45.8592	-1.9916	-1.2385	-0.0984
CIMENTACION	14	14	Comb3	Combination		-7.3101	4.5307	39.6559	-1.6761	-1.0248	-0.0711
CIMENTACION	14	14	Comb4	Combination	Max	-5.9125	6.9037	47.0613	-0.5695	0.0118	0.0845
CIMENTACION	14	14	Comb4	Combination	Min	-8.7788	2.0497	31.9894	-2.8059	-2.089	-0.2365
CIMENTACION	14	14	Comb4-1	Combination	Max	-5.9119	6.9051	47.065	-0.569	0.0121	0.0845
CIMENTACION	14	14	Comb4-1	Combination	Min	-8.7794	2.0482	31.9858	-2.8064	-2.0893	-0.2366
CIMENTACION	14	14	Comb4-2	Combination	Max	-5.9119	6.9051	47.065	-0.569	0.0121	0.0845
CIMENTACION	14	14	Comb4-2	Combination	Min	-8.7794	2.0482	31.9858	-2.8064	-2.0893	-0.2366
CIMENTACION	14	14	Comb4-3	Combination	Max	-5.9119	6.9051	47.065	-0.569	0.0121	0.0845
CIMENTACION	14	14	Comb4-3	Combination	Min	-8.7794	2.0482	31.9858	-2.8064	-2.0893	-0.2366
CIMENTACION	14	14	Comb4-4	Combination	Max	-6.1988	8.5184	47.7868	-0.7471	-0.6351	-0.0071
CIMENTACION	14	14	Comb4-4	Combination	Min	-8.4925	0.4349	31.2639	-2.6284	-1.4421	-0.145
CIMENTACION	14	14	Comb4-5	Combination	Max	-6.1988	8.5184	47.7868	-0.7471	-0.6351	-0.0071
CIMENTACION	14	14	Comb4-5	Combination	Min	-8.4925	0.4349	31.2639	-2.6284	-1.4421	-0.145
CIMENTACION	14	14	Comb4-6	Combination	Max	-6.1988	8.5184	47.7868	-0.7471	-0.6351	-0.0071
CIMENTACION	14	14	Comb4-6	Combination	Min	-8.4925	0.4349	31.2639	-2.6284	-1.4421	-0.145
CIMENTACION	14	14	Comb4-7	Combination	Max	-6.1988	8.5184	47.7868	-0.7471	-0.6351	-0.0071
CIMENTACION	14	14	Comb4-7	Combination	Min	-8.4925	0.4349	31.2639	-2.6284	-1.4421	-0.145
CIMENTACION	14	14	Comb5	Combination		-6.1115	3.7456	32.974	-1.4032	-0.8617	-0.062
CIMENTACION	3	2	Dead	LinStatic		1.3412	-1.5531	14.2339	0.0679	-0.119	0.0227
CIMENTACION	3	2	Adicional	LinStatic		1.251	-1.8534	10.4006	0.257	-0.3298	0.0896
CIMENTACION	3	2	Viva	LinStatic		0.3066	-0.0894	1.0705	0.0581	0.0504	-0.0057
CIMENTACION	3	2	SX	LinRespSpec	Max	2.3674	12.8137	47.293	5.8559	4.1096	0.9362
CIMENTACION	3	2	SY	LinRespSpec	Max	2.1108	22.513	29.3444	3.1296	0.7881	0.3554
CIMENTACION	3	2	FHEX	LinStatic		-3.2054	6.444	-50.2095	-2.6192	1.0703	-0.3337
CIMENTACION	3	2	FHEY	LinStatic		2.1859	-22.5718	29.1554	3.1922	-0.8439	-0.3334
CIMENTACION	3	2	Comb1	Combination		2.5922	-3.4065	24.6345	0.3249	-0.4488	0.1122
CIMENTACION	3	2	Comb2	Combination		3.6291	-4.7691	34.4883	0.4548	-0.6283	0.1571
CIMENTACION	3	2	Comb3	Combination		3.6013	-4.2308	31.2742	0.4828	-0.4579	0.1256
CIMENTACION	3	2	Comb4	Combination	Max	3.846	-1.3818	38.6457	1.4186	0.1327	0.278
CIMENTACION	3	2	Comb4	Combination	Min	2.9886	-6.9726	22.6181	-0.5227	-1.109	-0.02
CIMENTACION	3	2	Comb4-1	Combination	Max	3.8461	-1.3803	38.6489	1.419	0.1329	0.278
CIMENTACION	3	2	Comb4-1	Combination	Min	2.9884	-6.9741	22.6148	-0.5231	-1.1092	-0.02
CIMENTACION	3	2	Comb4-2	Combination	Max	3.8461	-1.3803	38.6489	1.419	0.1329	0.278
CIMENTACION	3	2	Comb4-2	Combination	Min	2.9884	-6.9741	22.6148	-0.5231	-1.1092	-0.02
CIMENTACION	3	2	Comb4-3	Combination	Max	3.8461	-1.3803	38.6489	1.419	0.1329	0.278
CIMENTACION	3	2	Comb4-3	Combination	Min	2.9884	-6.9741	22.6148	-0.5231	-1.1092	-0.02
CIMENTACION	3	2	Comb4-4	Combination	Max	3.8205	-0.4104	36.8541	1.1464	-0.1992	0.2199
CIMENTACION	3	2	Comb4-4	Combination	Min	3.0141	-7.944	24.4097	-0.2505	-0.7771	0.038
CIMENTACION	3	2	Comb4-5	Combination	Max	3.8205	-0.4104	36.8541	1.1464	-0.1992	0.2199
CIMENTACION	3	2	Comb4-5	Combination	Min	3.0141	-7.944	24.4097	-0.2505	-0.7771	0.038
CIMENTACION	3	2	Comb4-6	Combination	Max	3.8205	-0.4104	36.8541	1.1464	-0.1992	0.2199
CIMENTACION	3	2	Comb4-6	Combination	Min	3.0141	-7.944	24.4097	-0.2505	-0.7771	0.038
CIMENTACION	3	2	Comb4-7	Combination	Max	3.8205	-0.4104	36.8541	1.1464	-0.1992	0.2199

Table 5.4 - Joint Reactions (continued)

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	3	2	Comb4-7	Combination	Min	3.0141	-7.944	24.4097	-0.2505	-0.7771	0.038
CIMENTACION	3	2	Comb5	Combination		2.8989	-3.4959	25.705	0.383	-0.3984	0.1065
CIMENTACION	5	5	Dead	LinStatic		-1.5779	-0.0509	1.7619	0.1931	0.085	-0.0251
CIMENTACION	5	5	Adicional	LinStatic		-2.0398	-0.1085	0.0695	0.4729	0.1847	-0.0675
CIMENTACION	5	5	Viva	LinStatic		0.0792	-0.002	-0.1377	0.0007	0.0033	0.0009
CIMENTACION	5	5	SX	LinRespSpec	Max	10.6878	1.1702	37.7598	4.6414	2.0339	0.6031
CIMENTACION	5	5	SY	LinRespSpec	Max	5.7569	0.5048	7.8094	1.8831	0.0098	0.2199
CIMENTACION	5	5	FHEX	LinStatic		-9.7251	-0.8845	35.0673	3.6764	-1.9386	-0.4941
CIMENTACION	5	5	FHEY	LinStatic		5.8431	-0.496	-7.795	1.8535	-0.0033	-0.2165
CIMENTACION	5	5	Comb1	Combination		-3.6177	-0.1593	1.8314	0.666	0.2697	-0.0926
CIMENTACION	5	5	Comb2	Combination		-5.0647	-0.2231	2.5639	0.9324	0.3776	-0.1297
CIMENTACION	5	5	Comb3	Combination		-4.2145	-0.1944	1.9773	0.8004	0.329	-0.1098
CIMENTACION	5	5	Comb4	Combination	Max	-2.4885	-0.0044	7.7889	1.5437	0.618	-0.0147
CIMENTACION	5	5	Comb4	Combination	Min	-6.0356	-0.382	-3.669	0.0562	0.036	-0.2059
CIMENTACION	5	5	Comb4-1	Combination	Max	-2.4878	-0.0043	7.7909	1.544	0.6181	-0.0147
CIMENTACION	5	5	Comb4-1	Combination	Min	-6.0363	-0.3821	-3.6709	0.0559	0.0359	-0.2059
CIMENTACION	5	5	Comb4-2	Combination	Max	-2.4878	-0.0043	7.7909	1.544	0.6181	-0.0147
CIMENTACION	5	5	Comb4-2	Combination	Min	-6.0363	-0.3821	-3.6709	0.0559	0.0359	-0.2059
CIMENTACION	5	5	Comb4-3	Combination	Max	-2.4878	-0.0043	7.7909	1.544	0.6181	-0.0147
CIMENTACION	5	5	Comb4-3	Combination	Min	-6.0363	-0.3821	-3.6709	0.0559	0.0359	-0.2059
CIMENTACION	5	5	Comb4-4	Combination	Max	-2.9809	-0.0708	4.7958	1.2682	0.4157	-0.053
CIMENTACION	5	5	Comb4-4	Combination	Min	-5.5432	-0.3155	-0.6759	0.3317	0.2384	-0.1676
CIMENTACION	5	5	Comb4-5	Combination	Max	-2.9809	-0.0708	4.7958	1.2682	0.4157	-0.053
CIMENTACION	5	5	Comb4-5	Combination	Min	-5.5432	-0.3155	-0.6759	0.3317	0.2384	-0.1676
CIMENTACION	5	5	Comb4-6	Combination	Max	-2.9809	-0.0708	4.7958	1.2682	0.4157	-0.053
CIMENTACION	5	5	Comb4-6	Combination	Min	-5.5432	-0.3155	-0.6759	0.3317	0.2384	-0.1676
CIMENTACION	5	5	Comb4-7	Combination	Max	-2.9809	-0.0708	4.7958	1.2682	0.4157	-0.053
CIMENTACION	5	5	Comb4-7	Combination	Min	-5.5432	-0.3155	-0.6759	0.3317	0.2384	-0.1676
CIMENTACION	5	5	Comb5	Combination		-3.5385	-0.1613	1.6937	0.6668	0.2731	-0.0918
CIMENTACION	6	6	Dead	LinStatic		0.4514	-0.0165	11.7685	0.1467	0.2547	-0.0248
CIMENTACION	6	6	Adicional	LinStatic		0.8467	0.0081	5.6065	0.0664	0.5134	-0.02
CIMENTACION	6	6	Viva	LinStatic		0.0933	0.0084	3.8256	-0.0383	0.0428	0.0047
CIMENTACION	6	6	SX	LinRespSpec	Max	22.8868	1.1917	8.7743	0.1853	5.5595	0.9447
CIMENTACION	6	6	SY	LinRespSpec	Max	1.2482	1.1162	25.6981	3.6362	0.64	0.3439
CIMENTACION	6	6	FHEX	LinStatic		-29.8947	0.3576	-9.794	0.1971	-7.0304	-0.4768
CIMENTACION	6	6	FHEY	LinStatic		-1.3756	-1.1033	25.7621	3.5908	-0.6817	-0.3371
CIMENTACION	6	6	Comb1	Combination		1.2981	-0.0085	17.375	0.213	0.7681	-0.0448
CIMENTACION	6	6	Comb2	Combination		1.8173	-0.0119	24.3251	0.2982	1.0754	-0.0628
CIMENTACION	6	6	Comb3	Combination		1.707	0.0034	26.9709	0.1944	0.9903	-0.0463
CIMENTACION	6	6	Comb4	Combination	Max	4.974	0.2164	27.0304	0.3997	1.7863	0.1006
CIMENTACION	6	6	Comb4	Combination	Min	-1.672	-0.2198	22.3208	0.035	0.143	-0.1988
CIMENTACION	6	6	Comb4-1	Combination	Max	4.9751	0.2165	27.0319	0.3998	1.7865	0.1006
CIMENTACION	6	6	Comb4-1	Combination	Min	-1.6731	-0.2199	22.3193	0.0349	0.1427	-0.1989
CIMENTACION	6	6	Comb4-2	Combination	Max	4.9751	0.2165	27.0319	0.3998	1.7865	0.1006
CIMENTACION	6	6	Comb4-2	Combination	Min	-1.6731	-0.2199	22.3193	0.0349	0.1427	-0.1989

Table 5.4 - Joint Reactions (continued)

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	6	6	Comb4-3	Combination	Max	4.9751	0.2165	27.0319	0.3998	1.7865	0.1006
CIMENTACION	6	6	Comb4-3	Combination	Min	-1.6731	-0.2199	22.3193	0.0349	0.1427	-0.1989
CIMENTACION	6	6	Comb4-4	Combination	Max	2.8112	0.2089	28.7243	0.7449	1.2946	0.0406
CIMENTACION	6	6	Comb4-4	Combination	Min	0.4908	-0.2124	20.6269	-0.3102	0.6347	-0.1388
CIMENTACION	6	6	Comb4-5	Combination	Max	2.8112	0.2089	28.7243	0.7449	1.2946	0.0406
CIMENTACION	6	6	Comb4-5	Combination	Min	0.4908	-0.2124	20.6269	-0.3102	0.6347	-0.1388
CIMENTACION	6	6	Comb4-6	Combination	Max	2.8112	0.2089	28.7243	0.7449	1.2946	0.0406
CIMENTACION	6	6	Comb4-6	Combination	Min	0.4908	-0.2124	20.6269	-0.3102	0.6347	-0.1388
CIMENTACION	6	6	Comb4-7	Combination	Max	2.8112	0.2089	28.7243	0.7449	1.2946	0.0406
CIMENTACION	6	6	Comb4-7	Combination	Min	0.4908	-0.2124	20.6269	-0.3102	0.6347	-0.1388
CIMENTACION	6	6	Comb5	Combination		1.3914	-2.234E-05	21.2006	0.1747	0.811	-0.0401
CIMENTACION	7	10	Dead	LinStatic		1.6302	-0.042	0.9684	0.1892	-0.0747	0.0213
CIMENTACION	7	10	Adicional	LinStatic		2.1708	-0.0903	-0.8854	0.4379	-0.1616	0.053
CIMENTACION	7	10	Viva	LinStatic		-0.0841	-0.0001	-0.1656	-0.0024	-0.0044	-0.0009
CIMENTACION	7	10	SX	LinRespSpec	Max	9.4162	0.9097	38.8802	4.2112	1.695	0.4642
CIMENTACION	7	10	SY	LinRespSpec	Max	6.0643	0.3699	6.6709	1.6284	0.0083	0.1601
CIMENTACION	7	10	FHEX	LinStatic		-8.3957	0.6974	-36.3836	-3.3102	-1.6236	-0.3753
CIMENTACION	7	10	FHEY	LinStatic		-6.1769	-0.3634	-6.7809	1.5985	-0.0077	0.1567
CIMENTACION	7	10	Comb1	Combination		3.801	-0.1323	0.083	0.6271	-0.2363	0.0742
CIMENTACION	7	10	Comb2	Combination		5.3214	-0.1853	0.1162	0.8779	-0.3309	0.1039
CIMENTACION	7	10	Comb3	Combination		4.4267	-0.159	-0.1654	0.7487	-0.2907	0.0877
CIMENTACION	7	10	Comb4	Combination	Max	6.0822	-0.0131	5.7742	1.4215	-0.0455	0.1614
CIMENTACION	7	10	Comb4	Combination	Min	2.872	-0.3047	-5.9062	0.0787	-0.5305	0.015
CIMENTACION	7	10	Comb4-1	Combination	Max	6.0828	-0.013	5.7762	1.4217	-0.0454	0.1614
CIMENTACION	7	10	Comb4-1	Combination	Min	2.8714	-0.3048	-5.9082	0.0785	-0.5306	0.015
CIMENTACION	7	10	Comb4-2	Combination	Max	6.0828	-0.013	5.7762	1.4217	-0.0454	0.1614
CIMENTACION	7	10	Comb4-2	Combination	Min	2.8714	-0.3048	-5.9082	0.0785	-0.5306	0.015
CIMENTACION	7	10	Comb4-3	Combination	Max	6.0828	-0.013	5.7762	1.4217	-0.0454	0.1614
CIMENTACION	7	10	Comb4-3	Combination	Min	2.8714	-0.3048	-5.9082	0.0785	-0.5306	0.015
CIMENTACION	7	10	Comb4-4	Combination	Max	5.7477	-0.067	2.5552	1.1635	-0.2141	0.131
CIMENTACION	7	10	Comb4-4	Combination	Min	3.2066	-0.2508	-2.6872	0.3367	-0.3619	0.0454
CIMENTACION	7	10	Comb4-5	Combination	Max	5.7477	-0.067	2.5552	1.1635	-0.2141	0.131
CIMENTACION	7	10	Comb4-5	Combination	Min	3.2066	-0.2508	-2.6872	0.3367	-0.3619	0.0454
CIMENTACION	7	10	Comb4-6	Combination	Max	5.7477	-0.067	2.5552	1.1635	-0.2141	0.131
CIMENTACION	7	10	Comb4-6	Combination	Min	3.2066	-0.2508	-2.6872	0.3367	-0.3619	0.0454
CIMENTACION	7	10	Comb4-7	Combination	Max	5.7477	-0.067	2.5552	1.1635	-0.2141	0.131
CIMENTACION	7	10	Comb4-7	Combination	Min	3.2066	-0.2508	-2.6872	0.3367	-0.3619	0.0454
CIMENTACION	7	10	Comb5	Combination		3.7169	-0.1324	-0.0826	0.6247	-0.2407	0.0734
CIMENTACION	8	11	Dead	LinStatic		-0.5723	-0.0262	11.2955	0.1262	-0.2779	0.02
CIMENTACION	8	11	Adicional	LinStatic		-1.0988	-0.0165	5.3522	0.0471	-0.5642	0.0093
CIMENTACION	8	11	Viva	LinStatic		-0.0836	0.0081	3.8112	-0.034	-0.0436	-0.0045
CIMENTACION	8	11	SX	LinRespSpec	Max	22.4752	1.3992	9.3981	0.1274	5.5393	0.884
CIMENTACION	8	11	SY	LinRespSpec	Max	1.8564	0.8058	24.4662	3.2977	0.7103	0.4226
CIMENTACION	8	11	FHEX	LinStatic		-29.2623	-0.4615	10.4359	-0.0593	-6.9536	-0.434
CIMENTACION	8	11	FHEY	LinStatic		1.7001	-0.7908	24.5896	3.2532	0.6897	0.4199

Table 5.4 - Joint Reactions (continued)

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	8	11	Comb1	Combination		-1.6711	-0.0427	16.6477	0.1733	-0.8421	0.0293
CIMENTACION	8	11	Comb2	Combination		-2.3396	-0.0598	23.3068	0.2426	-1.1789	0.041
CIMENTACION	8	11	Comb3	Combination		-2.1391	-0.0384	26.0753	0.1536	-1.0802	0.0279
CIMENTACION	8	11	Comb4	Combination	Max	1.2014	0.1912	26.1796	0.3335	-0.2323	0.175
CIMENTACION	8	11	Comb4	Combination	Min	-5.3792	-0.2776	21.3974	0.0145	-1.8758	-0.1138
CIMENTACION	8	11	Comb4-1	Combination	Max	1.2024	0.1913	26.1811	0.3337	-0.232	0.1751
CIMENTACION	8	11	Comb4-1	Combination	Min	-5.3803	-0.2777	21.3959	0.0143	-1.8761	-0.1138
CIMENTACION	8	11	Comb4-2	Combination	Max	1.2024	0.1913	26.1811	0.3337	-0.232	0.1751
CIMENTACION	8	11	Comb4-2	Combination	Min	-5.3803	-0.2777	21.3959	0.0143	-1.8761	-0.1138
CIMENTACION	8	11	Comb4-3	Combination	Max	1.2024	0.1913	26.1811	0.3337	-0.232	0.1751
CIMENTACION	8	11	Comb4-3	Combination	Min	-5.3803	-0.2777	21.3959	0.0143	-1.8761	-0.1138
CIMENTACION	8	11	Comb4-4	Combination	Max	-0.8595	0.132	27.6879	0.6507	-0.7149	0.1289
CIMENTACION	8	11	Comb4-4	Combination	Min	-3.3184	-0.2184	19.8891	-0.3027	-1.3932	-0.0677
CIMENTACION	8	11	Comb4-5	Combination	Max	-0.8595	0.132	27.6879	0.6507	-0.7149	0.1289
CIMENTACION	8	11	Comb4-5	Combination	Min	-3.3184	-0.2184	19.8891	-0.3027	-1.3932	-0.0677
CIMENTACION	8	11	Comb4-6	Combination	Max	-0.8595	0.132	27.6879	0.6507	-0.7149	0.1289
CIMENTACION	8	11	Comb4-6	Combination	Min	-3.3184	-0.2184	19.8891	-0.3027	-1.3932	-0.0677
CIMENTACION	8	11	Comb4-7	Combination	Max	-0.8595	0.132	27.6879	0.6507	-0.7149	0.1289
CIMENTACION	8	11	Comb4-7	Combination	Min	-3.3184	-0.2184	19.8891	-0.3027	-1.3932	-0.0677
CIMENTACION	8	11	Comb5	Combination		-1.7547	-0.0347	20.459	0.1393	-0.8857	0.0248
CIMENTACION	9	15	Dead	LinStatic		-1.2977	-1.623	14.0681	0.1002	0.1311	-0.0285
CIMENTACION	9	15	Adicional	LinStatic		-1.1781	-2.0192	10.8402	0.3229	0.3533	-0.0948
CIMENTACION	9	15	Viva	LinStatic		-0.3011	-0.0859	1.0858	0.0534	-0.0367	0.0045
CIMENTACION	9	15	SX	LinRespSpec	Max	1.604	12.6116	46.763	5.805	4.5716	1.0099
CIMENTACION	9	15	SY	LinRespSpec	Max	2.2845	22.2858	27.4155	3.0756	0.7971	0.3305
CIMENTACION	9	15	FHEX	LinStatic		-1.9458	-6.3557	49.5553	2.5138	1.735	-0.4262
CIMENTACION	9	15	FHEY	LinStatic		-2.4003	-22.2795	27.5034	3.1061	0.8205	0.3152
CIMENTACION	9	15	Comb1	Combination		-2.4758	-3.6422	24.9083	0.4231	0.4844	-0.1233
CIMENTACION	9	15	Comb2	Combination		-3.4662	-5.099	34.8717	0.5923	0.6782	-0.1726
CIMENTACION	9	15	Comb3	Combination		-3.4528	-4.508	31.6273	0.5932	0.5225	-0.1408
CIMENTACION	9	15	Comb4	Combination	Max	-2.9451	-1.6997	38.8312	1.5223	1.2318	0.0149
CIMENTACION	9	15	Comb4	Combination	Min	-3.5992	-7.2133	23.1204	-0.3999	-0.1427	-0.3019
CIMENTACION	9	15	Comb4-1	Combination	Max	-2.9449	-1.6982	38.8344	1.5226	1.232	0.015
CIMENTACION	9	15	Comb4-1	Combination	Min	-3.5993	-7.2148	23.1172	-0.4003	-0.1429	-0.302
CIMENTACION	9	15	Comb4-2	Combination	Max	-2.9449	-1.6982	38.8344	1.5226	1.232	0.015
CIMENTACION	9	15	Comb4-2	Combination	Min	-3.5993	-7.2148	23.1172	-0.4003	-0.1429	-0.302
CIMENTACION	9	15	Comb4-3	Combination	Max	-2.9449	-1.6982	38.8344	1.5226	1.232	0.015
CIMENTACION	9	15	Comb4-3	Combination	Min	-3.5993	-7.2148	23.1172	-0.4003	-0.1429	-0.302
CIMENTACION	9	15	Comb4-4	Combination	Max	-2.8769	-0.7308	36.8996	1.2497	0.8546	-0.0529
CIMENTACION	9	15	Comb4-4	Combination	Min	-3.6674	-8.1822	25.052	-0.1274	0.2345	-0.2341
CIMENTACION	9	15	Comb4-5	Combination	Max	-2.8769	-0.7308	36.8996	1.2497	0.8546	-0.0529
CIMENTACION	9	15	Comb4-5	Combination	Min	-3.6674	-8.1822	25.052	-0.1274	0.2345	-0.2341
CIMENTACION	9	15	Comb4-6	Combination	Max	-2.8769	-0.7308	36.8996	1.2497	0.8546	-0.0529
CIMENTACION	9	15	Comb4-6	Combination	Min	-3.6674	-8.1822	25.052	-0.1274	0.2345	-0.2341
CIMENTACION	9	15	Comb4-7	Combination	Max	-2.8769	-0.7308	36.8996	1.2497	0.8546	-0.0529

Table 5.4 - Joint Reactions (continued)

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	9	15	Comb4-7	Combination	Min	-3.6674	-8.1822	25.052	-0.1274	0.2345	-0.2341
CIMENTACION	9	15	Comb5	Combination		-2.777	-3.7281	25.9941	0.4765	0.4477	-0.1188

5.4 Modal Results

Table 5.5 - Modal Periods And Frequencies

Case	Mode	Period sec	Frequency cyc/sec	CircFreq rad/sec	Eigenvalue rad2/sec2
Modal	1	0.022	45.625	286.6709	82180.2295
Modal	2	0.02	49.594	311.607	97098.9262
Modal	3	0.014	71.254	447.7051	200439.8643

Table 5.6 - Modal Participating Mass Ratios (Part 1 of 2)

Case	Mode	Period sec	UX	UY	UZ	SumUX	SumUY	SumUZ	RX	RY	RZ
Modal	1	0.022	0.8221	2.741E-05	0	0.8221	2.741E-05	0	2.741E-05	0.8221	0.1958
Modal	2	0.02	4.515E-05	0.9992	0	0.8221	0.9992	0	0.9992	4.515E-05	9.926E-06
Modal	3	0.014	0.1759	2.273E-05	0	0.998	0.9993	0	2.273E-05	0.1759	0.8027

Table 5.6 - Modal Participating Mass Ratios (Part 2 of 2)

SumRX	SumRY	SumRZ
2.741E-05	0.8221	0.1958
0.9992	0.8221	0.1958
0.9993	0.998	0.9985

Table 5.7 - Modal Load Participation Ratios

Case	ItemType	Item	Static %	Dynamic %
Modal	Acceleration	UX	99.98	99.8
Modal	Acceleration	UY	99.99	99.93
Modal	Acceleration	UZ	0	0

Table 5.8 - Modal Direction Factors

Case	Mode	Period sec	UX	UY	UZ	RZ
Modal	1	0.022	0.906	0	0	0.094
Modal	2	0.02	0	1	0	0
Modal	3	0.014	0.369	0	0	0.631

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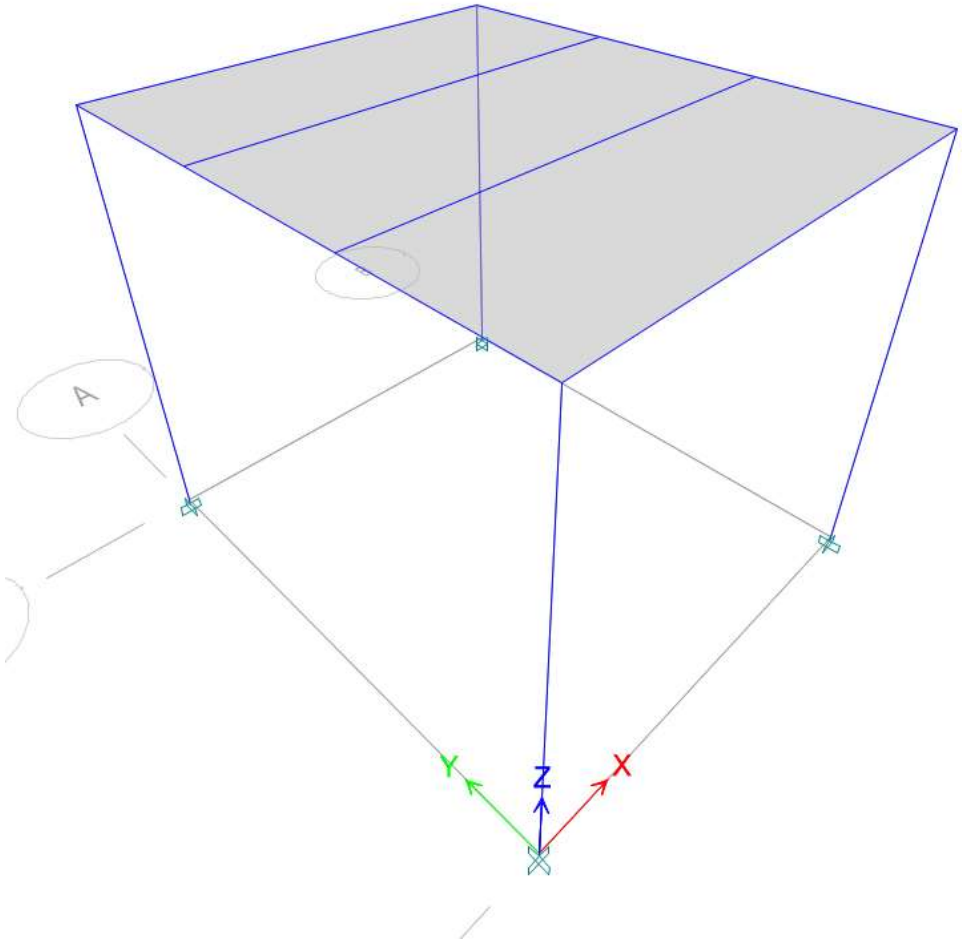


Project Report

CUARTO RUEDA PELTON

Model File: CUARTO RUEDA PELTON, Revision 0

04/05/2023

1 Structure Data

This chapter provides model geometry information, including items such as story levels, point coordinates, and element connectivity.

1.1 Story Data

Table 1.1 - Story Definitions

Tower	Name	Height m	Master Story	Similar To	Splice Story	Color
T1	CUBIERTA	3.58	No	None	No	Gray8Dark

1.2 Grid Data

Table 1.2 - Grid Definitions - General

Tower	Name	Type	Ux m	Uy m	Rz deg	Story Range	Bubble Size mm	Color
T1	G1	Cartesian	0	0	0	Default	1250	Gray6

Table 1.3 - Grid Definitions - Grid Lines

Name	Grid Line Type	ID	Ordinate m	Bubble Location	Visible
G1	X (Cartesian)	A	0	End	Yes
G1	X (Cartesian)	B	3.61	End	Yes
G1	Y (Cartesian)	1	0	Start	Yes
G1	Y (Cartesian)	2	4.24	Start	Yes

1.3 Point Coordinates

Table 1.4 - Point Bays

Label	Is Auto Point	X m	Y m	DZBelow m
1	No	0	0	0
2	No	0	4.24	0
3	Yes	1.805	2.12	0
5	No	3.61	4.24	0
6	No	3.61	0	0
15	No	3.61	1.4133	0
16	No	0	1.4133	0
17	No	3.61	2.8267	0
18	No	0	2.8267	0

Table 1.5 - Point Object Connectivity

UniqueName	Is Auto Point	Story	PointBay	IsSpecial	X m	Y m	Z m
8	No	CUBIERTA	1	No	0	0	3.58
1	No	CUBIERTA	2	No	0	4.24	3.58
3	No	CUBIERTA	5	No	3.61	4.24	3.58
5	No	CUBIERTA	6	No	3.61	0	3.58
14	No	CUBIERTA	15	No	3.61	1.4133	3.58

Table 1.5 - Point Object Connectivity (continued)

UniqueName	Is Auto Point	Story	PointBay	IsSpecial	X m	Y m	Z m
15	No	CUBIERTA	16	No	0	1.4133	3.58
16	No	CUBIERTA	17	No	3.61	2.8267	3.58
17	No	CUBIERTA	18	No	0	2.8267	3.58
7	Yes	CUBIERTA	3	Yes	1.805	2.12	3.58
9	No	CIMENTACION	1	No	0	0	0
2	No	CIMENTACION	2	No	0	4.24	0
4	No	CIMENTACION	5	No	3.61	4.24	0
6	No	CIMENTACION	6	No	3.61	0	0

1.4 Line Connectivity

Table 1.6 - Column Bays

Label	PointBayI	PointBayJ	IEndStory
C1	2	2	Below
C2	5	5	Below
C3	6	6	Below
C4	1	1	Below

Table 1.7 - Beam Bays

Label	PointBayI	PointBayJ
B1	2	5
B2	1	2
B3	6	5
B4	1	6
B12	16	15
B13	18	17

1.5 Area Connectivity

Table 1.8 - Floor Bays

Label	NumPoints	PointNumber	PointBay
F2	4	1	1
F2		2	6
F2		3	5
F2		4	2

1.6 Mass

Table 1.9 - Mass Source Definition

Name	Is Default	Include Lateral Mass?	Include Vertical Mass?	Lump Mass?	Source Self Mass?	Source Added Mass?	Source Load Patterns?	Move Mass Centroid?	Load Pattern	Multiplier
MsSrc1	Yes	Yes	No	Yes	No	No	Yes	No	Peso Propio	1
MsSrc1									Adicional	1

Table 1.10 - Centers Of Mass And Rigidity

Story	Diaphragm	Mass X kg	Mass Y kg	XCM m	YCM m	Cum Mass X kg	Cum Mass Y kg	XCCM m	YCCM m	XCR m	YCR m
CUBIERTA	D1	18417.77	18417.77	1.805	2.12	18417.77	18417.77	1.805	2.12		

Table 1.11 - Mass Summary by Diaphragm

Story	Diaphragm	Mass X kg	Mass Y kg	Mass Moment of Inertia ton-m2	X Mass Center m	Y Mass Center m
CUBIERTA	D1	18417.77	18417.77	125.982	1.805	2.12

Table 1.12 - Mass Summary by Story

Story	UX kg	UY kg	UZ kg
CUBIERTA	18417.77	18417.77	0
CIMENTACION	1548.34	1548.34	0

Table 1.13 - Mass Summary by Group

Group	Self Mass kg	Self Weight kN	Mass X kg	Mass Y kg	Mass Z kg
All	0	65.9533	19966.12	19966.12	0

1.7 Groups

Table 1.14 - Group Definitions

Name	Color	Steel Design?	Concrete Design?	Composite Design?
All	Yellow	No	No	No

2 Properties

This chapter provides property information for materials, frame sections, shell sections, and links.

2.1 Materials

Table 2.1 - Material Properties - General

Material	Type	SymType	Grade	Color	Notes
3000Psi	Concrete	Isotropic	f'c 3000 psi	Yellow	
4000Psi	Concrete	Isotropic	f'c 4000 psi	Gray8Dark	
A416Gr270	Tendon	Uniaxial	Grade 270	Green	
A572Gr50	Steel	Isotropic	Grade 50	White	
A615Gr60	Rebar	Uniaxial	Grade 60	Blue	
A992Fy50	Steel	Isotropic	Grade 50	Yellow	

2.2 Frame Sections

Table 2.2 - Frame Section Property Definitions - Summary (Part 1 of 3)

Name	Material	Shape	Color	Area cm2	J cm4	I33 cm4	I22 cm4	As2 cm2	As3 cm2	S33Pos cm3
COLUMNA	3000Psi	Concrete Rectangular	Green	900	114075	67500	67500	750	750	4500
HE300A	A992Fy50	Steel I/Wide Flange	Gray8Dark	113	87.8	18260	6310	24.7	70	1259.3
HE340A	A572Gr50	Steel I/Wide Flange	Red	133	131	27690	7436	31.4	82.5	1678.2
HE360A	A572Gr50	Steel I/Wide Flange	Magenta	143	153	33090	7887	35	87.5	1890.9
IPE200	A572Gr50	Steel I/Wide Flange	Blue	28.5	6.9	1943	142	11.2	14.2	194.3
IPE220	A572Gr50	Steel I/Wide Flange	Cyan	33.4	9	2772	205	13	16.9	252
IPE240	A572Gr50	Steel I/Wide Flange	Red	39.1	13	3892	284	14.9	19.6	324.3
IPE360	A572Gr50	Steel I/Wide Flange	Blue	72.7	37.4	16270	1043	28.8	36	903.9
IPE400	A572Gr50	Steel I/Wide Flange	Magenta	84.5	51.3	23130	1318	34.4	40.5	1156.5

Table 2.2 - Frame Section Property Definitions - Summary (Part 2 of 3)

S33Neg cm3	S22Pos cm3	S22Neg cm3	Z33 cm3	Z22 cm3	R33 mm	R22 mm	Cw cm6	Fillet Radius mm	CG Offset 3 mm	CG Offset 2 mm	PNA Offset 3 mm	PNA Offset 2 mm
4500	4500	4500	6750	6750	86.6	86.6			0	0	0	0
1259.3	420.7	420.7	1383	641	127.1	74.7	1199772	27	0	0	0	0
1678.2	495.7	495.7	1850	756	144.3	74.8	1824364.3	27	0	0	0	0
1890.9	525.8	525.8	2088	802	152.1	74.3	2176576.2	27	0	0	0	0
194.3	28.4	28.4	221	44.6	82.6	22.3	12988.1	12	0	0	0	0
252	37.3	37.3	285	58.1	91.1	24.8	22672.3	12	0	0	0	0
324.3	47.3	47.3	367	73.9	99.8	27	37391.2	15	0	0	0	0
903.9	122.7	122.7	1019	191	149.6	37.9	313580.3	18	0	0	0	0
1156.5	146.4	146.4	1307	229	165.4	39.5	490048.5	21	0	0	0	0

Table 2.2 - Frame Section Property Definitions - Summary (Part 3 of 3)

As2 Modifier	As3 Modifier	J Modifier	I33 Modifier	I22 Modifier	Mass Modifier	Weight Modifier
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1

2.3 Shell Sections

Table 2.3 - Area Section Property Definitions - Summary

Name	Type	Element Type	Material	Total Thickness mm	Deck Material	Deck Depth mm
LAMINA COLABORANTE	Deck	Membrane	3000Psi	100	A572Gr50	45
Stiff1	Slab	Shell-Thin	4000Psi	100		
Wall1	Wall	Shell-Thin	4000Psi	250		

2.4 Reinforcement Sizes

Table 2.4 - Reinforcing Bar Sizes

Name	Diameter mm	Area cm2
#2	6.4	0.3
#3	9.5	0.7
#4	12.7	1.3
#5	15.9	2
#6	19.1	2.8
#7	22.2	3.9
#8	25.4	5.1
#9	28.7	6.5
#10	32.3	8.2
#11	35.8	10.1
#14	43	14.5
#18	57.3	25.8

2.5 Links

Table 2.5 - Link Property Definitions - Summary

Name	Type	Degrees of Freedom	Mass kg	Weight kN	Defined Length m	Defined Area m2
Link1	Linear	U1	0	0	1	1

2.6 Spring Properties

Table 2.6 - Spring Property Definitions - Isolated Column Footings

Name	Length mm	Width mm	Thickness mm	Embedment Source	Color	Notes
ZAPATA	1000	1000	350	Program Determined	Red	

2.7 Tendon Sections

Table 2.7 - Tendon Section Properties

Name	Material	StrandArea cm2	Color	Notes
Tendon1	A416Gr270	1	Yellow	

3 Assignments

This chapter provides a listing of the assignments applied to the model.

3.1 Joint Assignments

Table 3.1 - Joint Assignments - Summary

Story	Label	UniqueName	Diaphragm	Restraints
CUBIERTA	1	8	From Area	
CUBIERTA	2	1	From Area	
CUBIERTA	5	3	From Area	
CUBIERTA	6	5	From Area	
CUBIERTA	15	14	From Area	
CUBIERTA	16	15	From Area	
CUBIERTA	17	16	From Area	
CUBIERTA	18	17	From Area	
CUBIERTA	3	7	D1	
CIMENTACION	1	9	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	2	2	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	5	4	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	6	6	From Area	UX; UY; UZ; RX; RY; RZ

3.2 Frame Assignments

Table 3.2 - Frame Assignments - Summary

Story	Label	UniqueName	Design Type	Length m	Analysis Section	Design Section	Max Station Spacing m	Min Number Stations	Releases
CUBIERTA	B1	5	Beam	3.61	IPE240	IPE240	0.5		
CUBIERTA	B2	6	Beam	4.24	IPE240	IPE240	0.5		
CUBIERTA	B3	7	Beam	4.24	IPE240	IPE240	0.5		
CUBIERTA	B4	8	Beam	3.61	IPE240	IPE240	0.5		
CUBIERTA	B12	11	Beam	3.61	IPE200	IPE200	0.5		Yes
CUBIERTA	B13	12	Beam	3.61	IPE200	IPE200	0.5		Yes
CUBIERTA	C4	4	Column	3.58	COLUMNA	COLUMNA		3	
CUBIERTA	C1	1	Column	3.58	COLUMNA	COLUMNA		3	
CUBIERTA	C2	2	Column	3.58	COLUMNA	COLUMNA		3	
CUBIERTA	C3	3	Column	3.58	COLUMNA	COLUMNA		3	

3.3 Shell Assignments

Table 3.3 - Area Assignments - Summary

Story	Label	UniqueName	Section Property	Property Type	Diaphragm	Axis Angle deg
CUBIERTA	F2	1	LAMINA COLABORANTE	Deck	D1	90

4 Loads

This chapter provides loading information as applied to the model.

4.1 Load Patterns

Table 4.1 - Load Pattern Definitions

Name	Is Auto Load	Type	Self Weight Multiplier	Auto Load
~LLRF	Yes	Other	0	
Adicional	No	Super Dead	0	
FHEX	No	Seismic	0	User Coefficient
FHEY	No	Seismic	0	User Coefficient
Peso Propio	No	Dead	1	
SX	No	Seismic	0	User Loads
SY	No	Seismic	0	User Loads
Viva	No	Live	0	

4.2 Auto Seismic Loading

User Loads Auto Seismic Load Calculation

This calculation presents the user defined lateral seismic loads for load pattern SX.

Lateral Forces

User Loads Auto Seismic Load Calculation

This calculation presents the user defined lateral seismic loads for load pattern SY.

Lateral Forces

User Coefficient Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern FHEX using the user input coefficients, as calculated by ETABS.

Direction and Eccentricity

Direction = X

Factors and Coefficients

Equivalent Lateral Forces

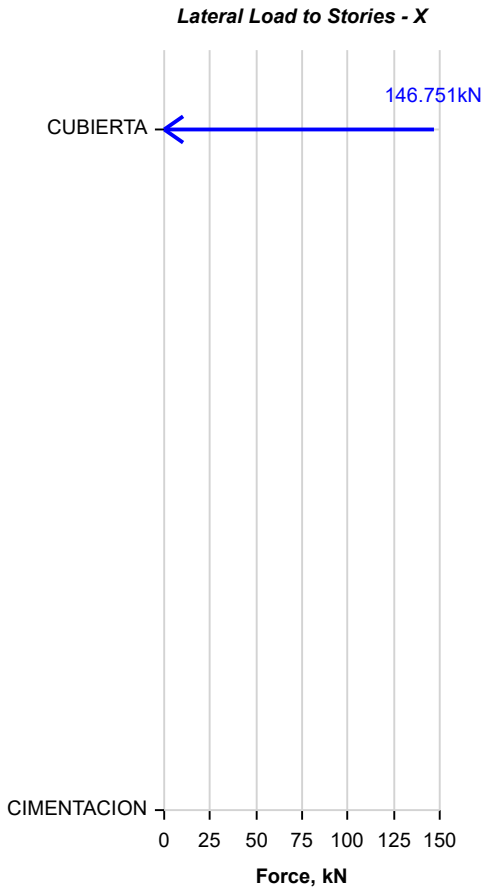
Base Shear Coefficient, C $C = 0.8125$

Base Shear, V $V = CW$

Calculated Base Shear

Direction	Period Used (sec)	C	W (kN)	V (kN)
X	0	0	180.6167	146.751

Applied Story Forces



Story	Elevation	X-Dir	Y-Dir
	m	kN	kN
CUBIERTA	3.58	146.751	0
CIMENTACION	0	0	0

User Coefficient Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern FHEY using the user input coefficients, as calculated by ETABS.

Direction and Eccentricity

Direction = Y

Factors and Coefficients

Equivalent Lateral Forces

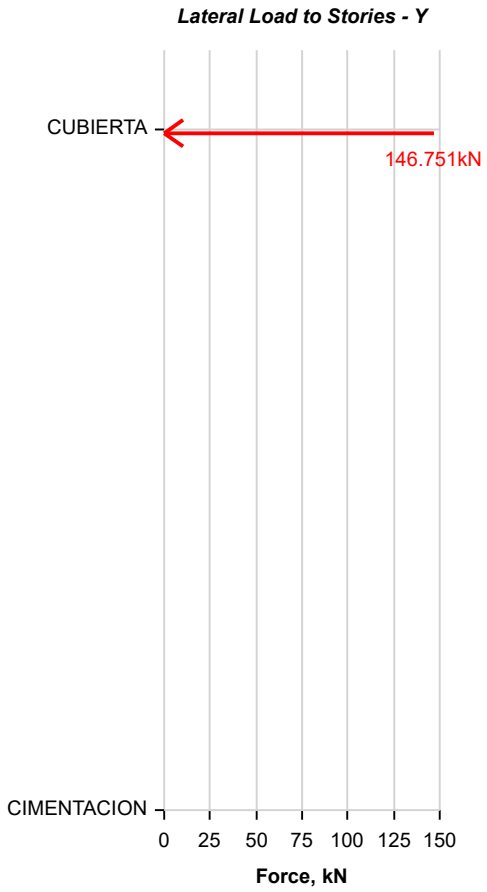
Base Shear Coefficient, C $C = 0.8125$

Base Shear, V $V = CW$

Calculated Base Shear

Direction	Period Used (sec)	C	W (kN)	V (kN)
Y	0	0	180.6167	146.751

Applied Story Forces



Story	Elevation	X-Dir	Y-Dir
	m	kN	kN
CUBIERTA	3.58	0	146.751
CIMENTACION	0	0	0

4.3 Applied Loads

4.3.1 Point Loads

Table 4.6 - Joint Loads Assignments - Force

Story	Label	UniqueName	Load Pattern	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m	X Dimension mm	Y Dimension mm
CUBIERTA	1	8	Adicional	0	0	-25	0	0	0	0	0
CUBIERTA	2	1	Adicional	0	0	-25	0	0	0	0	0
CUBIERTA	5	3	Adicional	0	0	-25	0	0	0	0	0
CUBIERTA	6	5	Adicional	0	0	-25	0	0	0	0	0

4.3.2 Area Loads

Table 4.7 - Area Load Assignments - Uniform

Story	Label	UniqueName	Load Pattern	Direction	Load kN/m2
CUBIERTA	F2	1	Viva	Gravity	1.8
CUBIERTA	F2	1	Adicional	Gravity	1.95

4.4 Functions

4.4.1 Response Spectrum Functions

Table 4.8 - Functions - Response Spectrum - Columbia NSR-10

Name	Period sec	Value	Aa	Av	Ae	Ad	Group of Use	Fa	Fv	Damping Ratio
NSR-10	0	0.8125	0.25	0.2	0.08	0.05	1	1.3	2	0.05
NSR-10	0.1	0.8125								
NSR-10	0.2	0.8125								
NSR-10	0.3	0.8125								
NSR-10	0.4	0.8125								
NSR-10	0.5	0.8125								
NSR-10	0.6	0.8								
NSR-10	0.7	0.685714								
NSR-10	0.8	0.6								
NSR-10	0.9	0.533333								
NSR-10	1	0.48								
NSR-10	1.2	0.4								
NSR-10	1.5	0.32								
NSR-10	1.7	0.282353								
NSR-10	2	0.24								
NSR-10	2.5	0.192								
NSR-10	3	0.16								
NSR-10	3.5	0.137143								
NSR-10	4	0.12								

Table 4.8 - Functions - Response Spectrum - Columbia NSR-10 (continued)

Name	Period sec	Value	Aa	Av	Ae	Ad	Group of Use	Fa	Fv	Damping Ratio
NSR-10	5	0.09216								
NSR-10	8	0.036								
NSR-10	11	0.019041								
NSR-10	15	0.01024								

4.5 Load Cases

Table 4.9 - Load Case Definitions - Summary

Name	Type
Dead	Linear Static
Adicional	Linear Static
Viva	Linear Static
Modal	Modal - Eigen
SX	Response Spectrum
SY	Response Spectrum
FHEX	Linear Static
FHEY	Linear Static

4.6 Load Combinations

Table 4.10 - Load Combination Definitions

Name	Type	Is Auto	Load Name	SF	Notes
Comb1	Linear Add	No	Dead	1	
Comb1			Adicional	1	
Comb2	Linear Add	No	Comb1	1.4	
Comb3	Linear Add	No	Comb1	1.2	
Comb3			Viva	1.6	
Comb4	Linear Add	No	Comb1	1.2	
Comb4			SX	0.142857	
Comb4			SY	0.042857	
Comb4			Viva	1	
Comb4-1	Linear Add	No	Comb1	1.2	
Comb4-1			SX	0.1429	
Comb4-1			SY	-0.0429	
Comb4-1			Viva	1	
Comb4-2	Linear Add	No	Comb1	1.2	
Comb4-2			SX	-0.1429	
Comb4-2			SY	-0.0429	
Comb4-2			Viva	1	
Comb4-3	Linear Add	No	Comb1	1.2	
Comb4-3			SX	-0.1429	
Comb4-3			SY	0.0429	
Comb4-3			Viva	1	
Comb4-4	Linear Add	No	Comb1	1.2	

Table 4.10 - Load Combination Definitions (continued)

Name	Type	Is Auto	Load Name	SF	Notes
Comb4-4			SX	0.0429	
Comb4-4			SY	0.1429	
Comb4-4			Viva	1	
Comb4-5	Linear Add	No	Comb1	1.2	
Comb4-5			SX	-0.0429	
Comb4-5			SY	0.1429	
Comb4-5			Viva	1	
Comb4-6	Linear Add	No	Comb1	1.2	
Comb4-6			SX	-0.0429	
Comb4-6			SY	-0.1429	
Comb4-6			Viva	1	
Comb4-7	Linear Add	No	Comb1	1.2	
Comb4-7			SX	0.0429	
Comb4-7			SY	-0.1429	
Comb4-7			Viva	1	
Comb5	Linear Add	No	Comb1	1	
Comb5			Viva	1	

5 Analysis Results

This chapter provides analysis results.

5.1 Structure Results

Table 5.1 - Base Reactions

Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m	X m	Y m	Z m
Dead	LinStatic		0	0	65.9533	139.8209	-119.0456	0	0	0	0
Adicional	LinStatic		0	0	129.8475	275.2767	-234.3747	0	0	0	0
Viva	LinStatic		0	0	27.5515	58.4092	-49.7305	0	0	0	0
SX	LinRespSpec	Max	146.751	0	0	0	525.3687	311.1122	0	0	0
SY	LinRespSpec	Max	0	146.751	0	525.3687	0	264.8856	0	0	0
FHEX	LinStatic		-146.751	0	0	0	-525.3687	311.1122	0	0	0
FHEY	LinStatic		0	-146.751	0	525.3687	0	-264.8856	0	0	0
Comb1	Combination		0	0	195.8007	415.0976	-353.4204	0	0	0	0
Comb2	Combination		0	0	274.121	581.1366	-494.7885	0	0	0	0
Comb3	Combination		0	0	279.0433	591.5719	-503.6732	0	0	0	0
Comb4	Combination	Max	20.9644	6.2893	262.5124	579.0421	-398.7822	55.7968	0	0	0
Comb4	Combination	Min	-20.9644	-6.2893	262.5124	534.0105	-548.8876	-55.7968	0	0	0
Comb4-1	Combination	Max	20.9707	6.2956	262.5124	579.0646	-398.7597	55.8215	0	0	0
Comb4-1	Combination	Min	-20.9707	-6.2956	262.5124	533.988	-548.9101	-55.8215	0	0	0
Comb4-2	Combination	Max	20.9707	6.2956	262.5124	579.0646	-398.7597	55.8215	0	0	0
Comb4-2	Combination	Min	-20.9707	-6.2956	262.5124	533.988	-548.9101	-55.8215	0	0	0
Comb4-3	Combination	Max	20.9707	6.2956	262.5124	579.0646	-398.7597	55.8215	0	0	0
Comb4-3	Combination	Min	-20.9707	-6.2956	262.5124	533.988	-548.9101	-55.8215	0	0	0
Comb4-4	Combination	Max	6.2956	20.9707	262.5124	631.6015	-451.2966	51.1989	0	0	0
Comb4-4	Combination	Min	-6.2956	-20.9707	262.5124	481.4511	-496.3732	-51.1989	0	0	0
Comb4-5	Combination	Max	6.2956	20.9707	262.5124	631.6015	-451.2966	51.1989	0	0	0
Comb4-5	Combination	Min	-6.2956	-20.9707	262.5124	481.4511	-496.3732	-51.1989	0	0	0
Comb4-6	Combination	Max	6.2956	20.9707	262.5124	631.6015	-451.2966	51.1989	0	0	0
Comb4-6	Combination	Min	-6.2956	-20.9707	262.5124	481.4511	-496.3732	-51.1989	0	0	0
Comb4-7	Combination	Max	6.2956	20.9707	262.5124	631.6015	-451.2966	51.1989	0	0	0
Comb4-7	Combination	Min	-6.2956	-20.9707	262.5124	481.4511	-496.3732	-51.1989	0	0	0
Comb5	Combination		0	0	223.3523	473.5068	-403.1508	0	0	0	0

Table 5.2 - Centers Of Mass And Rigidity

Story	Diaphragm	Mass X kg	Mass Y kg	XCM m	YCM m	Cum Mass X kg	Cum Mass Y kg	XCCM m	YCCM m	XCR m	YCR m
CUBIERTA	D1	18417.77	18417.77	1.805	2.12	18417.77	18417.77	1.805	2.12		

Table 5.3 - Diaphragm Center Of Mass Displacements

Story	Diaphragm	Output Case	Case Type	Step Type	UX mm	UY mm	RZ rad	Point	X m	Y m	Z m
CUBIERTA	D1	Dead	LinStatic		0	0	0	7	1.805	2.12	3.58
CUBIERTA	D1	Adicional	LinStatic		0	0	0	7	1.805	2.12	3.58
CUBIERTA	D1	Viva	LinStatic		0	0	0	7	1.805	2.12	3.58

Table 5.3 - Diaphragm Center Of Mass Displacements (continued)

Story	Diaphragm	Output Case	Case Type	Step Type	UX mm	UY mm	RZ rad	Point	X m	Y m	Z m
CUBIERTA	D1	SX	LinRespSpec	Max	18.333	7.777E-12	0	7	1.805	2.12	3.58
CUBIERTA	D1	SY	LinRespSpec	Max	7.777E-12	19.231	0	7	1.805	2.12	3.58
CUBIERTA	D1	FHEX	LinStatic		18.333	-1.119E-12	0	7	1.805	2.12	3.58
CUBIERTA	D1	FHEY	LinStatic		-1.119E-12	19.231	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb1	Combination		0	0	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb2	Combination		0	0	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb3	Combination		0	0	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb4	Combination	Max	2.619	0.824	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb4	Combination	Min	-2.619	-0.824	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb4-1	Combination	Max	2.62	0.825	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb4-1	Combination	Min	-2.62	-0.825	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb4-2	Combination	Max	2.62	0.825	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb4-2	Combination	Min	-2.62	-0.825	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb4-3	Combination	Max	2.62	0.825	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb4-3	Combination	Min	-2.62	-0.825	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb4-4	Combination	Max	0.786	2.748	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb4-4	Combination	Min	-0.786	-2.748	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb4-5	Combination	Max	0.786	2.748	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb4-5	Combination	Min	-0.786	-2.748	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb4-6	Combination	Max	0.786	2.748	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb4-6	Combination	Min	-0.786	-2.748	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb4-7	Combination	Max	0.786	2.748	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb4-7	Combination	Min	-0.786	-2.748	0	7	1.805	2.12	3.58
CUBIERTA	D1	Comb5	Combination		0	0	0	7	1.805	2.12	3.58

5.2 Story Results

Table 5.4 - Story Max Over Avg Displacements

Story	Output Case	Case Type	Step Type	Direction	Maximum mm	Average mm	Ratio
CUBIERTA	Dead	LinStatic		X	0	0	1.039
CUBIERTA	Dead	LinStatic		Y	0	0	1.047
CUBIERTA	Adicional	LinStatic		X	0	0	1.143
CUBIERTA	Adicional	LinStatic		Y	0	0	1.286
CUBIERTA	Viva	LinStatic		X	0	0	1.063
CUBIERTA	Viva	LinStatic		Y	0	0	1.104
CUBIERTA	SX	LinRespSpec	Max	X	18.333	18.333	1
CUBIERTA	SY	LinRespSpec	Max	Y	19.231	19.231	1
CUBIERTA	FHEX	LinStatic		X	18.333	18.333	1
CUBIERTA	FHEY	LinStatic		Y	19.231	19.231	1
CUBIERTA	Comb1	Combination		X	0	0	1.098
CUBIERTA	Comb1	Combination		Y	0	0	1.15
CUBIERTA	Comb2	Combination		X	0	0	1.098
CUBIERTA	Comb2	Combination		Y	0	0	1.15
CUBIERTA	Comb3	Combination		X	0	0	1.027
CUBIERTA	Comb3	Combination		Y	0	0	1.044

Table 5.4 - Story Max Over Avg Displacements (continued)

Story	Output Case	Case Type	Step Type	Direction	Maximum mm	Average mm	Ratio
CUBIERTA	Comb4	Combination	Max	X	2.619	2.619	1
CUBIERTA	Comb4	Combination	Max	Y	0.824	0.824	1
CUBIERTA	Comb4	Combination	Min	X	2.619	2.619	1
CUBIERTA	Comb4	Combination	Min	Y	0.824	0.824	1
CUBIERTA	Comb4-1	Combination	Max	X	2.62	2.62	1
CUBIERTA	Comb4-1	Combination	Max	Y	0.825	0.825	1
CUBIERTA	Comb4-1	Combination	Min	X	2.62	2.62	1
CUBIERTA	Comb4-1	Combination	Min	Y	0.825	0.825	1
CUBIERTA	Comb4-2	Combination	Max	X	2.62	2.62	1
CUBIERTA	Comb4-2	Combination	Max	Y	0.825	0.825	1
CUBIERTA	Comb4-2	Combination	Min	X	2.62	2.62	1
CUBIERTA	Comb4-2	Combination	Min	Y	0.825	0.825	1
CUBIERTA	Comb4-3	Combination	Max	X	2.62	2.62	1
CUBIERTA	Comb4-3	Combination	Max	Y	0.825	0.825	1
CUBIERTA	Comb4-3	Combination	Min	X	2.62	2.62	1
CUBIERTA	Comb4-3	Combination	Min	Y	0.825	0.825	1
CUBIERTA	Comb4-4	Combination	Max	X	0.786	0.786	1
CUBIERTA	Comb4-4	Combination	Max	Y	2.748	2.748	1
CUBIERTA	Comb4-4	Combination	Min	X	0.786	0.786	1
CUBIERTA	Comb4-4	Combination	Min	Y	2.748	2.748	1
CUBIERTA	Comb4-5	Combination	Max	X	0.786	0.786	1
CUBIERTA	Comb4-5	Combination	Max	Y	2.748	2.748	1
CUBIERTA	Comb4-5	Combination	Min	X	0.786	0.786	1
CUBIERTA	Comb4-5	Combination	Min	Y	2.748	2.748	1
CUBIERTA	Comb4-6	Combination	Max	X	0.786	0.786	1
CUBIERTA	Comb4-6	Combination	Max	Y	2.748	2.748	1
CUBIERTA	Comb4-6	Combination	Min	X	0.786	0.786	1
CUBIERTA	Comb4-6	Combination	Min	Y	2.748	2.748	1
CUBIERTA	Comb4-7	Combination	Max	X	0.786	0.786	1
CUBIERTA	Comb4-7	Combination	Max	Y	2.748	2.748	1
CUBIERTA	Comb4-7	Combination	Min	X	0.786	0.786	1
CUBIERTA	Comb4-7	Combination	Min	Y	2.748	2.748	1
CUBIERTA	Comb5	Combination		X	0	0	1.039
CUBIERTA	Comb5	Combination		Y	0	0	1.061

Table 5.5 - Story Drifts

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
CUBIERTA	Dead	LinStatic		X	0	1	0	0	3.58
CUBIERTA	Dead	LinStatic		Y	0	6	3.61	0	3.58
CUBIERTA	Adicional	LinStatic		X	0	1	0	0	3.58
CUBIERTA	Adicional	LinStatic		Y	0	6	3.61	0	3.58
CUBIERTA	Viva	LinStatic		X	0	5	3.61	4.24	3.58
CUBIERTA	Viva	LinStatic		Y	0	1	0	0	3.58
CUBIERTA	SX	LinRespSpec	Max	X	0.005121	1	0	0	3.58

Table 5.5 - Story Drifts (continued)

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
CUBIERTA	SY	LinRespSpec	Max	Y	0.005372	1	0	0	3.58
CUBIERTA	FHEX	LinStatic		X	0.005121	1	0	0	3.58
CUBIERTA	FHEY	LinStatic		Y	0.005372	1	0	0	3.58
CUBIERTA	Comb1	Combination		X	0	1	0	0	3.58
CUBIERTA	Comb1	Combination		Y	0	6	3.61	0	3.58
CUBIERTA	Comb2	Combination		X	0	1	0	0	3.58
CUBIERTA	Comb2	Combination		Y	0	6	3.61	0	3.58
CUBIERTA	Comb3	Combination		X	0	1	0	0	3.58
CUBIERTA	Comb3	Combination		Y	0	6	3.61	0	3.58
CUBIERTA	Comb4	Combination	Max	X	0.000732	1	0	0	3.58
CUBIERTA	Comb4	Combination	Max	Y	0.00023	1	0	0	3.58
CUBIERTA	Comb4	Combination	Min	X	0.000732	1	0	0	3.58
CUBIERTA	Comb4	Combination	Min	Y	0.00023	1	0	0	3.58
CUBIERTA	Comb4-1	Combination	Max	X	0.000732	1	0	0	3.58
CUBIERTA	Comb4-1	Combination	Max	Y	0.00023	1	0	0	3.58
CUBIERTA	Comb4-1	Combination	Min	X	0.000732	1	0	0	3.58
CUBIERTA	Comb4-1	Combination	Min	Y	0.00023	1	0	0	3.58
CUBIERTA	Comb4-2	Combination	Max	X	0.000732	1	0	0	3.58
CUBIERTA	Comb4-2	Combination	Max	Y	0.00023	1	0	0	3.58
CUBIERTA	Comb4-2	Combination	Min	X	0.000732	1	0	0	3.58
CUBIERTA	Comb4-2	Combination	Min	Y	0.00023	1	0	0	3.58
CUBIERTA	Comb4-3	Combination	Max	X	0.000732	1	0	0	3.58
CUBIERTA	Comb4-3	Combination	Max	Y	0.00023	1	0	0	3.58
CUBIERTA	Comb4-3	Combination	Min	X	0.000732	1	0	0	3.58
CUBIERTA	Comb4-3	Combination	Min	Y	0.00023	1	0	0	3.58
CUBIERTA	Comb4-4	Combination	Max	X	0.00022	1	0	0	3.58
CUBIERTA	Comb4-4	Combination	Max	Y	0.000768	1	0	0	3.58
CUBIERTA	Comb4-4	Combination	Min	X	0.00022	1	0	0	3.58
CUBIERTA	Comb4-4	Combination	Min	Y	0.000768	1	0	0	3.58
CUBIERTA	Comb4-5	Combination	Max	X	0.00022	1	0	0	3.58
CUBIERTA	Comb4-5	Combination	Max	Y	0.000768	1	0	0	3.58
CUBIERTA	Comb4-5	Combination	Min	X	0.00022	1	0	0	3.58
CUBIERTA	Comb4-5	Combination	Min	Y	0.000768	1	0	0	3.58
CUBIERTA	Comb4-6	Combination	Max	X	0.00022	1	0	0	3.58
CUBIERTA	Comb4-6	Combination	Max	Y	0.000768	1	0	0	3.58
CUBIERTA	Comb4-6	Combination	Min	X	0.00022	1	0	0	3.58
CUBIERTA	Comb4-6	Combination	Min	Y	0.000768	1	0	0	3.58
CUBIERTA	Comb4-7	Combination	Max	X	0.00022	1	0	0	3.58
CUBIERTA	Comb4-7	Combination	Max	Y	0.000768	1	0	0	3.58
CUBIERTA	Comb4-7	Combination	Min	X	0.00022	1	0	0	3.58
CUBIERTA	Comb4-7	Combination	Min	Y	0.000768	1	0	0	3.58
CUBIERTA	Comb5	Combination		X	0	1	0	0	3.58
CUBIERTA	Comb5	Combination		Y	0	6	3.61	0	3.58

Table 5.6 - Story Max Over Avg Drifts

Story	Output Case	Case Type	Step Type	Direction	Max Drift mm	Avg Drift mm	Ratio
CUBIERTA	Dead	LinStatic		X	0	0	1.039
CUBIERTA	Dead	LinStatic		Y	0	0	1.047
CUBIERTA	Adicional	LinStatic		X	0	0	1.143
CUBIERTA	Adicional	LinStatic		Y	0	0	1.286
CUBIERTA	Viva	LinStatic		X	0	0	1.063
CUBIERTA	Viva	LinStatic		Y	0	0	1.104
CUBIERTA	SX	LinRespSpec	Max	X	18.333	18.333	1
CUBIERTA	SY	LinRespSpec	Max	Y	19.231	19.231	1
CUBIERTA	FHEX	LinStatic		X	18.333	18.333	1
CUBIERTA	FHEY	LinStatic		Y	19.231	19.231	1
CUBIERTA	Comb1	Combination		X	0	0	1.098
CUBIERTA	Comb1	Combination		Y	0	0	1.15
CUBIERTA	Comb2	Combination		X	0	0	1.098
CUBIERTA	Comb2	Combination		Y	0	0	1.15
CUBIERTA	Comb3	Combination		X	0	0	1.027
CUBIERTA	Comb3	Combination		Y	0	0	1.044
CUBIERTA	Comb4	Combination	Max	X	2.619	2.619	1
CUBIERTA	Comb4	Combination	Max	Y	0.824	0.824	1
CUBIERTA	Comb4	Combination	Min	X	2.619	2.619	1
CUBIERTA	Comb4	Combination	Min	Y	0.824	0.824	1
CUBIERTA	Comb4-1	Combination	Max	X	2.62	2.62	1
CUBIERTA	Comb4-1	Combination	Max	Y	0.825	0.825	1
CUBIERTA	Comb4-1	Combination	Min	X	2.62	2.62	1
CUBIERTA	Comb4-1	Combination	Min	Y	0.825	0.825	1
CUBIERTA	Comb4-2	Combination	Max	X	2.62	2.62	1
CUBIERTA	Comb4-2	Combination	Max	Y	0.825	0.825	1
CUBIERTA	Comb4-2	Combination	Min	X	2.62	2.62	1
CUBIERTA	Comb4-2	Combination	Min	Y	0.825	0.825	1
CUBIERTA	Comb4-3	Combination	Max	X	2.62	2.62	1
CUBIERTA	Comb4-3	Combination	Max	Y	0.825	0.825	1
CUBIERTA	Comb4-3	Combination	Min	X	2.62	2.62	1
CUBIERTA	Comb4-3	Combination	Min	Y	0.825	0.825	1
CUBIERTA	Comb4-4	Combination	Max	X	0.786	0.786	1
CUBIERTA	Comb4-4	Combination	Max	Y	2.748	2.748	1
CUBIERTA	Comb4-4	Combination	Min	X	0.786	0.786	1
CUBIERTA	Comb4-4	Combination	Min	Y	2.748	2.748	1
CUBIERTA	Comb4-5	Combination	Max	X	0.786	0.786	1
CUBIERTA	Comb4-5	Combination	Max	Y	2.748	2.748	1
CUBIERTA	Comb4-5	Combination	Min	X	0.786	0.786	1
CUBIERTA	Comb4-5	Combination	Min	Y	2.748	2.748	1
CUBIERTA	Comb4-6	Combination	Max	X	0.786	0.786	1
CUBIERTA	Comb4-6	Combination	Max	Y	2.748	2.748	1
CUBIERTA	Comb4-6	Combination	Min	X	0.786	0.786	1
CUBIERTA	Comb4-6	Combination	Min	Y	2.748	2.748	1

Table 5.6 - Story Max Over Avg Drifts (continued)

Story	Output Case	Case Type	Step Type	Direction	Max Drift mm	Avg Drift mm	Ratio
CUBIERTA	Comb4-7	Combination	Max	X	0.786	0.786	1
CUBIERTA	Comb4-7	Combination	Max	Y	2.748	2.748	1
CUBIERTA	Comb4-7	Combination	Min	X	0.786	0.786	1
CUBIERTA	Comb4-7	Combination	Min	Y	2.748	2.748	1
CUBIERTA	Comb5	Combination		X	0	0	1.039
CUBIERTA	Comb5	Combination		Y	0	0	1.061

Table 5.7 - Story Forces

Story	Output Case	Case Type	Step Type	Location	P kN	VX kN	VY kN	T kN-m	MX kN-m	MY kN-m
CUBIERTA	Dead	LinStatic		Top	35.5851	0	0	0	75.4404	-64.2311
CUBIERTA	Dead	LinStatic		Bottom	65.9533	0	0	0	139.8209	-119.0456
CUBIERTA	Adicional	LinStatic		Top	129.8475	0	0	0	275.2767	-234.3747
CUBIERTA	Adicional	LinStatic		Bottom	129.8475	0	0	0	275.2767	-234.3747
CUBIERTA	Viva	LinStatic		Top	27.5515	0	0	0	58.4092	-49.7305
CUBIERTA	Viva	LinStatic		Bottom	27.5515	0	0	0	58.4092	-49.7305
CUBIERTA	SX	LinRespSpec	Max	Top	0	146.751	0	311.1122	0	0
CUBIERTA	SX	LinRespSpec	Max	Bottom	0	146.751	0	311.1122	0	525.3687
CUBIERTA	SY	LinRespSpec	Max	Top	0	0	146.751	264.8856	0	0
CUBIERTA	SY	LinRespSpec	Max	Bottom	0	0	146.751	264.8856	525.3687	0
CUBIERTA	FHEX	LinStatic		Top	0	-146.751	0	311.1122	0	0
CUBIERTA	FHEX	LinStatic		Bottom	0	-146.751	0	311.1122	0	-525.3687
CUBIERTA	FHEY	LinStatic		Top	0	0	-146.751	-264.8856	0	0
CUBIERTA	FHEY	LinStatic		Bottom	0	0	-146.751	-264.8856	525.3687	0
CUBIERTA	Comb1	Combination		Top	165.4326	0	0	0	350.7171	-298.6058
CUBIERTA	Comb1	Combination		Bottom	195.8007	0	0	0	415.0976	-353.4204
CUBIERTA	Comb2	Combination		Top	231.6056	0	0	0	491.0039	-418.0482
CUBIERTA	Comb2	Combination		Bottom	274.121	0	0	0	581.1366	-494.7885
CUBIERTA	Comb3	Combination		Top	242.6015	0	0	0	514.3153	-437.8958
CUBIERTA	Comb3	Combination		Bottom	279.0433	0	0	0	591.5719	-503.6732
CUBIERTA	Comb4	Combination	Max	Top	226.0706	20.9644	6.2893	55.7968	479.2697	-408.0575
CUBIERTA	Comb4	Combination	Max	Bottom	262.5124	20.9644	6.2893	55.7968	579.0421	-398.7822
CUBIERTA	Comb4	Combination	Min	Top	226.0706	-20.9644	-6.2893	-55.7968	479.2697	-408.0575
CUBIERTA	Comb4	Combination	Min	Bottom	262.5124	-20.9644	-6.2893	-55.7968	534.0105	-548.8876
CUBIERTA	Comb4-1	Combination	Max	Top	226.0706	20.9707	6.2956	55.8215	479.2697	-408.0575
CUBIERTA	Comb4-1	Combination	Max	Bottom	262.5124	20.9707	6.2956	55.8215	579.0646	-398.7597
CUBIERTA	Comb4-1	Combination	Min	Top	226.0706	-20.9707	-6.2956	-55.8215	479.2697	-408.0575
CUBIERTA	Comb4-1	Combination	Min	Bottom	262.5124	-20.9707	-6.2956	-55.8215	533.988	-548.9101
CUBIERTA	Comb4-2	Combination	Max	Top	226.0706	20.9707	6.2956	55.8215	479.2697	-408.0575
CUBIERTA	Comb4-2	Combination	Max	Bottom	262.5124	20.9707	6.2956	55.8215	579.0646	-398.7597
CUBIERTA	Comb4-2	Combination	Min	Top	226.0706	-20.9707	-6.2956	-55.8215	479.2697	-408.0575
CUBIERTA	Comb4-2	Combination	Min	Bottom	262.5124	-20.9707	-6.2956	-55.8215	533.988	-548.9101
CUBIERTA	Comb4-3	Combination	Max	Top	226.0706	20.9707	6.2956	55.8215	479.2697	-408.0575
CUBIERTA	Comb4-3	Combination	Max	Bottom	262.5124	20.9707	6.2956	55.8215	579.0646	-398.7597

Table 5.7 - Story Forces (continued)

Story	Output Case	Case Type	Step Type	Location	P kN	VX kN	VY kN	T kN-m	MX kN-m	MY kN-m
CUBIERTA	Comb4-3	Combination	Min	Top	226.0706	-20.9707	-6.2956	-55.8215	479.2697	-408.0575
CUBIERTA	Comb4-3	Combination	Min	Bottom	262.5124	-20.9707	-6.2956	-55.8215	533.988	-548.9101
CUBIERTA	Comb4-4	Combination	Max	Top	226.0706	6.2956	20.9707	51.1989	479.2697	-408.0575
CUBIERTA	Comb4-4	Combination	Max	Bottom	262.5124	6.2956	20.9707	51.1989	631.6015	-451.2966
CUBIERTA	Comb4-4	Combination	Min	Top	226.0706	-6.2956	-20.9707	-51.1989	479.2697	-408.0575
CUBIERTA	Comb4-4	Combination	Min	Bottom	262.5124	-6.2956	-20.9707	-51.1989	481.4511	-496.3732
CUBIERTA	Comb4-5	Combination	Max	Top	226.0706	6.2956	20.9707	51.1989	479.2697	-408.0575
CUBIERTA	Comb4-5	Combination	Max	Bottom	262.5124	6.2956	20.9707	51.1989	631.6015	-451.2966
CUBIERTA	Comb4-5	Combination	Min	Top	226.0706	-6.2956	-20.9707	-51.1989	479.2697	-408.0575
CUBIERTA	Comb4-5	Combination	Min	Bottom	262.5124	-6.2956	-20.9707	-51.1989	481.4511	-496.3732
CUBIERTA	Comb4-6	Combination	Max	Top	226.0706	6.2956	20.9707	51.1989	479.2697	-408.0575
CUBIERTA	Comb4-6	Combination	Max	Bottom	262.5124	6.2956	20.9707	51.1989	631.6015	-451.2966
CUBIERTA	Comb4-6	Combination	Min	Top	226.0706	-6.2956	-20.9707	-51.1989	479.2697	-408.0575
CUBIERTA	Comb4-6	Combination	Min	Bottom	262.5124	-6.2956	-20.9707	-51.1989	481.4511	-496.3732
CUBIERTA	Comb4-7	Combination	Max	Top	226.0706	6.2956	20.9707	51.1989	479.2697	-408.0575
CUBIERTA	Comb4-7	Combination	Max	Bottom	262.5124	6.2956	20.9707	51.1989	631.6015	-451.2966
CUBIERTA	Comb4-7	Combination	Min	Top	226.0706	-6.2956	-20.9707	-51.1989	479.2697	-408.0575
CUBIERTA	Comb4-7	Combination	Min	Bottom	262.5124	-6.2956	-20.9707	-51.1989	481.4511	-496.3732
CUBIERTA	Comb5	Combination		Top	192.9841	0	0	0	409.1263	-348.3363
CUBIERTA	Comb5	Combination		Bottom	223.3523	0	0	0	473.5068	-403.1508

5.3 Point Results

Table 5.8 - Joint Reactions

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	1	9	Dead	LinStatic		0.6205	1.9283	16.4883	-2.2778	0.733	0
CIMENTACION	1	9	Adicional	LinStatic		0.5132	1.6509	32.4619	-1.9501	0.6062	0
CIMENTACION	1	9	Viva	LinStatic		0.4737	1.5239	6.8879	-1.8001	0.5596	0
CIMENTACION	1	9	SX	LinRespSpec	Max	36.6878	0	25.727	0	84.905	0
CIMENTACION	1	9	SY	LinRespSpec	Max	0	36.6878	20.9432	86.9425	0	0
CIMENTACION	1	9	FHEX	LinStatic		-36.6878	0	-25.727	0	-84.905	0
CIMENTACION	1	9	FHEY	LinStatic		0	-36.6878	-20.9432	86.9425	0	0
CIMENTACION	1	9	Comb1	Combination		1.1337	3.5792	48.9502	-4.228	1.3393	0
CIMENTACION	1	9	Comb2	Combination		1.5872	5.0109	68.5303	-5.9192	1.875	0
CIMENTACION	1	9	Comb3	Combination		2.1185	6.7333	69.7608	-7.9538	2.5025	0
CIMENTACION	1	9	Comb4	Combination	Max	7.0753	7.3913	70.201	-3.1476	14.296	0
CIMENTACION	1	9	Comb4	Combination	Min	-3.4069	4.2466	61.0553	-10.5998	-9.9626	0
CIMENTACION	1	9	Comb4-1	Combination	Max	7.0769	7.3928	70.203	-3.1439	14.2996	0
CIMENTACION	1	9	Comb4-1	Combination	Min	-3.4085	4.245	61.0533	-10.6035	-9.9662	0
CIMENTACION	1	9	Comb4-2	Combination	Max	7.0769	7.3928	70.203	-3.1439	14.2996	0
CIMENTACION	1	9	Comb4-2	Combination	Min	-3.4085	4.245	61.0533	-10.6035	-9.9662	0
CIMENTACION	1	9	Comb4-3	Combination	Max	7.0769	7.3928	70.203	-3.1439	14.2996	0
CIMENTACION	1	9	Comb4-3	Combination	Min	-3.4085	4.245	61.0533	-10.6035	-9.9662	0
CIMENTACION	1	9	Comb4-4	Combination	Max	3.4081	11.0616	69.7246	5.5504	5.8091	0
CIMENTACION	1	9	Comb4-4	Combination	Min	0.2603	0.5762	61.5316	-19.2978	-1.4757	0

Table 5.8 - Joint Reactions (continued)

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	1	9	Comb4-5	Combination	Max	3.4081	11.0616	69.7246	5.5504	5.8091	0
CIMENTACION	1	9	Comb4-5	Combination	Min	0.2603	0.5762	61.5316	-19.2978	-1.4757	0
CIMENTACION	1	9	Comb4-6	Combination	Max	3.4081	11.0616	69.7246	5.5504	5.8091	0
CIMENTACION	1	9	Comb4-6	Combination	Min	0.2603	0.5762	61.5316	-19.2978	-1.4757	0
CIMENTACION	1	9	Comb4-7	Combination	Max	3.4081	11.0616	69.7246	5.5504	5.8091	0
CIMENTACION	1	9	Comb4-7	Combination	Min	0.2603	0.5762	61.5316	-19.2978	-1.4757	0
CIMENTACION	1	9	Comb5	Combination		1.6075	5.1031	55.8381	-6.0281	1.8988	0
CIMENTACION	2	2	Dead	LinStatic		0.6205	-1.9283	16.4883	2.2778	0.733	0
CIMENTACION	2	2	Adicional	LinStatic		0.5132	-1.6509	32.4619	1.9501	0.6062	0
CIMENTACION	2	2	Viva	LinStatic		0.4737	-1.5239	6.8879	1.8001	0.5596	0
CIMENTACION	2	2	SX	LinRespSpec	Max	36.6878	0	25.727	0	84.905	0
CIMENTACION	2	2	SY	LinRespSpec	Max	0	36.6878	20.9432	86.9425	0	0
CIMENTACION	2	2	FHEX	LinStatic		-36.6878	0	-25.727	0	-84.905	0
CIMENTACION	2	2	FHEY	LinStatic		0	-36.6878	20.9432	86.9425	0	0
CIMENTACION	2	2	Comb1	Combination		1.1337	-3.5792	48.9502	4.228	1.3393	0
CIMENTACION	2	2	Comb2	Combination		1.5872	-5.0109	68.5303	5.9192	1.875	0
CIMENTACION	2	2	Comb3	Combination		2.1185	-6.7333	69.7608	7.9538	2.5025	0
CIMENTACION	2	2	Comb4	Combination	Max	7.0753	-4.2466	70.201	10.5998	14.296	0
CIMENTACION	2	2	Comb4	Combination	Min	-3.4069	-7.3913	61.0553	3.1476	-9.9626	0
CIMENTACION	2	2	Comb4-1	Combination	Max	7.0769	-4.245	70.203	10.6035	14.2996	0
CIMENTACION	2	2	Comb4-1	Combination	Min	-3.4085	-7.3928	61.0533	3.1439	-9.9662	0
CIMENTACION	2	2	Comb4-2	Combination	Max	7.0769	-4.245	70.203	10.6035	14.2996	0
CIMENTACION	2	2	Comb4-2	Combination	Min	-3.4085	-7.3928	61.0533	3.1439	-9.9662	0
CIMENTACION	2	2	Comb4-3	Combination	Max	7.0769	-4.245	70.203	10.6035	14.2996	0
CIMENTACION	2	2	Comb4-3	Combination	Min	-3.4085	-7.3928	61.0533	3.1439	-9.9662	0
CIMENTACION	2	2	Comb4-4	Combination	Max	3.4081	-0.5762	69.7246	19.2978	5.8091	0
CIMENTACION	2	2	Comb4-4	Combination	Min	0.2603	-11.0616	61.5316	-5.5504	-1.4757	0
CIMENTACION	2	2	Comb4-5	Combination	Max	3.4081	-0.5762	69.7246	19.2978	5.8091	0
CIMENTACION	2	2	Comb4-5	Combination	Min	0.2603	-11.0616	61.5316	-5.5504	-1.4757	0
CIMENTACION	2	2	Comb4-6	Combination	Max	3.4081	-0.5762	69.7246	19.2978	5.8091	0
CIMENTACION	2	2	Comb4-6	Combination	Min	0.2603	-11.0616	61.5316	-5.5504	-1.4757	0
CIMENTACION	2	2	Comb4-7	Combination	Max	3.4081	-0.5762	69.7246	19.2978	5.8091	0
CIMENTACION	2	2	Comb4-7	Combination	Min	0.2603	-11.0616	61.5316	-5.5504	-1.4757	0
CIMENTACION	2	2	Comb5	Combination		1.6075	-5.1031	55.8381	6.0281	1.8988	0
CIMENTACION	5	4	Dead	LinStatic		-0.6205	-1.9283	16.4883	2.2778	-0.733	0
CIMENTACION	5	4	Adicional	LinStatic		-0.5132	-1.6509	32.4619	1.9501	-0.6062	0
CIMENTACION	5	4	Viva	LinStatic		-0.4737	-1.5239	6.8879	1.8001	-0.5596	0
CIMENTACION	5	4	SX	LinRespSpec	Max	36.6878	0	25.727	0	84.905	0
CIMENTACION	5	4	SY	LinRespSpec	Max	0	36.6878	20.9432	86.9425	0	0
CIMENTACION	5	4	FHEX	LinStatic		-36.6878	0	25.727	0	-84.905	0
CIMENTACION	5	4	FHEY	LinStatic		0	-36.6878	20.9432	86.9425	0	0
CIMENTACION	5	4	Comb1	Combination		-1.1337	-3.5792	48.9502	4.228	-1.3393	0
CIMENTACION	5	4	Comb2	Combination		-1.5872	-5.0109	68.5303	5.9192	-1.875	0
CIMENTACION	5	4	Comb3	Combination		-2.1185	-6.7333	69.7608	7.9538	-2.5025	0
CIMENTACION	5	4	Comb4	Combination	Max	3.4069	-4.2466	70.201	10.5998	9.9626	0

Table 5.8 - Joint Reactions (continued)

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	5	4	Comb4	Combination	Min	-7.0753	-7.3913	61.0553	3.1476	-14.296	0
CIMENTACION	5	4	Comb4-1	Combination	Max	3.4085	-4.245	70.203	10.6035	9.9662	0
CIMENTACION	5	4	Comb4-1	Combination	Min	-7.0769	-7.3928	61.0533	3.1439	-14.2996	0
CIMENTACION	5	4	Comb4-2	Combination	Max	3.4085	-4.245	70.203	10.6035	9.9662	0
CIMENTACION	5	4	Comb4-2	Combination	Min	-7.0769	-7.3928	61.0533	3.1439	-14.2996	0
CIMENTACION	5	4	Comb4-3	Combination	Max	3.4085	-4.245	70.203	10.6035	9.9662	0
CIMENTACION	5	4	Comb4-3	Combination	Min	-7.0769	-7.3928	61.0533	3.1439	-14.2996	0
CIMENTACION	5	4	Comb4-4	Combination	Max	-0.2603	-0.5762	69.7246	19.2978	1.4757	0
CIMENTACION	5	4	Comb4-4	Combination	Min	-3.4081	-11.0616	61.5316	-5.5504	-5.8091	0
CIMENTACION	5	4	Comb4-5	Combination	Max	-0.2603	-0.5762	69.7246	19.2978	1.4757	0
CIMENTACION	5	4	Comb4-5	Combination	Min	-3.4081	-11.0616	61.5316	-5.5504	-5.8091	0
CIMENTACION	5	4	Comb4-6	Combination	Max	-0.2603	-0.5762	69.7246	19.2978	1.4757	0
CIMENTACION	5	4	Comb4-6	Combination	Min	-3.4081	-11.0616	61.5316	-5.5504	-5.8091	0
CIMENTACION	5	4	Comb4-7	Combination	Max	-0.2603	-0.5762	69.7246	19.2978	1.4757	0
CIMENTACION	5	4	Comb4-7	Combination	Min	-3.4081	-11.0616	61.5316	-5.5504	-5.8091	0
CIMENTACION	5	4	Comb5	Combination		-1.6075	-5.1031	55.8381	6.0281	-1.8988	0
CIMENTACION	6	6	Dead	LinStatic		-0.6205	1.9283	16.4883	-2.2778	-0.733	0
CIMENTACION	6	6	Adicional	LinStatic		-0.5132	1.6509	32.4619	-1.9501	-0.6062	0
CIMENTACION	6	6	Viva	LinStatic		-0.4737	1.5239	6.8879	-1.8001	-0.5596	0
CIMENTACION	6	6	SX	LinRespSpec	Max	36.6878	0	25.727	0	84.905	0
CIMENTACION	6	6	SY	LinRespSpec	Max	0	36.6878	20.9432	86.9425	0	0
CIMENTACION	6	6	FHEX	LinStatic		-36.6878	0	25.727	0	-84.905	0
CIMENTACION	6	6	FHEY	LinStatic		0	-36.6878	-20.9432	86.9425	0	0
CIMENTACION	6	6	Comb1	Combination		-1.1337	3.5792	48.9502	-4.228	-1.3393	0
CIMENTACION	6	6	Comb2	Combination		-1.5872	5.0109	68.5303	-5.9192	-1.875	0
CIMENTACION	6	6	Comb3	Combination		-2.1185	6.7333	69.7608	-7.9538	-2.5025	0
CIMENTACION	6	6	Comb4	Combination	Max	3.4069	7.3913	70.201	-3.1476	9.9626	0
CIMENTACION	6	6	Comb4	Combination	Min	-7.0753	4.2466	61.0553	-10.5998	-14.296	0
CIMENTACION	6	6	Comb4-1	Combination	Max	3.4085	7.3928	70.203	-3.1439	9.9662	0
CIMENTACION	6	6	Comb4-1	Combination	Min	-7.0769	4.245	61.0533	-10.6035	-14.2996	0
CIMENTACION	6	6	Comb4-2	Combination	Max	3.4085	7.3928	70.203	-3.1439	9.9662	0
CIMENTACION	6	6	Comb4-2	Combination	Min	-7.0769	4.245	61.0533	-10.6035	-14.2996	0
CIMENTACION	6	6	Comb4-3	Combination	Max	3.4085	7.3928	70.203	-3.1439	9.9662	0
CIMENTACION	6	6	Comb4-3	Combination	Min	-7.0769	4.245	61.0533	-10.6035	-14.2996	0
CIMENTACION	6	6	Comb4-4	Combination	Max	-0.2603	11.0616	69.7246	5.5504	1.4757	0
CIMENTACION	6	6	Comb4-4	Combination	Min	-3.4081	0.5762	61.5316	-19.2978	-5.8091	0
CIMENTACION	6	6	Comb4-5	Combination	Max	-0.2603	11.0616	69.7246	5.5504	1.4757	0
CIMENTACION	6	6	Comb4-5	Combination	Min	-3.4081	0.5762	61.5316	-19.2978	-5.8091	0
CIMENTACION	6	6	Comb4-6	Combination	Max	-0.2603	11.0616	69.7246	5.5504	1.4757	0
CIMENTACION	6	6	Comb4-6	Combination	Min	-3.4081	0.5762	61.5316	-19.2978	-5.8091	0
CIMENTACION	6	6	Comb4-7	Combination	Max	-0.2603	11.0616	69.7246	5.5504	1.4757	0
CIMENTACION	6	6	Comb4-7	Combination	Min	-3.4081	0.5762	61.5316	-19.2978	-5.8091	0
CIMENTACION	6	6	Comb5	Combination		-1.6075	5.1031	55.8381	-6.0281	-1.8988	0

5.4 Modal Results

Table 5.9 - Modal Periods And Frequencies

Case	Mode	Period sec	Frequency cyc/sec	CircFreq rad/sec	Eigenvalue rad2/sec2
Modal	1	0.309	3.24	20.3548	414.319
Modal	2	0.301	3.318	20.8477	434.6284
Modal	3	0.262	3.815	23.9673	574.4315

Table 5.10 - Modal Participating Mass Ratios (Part 1 of 2)

Case	Mode	Period sec	UX	UY	UZ	SumUX	SumUY	SumUZ	RX	RY	RZ	SumRX
Modal	1	0.309	0	1	0	0	1	0	1	0	0	1
Modal	2	0.301	1	0	0	1	1	0	0	1	0	1
Modal	3	0.262	0	0	0	1	1	0	0	0	1	1

Table 5.10 - Modal Participating Mass Ratios (Part 2 of 2)

SumRY	SumRZ
0	0
1	0
1	1

Table 5.11 - Modal Load Participation Ratios

Case	ItemType	Item	Static %	Dynamic %
Modal	Acceleration	UX	100	100
Modal	Acceleration	UY	100	100
Modal	Acceleration	UZ	0	0

Table 5.12 - Modal Direction Factors

Case	Mode	Period sec	UX	UY	UZ	RZ
Modal	1	0.309	0	1	0	0
Modal	2	0.301	1	0	0	0
Modal	3	0.262	0	0	0	1

6 Design Data

This chapter provides design data and results.

6.1 Steel Frame Design

Table 6.1 - Steel Frame Design Preferences - AISC 360-16

Item	Value
Multi-Response Design	Step-by-Step - All
Frame Type	SMF
Seismic Design Category	D
Importance Factor	1
Design System Rho	7
Design System Sds	0.5
Design System R	7
Design System Omega0	3
Design System Cd	5.5
Design Provision	LRFD
Analysis Method	Direct Analysis
Second Order Method	General 2nd Order
Stiffness Reduction Method	Tau-b Fixed
Add Notional Load Case	No
Beta Factor	1.3
Beta Omega Factor	1.6
Phi (Bending)	0.9
Phi (Compression)	0.9
Phi (Tension-Yielding)	0.9
Phi (Tension-Fracture)	0.75
Phi (Shear)	0.9
Phi (Shear-Short Webbed Rolled I)	1
Phi (Torsion)	0.9
Ignore Seismic Code?	Yes
Ignore Special Seismic Load?	Yes
Doubler Plate Plug-Welded?	Yes
HSS Welding Type	ERW
Reduced HSS Thickness	No
Consider Deflection?	Yes
DL Ratio	120
SDL+LL Ratio	120
LL Ratio	360
Total Ratio	240
Total Camber Limit	240
Pattern Live Load Factor	0.75
D/C Ratio Limit	0.95
Maximum Iterations	1

Table 6.2 - Steel Frame Design Overwrites - AISC 360-16 (Part 1 of 5)

Story	Label	Unique Name	Design Type	Design Section	Frame Type	Omega0	Connection Type	Relative Hinge Distance Sh/L Left
CUBIERTA	B1	5	Beam	Program Determined	Program Determined	0	Program Determined	0
CUBIERTA	B2	6	Beam	Program Determined	Program Determined	0	Program Determined	0
CUBIERTA	B3	7	Beam	Program Determined	Program Determined	0	Program Determined	0
CUBIERTA	B4	8	Beam	Program Determined	Program Determined	0	Program Determined	0

Table 6.2 - Steel Frame Design Overwrites - AISC 360-16 (Part 2 of 5)

Yield Line Yc/h Parameter	Relative Hinge Distance Sh/L Right	BRB Beta Factor	BRB Beta*Omega Factor	Perform RBS Capacity Design	Check Deflection?	Deflection Type	DL Ratio
0	0	0	0	Program Determined	Program Determined	Program Determined	0
0	0	0	0	Program Determined	Program Determined	Program Determined	0
0	0	0	0	Program Determined	Program Determined	Program Determined	0
0	0	0	0	Program Determined	Program Determined	Program Determined	0

Table 6.2 - Steel Frame Design Overwrites - AISC 360-16 (Part 3 of 5)

LL Ratio	Total Ratio	Camber Ratio	Specified Camber mm	Net Area Ratio	LLRF	Unbraced Length Ratio Major	Unbraced Length Ratio Minor	Unbraced Length Ratio (LTB)	Effective Length Factor 1 Major	Effective Length Factor 1 Minor
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0

Table 6.2 - Steel Frame Design Overwrites - AISC 360-16 (Part 4 of 5)

Effective Length Factor 2 Minor	Effective Length Factor (KLTB)	Moment Coefficient (Cm Major)	Moment Coefficient (Cm Minor)	Bending Coefficient (Cb)	Nonsway Moment Factor (B1 Major)	Nonsway Moment Factor (B1 Minor)	Sway Moment Factor (B2 Major)	Sway Moment Factor (B2 Minor)
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

Table 6.2 - Steel Frame Design Overwrites - AISC 360-16 (Part 5 of 5)

HSS Welding Type?	Yield stress, Fy MPa	Expected to specified Fy ratio, Ry	Compressive Capacity, Pnc kN	Tensile Capacity, Pnt kN	Major Bending Capacity, Mn3 kN-m	Minor Bending Capacity, Mn2 kN-m	Major Shear Capacity, Vn2 kN	Minor Shear Capacity, Vn3 kN
Program Determined	0	0	0	0	0	0	0	0
Program Determined	0	0	0	0	0	0	0	0
Program Determined	0	0	0	0	0	0	0	0
Program Determined	0	0	0	0	0	0	0	0

Table 6.3 - Steel Beam Envelope - AISC 360-16

Story	Label	UniqueName	Section	Moment Interaction Check	PMM Combo	V22 Ratio	V33 Ratio	Section Class	Conn. V I-End kN	Conn. V J-End kN
CUBIERTA	B1	5	IPE240	0.081 = 0 + 0.081 + 0	Comb4-3	0.038	0	Seismic HD	11.8334	11.8334
CUBIERTA	B2	6	IPE240	0.151 = 0 + 0.151 + 0	Comb4-7	0.067	0	Seismic HD	20.6683	20.6683
CUBIERTA	B3	7	IPE240	0.151 = 0 + 0.151 + 0	Comb4-7	0.067	0	Seismic HD	20.6683	20.6683
CUBIERTA	B4	8	IPE240	0.081 = 0 + 0.081 + 0	Comb4-3	0.038	0	Seismic HD	11.8334	11.8334

6.2 Concrete Frame Design

Table 6.4 - Concrete Column Overwrites - ACI 318-19 (Part 1 of 2)

Story	Label	Unique Name	Design Type	Design Section	Frame Type	LLRF	Unbraced Length Ratio (Major)	Unbraced Length Ratio (Minor)
CUBIERTA	C4	4	Column	Program Determined	Program Determined	0	0	0
CUBIERTA	C1	1	Column	Program Determined	Program Determined	0	0	0
CUBIERTA	C2	2	Column	Program Determined	Program Determined	0	0	0
CUBIERTA	C3	3	Column	Program Determined	Program Determined	0	0	0

Table 6.4 - Concrete Column Overwrites - ACI 318-19 (Part 2 of 2)

Effective Length Factor (K Major)	Effective Length Factor (K Minor)	Moment Coefficient (Cm Major)	Moment Coefficient (Cm Minor)	Non Sway Moment Factor (Dns Major)	Non Sway Moment Factor (Dns Minor)	Sway Moment Factor (Ds Major)	Sway Moment Factor (Ds Minor)	Consider Minimum Eccentricity?
0	0	0	0	0	0	0	0	Program Determined
0	0	0	0	0	0	0	0	Program Determined
0	0	0	0	0	0	0	0	Program Determined
0	0	0	0	0	0	0	0	Program Determined

Table 6.5 - Concrete Column PMM Envelope - ACI 318-19

Story	Label	UniqueName	Section	Location	P kN	M Major kN-m	M Minor kN-m	PMM Combo	PMM Ratio or Rebar %
CUBIERTA	C4	4	COLUMNA	Top	53.0319	5.7274	18.1336	Comb4-7	0.349
CUBIERTA	C4	4	COLUMNA	Bottom	61.5316	-5.9961	-19.919	Comb4-7	0.378
CUBIERTA	C1	1	COLUMNA	Top	53.0319	5.7274	-18.1336	Comb4-7	0.349
CUBIERTA	C1	1	COLUMNA	Bottom	61.5316	-5.9961	19.919	Comb4-7	0.378
CUBIERTA	C2	2	COLUMNA	Top	53.0319	-5.7274	-18.1336	Comb4-7	0.349
CUBIERTA	C2	2	COLUMNA	Bottom	61.5316	5.9961	19.919	Comb4-7	0.378
CUBIERTA	C3	3	COLUMNA	Top	53.0319	-5.7274	18.1336	Comb4-7	0.349
CUBIERTA	C3	3	COLUMNA	Bottom	61.5316	5.9961	-19.919	Comb4-7	0.378

Table 6.6 - Concrete Column Shear Envelope - ACI 318-19

Story	Label	UniqueName	Section	Location	V Major kN	V Major Combo	At Major mm2/m	V Minor kN	V Minor Combo	At Minor mm2/m
CUBIERTA	C4	4	COLUMNA	Top	3.4081		0	11.0616		0
CUBIERTA	C4	4	COLUMNA	Bottom	3.4081		0	11.0616		0
CUBIERTA	C1	1	COLUMNA	Top	3.4081		0	11.0616		0
CUBIERTA	C1	1	COLUMNA	Bottom	3.4081		0	11.0616		0
CUBIERTA	C2	2	COLUMNA	Top	3.4081		0	11.0616		0
CUBIERTA	C2	2	COLUMNA	Bottom	3.4081		0	11.0616		0
CUBIERTA	C3	3	COLUMNA	Top	3.4081		0	11.0616		0
CUBIERTA	C3	3	COLUMNA	Bottom	3.4081		0	11.0616		0

Table 6.7 - Concrete Joint Envelope - ACI 318-19

Story	Label	UniqueName	Section	B/C Major Combo	B/C Major Ratio	B/C Minor Combo	B/C Minor Ratio	JS Major Combo	JS Major Ratio	JS Minor Combo	JS Minor Ratio
CUBIERTA	C4	4	COLUMNA								
CUBIERTA	C1	1	COLUMNA								
CUBIERTA	C2	2	COLUMNA								
CUBIERTA	C3	3	COLUMNA								

Table 6.8 - Concrete Column Design Summary - ACI 318-19 (Part 1 of 2)

Story	Label	UniqueName	DesignSect	Station mm	DesignOpt	Status	PMMRatio	PMMCombo	AsMin mm2
CUBIERTA	C4	4	COLUMNA	0	Check	No Message	0.378	Comb4-7	900
CUBIERTA	C4	4	COLUMNA	1670	Check	No Message	0.131	Comb4-7	900
CUBIERTA	C4	4	COLUMNA	3340	Check	No Message	0.349	Comb4-7	900
CUBIERTA	C1	1	COLUMNA	0	Check	No Message	0.378	Comb4-7	900
CUBIERTA	C1	1	COLUMNA	1670	Check	No Message	0.131	Comb4-7	900
CUBIERTA	C1	1	COLUMNA	3340	Check	No Message	0.349	Comb4-7	900
CUBIERTA	C2	2	COLUMNA	0	Check	No Message	0.378	Comb4-7	900
CUBIERTA	C2	2	COLUMNA	1670	Check	No Message	0.131	Comb4-7	900
CUBIERTA	C2	2	COLUMNA	3340	Check	No Message	0.349	Comb4-7	900

Table 6.8 - Concrete Column Design Summary - ACI 318-19 (Part 1 of 2, continued)

Story	Label	UniqueName	DesignSect	Station mm	DesignOpt	Status	PMMRatio	PMMCombo	AsMin mm2
CUBIERTA	C3	3	COLUMNA	0	Check	No Message	0.378	Comb4-7	900
CUBIERTA	C3	3	COLUMNA	1670	Check	No Message	0.131	Comb4-7	900
CUBIERTA	C3	3	COLUMNA	3340	Check	No Message	0.349	Comb4-7	900

Table 6.8 - Concrete Column Design Summary - ACI 318-19 (Part 2 of 2)

As mm2	Mid Bar As mm2	CornerBarAs mm2	VMajCombo	VMajRebar mm2/m	VMinCombo	VMinRebar mm2/m	WarnMsg	ErrMsg
1135	284	284	Comb4-7	0	Comb4-7	0	No Message	No Message
1135	284	284	Comb4-7	0	Comb4-7	0	No Message	No Message
1135	284	284	Comb4-7	0	Comb4-7	0	No Message	No Message
1135	284	284	Comb4-7	0	Comb4-7	0	No Message	No Message
1135	284	284	Comb4-7	0	Comb4-7	0	No Message	No Message
1135	284	284	Comb4-7	0	Comb4-7	0	No Message	No Message
1135	284	284	Comb4-7	0	Comb4-7	0	No Message	No Message
1135	284	284	Comb4-7	0	Comb4-7	0	No Message	No Message
1135	284	284	Comb4-7	0	Comb4-7	0	No Message	No Message
1135	284	284	Comb4-7	0	Comb4-7	0	No Message	No Message
1135	284	284	Comb4-7	0	Comb4-7	0	No Message	No Message
1135	284	284	Comb4-7	0	Comb4-7	0	No Message	No Message

Table 6.9 - Concrete Joint Design Summary - ACI 318-19 (Part 1 of 2)

Story	Label	UniqueName	DesignSect	Status	BCMajCombo	BCMajRatio	BCMinCombo
CUBIERTA	C4	4	COLUMNA	Joint check not done.			
CUBIERTA	C1	1	COLUMNA	Joint check not done.			
CUBIERTA	C2	2	COLUMNA	Joint check not done.			
CUBIERTA	C3	3	COLUMNA	Joint check not done.			

Table 6.9 - Concrete Joint Design Summary - ACI 318-19 (Part 2 of 2)

BCMinRatio	JSMajCombo	JSMajRatio	JSMinCombo	JSMinRatio	WarnMsg	ErrMsg
					No Message	No Message
					No Message	No Message
					No Message	No Message
					No Message	No Message

6.3 Composite Beam Design

Table 6.10 - Composite Beam Design Preferences - AISC 360-16

Item	Value
Shored?	No
Middle Range %	70
Pattern Live Load Factor	0.75
D/C Ratio Limit	1
Minimum PCC %	25
Maximum PCC %	100

Table 6.10 - Composite Beam Design Preferences - AISC 360-16 (continued)

Item	Value
Single Segment?	No
Min. Long. Spacing mm	114.3
Max. Long. Spacing mm	914.4
Min. Trans. Spacing mm	76.2
Max. Studs Per Row	3
Position of Studs	Weak Position
Camber?	Yes
Camber DL %	80
Min. Beam Depth mm	342.9
Min. Web Thick. mm	6.4
Min. Beam Span m	7.3152
Min. Camber, abs mm	19.1
Minimum Camber, L/	900
Camber Abs. Max Limit mm	152.4
Camber Max Ratio	180
Camber Interval mm	6.35
Round Camber Down?	True
Pre-Comp DL Ratio	0
SDL+LL Ratio	240
LL Ratio	360
Net Ratio	240
Ieff reduction Factor	1
Vibration Criterion	Walking
Occupancy Category	Paper Office
Walking Acceleration Limit, a0/g	0.005
Damping Ratio - Walking	0.025
Optimize Price?	Yes
Steel Price ($)	1
Stud Price ($)	2
Camber Price ($)	0.1
phi-b	0.9
phi-bcpp	0.9
phi-v	0.9
Reaction Factor	1

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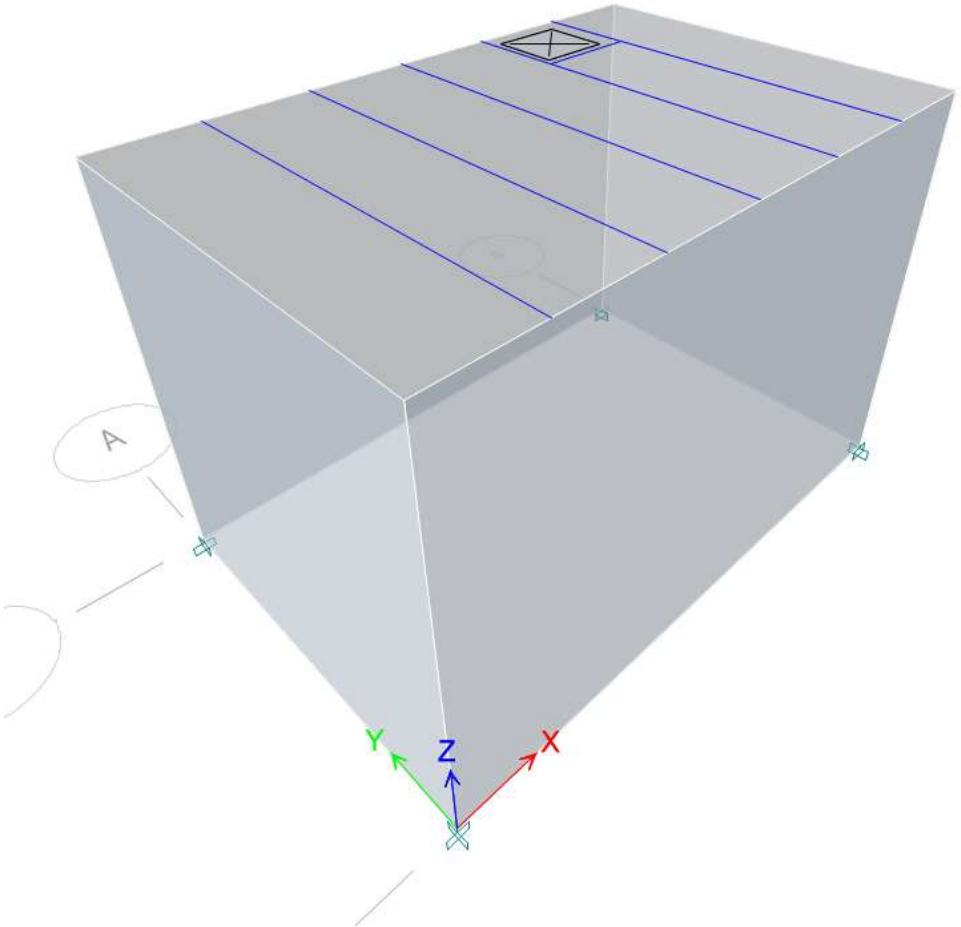


Project Report

TANQUE 1

Model File: TANQUE 1, Revision 0

04/05/2023

1 Structure Data

This chapter provides model geometry information, including items such as story levels, point coordinates, and element connectivity.

1.1 Story Data

Table 1.1 - Story Definitions

Tower	Name	Height m	Master Story	Similar To	Splice Story	Color
T1	PISO 1	4.15	No	None	No	Gray8Dark

1.2 Grid Data

Table 1.2 - Grid Definitions - General

Tower	Name	Type	Ux m	Uy m	Rz deg	Story Range	Bubble Size mm	Color
T1	G1	Cartesian	0	0	0	Default	1250	Gray6

Table 1.3 - Grid Definitions - Grid Lines

Name	Grid Line Type	ID	Ordinate m	Bubble Location	Visible
G1	X (Cartesian)	A	0	End	Yes
G1	X (Cartesian)	B	6	End	Yes
G1	Y (Cartesian)	1	0	Start	Yes
G1	Y (Cartesian)	2	4	Start	Yes

1.3 Point Coordinates

Table 1.4 - Point Bays

Label	Is Auto Point	X m	Y m	DZBelow m
1	No	0	0	0
2	No	6	0	0
3	No	4.085	3.12	0
4	Yes	3.0046	2.0024	0
5	No	0	4	0
6	No	6	4	0
7	No	4.79	3.12	0
8	No	4.79	3.795	0
9	No	4.085	3.795	0
10	No	1	0	0
11	No	1	4	0
12	No	2	0	0
13	No	2	4	0
14	No	3	0	0
15	No	3	4	0
16	No	4	0	0
17	No	4	4	0
18	No	5	0	0

Table 1.4 - Point Bays (continued)

Label	Is Auto Point	X m	Y m	DZBelow m
19	No	5	4	0
25	No	4	3.01	0
26	No	5	3.01	0

Table 1.5 - Point Object Connectivity

UniqueName	Is Auto Point	Story	PointBay	IsSpecial	X m	Y m	Z m
1	No	PISO 1	1	No	0	0	4.15
4	No	PISO 1	2	No	6	0	4.15
8	No	PISO 1	5	No	0	4	4.15
10	No	PISO 1	6	No	6	4	4.15
5	No	PISO 1	3	No	4.085	3.12	4.15
11	No	PISO 1	7	No	4.79	3.12	4.15
12	No	PISO 1	8	No	4.79	3.795	4.15
13	No	PISO 1	9	No	4.085	3.795	4.15
14	No	PISO 1	10	No	1	0	4.15
15	No	PISO 1	11	No	1	4	4.15
16	No	PISO 1	12	No	2	0	4.15
17	No	PISO 1	13	No	2	4	4.15
18	No	PISO 1	14	No	3	0	4.15
19	No	PISO 1	15	No	3	4	4.15
20	No	PISO 1	16	No	4	0	4.15
21	No	PISO 1	17	No	4	4	4.15
22	No	PISO 1	18	No	5	0	4.15
23	No	PISO 1	19	No	5	4	4.15
29	No	PISO 1	25	No	4	3.01	4.15
30	No	PISO 1	26	No	5	3.01	4.15
7	Yes	PISO 1	4	Yes	3.0046	2.0024	4.15
2	No	CIMENTACION	1	No	0	0	0
3	No	CIMENTACION	2	No	6	0	0
6	No	CIMENTACION	5	No	0	4	0
9	No	CIMENTACION	6	No	6	4	0

1.4 Line Connectivity

Table 1.6 - Beam Bays

Label	PointBayI	PointBayJ
B1	10	11
B2	12	13
B3	14	15
B4	16	17
B5	18	19
B18	25	26

1.5 Area Connectivity

Table 1.7 - Floor Bays

Label	NumPoints	PointNumber	PointBay
F1	4	1	5
F1		2	1
F1		3	2
F1		4	6

Table 1.8 - Wall Bays

Label	NumPoints	PointNumber	PointBay	PointStory
W1	4	1	1	Below
W1		2	2	Below
W1		3	2	Same
W1		4	1	Same
W2	4	1	1	Below
W2		2	5	Below
W2		3	5	Same
W2		4	1	Same
W3	4	1	2	Below
W3		2	6	Below
W3		3	6	Same
W3		4	2	Same
W4	4	1	5	Below
W4		2	6	Below
W4		3	6	Same
W4		4	5	Same

Table 1.9 - Null Area Bays

Label	NumPoints	PointNumber	PointBay	PointStory
A1	4	1	3	Same
A1		2	7	Same
A1		3	8	Same
A1		4	9	Same

1.6 Mass

Table 1.10 - Mass Source Definition

Name	Is Default	Include Lateral Mass?	Include Vertical Mass?	Lump Mass?	Source Self Mass?	Source Added Mass?	Source Load Patterns?	Move Mass Centroid?	Load Pattern	Multiplier
MsSrc1	Yes	Yes	No	Yes	No	No	Yes	No	Peso Propio	1
MsSrc1									Adicional	1

Table 1.11 - Centers Of Mass And Rigidity

Story	Diaphragm	Mass X kg	Mass Y kg	XCM m	YCM m	Cum Mass X kg	Cum Mass Y kg	XCCM m	YCCM m	XCR m	YCR m
PISO 1	D1	36322.62	36322.62	3.0046	2.0024	36322.62	36322.62	3.0046	2.0024		

Table 1.12 - Mass Summary by Diaphragm

Story	Diaphragm	Mass X kg	Mass Y kg	Mass Moment of Inertia ton-m2	X Mass Center m	Y Mass Center m
PISO 1	D1	36322.62	36322.62	422.3619	3.0046	2.0024

Table 1.13 - Mass Summary by Story

Story	UX kg	UY kg	UZ kg
PISO 1	36322.62	36322.62	0
CIMENTACION	29914.48	29914.48	0

Table 1.14 - Mass Summary by Group

Group	Self Mass kg	Self Weight kN	Mass X kg	Mass Y kg	Mass Z kg
All	0	621.3595	66237.11	66237.11	0

1.7 Groups

Table 1.15 - Group Definitions

Name	Color	Steel Design?	Concrete Design?	Composite Design?
All	Yellow	No	No	No

2 Properties

This chapter provides property information for materials, frame sections, shell sections, and links.

2.1 Materials

Table 2.1 - Material Properties - General

Material	Type	SymType	Grade	Color	Notes
3000Psi	Concrete	Isotropic	f'c 3000 psi	Yellow	
4000Psi	Concrete	Isotropic	f'c 4000 psi	Gray8Dark	
A416Gr270	Tendon	Uniaxial	Grade 270	Green	
A572Gr50	Steel	Isotropic	Grade 50	White	
A615Gr60	Rebar	Uniaxial	Grade 60	Blue	
A992Fy50	Steel	Isotropic	Grade 50	Yellow	

2.2 Frame Sections

Table 2.2 - Frame Section Property Definitions - Summary (Part 1 of 3)

Name	Material	Shape	Color	Area cm2	J cm4	I33 cm4	I22 cm4	As2 cm2	As3 cm2	S33Pos cm3
VIGA	4000Psi	Concrete Rectangular	Magenta	1050	152551.3	107187.5	78750	875	875	6125
VIGUETA	4000Psi	Concrete Rectangular	Cyan	700	60031.9	71458.3	23333.3	583.3	583.3	4083.3

Table 2.2 - Frame Section Property Definitions - Summary (Part 2 of 3)

S33Neg cm3	S22Pos cm3	S22Neg cm3	Z33 cm3	Z22 cm3	R33 mm	R22 mm	CG Offset 3 mm	CG Offset 2 mm	PNA Offset 3 mm	PNA Offset 2 mm	Area Modifier	As2 Modifier
6125	5250	5250	9187.5	7875	101	86.6	0	0	0	0	1	1
4083.3	2333.3	2333.3	6125	3500	101	57.7	0	0	0	0	1	1

Table 2.2 - Frame Section Property Definitions - Summary (Part 3 of 3)

J Modifier	I33 Modifier	I22 Modifier	Mass Modifier	Weight Modifier
1	1	1	1	1
1	1	1	1	1

2.3 Shell Sections

Table 2.3 - Area Section Property Definitions - Summary

Name	Type	Element Type	Material	Total Thickness mm	Deck Material	Deck Depth mm
LAMINA COLABORANTE	Deck	Membrane	3000Psi	100	A572Gr50	45
LOSA	Slab	Shell-Thin	4000Psi	150		
MURO	Wall	Shell-Thin	4000Psi	300		

2.4 Reinforcement Sizes

Table 2.4 - Reinforcing Bar Sizes

Name	Diameter mm	Area cm2
#2	6.4	0.3
#3	9.5	0.7
#4	12.7	1.3
#5	15.9	2
#6	19.1	2.8
#7	22.2	3.9
#8	25.4	5.1
#9	28.7	6.5
#10	32.3	8.2
#11	35.8	10.1
#14	43	14.5
#18	57.3	25.8

2.5 Links

Table 2.5 - Link Property Definitions - Summary

Name	Type	Degrees of Freedom	Mass kg	Weight kN	Defined Length m	Defined Area m2
Link1	Linear	U1	0	0	1	1

2.6 Spring Properties

Table 2.6 - Spring Property Definitions - Isolated Column Footings

Name	Length mm	Width mm	Thickness mm	Embedment Source	Color	Notes
ZAPATA	1000	1000	350	Program Determined	Red	

2.7 Tendon Sections

Table 2.7 - Tendon Section Properties

Name	Material	StrandArea cm2	Color	Notes
Tendon1	A416Gr270	1	Yellow	

3 Assignments

This chapter provides a listing of the assignments applied to the model.

3.1 Joint Assignments

Table 3.1 - Joint Assignments - Summary

Story	Label	UniqueName	Diaphragm	Restraints
PISO 1	1	1	From Area	
PISO 1	2	4	From Area	
PISO 1	5	8	From Area	
PISO 1	6	10	From Area	
PISO 1	3	5	From Area	
PISO 1	7	11	From Area	
PISO 1	8	12	From Area	
PISO 1	9	13	From Area	
PISO 1	10	14	From Area	
PISO 1	11	15	From Area	
PISO 1	12	16	From Area	
PISO 1	13	17	From Area	
PISO 1	14	18	From Area	
PISO 1	15	19	From Area	
PISO 1	16	20	From Area	
PISO 1	17	21	From Area	
PISO 1	18	22	From Area	
PISO 1	19	23	From Area	
PISO 1	25	29	From Area	
PISO 1	26	30	From Area	
PISO 1	4	7	D1	
CIMENTACION	1	2	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	2	3	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	5	6	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	6	9	From Area	UX; UY; UZ; RX; RY; RZ

3.2 Frame Assignments

Table 3.2 - Frame Assignments - Summary

Story	Label	UniqueName	Design Type	Length m	Analysis Section	Design Section	Max Station Spacing m	Releases
PISO 1	B1	1	Beam	4	VIGUETA	VIGUETA	0.5	Yes
PISO 1	B2	2	Beam	4	VIGUETA	VIGUETA	0.5	Yes
PISO 1	B3	3	Beam	4	VIGUETA	VIGUETA	0.5	Yes
PISO 1	B4	13	Beam	4	VIGUETA	VIGUETA	0.5	Yes
PISO 1	B5	15	Beam	4	VIGUETA	VIGUETA	0.5	Yes
PISO 1	B18	18	Beam	1	VIGUETA	VIGUETA	0.5	Yes

3.3 Shell Assignments

Table 3.3 - Area Assignments - Summary

Story	Label	UniqueName	Section Property	Property Type	Diaphragm
PISO 1	F1	2	LOSA	Slab	D1
PISO 1	W1	1	MURO	Wall	
PISO 1	W2	3	MURO	Wall	
PISO 1	W3	4	MURO	Wall	
PISO 1	W4	5	MURO	Wall	
PISO 1	A1	6	None	Opening	

4 Loads

This chapter provides loading information as applied to the model.

4.1 Load Patterns

Table 4.1 - Load Pattern Definitions

Name	Is Auto Load	Type	Self Weight Multiplier	Auto Load
~LLRF	Yes	Other	0	
Adicional	No	Super Dead	0	
FHEX	No	Seismic	0	User Coefficient
FHEY	No	Seismic	0	User Coefficient
Peso Propio	No	Dead	1	
SX	No	Seismic	0	User Loads
SY	No	Seismic	0	User Loads
Viva	No	Live	0	

4.2 Auto Seismic Loading

User Loads Auto Seismic Load Calculation

This calculation presents the user defined lateral seismic loads for load pattern SX.

Lateral Forces

User Loads Auto Seismic Load Calculation

This calculation presents the user defined lateral seismic loads for load pattern SY.

Lateral Forces

User Coefficient Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern FHEX using the user input coefficients, as calculated by ETABS.

Direction and Eccentricity

Direction = X

Factors and Coefficients

Equivalent Lateral Forces

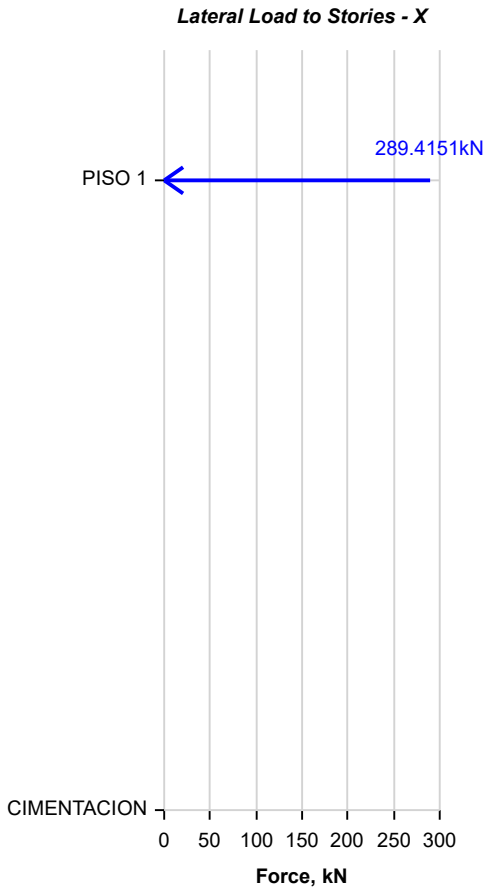
Base Shear Coefficient, C $C = 0.8125$

Base Shear, V $V = CW$

Calculated Base Shear

Direction	Period Used (sec)	C	W (kN)	V (kN)
X	0	0	356.2033	289.4151

Applied Story Forces



Story	Elevation	X-Dir	Y-Dir
	m	kN	kN
PISO 1	4.15	289.4151	0
CIMENTACION	0	0	0

User Coefficient Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern FHEY using the user input coefficients, as calculated by ETABS.

Direction and Eccentricity

Direction = Y

Factors and Coefficients

Equivalent Lateral Forces

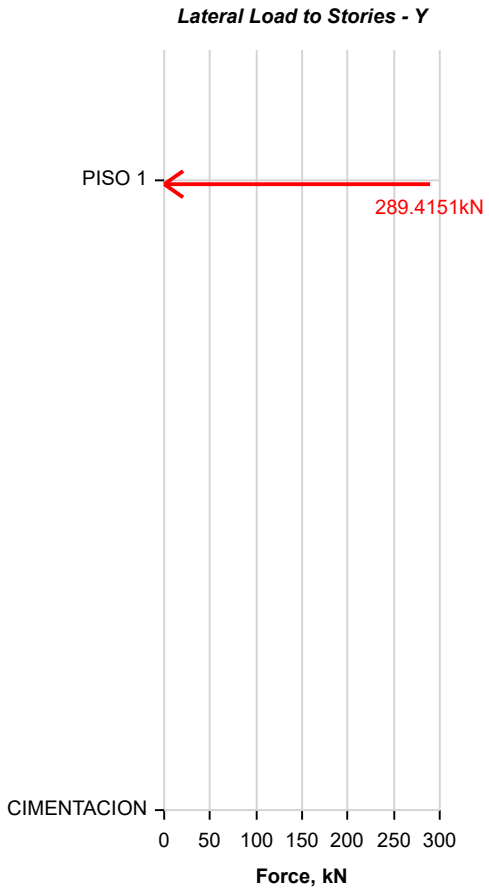
Base Shear Coefficient, C $C = 0.8125$

Base Shear, V $V = CW$

Calculated Base Shear

Direction	Period Used (sec)	C	W (kN)	V (kN)
Y	0	0	356.2033	289.4151

Applied Story Forces



Story	Elevation	X-Dir	Y-Dir
	m	kN	kN
PISO 1	4.15	0	289.4151
CIMENTACION	0	0	0

4.3 Applied Loads

4.3.1 Area Loads

Table 4.6 - Area Load Assignments - Uniform

Story	Label	UniqueName	Load Pattern	Direction	Load kN/m2
PISO 1	F1	2	Viva	Gravity	5
PISO 1	F1	2	Adicional	Gravity	1.2

4.4 Functions

4.4.1 Response Spectrum Functions

Table 4.7 - Functions - Response Spectrum - Columbia NSR-10

Name	Period sec	Value	Aa	Av	Ae	Ad	Group of Use	Fa	Fv	Damping Ratio
NSR-10	0	0.8125	0.25	0.2	0.08	0.05	1	1.3	2	0.05
NSR-10	0.1	0.8125								
NSR-10	0.2	0.8125								
NSR-10	0.3	0.8125								
NSR-10	0.4	0.8125								
NSR-10	0.5	0.8125								
NSR-10	0.6	0.8								
NSR-10	0.7	0.685714								
NSR-10	0.8	0.6								
NSR-10	0.9	0.533333								
NSR-10	1	0.48								
NSR-10	1.2	0.4								
NSR-10	1.5	0.32								
NSR-10	1.7	0.282353								
NSR-10	2	0.24								
NSR-10	2.5	0.192								
NSR-10	3	0.16								
NSR-10	3.5	0.137143								
NSR-10	4	0.12								
NSR-10	5	0.09216								
NSR-10	8	0.036								
NSR-10	11	0.019041								
NSR-10	15	0.01024								

4.5 Load Cases

Table 4.8 - Load Case Definitions - Summary

Name	Type
Dead	Linear Static
Adicional	Linear Static
Viva	Linear Static
Modal	Modal - Eigen
SX	Response Spectrum

Table 4.8 - Load Case Definitions - Summary (continued)

Name	Type
SY	Response Spectrum
FHEX	Linear Static
FHEY	Linear Static

4.6 Load Combinations

Table 4.9 - Load Combination Definitions

Name	Type	Is Auto	Load Name	SF	Notes
Comb1	Linear Add	No	Dead	1	
Comb1			Adicional	1	
Comb2	Linear Add	No	Comb1	1.4	
Comb3	Linear Add	No	Comb1	1.2	
Comb3			Viva	1.6	
Comb4	Linear Add	No	Comb1	1.2	
Comb4			SX	0.142857	
Comb4			SY	0.042857	
Comb4			Viva	1	
Comb4-1	Linear Add	No	Comb1	1.2	
Comb4-1			SX	0.1429	
Comb4-1			SY	-0.0429	
Comb4-1			Viva	1	
Comb4-2	Linear Add	No	Comb1	1.2	
Comb4-2			SX	-0.1429	
Comb4-2			SY	-0.0429	
Comb4-2			Viva	1	
Comb4-3	Linear Add	No	Comb1	1.2	
Comb4-3			SX	-0.1429	
Comb4-3			SY	0.0429	
Comb4-3			Viva	1	
Comb4-4	Linear Add	No	Comb1	1.2	
Comb4-4			SX	0.0429	
Comb4-4			SY	0.1429	
Comb4-4			Viva	1	
Comb4-5	Linear Add	No	Comb1	1.2	
Comb4-5			SX	-0.0429	
Comb4-5			SY	0.1429	
Comb4-5			Viva	1	
Comb4-6	Linear Add	No	Comb1	1.2	
Comb4-6			SX	-0.0429	
Comb4-6			SY	-0.1429	
Comb4-6			Viva	1	
Comb4-7	Linear Add	No	Comb1	1.2	
Comb4-7			SX	0.0429	
Comb4-7			SY	-0.1429	
Comb4-7			Viva	1	
Comb5	Linear Add	No	Comb1	1	

Table 4.9 - Load Combination Definitions (continued)

Name	Type	Is Auto	Load Name	SF	Notes
Comb5			Viva	1	

5 Analysis Results

This chapter provides analysis results.

5.1 Structure Results

Table 5.1 - Base Reactions

Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m	X m	Y m	Z m
Dead	LinStatic		0	0	621.3595	1244.3849	-1866.5527	0	0	0	0
Adicional	LinStatic		0	0	28.2046	55.587	-83.7736	0	0	0	0
Viva	LinStatic		0	0	117.5192	231.6126	-349.0567	0	0	0	0
SX	LinRespSpec	Max	289.4111	0.0269	0	0.1118	1201.0559	579.9107	0	0	0
SY	LinRespSpec	Max	0.0269	289.4137	0	1201.067	0.1118	871.5205	0	0	0
FHEX	LinStatic		-289.4151	0	0	0	-1201.0729	579.5158	0	0	0
FHEY	LinStatic		0	-289.4151	0	1201.0729	0	-869.573	0	0	0
Comb1	Combination		0	0	649.5641	1299.972	-1950.3263	0	0	0	0
Comb2	Combination		0	0	909.3898	1819.9608	-2730.4568	0	0	0	0
Comb3	Combination		0	0	967.5077	1930.5466	-2898.8823	0	0	0	0
Comb4	Combination	Max	41.3456	12.4073	896.9961	1843.0693	-2517.864	120.1953	0	0	0
Comb4	Combination	Min	-41.3456	-12.4073	896.9961	1740.0887	-2861.0324	-120.1953	0	0	0
Comb4-1	Combination	Max	41.358	12.4197	896.9961	1843.1207	-2517.8126	120.2575	0	0	0
Comb4-1	Combination	Min	-41.358	-12.4197	896.9961	1740.0372	-2861.0839	-120.2575	0	0	0
Comb4-2	Combination	Max	41.358	12.4197	896.9961	1843.1207	-2517.8126	120.2575	0	0	0
Comb4-2	Combination	Min	-41.358	-12.4197	896.9961	1740.0372	-2861.0839	-120.2575	0	0	0
Comb4-3	Combination	Max	41.358	12.4197	896.9961	1843.1207	-2517.8126	120.2575	0	0	0
Comb4-3	Combination	Min	-41.358	-12.4197	896.9961	1740.0372	-2861.0839	-120.2575	0	0	0
Comb4-4	Combination	Max	12.4196	41.3584	896.9961	1963.2163	-2637.907	149.4184	0	0	0
Comb4-4	Combination	Min	-12.4196	-41.3584	896.9961	1619.9417	-2740.9895	-149.4184	0	0	0
Comb4-5	Combination	Max	12.4196	41.3584	896.9961	1963.2163	-2637.907	149.4184	0	0	0
Comb4-5	Combination	Min	-12.4196	-41.3584	896.9961	1619.9417	-2740.9895	-149.4184	0	0	0
Comb4-6	Combination	Max	12.4196	41.3584	896.9961	1963.2163	-2637.907	149.4184	0	0	0

Table 5.1 - Base Reactions (continued)

Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m	X m	Y m	Z m
Comb4-6	Combination	Min	-12.4196	-41.3584	896.9961	1619.9417	-2740.9895	-149.4184	0	0	0
Comb4-7	Combination	Max	12.4196	41.3584	896.9961	1963.2163	-2637.907	149.4184	0	0	0
Comb4-7	Combination	Min	-12.4196	-41.3584	896.9961	1619.9417	-2740.9895	-149.4184	0	0	0
Comb5	Combination		0	0	767.0833	1531.5846	-2299.383	0	0	0	0

Table 5.2 - Centers Of Mass And Rigidity

Story	Diaphragm	Mass X kg	Mass Y kg	XCM m	YCM m	Cum Mass X kg	Cum Mass Y kg	XCCM m	YCCM m	XCR m	YCR m
PISO 1	D1	36322.62	36322.62	3.0046	2.0024	36322.62	36322.62	3.0046	2.0024		

Table 5.3 - Diaphragm Center Of Mass Displacements

Story	Diaphragm	Output Case	Case Type	Step Type	UX mm	UY mm	RZ rad	Point	X m	Y m	Z m
PISO 1	D1	Dead	LinStatic		1.531E-05	2.862E-05	2.49E-09	7	3.0046	2.0024	4.15
PISO 1	D1	Adicional	LinStatic		-7.056E-06	-1.508E-05	-7.54E-10	7	3.0046	2.0024	4.15
PISO 1	D1	Viva	LinStatic		-2.94E-05	-6.283E-05	-3.142E-09	7	3.0046	2.0024	4.15
PISO 1	D1	SX	LinRespSpec	Max	0.036	4.367E-06	5.655E-08	7	3.0046	2.0024	4.15
PISO 1	D1	SY	LinRespSpec	Max	4.367E-06	0.056	4.298E-08	7	3.0046	2.0024	4.15
PISO 1	D1	FHEX	LinStatic		0.036	1.447E-06	-7.944E-09	7	3.0046	2.0024	4.15
PISO 1	D1	FHEY	LinStatic		1.447E-06	0.056	1.409E-08	7	3.0046	2.0024	4.15
PISO 1	D1	Comb1	Combination		8.257E-06	1.354E-05	1.736E-09	7	3.0046	2.0024	4.15
PISO 1	D1	Comb2	Combination		1.156E-05	1.896E-05	2.43E-09	7	3.0046	2.0024	4.15
PISO 1	D1	Comb3	Combination		-3.713E-05	-8.427E-05	-2.943E-09	7	3.0046	2.0024	4.15
PISO 1	D1	Comb4	Combination	Max	0.005	0.002	8.862E-09	7	3.0046	2.0024	4.15
PISO 1	D1	Comb4	Combination	Min	-0.005	-0.002	-1.098E-08	7	3.0046	2.0024	4.15
PISO 1	D1	Comb4-1	Combination	Max	0.005	0.002	8.867E-09	7	3.0046	2.0024	4.15
PISO 1	D1	Comb4-1	Combination	Min	-0.005	-0.002	-1.098E-08	7	3.0046	2.0024	4.15
PISO 1	D1	Comb4-2	Combination	Max	0.005	0.002	8.867E-09	7	3.0046	2.0024	4.15
PISO 1	D1	Comb4-2	Combination	Min	-0.005	-0.002	-1.098E-08	7	3.0046	2.0024	4.15
PISO 1	D1	Comb4-3	Combination	Max	0.005	0.002	8.867E-09	7	3.0046	2.0024	4.15
PISO 1	D1	Comb4-3	Combination	Min	-0.005	-0.002	-1.098E-08	7	3.0046	2.0024	4.15
PISO 1	D1	Comb4-4	Combination	Max	0.002	0.008	7.509E-09	7	3.0046	2.0024	4.15
PISO 1	D1	Comb4-4	Combination	Min	-0.002	-0.008	-9.626E-09	7	3.0046	2.0024	4.15
PISO 1	D1	Comb4-5	Combination	Max	0.002	0.008	7.509E-09	7	3.0046	2.0024	4.15
PISO 1	D1	Comb4-5	Combination	Min	-0.002	-0.008	-9.626E-09	7	3.0046	2.0024	4.15
PISO 1	D1	Comb4-6	Combination	Max	0.002	0.008	7.509E-09	7	3.0046	2.0024	4.15
PISO 1	D1	Comb4-6	Combination	Min	-0.002	-0.008	-9.626E-09	7	3.0046	2.0024	4.15
PISO 1	D1	Comb4-7	Combination	Max	0.002	0.008	7.509E-09	7	3.0046	2.0024	4.15
PISO 1	D1	Comb4-7	Combination	Min	-0.002	-0.008	-9.626E-09	7	3.0046	2.0024	4.15
PISO 1	D1	Comb5	Combination		-2.114E-05	-4.929E-05	-1.406E-09	7	3.0046	2.0024	4.15

5.2 Story Results

Table 5.4 - Story Max Over Avg Displacements

Story	Output Case	Case Type	Step Type	Direction	Maximum mm	Average mm	Ratio
PISO 1	Dead	LinStatic		X	2.03E-05	1.532E-05	1.325
PISO 1	Dead	LinStatic		Y	3.608E-05	2.861E-05	1.261
PISO 1	Adicional	LinStatic		X	8.565E-06	7.057E-06	1.214
PISO 1	Adicional	LinStatic		Y	1.734E-05	1.507E-05	1.15
PISO 1	Viva	LinStatic		X	3.569E-05	2.941E-05	1.214
PISO 1	Viva	LinStatic		Y	7.224E-05	6.281E-05	1.15
PISO 1	SX	LinRespSpec	Max	X	0.036	0.036	1.001
PISO 1	SY	LinRespSpec	Max	Y	0.056	0.056	1.002
PISO 1	FHEX	LinStatic		X	0.036	0.036	1
PISO 1	FHEY	LinStatic		Y	0.056	0.056	1.001
PISO 1	Comb1	Combination		X	1.173E-05	8.261E-06	1.42
PISO 1	Comb1	Combination		Y	1.874E-05	1.353E-05	1.385
PISO 1	Comb2	Combination		X	1.643E-05	1.157E-05	1.42
PISO 1	Comb2	Combination		Y	2.624E-05	1.895E-05	1.385
PISO 1	Comb3	Combination		X	4.302E-05	3.714E-05	1.159
PISO 1	Comb3	Combination		Y	9.309E-05	8.426E-05	1.105
PISO 1	Comb4	Combination	Max	X	0.005	0.005	1.001
PISO 1	Comb4	Combination	Max	Y	0.002	0.002	1.001
PISO 1	Comb4	Combination	Min	X	0.005	0.005	1
PISO 1	Comb4	Combination	Min	Y	0.002	0.002	1.003
PISO 1	Comb4-1	Combination	Max	X	0.005	0.005	1.001
PISO 1	Comb4-1	Combination	Max	Y	0.002	0.002	1.001
PISO 1	Comb4-1	Combination	Min	X	0.005	0.005	1
PISO 1	Comb4-1	Combination	Min	Y	0.002	0.002	1.003
PISO 1	Comb4-2	Combination	Max	X	0.005	0.005	1.001
PISO 1	Comb4-2	Combination	Max	Y	0.002	0.002	1.001
PISO 1	Comb4-2	Combination	Min	X	0.005	0.005	1
PISO 1	Comb4-2	Combination	Min	Y	0.002	0.002	1.003
PISO 1	Comb4-3	Combination	Max	X	0.005	0.005	1.001
PISO 1	Comb4-3	Combination	Max	Y	0.002	0.002	1.001
PISO 1	Comb4-3	Combination	Min	X	0.005	0.005	1
PISO 1	Comb4-3	Combination	Min	Y	0.002	0.002	1.003
PISO 1	Comb4-4	Combination	Max	X	0.002	0.002	1.002
PISO 1	Comb4-4	Combination	Max	Y	0.008	0.008	1.001
PISO 1	Comb4-4	Combination	Min	X	0.002	0.002	1.001
PISO 1	Comb4-4	Combination	Min	Y	0.008	0.008	1.002
PISO 1	Comb4-5	Combination	Max	X	0.002	0.002	1.002
PISO 1	Comb4-5	Combination	Max	Y	0.008	0.008	1.001
PISO 1	Comb4-5	Combination	Min	X	0.002	0.002	1.001
PISO 1	Comb4-5	Combination	Min	Y	0.008	0.008	1.002
PISO 1	Comb4-6	Combination	Max	X	0.002	0.002	1.002
PISO 1	Comb4-6	Combination	Max	Y	0.008	0.008	1.001
PISO 1	Comb4-6	Combination	Min	X	0.002	0.002	1.001
PISO 1	Comb4-6	Combination	Min	Y	0.008	0.008	1.002

Table 5.4 - Story Max Over Avg Displacements (continued)

Story	Output Case	Case Type	Step Type	Direction	Maximum mm	Average mm	Ratio
PISO 1	Comb4-7	Combination	Max	X	0.002	0.002	1.002
PISO 1	Comb4-7	Combination	Max	Y	0.008	0.008	1.001
PISO 1	Comb4-7	Combination	Min	X	0.002	0.002	1.001
PISO 1	Comb4-7	Combination	Min	Y	0.008	0.008	1.002
PISO 1	Comb5	Combination		X	2.396E-05	2.114E-05	1.133
PISO 1	Comb5	Combination		Y	5.35E-05	4.928E-05	1.086

Table 5.5 - Story Drifts

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
PISO 1	Dead	LinStatic		X	0	2	6	0	4.15
PISO 1	Dead	LinStatic		Y	8.693E-09	6	6	4	4.15
PISO 1	Adicional	LinStatic		X	0	2	6	0	4.15
PISO 1	Adicional	LinStatic		Y	0	6	6	4	4.15
PISO 1	Viva	LinStatic		X	8.6E-09	2	6	0	4.15
PISO 1	Viva	LinStatic		Y	1.741E-08	6	6	4	4.15
PISO 1	SX	LinRespSpec	Max	X	9E-06	6	6	4	4.15
PISO 1	SY	LinRespSpec	Max	Y	1.3E-05	6	6	4	4.15
PISO 1	FHEX	LinStatic		X	9E-06	6	6	4	4.15
PISO 1	FHEY	LinStatic		Y	1.3E-05	6	6	4	4.15
PISO 1	Comb1	Combination		X	0	2	6	0	4.15
PISO 1	Comb1	Combination		Y	0	6	6	4	4.15
PISO 1	Comb2	Combination		X	0	2	6	0	4.15
PISO 1	Comb2	Combination		Y	6.322E-09	6	6	4	4.15
PISO 1	Comb3	Combination		X	1.037E-08	2	6	0	4.15
PISO 1	Comb3	Combination		Y	2.243E-08	6	6	4	4.15
PISO 1	Comb4	Combination	Max	X	1E-06	6	6	4	4.15
PISO 1	Comb4	Combination	Max	Y	1E-06	6	6	4	4.15
PISO 1	Comb4	Combination	Min	X	1E-06	6	6	4	4.15
PISO 1	Comb4	Combination	Min	Y	1E-06	6	6	4	4.15
PISO 1	Comb4-1	Combination	Max	X	1E-06	6	6	4	4.15
PISO 1	Comb4-1	Combination	Max	Y	1E-06	6	6	4	4.15
PISO 1	Comb4-1	Combination	Min	X	1E-06	6	6	4	4.15
PISO 1	Comb4-1	Combination	Min	Y	1E-06	6	6	4	4.15
PISO 1	Comb4-2	Combination	Max	X	1E-06	6	6	4	4.15
PISO 1	Comb4-2	Combination	Max	Y	1E-06	6	6	4	4.15
PISO 1	Comb4-2	Combination	Min	X	1E-06	6	6	4	4.15
PISO 1	Comb4-2	Combination	Min	Y	1E-06	6	6	4	4.15
PISO 1	Comb4-3	Combination	Max	X	1E-06	6	6	4	4.15
PISO 1	Comb4-3	Combination	Max	Y	1E-06	6	6	4	4.15
PISO 1	Comb4-3	Combination	Min	X	1E-06	6	6	4	4.15
PISO 1	Comb4-3	Combination	Min	Y	1E-06	6	6	4	4.15
PISO 1	Comb4-4	Combination	Max	X	3.735E-07	6	6	4	4.15
PISO 1	Comb4-4	Combination	Max	Y	2E-06	6	6	4	4.15
PISO 1	Comb4-4	Combination	Min	X	3.827E-07	2	6	0	4.15

Table 5.5 - Story Drifts (continued)

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
PISO 1	Comb4-4	Combination	Min	Y	2E-06	6	6	4	4.15
PISO 1	Comb4-5	Combination	Max	X	3.735E-07	6	6	4	4.15
PISO 1	Comb4-5	Combination	Max	Y	2E-06	6	6	4	4.15
PISO 1	Comb4-5	Combination	Min	X	3.827E-07	2	6	0	4.15
PISO 1	Comb4-5	Combination	Min	Y	2E-06	6	6	4	4.15
PISO 1	Comb4-6	Combination	Max	X	3.735E-07	6	6	4	4.15
PISO 1	Comb4-6	Combination	Max	Y	2E-06	6	6	4	4.15
PISO 1	Comb4-6	Combination	Min	X	3.827E-07	2	6	0	4.15
PISO 1	Comb4-6	Combination	Min	Y	2E-06	6	6	4	4.15
PISO 1	Comb4-7	Combination	Max	X	3.735E-07	6	6	4	4.15
PISO 1	Comb4-7	Combination	Max	Y	2E-06	6	6	4	4.15
PISO 1	Comb4-7	Combination	Min	X	3.827E-07	2	6	0	4.15
PISO 1	Comb4-7	Combination	Min	Y	2E-06	6	6	4	4.15
PISO 1	Comb5	Combination		X	5.772E-09	2	6	0	4.15
PISO 1	Comb5	Combination		Y	1.289E-08	6	6	4	4.15

Table 5.6 - Story Max Over Avg Drifts

Story	Output Case	Case Type	Step Type	Direction	Max Drift mm	Avg Drift mm	Ratio
PISO 1	Dead	LinStatic		X	2.03E-05	1.532E-05	1.325
PISO 1	Dead	LinStatic		Y	3.608E-05	2.861E-05	1.261
PISO 1	Adicional	LinStatic		X	8.565E-06	7.057E-06	1.214
PISO 1	Adicional	LinStatic		Y	1.734E-05	1.507E-05	1.15
PISO 1	Viva	LinStatic		X	3.569E-05	2.941E-05	1.214
PISO 1	Viva	LinStatic		Y	7.224E-05	6.281E-05	1.15
PISO 1	SX	LinRespSpec	Max	X	0.036	0.036	1.001
PISO 1	SY	LinRespSpec	Max	Y	0.056	0.056	1.002
PISO 1	FHEX	LinStatic		X	0.036	0.036	1
PISO 1	FHEY	LinStatic		Y	0.056	0.056	1.001
PISO 1	Comb1	Combination		X	1.173E-05	8.261E-06	1.42
PISO 1	Comb1	Combination		Y	1.874E-05	1.353E-05	1.385
PISO 1	Comb2	Combination		X	1.643E-05	1.157E-05	1.42
PISO 1	Comb2	Combination		Y	2.624E-05	1.895E-05	1.385
PISO 1	Comb3	Combination		X	4.302E-05	3.714E-05	1.159
PISO 1	Comb3	Combination		Y	9.309E-05	8.426E-05	1.105
PISO 1	Comb4	Combination	Max	X	0.005	0.005	1.001
PISO 1	Comb4	Combination	Max	Y	0.002	0.002	1.001
PISO 1	Comb4	Combination	Min	X	0.005	0.005	1
PISO 1	Comb4	Combination	Min	Y	0.002	0.002	1.003
PISO 1	Comb4-1	Combination	Max	X	0.005	0.005	1.001
PISO 1	Comb4-1	Combination	Max	Y	0.002	0.002	1.001
PISO 1	Comb4-1	Combination	Min	X	0.005	0.005	1
PISO 1	Comb4-1	Combination	Min	Y	0.002	0.002	1.003
PISO 1	Comb4-2	Combination	Max	X	0.005	0.005	1.001
PISO 1	Comb4-2	Combination	Max	Y	0.002	0.002	1.001

Table 5.6 - Story Max Over Avg Drifts (continued)

Story	Output Case	Case Type	Step Type	Direction	Max Drift mm	Avg Drift mm	Ratio
PISO 1	Comb4-2	Combination	Min	X	0.005	0.005	1
PISO 1	Comb4-2	Combination	Min	Y	0.002	0.002	1.003
PISO 1	Comb4-3	Combination	Max	X	0.005	0.005	1.001
PISO 1	Comb4-3	Combination	Max	Y	0.002	0.002	1.001
PISO 1	Comb4-3	Combination	Min	X	0.005	0.005	1
PISO 1	Comb4-3	Combination	Min	Y	0.002	0.002	1.003
PISO 1	Comb4-4	Combination	Max	X	0.002	0.002	1.002
PISO 1	Comb4-4	Combination	Max	Y	0.008	0.008	1.001
PISO 1	Comb4-4	Combination	Min	X	0.002	0.002	1.001
PISO 1	Comb4-4	Combination	Min	Y	0.008	0.008	1.002
PISO 1	Comb4-5	Combination	Max	X	0.002	0.002	1.002
PISO 1	Comb4-5	Combination	Max	Y	0.008	0.008	1.001
PISO 1	Comb4-5	Combination	Min	X	0.002	0.002	1.001
PISO 1	Comb4-5	Combination	Min	Y	0.008	0.008	1.002
PISO 1	Comb4-6	Combination	Max	X	0.002	0.002	1.002
PISO 1	Comb4-6	Combination	Max	Y	0.008	0.008	1.001
PISO 1	Comb4-6	Combination	Min	X	0.002	0.002	1.001
PISO 1	Comb4-6	Combination	Min	Y	0.008	0.008	1.002
PISO 1	Comb4-7	Combination	Max	X	0.002	0.002	1.002
PISO 1	Comb4-7	Combination	Max	Y	0.008	0.008	1.001
PISO 1	Comb4-7	Combination	Min	X	0.002	0.002	1.001
PISO 1	Comb4-7	Combination	Min	Y	0.008	0.008	1.002
PISO 1	Comb5	Combination		X	2.396E-05	2.114E-05	1.133
PISO 1	Comb5	Combination		Y	5.35E-05	4.928E-05	1.086

Table 5.7 - Story Forces

Story	Output Case	Case Type	Step Type	Location	P kN	VX kN	VY kN	T kN-m	MX kN-m	MY kN-m
PISO 1	Dead	LinStatic		Top	34.6378	0	0	0	70.9415	-106.3875
PISO 1	Dead	LinStatic		Bottom	621.3595	0	0	0	1244.3849	-1866.5527
PISO 1	Adicional	LinStatic		Top	28.2046	0	0	0	55.587	-83.7736
PISO 1	Adicional	LinStatic		Bottom	28.2046	0	0	0	55.587	-83.7736
PISO 1	Viva	LinStatic		Top	117.5192	0	0	0	231.6126	-349.0567
PISO 1	Viva	LinStatic		Bottom	117.5192	0	0	0	231.6126	-349.0567
PISO 1	SX	LinRespSpec	Max	Top	0	289.4111	0.0269	579.9107	0	0
PISO 1	SX	LinRespSpec	Max	Bottom	0	289.4111	0.0269	579.9107	0.1118	1201.0559
PISO 1	SY	LinRespSpec	Max	Top	0	0.0269	289.4137	871.5205	0	0
PISO 1	SY	LinRespSpec	Max	Bottom	0	0.0269	289.4137	871.5205	1201.067	0.1118
PISO 1	FHEX	LinStatic		Top	0	-289.4151	0	579.5158	0	0
PISO 1	FHEX	LinStatic		Bottom	0	-289.4151	0	579.5158	0	-1201.0729
PISO 1	FHEY	LinStatic		Top	0	0	-289.4151	-869.573	0	0
PISO 1	FHEY	LinStatic		Bottom	0	0	-289.4151	-869.573	1201.0729	0
PISO 1	Comb1	Combination		Top	62.8424	0	0	0	126.5285	-190.1611
PISO 1	Comb1	Combination		Bottom	649.5641	0	0	0	1299.972	-1950.3263
PISO 1	Comb2	Combination		Top	87.9794	0	0	0	177.1399	-266.2255

Table 5.7 - Story Forces (continued)

Story	Output Case	Case Type	Step Type	Location	P kN	VX kN	VY kN	T kN-m	MX kN-m	MY kN-m
PISO 1	Comb2	Combination		Bottom	909.3898	0	0	0	1819.9608	-2730.4568
PISO 1	Comb3	Combination		Top	263.4416	0	0	0	522.4144	-786.684
PISO 1	Comb3	Combination		Bottom	967.5077	0	0	0	1930.5466	-2898.8823
PISO 1	Comb4	Combination	Max	Top	192.9301	41.3456	12.4073	120.1953	383.4468	-577.25
PISO 1	Comb4	Combination	Max	Bottom	896.9961	41.3456	12.4073	120.1953	1843.0693	-2517.864
PISO 1	Comb4	Combination	Min	Top	192.9301	-41.3456	-12.4073	-120.1953	383.4468	-577.25
PISO 1	Comb4	Combination	Min	Bottom	896.9961	-41.3456	-12.4073	-120.1953	1740.0887	-2861.0324
PISO 1	Comb4-1	Combination	Max	Top	192.9301	41.358	12.4197	120.2575	383.4468	-577.25
PISO 1	Comb4-1	Combination	Max	Bottom	896.9961	41.358	12.4197	120.2575	1843.1207	-2517.8126
PISO 1	Comb4-1	Combination	Min	Top	192.9301	-41.358	-12.4197	-120.2575	383.4468	-577.25
PISO 1	Comb4-1	Combination	Min	Bottom	896.9961	-41.358	-12.4197	-120.2575	1740.0372	-2861.0839
PISO 1	Comb4-2	Combination	Max	Top	192.9301	41.358	12.4197	120.2575	383.4468	-577.25
PISO 1	Comb4-2	Combination	Max	Bottom	896.9961	41.358	12.4197	120.2575	1843.1207	-2517.8126
PISO 1	Comb4-2	Combination	Min	Top	192.9301	-41.358	-12.4197	-120.2575	383.4468	-577.25
PISO 1	Comb4-2	Combination	Min	Bottom	896.9961	-41.358	-12.4197	-120.2575	1740.0372	-2861.0839
PISO 1	Comb4-3	Combination	Max	Top	192.9301	41.358	12.4197	120.2575	383.4468	-577.25
PISO 1	Comb4-3	Combination	Max	Bottom	896.9961	41.358	12.4197	120.2575	1843.1207	-2517.8126
PISO 1	Comb4-3	Combination	Min	Top	192.9301	-41.358	-12.4197	-120.2575	383.4468	-577.25
PISO 1	Comb4-3	Combination	Min	Bottom	896.9961	-41.358	-12.4197	-120.2575	1740.0372	-2861.0839
PISO 1	Comb4-4	Combination	Max	Top	192.9301	12.4196	41.3584	149.4184	383.4468	-577.25
PISO 1	Comb4-4	Combination	Max	Bottom	896.9961	12.4196	41.3584	149.4184	1963.2163	-2637.907
PISO 1	Comb4-4	Combination	Min	Top	192.9301	-12.4196	-41.3584	-149.4184	383.4468	-577.25
PISO 1	Comb4-4	Combination	Min	Bottom	896.9961	-12.4196	-41.3584	-149.4184	1619.9417	-2740.9895
PISO 1	Comb4-5	Combination	Max	Top	192.9301	12.4196	41.3584	149.4184	383.4468	-577.25
PISO 1	Comb4-5	Combination	Max	Bottom	896.9961	12.4196	41.3584	149.4184	1963.2163	-2637.907
PISO 1	Comb4-5	Combination	Min	Top	192.9301	-12.4196	-41.3584	-149.4184	383.4468	-577.25
PISO 1	Comb4-5	Combination	Min	Bottom	896.9961	-12.4196	-41.3584	-149.4184	1619.9417	-2740.9895
PISO 1	Comb4-6	Combination	Max	Top	192.9301	12.4196	41.3584	149.4184	383.4468	-577.25
PISO 1	Comb4-6	Combination	Max	Bottom	896.9961	12.4196	41.3584	149.4184	1963.2163	-2637.907
PISO 1	Comb4-6	Combination	Min	Top	192.9301	-12.4196	-41.3584	-149.4184	383.4468	-577.25
PISO 1	Comb4-6	Combination	Min	Bottom	896.9961	-12.4196	-41.3584	-149.4184	1619.9417	-2740.9895
PISO 1	Comb4-7	Combination	Max	Top	192.9301	12.4196	41.3584	149.4184	383.4468	-577.25
PISO 1	Comb4-7	Combination	Max	Bottom	896.9961	12.4196	41.3584	149.4184	1963.2163	-2637.907
PISO 1	Comb4-7	Combination	Min	Top	192.9301	-12.4196	-41.3584	-149.4184	383.4468	-577.25
PISO 1	Comb4-7	Combination	Min	Bottom	896.9961	-12.4196	-41.3584	-149.4184	1619.9417	-2740.9895
PISO 1	Comb5	Combination		Top	180.3616	0	0	0	358.1411	-539.2178
PISO 1	Comb5	Combination		Bottom	767.0833	0	0	0	1531.5846	-2299.383

5.3 Point Results

Table 5.8 - Joint Reactions

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	1	2	Dead	LinStatic		8.7062	7.2425	154.9596	-1.2165	4.3861	-2.357E-06
CIMENTACION	1	2	Adicional	LinStatic		2.015	1.013	7.2151	-1.0329	3.1784	1.193E-05
CIMENTACION	1	2	Viva	LinStatic		8.3959	4.2207	30.0629	-4.3037	13.2433	4.969E-05

Table 5.8 - Joint Reactions (continued)

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	1	2	SX	LinRespSpec	Max	72.2985	7.035	91.5568	0.3214	25.6211	0.1016
CIMENTACION	1	2	SY	LinRespSpec	Max	9.3453	72.2133	135.4879	29.1842	1.5981	0.1554
CIMENTACION	1	2	FHEX	LinStatic		-72.3178	-7.0198	-91.5608	0.3052	-25.6266	0.1016
CIMENTACION	1	2	FHEY	LinStatic		-9.2298	-72.3051	-135.5138	29.2176	-1.5645	-0.1557
CIMENTACION	1	2	Comb1	Combination		10.7212	8.2555	162.1747	-2.2494	7.5645	9.568E-06
CIMENTACION	1	2	Comb2	Combination		15.0097	11.5577	227.0445	-3.1491	10.5904	1.34E-05
CIMENTACION	1	2	Comb3	Combination		26.2989	16.6598	242.7103	-9.5851	30.2668	0.0001
CIMENTACION	1	2	Comb4	Combination	Max	31.9902	18.2272	243.5587	-5.7063	26.0494	0.0212
CIMENTACION	1	2	Comb4	Combination	Min	10.5325	10.0275	205.7863	-8.2996	18.5921	-0.0211
CIMENTACION	1	2	Comb4-1	Combination	Max	31.9937	18.2306	243.5684	-5.705	26.0506	0.0212
CIMENTACION	1	2	Comb4-1	Combination	Min	10.529	10.0241	205.7766	-8.3009	18.591	-0.0211
CIMENTACION	1	2	Comb4-2	Combination	Max	31.9937	18.2306	243.5684	-5.705	26.0506	0.0212
CIMENTACION	1	2	Comb4-2	Combination	Min	10.529	10.0241	205.7766	-8.3009	18.591	-0.0211
CIMENTACION	1	2	Comb4-3	Combination	Max	31.9937	18.2306	243.5684	-5.705	26.0506	0.0212
CIMENTACION	1	2	Comb4-3	Combination	Min	10.529	10.0241	205.7766	-8.3009	18.591	-0.0211
CIMENTACION	1	2	Comb4-4	Combination	Max	25.6984	24.7484	247.9615	-2.8187	23.6483	0.0266
CIMENTACION	1	2	Comb4-4	Combination	Min	16.8243	3.5062	201.3835	-11.1871	20.9933	-0.0265
CIMENTACION	1	2	Comb4-5	Combination	Max	25.6984	24.7484	247.9615	-2.8187	23.6483	0.0266
CIMENTACION	1	2	Comb4-5	Combination	Min	16.8243	3.5062	201.3835	-11.1871	20.9933	-0.0265
CIMENTACION	1	2	Comb4-6	Combination	Max	25.6984	24.7484	247.9615	-2.8187	23.6483	0.0266
CIMENTACION	1	2	Comb4-6	Combination	Min	16.8243	3.5062	201.3835	-11.1871	20.9933	-0.0265
CIMENTACION	1	2	Comb4-7	Combination	Max	25.6984	24.7484	247.9615	-2.8187	23.6483	0.0266
CIMENTACION	1	2	Comb4-7	Combination	Min	16.8243	3.5062	201.3835	-11.1871	20.9933	-0.0265
CIMENTACION	1	2	Comb5	Combination		19.1171	12.4762	192.2376	-6.5531	20.8079	0.0001
CIMENTACION	2	3	Dead	LinStatic		-8.7717	7.3755	155.3152	-1.2897	-4.4486	0.0002
CIMENTACION	2	3	Adicional	LinStatic		-1.9896	0.9705	7.0891	-1.0183	-3.1687	-0.0001
CIMENTACION	2	3	Viva	LinStatic		-8.2902	4.0439	29.538	-4.2429	-13.2028	-0.0003
CIMENTACION	2	3	SX	LinRespSpec	Max	72.3	7.0378	91.5694	0.3172	25.6222	0.1016
CIMENTACION	2	3	SY	LinRespSpec	Max	8.9588	72.5225	135.5786	29.2887	1.4524	0.1564
CIMENTACION	2	3	FHEX	LinStatic		-72.3182	7.0143	91.5576	-0.2977	-25.6276	0.1016
CIMENTACION	2	3	FHEY	LinStatic		9.0723	-72.4313	-135.5541	29.2556	1.4851	0.1561
CIMENTACION	2	3	Comb1	Combination		-10.7613	8.346	162.4043	-2.308	-7.6173	0.0001
CIMENTACION	2	3	Comb2	Combination		-15.0659	11.6844	227.3661	-3.2312	-10.6642	0.0001
CIMENTACION	2	3	Comb3	Combination		-26.1779	16.4854	242.1461	-9.5582	-30.2652	-0.0004
CIMENTACION	2	3	Comb4	Combination	Max	-10.4913	18.1726	243.3151	-5.7119	-18.621	0.021
CIMENTACION	2	3	Comb4	Combination	Min	-31.9163	9.9456	205.5314	-8.313	-26.0661	-0.0214
CIMENTACION	2	3	Comb4-1	Combination	Max	-10.4878	18.176	243.3248	-5.7106	-18.6198	0.021
CIMENTACION	2	3	Comb4-1	Combination	Min	-31.9198	9.9422	205.5217	-8.3143	-26.0673	-0.0214
CIMENTACION	2	3	Comb4-2	Combination	Max	-10.4878	18.176	243.3248	-5.7106	-18.6198	0.021
CIMENTACION	2	3	Comb4-2	Combination	Min	-31.9198	9.9422	205.5217	-8.3143	-26.0673	-0.0214
CIMENTACION	2	3	Comb4-3	Combination	Max	-10.4878	18.176	243.3248	-5.7106	-18.6198	0.021
CIMENTACION	2	3	Comb4-3	Combination	Min	-31.9198	9.9422	205.5217	-8.3143	-26.0673	-0.0214
CIMENTACION	2	3	Comb4-4	Combination	Max	-16.8219	24.7245	247.7258	-2.8135	-21.0368	0.0265
CIMENTACION	2	3	Comb4-4	Combination	Min	-25.5857	3.3937	201.1207	-11.2114	-23.6503	-0.0269
CIMENTACION	2	3	Comb4-5	Combination	Max	-16.8219	24.7245	247.7258	-2.8135	-21.0368	0.0265

Table 5.8 - Joint Reactions (continued)

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	2	3	Comb4-5	Combination	Min	-25.5857	3.3937	201.1207	-11.2114	-23.6503	-0.0269
CIMENTACION	2	3	Comb4-6	Combination	Max	-16.8219	24.7245	247.7258	-2.8135	-21.0368	0.0265
CIMENTACION	2	3	Comb4-6	Combination	Min	-25.5857	3.3937	201.1207	-11.2114	-23.6503	-0.0269
CIMENTACION	2	3	Comb4-7	Combination	Max	-16.8219	24.7245	247.7258	-2.8135	-21.0368	0.0265
CIMENTACION	2	3	Comb4-7	Combination	Min	-25.5857	3.3937	201.1207	-11.2114	-23.6503	-0.0269
CIMENTACION	2	3	Comb5	Combination		-19.0515	12.3899	191.9424	-6.5509	-20.8201	-0.0002
CIMENTACION	5	6	Dead	LinStatic		8.913	-7.2862	155.3483	1.2355	4.5402	-0.0001
CIMENTACION	5	6	Adicional	LinStatic		1.9237	-0.9961	7.0197	1.0258	3.0946	0.0001
CIMENTACION	5	6	Viva	LinStatic		8.0155	-4.1503	29.2487	4.2743	12.8944	0.0002
CIMENTACION	5	6	SX	LinRespSpec	Max	72.4324	6.9464	91.5401	0.2923	25.6715	0.1019
CIMENTACION	5	6	SY	LinRespSpec	Max	9.3262	72.1935	135.472	29.1364	1.5866	0.1554
CIMENTACION	5	6	FHEX	LinStatic		-72.4141	6.9532	-91.5385	-0.2825	-25.6664	-0.1019
CIMENTACION	5	6	FHEY	LinStatic		9.2195	-72.2861	135.5088	29.1698	1.5561	-0.1557
CIMENTACION	5	6	Comb1	Combination		10.8367	-8.2823	162.368	2.2613	7.6348	-3.682E-05
CIMENTACION	5	6	Comb2	Combination		15.1714	-11.5952	227.3152	3.1658	10.6887	-0.0001
CIMENTACION	5	6	Comb3	Combination		25.8289	-16.5791	241.6395	9.5524	29.7928	0.0003
CIMENTACION	5	6	Comb4	Combination	Max	31.7668	-10.0026	242.9734	8.2783	25.7915	0.0214
CIMENTACION	5	6	Comb4	Combination	Min	10.2724	-18.1753	205.2072	5.6974	18.3208	-0.021
CIMENTACION	5	6	Comb4-1	Combination	Max	31.7703	-9.9992	242.9831	8.2796	25.7927	0.0214
CIMENTACION	5	6	Comb4-1	Combination	Min	10.2689	-18.1787	205.1975	5.6961	18.3196	-0.0211
CIMENTACION	5	6	Comb4-2	Combination	Max	31.7703	-9.9992	242.9831	8.2796	25.7927	0.0214
CIMENTACION	5	6	Comb4-2	Combination	Min	10.2689	-18.1787	205.1975	5.6961	18.3196	-0.0211
CIMENTACION	5	6	Comb4-3	Combination	Max	31.7703	-9.9992	242.9831	8.2796	25.7927	0.0214
CIMENTACION	5	6	Comb4-3	Combination	Min	10.2689	-18.1787	205.1975	5.6961	18.3196	-0.0211
CIMENTACION	5	6	Comb4-4	Combination	Max	25.4596	-3.4745	247.3763	11.164	23.3842	0.0267
CIMENTACION	5	6	Comb4-4	Combination	Min	16.5795	-24.7034	200.8043	2.8117	20.7281	-0.0264
CIMENTACION	5	6	Comb4-5	Combination	Max	25.4596	-3.4745	247.3763	11.164	23.3842	0.0267
CIMENTACION	5	6	Comb4-5	Combination	Min	16.5795	-24.7034	200.8043	2.8117	20.7281	-0.0264
CIMENTACION	5	6	Comb4-6	Combination	Max	25.4596	-3.4745	247.3763	11.164	23.3842	0.0267
CIMENTACION	5	6	Comb4-6	Combination	Min	16.5795	-24.7034	200.8043	2.8117	20.7281	-0.0264
CIMENTACION	5	6	Comb4-7	Combination	Max	25.4596	-3.4745	247.3763	11.164	23.3842	0.0267
CIMENTACION	5	6	Comb4-7	Combination	Min	16.5795	-24.7034	200.8043	2.8117	20.7281	-0.0264
CIMENTACION	5	6	Comb5	Combination		18.8522	-12.4325	191.6167	6.5356	20.5292	0.0002
CIMENTACION	6	9	Dead	LinStatic		-8.8475	-7.3318	155.7364	1.3168	-4.7208	0.0001
CIMENTACION	6	9	Adicional	LinStatic		-1.9491	-0.9874	6.8807	1.0108	-3.059	-3.309E-05
CIMENTACION	6	9	Viva	LinStatic		-8.1212	-4.1143	28.6696	4.2118	-12.7459	-0.0001
CIMENTACION	6	9	SX	LinRespSpec	Max	72.3825	6.9324	91.5275	0.2695	25.5609	0.1019
CIMENTACION	6	9	SY	LinRespSpec	Max	8.9571	72.4848	135.5946	29.1917	1.4175	0.1563
CIMENTACION	6	9	FHEX	LinStatic		-72.3652	-6.9477	91.5417	0.2623	-25.5559	-0.1019
CIMENTACION	6	9	FHEY	LinStatic		-9.0621	-72.3927	135.559	29.1586	-1.4471	0.1561
CIMENTACION	6	9	Comb1	Combination		-10.7966	-8.3193	162.6171	2.3276	-7.7799	3.917E-05
CIMENTACION	6	9	Comb2	Combination		-15.1152	-11.647	227.6639	3.2587	-10.8918	0.0001
CIMENTACION	6	9	Comb3	Combination		-25.9499	-16.566	241.0118	9.5321	-29.7292	-0.0002
CIMENTACION	6	9	Comb4	Combination	Max	-10.3529	-10.0006	242.6966	8.2946	-18.3694	0.0212
CIMENTACION	6	9	Comb4	Combination	Min	-31.8014	-18.1943	204.9235	5.7154	-25.794	-0.0214

Table 5.8 - Joint Reactions (continued)

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	6	9	Comb4-1	Combination	Max	-10.3494	-9.9972	242.7064	8.2958	-18.3682	0.0212
CIMENTACION	6	9	Comb4-1	Combination	Min	-31.8048	-18.1977	204.9138	5.7141	-25.7952	-0.0214
CIMENTACION	6	9	Comb4-2	Combination	Max	-10.3494	-9.9972	242.7064	8.2958	-18.3682	0.0212
CIMENTACION	6	9	Comb4-2	Combination	Min	-31.8048	-18.1977	204.9138	5.7141	-25.7952	-0.0214
CIMENTACION	6	9	Comb4-3	Combination	Max	-10.3494	-9.9972	242.7064	8.2958	-18.3682	0.0212
CIMENTACION	6	9	Comb4-3	Combination	Min	-31.8048	-18.1977	204.9138	5.7141	-25.7952	-0.0214
CIMENTACION	6	9	Comb4-4	Combination	Max	-16.692	-3.442	247.1131	11.188	-20.7826	0.0266
CIMENTACION	6	9	Comb4-4	Combination	Min	-25.4623	-24.7529	200.5071	2.8219	-23.3808	-0.0268
CIMENTACION	6	9	Comb4-5	Combination	Max	-16.692	-3.442	247.1131	11.188	-20.7826	0.0266
CIMENTACION	6	9	Comb4-5	Combination	Min	-25.4623	-24.7529	200.5071	2.8219	-23.3808	-0.0268
CIMENTACION	6	9	Comb4-6	Combination	Max	-16.692	-3.442	247.1131	11.188	-20.7826	0.0266
CIMENTACION	6	9	Comb4-6	Combination	Min	-25.4623	-24.7529	200.5071	2.8219	-23.3808	-0.0268
CIMENTACION	6	9	Comb4-7	Combination	Max	-16.692	-3.442	247.1131	11.188	-20.7826	0.0266
CIMENTACION	6	9	Comb4-7	Combination	Min	-25.4623	-24.7529	200.5071	2.8219	-23.3808	-0.0268
CIMENTACION	6	9	Comb5	Combination		-18.9178	-12.4336	191.2867	6.5395	-20.5257	-0.0001

5.4 Modal Results

Table 5.9 - Modal Periods And Frequencies

Case	Mode	Period sec	Frequency cyc/sec	CircFreq rad/sec	Eigenvalue rad2/sec2
Modal	1	0.017	60.296	378.8488	143526.4059
Modal	2	0.013	74.622	468.8635	219832.9898
Modal	3	0.013	75.291	473.0692	223794.4905

Table 5.10 - Modal Participating Mass Ratios (Part 1 of 2)

Case	Mode	Period sec	UX	UY	UZ	SumUX	SumUY	SumUZ	RX	RY	RZ
Modal	1	0.017	0	1	0	0	1	0	1	0	9.121E-06
Modal	2	0.013	0.9982	0	0	0.9982	1	0	0	0.9982	0.0018
Modal	3	0.013	0.0018	5.825E-06	0	1	1	0	5.825E-06	0.0018	0.9982

Table 5.10 - Modal Participating Mass Ratios (Part 2 of 2)

SumRX	SumRY	SumRZ
1	0	9.121E-06
1	0.9982	0.0018
1	1	1

Table 5.11 - Modal Load Participation Ratios

Case	ItemType	Item	Static %	Dynamic %
Modal	Acceleration	UX	100	100
Modal	Acceleration	UY	100	100
Modal	Acceleration	UZ	0	0

Table 5.12 - Modal Direction Factors

Case	Mode	Period sec	UX	UY	UZ	RZ
Modal	1	0.017	0	1	0	0
Modal	2	0.013	0.998	0	0	0.002
Modal	3	0.013	0.002	0	0	0.998

6 Design Data

This chapter provides design data and results.

6.1 Concrete Frame Design

Table 6.1 - Concrete Beam Overwrites - ACI 318-19 (Part 1 of 2)

Story	Label	Unique Name	Design Type	Design Section	Frame Type	LLRF	Unbraced Length Ratio (Major)	Unbraced Length Ratio (Minor)
PISO 1	B1	1	Beam	Program Determined	Program Determined	0	0	0
PISO 1	B2	2	Beam	Program Determined	Program Determined	0	0	0
PISO 1	B3	3	Beam	Program Determined	Program Determined	0	0	0
PISO 1	B4	13	Beam	Program Determined	Program Determined	0	0	0
PISO 1	B5	15	Beam	Program Determined	Program Determined	0	0	0
PISO 1	B18	18	Beam	Program Determined	Program Determined	0	0	0

Table 6.1 - Concrete Beam Overwrites - ACI 318-19 (Part 2 of 2)

Consider Torsion?	Ignore Beneficial Pu for Beam Design?
Program Determined	Program Determined
Program Determined	Program Determined
Program Determined	Program Determined
Program Determined	Program Determined
Program Determined	Program Determined
Program Determined	Program Determined

Table 6.2 - Concrete Beam Flexure Envelope - ACI 318-19

Story	Label	UniqueName	Section	Location	(-) Moment kN-m	(-) Combo	As Top mm2	(+) Moment kN-m	(+) Combo	As Bot mm2
PISO 1	B1	1	VIGUETA	End-I	-0.0044	Comb3	200	0	Comb3	0
PISO 1	B1	1	VIGUETA	Middle	-0.0269	Comb2	200	0.0215	Comb3	200
PISO 1	B1	1	VIGUETA	End-J	-0.0667	Comb3	200	0	Comb3	0
PISO 1	B2	2	VIGUETA	End-I	-0.0289	Comb3	200	0.0192	Comb3	200
PISO 1	B2	2	VIGUETA	Middle	-0.0256	Comb2	200	0.0268	Comb3	200
PISO 1	B2	2	VIGUETA	End-J	-0.1477	Comb3	200	0	Comb3	0
PISO 1	B3	3	VIGUETA	End-I	-0.0395	Comb3	200	0.0241	Comb3	200
PISO 1	B3	3	VIGUETA	Middle	-0.0244	Comb2	200	0.0316	Comb3	200
PISO 1	B3	3	VIGUETA	End-J	-0.1779	Comb3	200	0	Comb3	0
PISO 1	B4	13	VIGUETA	End-I	-0.0072	Comb2	200	0.0894	Comb3	200
PISO 1	B4	13	VIGUETA	Middle	0	Comb3	0	0.1045	Comb3	200
PISO 1	B4	13	VIGUETA	End-J	-0.204	Comb3	200	0.0091	Comb3	200
PISO 1	B5	15	VIGUETA	End-I	-0.0109	Comb2	200	0.0452	Comb3	200
PISO 1	B5	15	VIGUETA	Middle	-0.0018	Comb2	200	0.0737	Comb3	200
PISO 1	B5	15	VIGUETA	End-J	-0.0842	Comb3	200	0.0125	Comb3	200
PISO 1	B18	18	VIGUETA	End-I	0	Comb3	0	0	Comb3	0

Table 6.2 - Concrete Beam Flexure Envelope - ACI 318-19 (continued)

Story	Label	UniqueName	Section	Location	(-) Moment kN-m	(-) Combo	As Top mm2	(+) Moment kN-m	(+) Combo	As Bot mm2
PISO 1	B18	18	VIGUETA	Middle	-0.0056	Comb2	200	0.0715	Comb3	200
PISO 1	B18	18	VIGUETA	End-J	0	Comb3	0	0	Comb3	0

Table 6.3 - Concrete Beam Shear Envelope - ACI 318-19 (Part 1 of 2)

Story	Label	UniqueName	Section	Location	V kN	V Combo	At mm2/m	T for At kN-m	T for At Combo	At Torsion mm2/m	T for As kN-m
PISO 1	B1	1	VIGUETA	End-I	0.5477	Comb3	0	0.0223	Comb3	0	0.0223
PISO 1	B1	1	VIGUETA	Middle	0.4414	Comb3	0	0.0227	Comb3	0	0.0227
PISO 1	B1	1	VIGUETA	End-J	0.3614	Comb3	0	0.0141	Comb3	0	0.0141
PISO 1	B2	2	VIGUETA	End-I	0.6033	Comb3	0	0.0115	Comb3	0	0.0115
PISO 1	B2	2	VIGUETA	Middle	0.3854	Comb3	0	0.0118	Comb3	0	0.0118
PISO 1	B2	2	VIGUETA	End-J	0.1995	Comb3	0	0.0077	Comb3	0	0.0077
PISO 1	B3	3	VIGUETA	End-I	0.6231	Comb3	0	0.0003	Comb3	0	0.0003
PISO 1	B3	3	VIGUETA	Middle	0.3638	Comb3	0	0.0013	Comb3	0	0.0013
PISO 1	B3	3	VIGUETA	End-J	0.1389	Comb3	0	0.0006	Comb3	0	0.0006
PISO 1	B4	13	VIGUETA	End-I	0.4797	Comb3	0	0.0121	Comb3	0	0.0121
PISO 1	B4	13	VIGUETA	Middle	0.3977	Comb3	0	0.0224	Comb3	0	0.0224
PISO 1	B4	13	VIGUETA	End-J	0.0778	Comb3	0	0.0025	Comb3	0	0.0025
PISO 1	B5	15	VIGUETA	End-I	0.4588	Comb3	0	0.0214	Comb3	0	0.0214
PISO 1	B5	15	VIGUETA	Middle	0.4041	Comb3	0	0.0137	Comb3	0	0.0137
PISO 1	B5	15	VIGUETA	End-J	0.3198	Comb3	0	0.0212	Comb3	0	0.0212
PISO 1	B18	18	VIGUETA	End-I	0.7313	Comb3	0	0.0286	Comb3	0	0.0286
PISO 1	B18	18	VIGUETA	Middle	0.3518	Comb3	0	0.0033	Comb3	0	0.0033
PISO 1	B18	18	VIGUETA	End-J	0.6379	Comb3	0	0.0033	Comb3	0	0.0033

Table 6.3 - Concrete Beam Shear Envelope - ACI 318-19 (Part 2 of 2)

T for As Combo	As Torsion mm2
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0

Table 6.3 - Concrete Beam Shear Envelope - ACI 318-19 (Part 2 of 2, continued)

T for As Combo	As Torsion mm2
Comb3	0
Comb3	0
Comb3	0

Table 6.4 - Concrete Beam Design Summary - ACI 318-19 (Part 1 of 3)

Story	Label	UniqueName	DesignSect	Station mm	Status	AsTopCombo	AsMinTop mm2	AsTop mm2
PISO 1	B1	1	VIGUETA	0	No Message	Comb3	0	0
PISO 1	B1	1	VIGUETA	500	No Message	Comb3	200	200
PISO 1	B1	1	VIGUETA	500	No Message	Comb3	200	200
PISO 1	B1	1	VIGUETA	1000	No Message	Comb2	200	200
PISO 1	B1	1	VIGUETA	1000	No Message	Comb2	200	200
PISO 1	B1	1	VIGUETA	1500	No Message	Comb2	200	200
PISO 1	B1	1	VIGUETA	1500	No Message	Comb2	200	200
PISO 1	B1	1	VIGUETA	2000	No Message	Comb2	200	200
PISO 1	B1	1	VIGUETA	2000	No Message	Comb2	200	200
PISO 1	B1	1	VIGUETA	2500	No Message	Comb2	200	200
PISO 1	B1	1	VIGUETA	2500	No Message	Comb2	200	200
PISO 1	B1	1	VIGUETA	3000	No Message	Comb2	200	200
PISO 1	B1	1	VIGUETA	3000	No Message	Comb2	200	200
PISO 1	B1	1	VIGUETA	3500	No Message	Comb3	200	200
PISO 1	B1	1	VIGUETA	3500	No Message	Comb3	200	200
PISO 1	B1	1	VIGUETA	4000	No Message	Comb3	0	0
PISO 1	B2	2	VIGUETA	0	No Message	Comb3	0	0
PISO 1	B2	2	VIGUETA	500	No Message	Comb3	200	200
PISO 1	B2	2	VIGUETA	500	No Message	Comb3	200	200
PISO 1	B2	2	VIGUETA	1000	No Message	Comb2	200	200
PISO 1	B2	2	VIGUETA	1000	No Message	Comb2	200	200
PISO 1	B2	2	VIGUETA	1500	No Message	Comb3	0	0
PISO 1	B2	2	VIGUETA	1500	No Message	Comb3	0	0
PISO 1	B2	2	VIGUETA	2000	No Message	Comb3	0	0
PISO 1	B2	2	VIGUETA	2000	No Message	Comb3	0	0
PISO 1	B2	2	VIGUETA	2500	No Message	Comb3	0	0
PISO 1	B2	2	VIGUETA	2500	No Message	Comb3	0	0
PISO 1	B2	2	VIGUETA	3000	No Message	Comb2	200	200
PISO 1	B2	2	VIGUETA	3000	No Message	Comb2	200	200
PISO 1	B2	2	VIGUETA	3500	No Message	Comb3	200	200
PISO 1	B2	2	VIGUETA	3500	No Message	Comb3	200	200
PISO 1	B2	2	VIGUETA	4000	No Message	Comb3	0	0
PISO 1	B3	3	VIGUETA	0	No Message	Comb3	0	0
PISO 1	B3	3	VIGUETA	500	No Message	Comb3	200	200
PISO 1	B3	3	VIGUETA	500	No Message	Comb3	200	200
PISO 1	B3	3	VIGUETA	1000	No Message	Comb2	200	200
PISO 1	B3	3	VIGUETA	1000	No Message	Comb2	200	200

Table 6.4 - Concrete Beam Design Summary - ACI 318-19 (Part 1 of 3, continued)

Story	Label	UniqueName	DesignSect	Station mm	Status	AsTopCombo	AsMinTop mm2	AsTop mm2
PISO 1	B3	3	VIGUETA	1500	No Message	Comb3	0	0
PISO 1	B3	3	VIGUETA	1500	No Message	Comb3	0	0
PISO 1	B3	3	VIGUETA	2000	No Message	Comb3	0	0
PISO 1	B3	3	VIGUETA	2000	No Message	Comb3	0	0
PISO 1	B3	3	VIGUETA	2500	No Message	Comb3	0	0
PISO 1	B3	3	VIGUETA	2500	No Message	Comb3	0	0
PISO 1	B3	3	VIGUETA	3000	No Message	Comb2	200	200
PISO 1	B3	3	VIGUETA	3000	No Message	Comb2	200	200
PISO 1	B3	3	VIGUETA	3500	No Message	Comb3	200	200
PISO 1	B3	3	VIGUETA	3500	No Message	Comb3	200	200
PISO 1	B3	3	VIGUETA	4000	No Message	Comb3	0	0
PISO 1	B4	13	VIGUETA	0	No Message	Comb3	0	0
PISO 1	B4	13	VIGUETA	430	No Message	Comb3	200	200
PISO 1	B4	13	VIGUETA	430	No Message	Comb3	200	200
PISO 1	B4	13	VIGUETA	860	No Message	Comb2	200	200
PISO 1	B4	13	VIGUETA	860	No Message	Comb2	200	200
PISO 1	B4	13	VIGUETA	1290	No Message	Comb3	0	0
PISO 1	B4	13	VIGUETA	1290	No Message	Comb3	0	0
PISO 1	B4	13	VIGUETA	1720	No Message	Comb3	0	0
PISO 1	B4	13	VIGUETA	1720	No Message	Comb3	0	0
PISO 1	B4	13	VIGUETA	2150	No Message	Comb3	0	0
PISO 1	B4	13	VIGUETA	2150	No Message	Comb3	0	0
PISO 1	B4	13	VIGUETA	2580	No Message	Comb3	0	0
PISO 1	B4	13	VIGUETA	2580	No Message	Comb3	0	0
PISO 1	B4	13	VIGUETA	3010	No Message	Comb3	0	0
PISO 1	B4	13	VIGUETA	3010	No Message	Comb3	0	0
PISO 1	B4	13	VIGUETA	3505	No Message	Comb2	200	200
PISO 1	B4	13	VIGUETA	3505	No Message	Comb3	200	200
PISO 1	B4	13	VIGUETA	4000	No Message	Comb3	0	0
PISO 1	B5	15	VIGUETA	0	No Message	Comb3	0	0
PISO 1	B5	15	VIGUETA	430	No Message	Comb3	200	200
PISO 1	B5	15	VIGUETA	430	No Message	Comb3	200	200
PISO 1	B5	15	VIGUETA	860	No Message	Comb2	200	200
PISO 1	B5	15	VIGUETA	860	No Message	Comb2	200	200
PISO 1	B5	15	VIGUETA	1290	No Message	Comb2	200	200
PISO 1	B5	15	VIGUETA	1290	No Message	Comb2	200	200
PISO 1	B5	15	VIGUETA	1720	No Message	Comb3	0	0
PISO 1	B5	15	VIGUETA	1720	No Message	Comb3	0	0
PISO 1	B5	15	VIGUETA	2150	No Message	Comb3	0	0
PISO 1	B5	15	VIGUETA	2150	No Message	Comb3	0	0
PISO 1	B5	15	VIGUETA	2580	No Message	Comb3	0	0
PISO 1	B5	15	VIGUETA	2580	No Message	Comb3	0	0
PISO 1	B5	15	VIGUETA	3010	No Message	Comb3	0	0
PISO 1	B5	15	VIGUETA	3010	No Message	Comb2	200	200
PISO 1	B5	15	VIGUETA	3505	No Message	Comb2	200	200

Table 6.4 - Concrete Beam Design Summary - ACI 318-19 (Part 1 of 3, continued)

Story	Label	UniqueName	DesignSect	Station mm	Status	AsTopCombo	AsMinTop mm2	AsTop mm2
PISO 1	B5	15	VIGUETA	3505	No Message	Comb3	200	200
PISO 1	B5	15	VIGUETA	4000	No Message	Comb3	0	0
PISO 1	B18	18	VIGUETA	0	No Message	Comb3	0	0
PISO 1	B18	18	VIGUETA	500	No Message	Comb3	0	0
PISO 1	B18	18	VIGUETA	500	No Message	Comb2	200	200
PISO 1	B18	18	VIGUETA	1000	No Message	Comb3	0	0

Table 6.4 - Concrete Beam Design Summary - ACI 318-19 (Part 2 of 3)

AsBotCombo	AsMinBot mm2	AsBot mm2	VCombo	VRebar mm2/m	TLngCombo	TLngRebar mm2	TTrnCombo	TTrnRebar mm2/m
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0

Table 6.4 - Concrete Beam Design Summary - ACI 318-19 (Part 2 of 3, continued)

AsBotCombo	AsMinBot mm2	AsBot mm2	VCombo	VRebar mm2/m	TLngCombo	TLngRebar mm2	TTrnCombo	TTrnRebar mm2/m
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0

Table 6.4 - Concrete Beam Design Summary - ACI 318-19 (Part 2 of 3, continued)

AsBotCombo	AsMinBot mm2	AsBot mm2	VCombo	VRebar mm2/m	TLngCombo	TLngRebar mm2	TTrnCombo	TTrnRebar mm2/m
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0

Table 6.4 - Concrete Beam Design Summary - ACI 318-19 (Part 3 of 3)

ErrMsg
No Message
No Message
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No Message
No Message
No Message
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Table 6.4 - Concrete Beam Design Summary - ACI 318-19 (Part 3 of 3, continued)

ErrMsg
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Table 6.4 - Concrete Beam Design Summary - ACI 318-19 (Part 3 of 3, continued)

ErrMsg
No Message
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No Message
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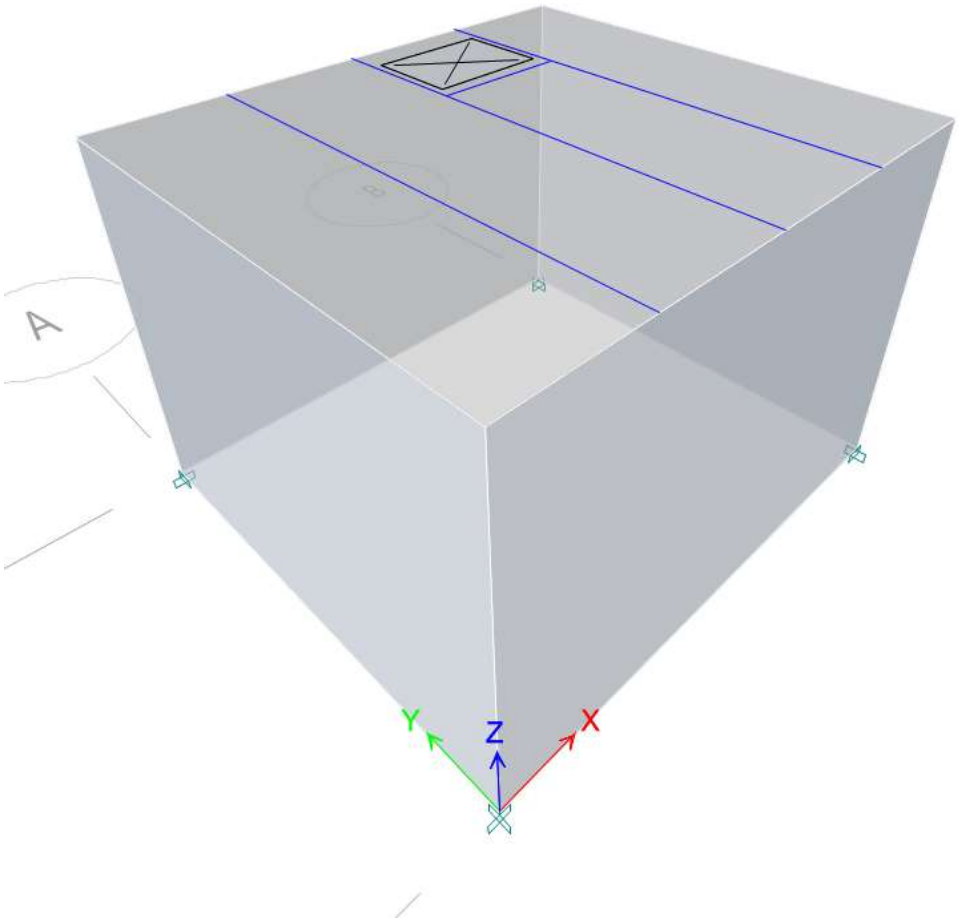
No Message
No Message

ETABS®



Project Report

TANQUE 2

Model File: TANQUE 2, Revision 0

04/05/2023

1 Structure Data

This chapter provides model geometry information, including items such as story levels, point coordinates, and element connectivity.

1.1 Story Data

Table 1.1 - Story Definitions

Tower	Name	Height m	Master Story	Similar To	Splice Story	Color
T1	PISO 1	2.1	No	None	No	Gray8Dark

1.2 Grid Data

Table 1.2 - Grid Definitions - General

Tower	Name	Type	Ux m	Uy m	Rz deg	Story Range	Bubble Size mm	Color
T1	G1	Cartesian	0	0	0	Default	1250	Gray6

Table 1.3 - Grid Definitions - Grid Lines

Name	Grid Line Type	ID	Ordinate m	Bubble Location	Visible
G1	X (Cartesian)	A	0	End	Yes
G1	X (Cartesian)	B	3	End	Yes
G1	Y (Cartesian)	1	0	Start	Yes
G1	Y (Cartesian)	2	2.7	Start	Yes

1.3 Point Coordinates

Table 1.4 - Point Bays

Label	Is Auto Point	X m	Y m	DZBelow m
1	No	0	0	0
3	Yes	1.5033	1.3535	0
4	No	0	2.7	0
14	No	3	0	0
21	No	3	2.7	0
22	No	0.75	0	0
23	No	0.75	2.7	0
24	No	1.5	0	0
27	No	1.5	2.7	0
28	No	2.25	0	0
29	No	2.25	2.7	0
30	No	1.55	1.995	0
31	No	2.205	1.995	0
32	No	2.205	2.5	0
33	No	1.55	2.5	0
36	No	1.5	1.905	0
37	No	2.25	1.905	0

Table 1.5 - Point Object Connectivity

UniqueName	Is Auto Point	Story	PointBay	IsSpecial	X m	Y m	Z m
4	No	PISO 1	1	No	0	0	2.1
9	No	PISO 1	14	No	3	0	2.1
3	No	PISO 1	4	No	0	2.7	2.1
8	No	PISO 1	21	No	3	2.7	2.1
10	No	PISO 1	22	No	0.75	0	2.1
11	No	PISO 1	23	No	0.75	2.7	2.1
12	No	PISO 1	24	No	1.5	0	2.1
13	No	PISO 1	27	No	1.5	2.7	2.1
14	No	PISO 1	28	No	2.25	0	2.1
15	No	PISO 1	29	No	2.25	2.7	2.1
16	No	PISO 1	30	No	1.55	1.995	2.1
17	No	PISO 1	31	No	2.205	1.995	2.1
18	No	PISO 1	32	No	2.205	2.5	2.1
19	No	PISO 1	33	No	1.55	2.5	2.1
22	No	PISO 1	36	No	1.5	1.905	2.1
23	No	PISO 1	37	No	2.25	1.905	2.1
7	Yes	PISO 1	3	Yes	1.5033	1.3535	2.1
1	No	CIMENTACION	1	No	0	0	0
5	No	CIMENTACION	14	No	3	0	0
2	No	CIMENTACION	4	No	0	2.7	0
6	No	CIMENTACION	21	No	3	2.7	0

1.4 Line Connectivity

Table 1.6 - Beam Bays

Label	PointBayI	PointBayJ
B6	22	23
B7	24	27
B8	28	29
B15	36	37

1.5 Area Connectivity

Table 1.7 - Floor Bays

Label	NumPoints	PointNumber	PointBay
F2	4	1	1
F2		2	14
F2		3	21
F2		4	4

Table 1.8 - Wall Bays

Label	NumPoints	PointNumber	PointBay	PointStory
W5	4	1	1	Below
W5		2	4	Below
W5		3	4	Same
W5		4	1	Same

Table 1.8 - Wall Bays (continued)

Label	NumPoints	PointNumber	PointBay	PointStory
W6	4	1	14	Below
W6		2	21	Below
W6		3	21	Same
W6		4	14	Same
W7	4	1	1	Below
W7		2	14	Below
W7		3	14	Same
W7		4	1	Same
W8	4	1	4	Below
W8		2	21	Below
W8		3	21	Same
W8		4	4	Same

Table 1.9 - Null Area Bays

Label	NumPoints	PointNumber	PointBay	PointStory
A2	4	1	30	Same
A2		2	31	Same
A2		3	32	Same
A2		4	33	Same

1.6 Mass

Table 1.10 - Mass Source Definition

Name	Is Default	Include Lateral Mass?	Include Vertical Mass?	Lump Mass?	Source Self Mass?	Source Added Mass?	Source Load Patterns?	Move Mass Centroid?	Load Pattern	Multiplier
MsSrc1	Yes	Yes	No	Yes	No	No	Yes	No	Peso Propio	1
MsSrc1									Adicional	1

Table 1.11 - Centers Of Mass And Rigidity

Story	Diaphragm	Mass X kg	Mass Y kg	XCM m	YCM m	Cum Mass X kg	Cum Mass Y kg	XCCM m	YCCM m	XCR m	YCR m
PISO 1	D1	9629.49	9629.49	1.5033	1.3535	9629.49	9629.49	1.5033	1.3535		

Table 1.12 - Mass Summary by Diaphragm

Story	Diaphragm	Mass X kg	Mass Y kg	Mass Moment of Inertia ton-m2	X Mass Center m	Y Mass Center m
PISO 1	D1	9629.49	9629.49	33.7042	1.5033	1.3535

Table 1.13 - Mass Summary by Story

Story	UX kg	UY kg	UZ kg
PISO 1	9629.49	9629.49	0
CIMENTACION	7190.29	7190.29	0

Table 1.14 - Mass Summary by Group

Group	Self Mass kg	Self Weight kN	Mass X kg	Mass Y kg	Mass Z kg
All	0	155.6226	16819.78	16819.78	0

1.7 Groups

Table 1.15 - Group Definitions

Name	Color	Steel Design?	Concrete Design?	Composite Design?
All	Yellow	No	No	No

2 Properties

This chapter provides property information for materials, frame sections, shell sections, and links.

2.1 Materials

Table 2.1 - Material Properties - General

Material	Type	SymType	Grade	Color	Notes
3000Psi	Concrete	Isotropic	f'c 3000 psi	Yellow	
4000Psi	Concrete	Isotropic	f'c 4000 psi	Gray8Dark	
A416Gr270	Tendon	Uniaxial	Grade 270	Green	
A572Gr50	Steel	Isotropic	Grade 50	White	
A615Gr60	Rebar	Uniaxial	Grade 60	Blue	
A992Fy50	Steel	Isotropic	Grade 50	Yellow	

2.2 Frame Sections

Table 2.2 - Frame Section Property Definitions - Summary (Part 1 of 3)

Name	Material	Shape	Color	Area cm2	J cm4	I33 cm4	I22 cm4	As2 cm2	As3 cm2	S33Pos cm3
VIGA	4000Psi	Concrete Rectangular	Magenta	1050	152551.3	107187.5	78750	875	875	6125
VIGUETA	4000Psi	Concrete Rectangular	Cyan	700	60031.9	71458.3	23333.3	583.3	583.3	4083.3

Table 2.2 - Frame Section Property Definitions - Summary (Part 2 of 3)

S33Neg cm3	S22Pos cm3	S22Neg cm3	Z33 cm3	Z22 cm3	R33 mm	R22 mm	CG Offset 3 mm	CG Offset 2 mm	PNA Offset 3 mm	PNA Offset 2 mm	Area Modifier	As2 Modifier
6125	5250	5250	9187.5	7875	101	86.6	0	0	0	0	1	1
4083.3	2333.3	2333.3	6125	3500	101	57.7	0	0	0	0	1	1

Table 2.2 - Frame Section Property Definitions - Summary (Part 3 of 3)

J Modifier	I33 Modifier	I22 Modifier	Mass Modifier	Weight Modifier
1	1	1	1	1
1	1	1	1	1

2.3 Shell Sections

Table 2.3 - Area Section Property Definitions - Summary

Name	Type	Element Type	Material	Total Thickness mm	Deck Material	Deck Depth mm
LAMINA COLABORANTE	Deck	Membrane	3000Psi	100	A572Gr50	45
LOSA	Slab	Shell-Thin	4000Psi	150		
MURO	Wall	Shell-Thin	4000Psi	250		

2.4 Reinforcement Sizes

Table 2.4 - Reinforcing Bar Sizes

Name	Diameter mm	Area cm2
#2	6.4	0.3
#3	9.5	0.7
#4	12.7	1.3
#5	15.9	2
#6	19.1	2.8
#7	22.2	3.9
#8	25.4	5.1
#9	28.7	6.5
#10	32.3	8.2
#11	35.8	10.1
#14	43	14.5
#18	57.3	25.8

2.5 Links

Table 2.5 - Link Property Definitions - Summary

Name	Type	Degrees of Freedom	Mass kg	Weight kN	Defined Length m	Defined Area m2
Link1	Linear	U1	0	0	1	1

2.6 Spring Properties

Table 2.6 - Spring Property Definitions - Isolated Column Footings

Name	Length mm	Width mm	Thickness mm	Embedment Source	Color	Notes
ZAPATA	1000	1000	350	Program Determined	Red	

2.7 Tendon Sections

Table 2.7 - Tendon Section Properties

Name	Material	StrandArea cm2	Color	Notes
Tendon1	A416Gr270	1	Yellow	

3 Assignments

This chapter provides a listing of the assignments applied to the model.

3.1 Joint Assignments

Table 3.1 - Joint Assignments - Summary

Story	Label	UniqueName	Diaphragm	Restraints
PISO 1	1	4	From Area	
PISO 1	14	9	From Area	
PISO 1	4	3	From Area	
PISO 1	21	8	From Area	
PISO 1	22	10	From Area	
PISO 1	23	11	From Area	
PISO 1	24	12	From Area	
PISO 1	27	13	From Area	
PISO 1	28	14	From Area	
PISO 1	29	15	From Area	
PISO 1	30	16	From Area	
PISO 1	31	17	From Area	
PISO 1	32	18	From Area	
PISO 1	33	19	From Area	
PISO 1	36	22	From Area	
PISO 1	37	23	From Area	
PISO 1	3	7	D1	
CIMENTACION	1	1	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	14	5	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	4	2	From Area	UX; UY; UZ; RX; RY; RZ
CIMENTACION	21	6	From Area	UX; UY; UZ; RX; RY; RZ

3.2 Frame Assignments

Table 3.2 - Frame Assignments - Summary

Story	Label	UniqueName	Design Type	Length m	Analysis Section	Design Section	Max Station Spacing m	Releases
PISO 1	B6	1	Beam	2.7	VIGUETA	VIGUETA	0.5	Yes
PISO 1	B7	5	Beam	2.7	VIGUETA	VIGUETA	0.5	Yes
PISO 1	B8	7	Beam	2.7	VIGUETA	VIGUETA	0.5	Yes
PISO 1	B15	10	Beam	0.75	VIGUETA	VIGUETA	0.5	Yes

3.3 Shell Assignments

Table 3.3 - Area Assignments - Summary

Story	Label	UniqueName	Section Property	Property Type	Diaphragm
PISO 1	F2	5	LOSA	Slab	D1
PISO 1	W5	1	MURO	Wall	
PISO 1	W6	2	MURO	Wall	
PISO 1	W7	3	MURO	Wall	

Table 3.3 - Area Assignments - Summary (continued)

Story	Label	UniqueName	Section Property	Property Type	Diaphragm
PISO 1	W8	4	MURO	Wall	
PISO 1	A2	6	None	Opening	

4 Loads

This chapter provides loading information as applied to the model.

4.1 Load Patterns

Table 4.1 - Load Pattern Definitions

Name	Is Auto Load	Type	Self Weight Multiplier	Auto Load
~LLRF	Yes	Other	0	
Adicional	No	Super Dead	0	
FHEX	No	Seismic	0	User Coefficient
FHEY	No	Seismic	0	User Coefficient
Peso Propio	No	Dead	1	
SX	No	Seismic	0	User Loads
SY	No	Seismic	0	User Loads
Viva	No	Live	0	

4.2 Auto Seismic Loading

User Loads Auto Seismic Load Calculation

This calculation presents the user defined lateral seismic loads for load pattern SX.

Lateral Forces

User Loads Auto Seismic Load Calculation

This calculation presents the user defined lateral seismic loads for load pattern SY.

Lateral Forces

User Coefficient Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern FHEX using the user input coefficients, as calculated by ETABS.

Direction and Eccentricity

Direction = X

Factors and Coefficients

Equivalent Lateral Forces

Base Shear Coefficient, C $C = 0.8125$

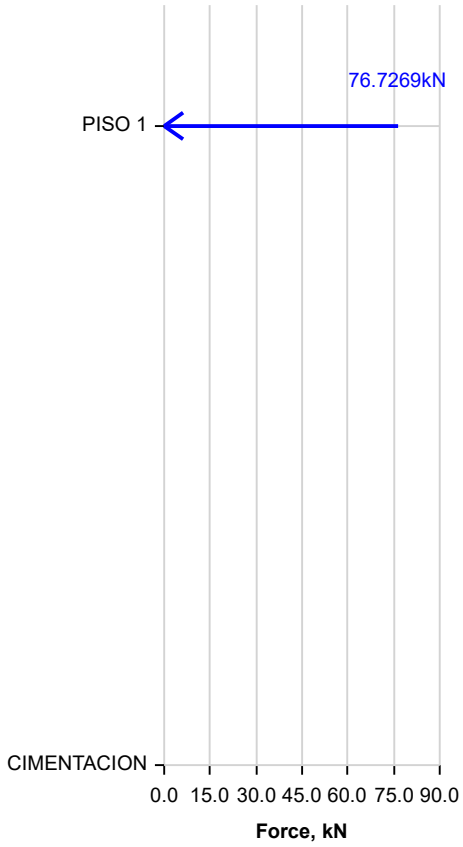
Base Shear, V $V = CW$

Calculated Base Shear

Direction	Period Used (sec)	C	W (kN)	V (kN)
X	0	0	94.4331	76.7269

Applied Story Forces

Lateral Load to Stories - X



Story	Elevation	X-Dir	Y-Dir
	m	kN	kN
PISO 1	2.1	76.7269	0
CIMENTACION	0	0	0

User Coefficient Auto Seismic Load Calculation

This calculation presents the automatically generated lateral seismic loads for load pattern FHEY using the user input coefficients, as calculated by ETABS.

Direction and Eccentricity

Direction = Y

Factors and Coefficients

Equivalent Lateral Forces

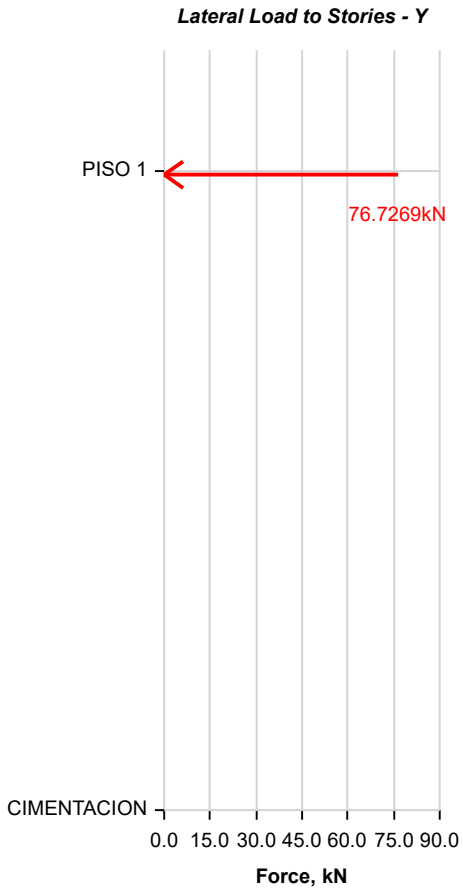
Base Shear Coefficient, C $C = 0.8125$

Base Shear, V $V = CW$

Calculated Base Shear

Direction	Period Used (sec)	C	W (kN)	V (kN)
Y	0	0	94.4331	76.7269

Applied Story Forces



Story	Elevation	X-Dir	Y-Dir
	m	kN	kN
PISO 1	2.1	0	76.7269
CIMENTACION	0	0	0

4.3 Applied Loads

4.3.1 Area Loads

Table 4.6 - Area Load Assignments - Uniform

Story	Label	UniqueName	Load Pattern	Direction	Load kN/m2
PISO 1	F2	5	Viva	Gravity	5
PISO 1	F2	5	Adicional	Gravity	1.2

4.4 Functions

4.4.1 Response Spectrum Functions

Table 4.7 - Functions - Response Spectrum - Columbia NSR-10

Name	Period sec	Value	Aa	Av	Ae	Ad	Group of Use	Fa	Fv	Damping Ratio
NSR-10	0	0.8125	0.25	0.2	0.08	0.05	1	1.3	2	0.05
NSR-10	0.1	0.8125								
NSR-10	0.2	0.8125								
NSR-10	0.3	0.8125								
NSR-10	0.4	0.8125								
NSR-10	0.5	0.8125								
NSR-10	0.6	0.8								
NSR-10	0.7	0.685714								
NSR-10	0.8	0.6								
NSR-10	0.9	0.533333								
NSR-10	1	0.48								
NSR-10	1.2	0.4								
NSR-10	1.5	0.32								
NSR-10	1.7	0.282353								
NSR-10	2	0.24								
NSR-10	2.5	0.192								
NSR-10	3	0.16								
NSR-10	3.5	0.137143								
NSR-10	4	0.12								
NSR-10	5	0.09216								
NSR-10	8	0.036								
NSR-10	11	0.019041								
NSR-10	15	0.01024								

4.5 Load Cases

Table 4.8 - Load Case Definitions - Summary

Name	Type
Dead	Linear Static
Adicional	Linear Static
Viva	Linear Static
Modal	Modal - Eigen
SX	Response Spectrum

Table 4.8 - Load Case Definitions - Summary (continued)

Name	Type
SY	Response Spectrum
FHEX	Linear Static
FHEY	Linear Static

4.6 Load Combinations

Table 4.9 - Load Combination Definitions

Name	Type	Is Auto	Load Name	SF	Notes
Comb1	Linear Add	No	Dead	1	
Comb1			Adicional	1	
Comb2	Linear Add	No	Comb1	1.4	
Comb3	Linear Add	No	Comb1	1.2	
Comb3			Viva	1.6	
Comb4	Linear Add	No	Comb1	1.2	
Comb4			SX	0.142857	
Comb4			SY	0.042857	
Comb4			Viva	1	
Comb4-1	Linear Add	No	Comb1	1.2	
Comb4-1			SX	0.1429	
Comb4-1			SY	-0.0429	
Comb4-1			Viva	1	
Comb4-2	Linear Add	No	Comb1	1.2	
Comb4-2			SX	-0.1429	
Comb4-2			SY	-0.0429	
Comb4-2			Viva	1	
Comb4-3	Linear Add	No	Comb1	1.2	
Comb4-3			SX	-0.1429	
Comb4-3			SY	0.0429	
Comb4-3			Viva	1	
Comb4-4	Linear Add	No	Comb1	1.2	
Comb4-4			SX	0.0429	
Comb4-4			SY	0.1429	
Comb4-4			Viva	1	
Comb4-5	Linear Add	No	Comb1	1.2	
Comb4-5			SX	-0.0429	
Comb4-5			SY	0.1429	
Comb4-5			Viva	1	
Comb4-6	Linear Add	No	Comb1	1.2	
Comb4-6			SX	-0.0429	
Comb4-6			SY	-0.1429	
Comb4-6			Viva	1	
Comb4-7	Linear Add	No	Comb1	1.2	
Comb4-7			SX	0.0429	
Comb4-7			SY	-0.1429	
Comb4-7			Viva	1	
Comb5	Linear Add	No	Comb1	1	

Table 4.9 - Load Combination Definitions (continued)

Name	Type	Is Auto	Load Name	SF	Notes
Comb5			Viva	1	

5 Analysis Results

This chapter provides analysis results.

5.1 Structure Results

Table 5.1 - Base Reactions

Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m	X m	Y m	Z m
Dead	LinStatic		0	0	155.6226	210.7771	-233.8979	0	0	0	0
Adicional	LinStatic		0	0	9.3231	12.2299	-13.8348	0	0	0	0
Viva	LinStatic		0	0	38.8461	50.9579	-57.6448	0	0	0	0
SX	LinRespSpec	Max	76.7241	0.0126	0	0.0265	161.1207	104.5112	0	0	0
SY	LinRespSpec	Max	0.0126	76.7257	0	161.1239	0.0265	115.8274	0	0	0
FHEX	LinStatic		-76.7269	0	0	0	-161.1264	103.8497	0	0	0
FHEY	LinStatic		0	-76.7269	0	161.1264	0	-115.3455	0	0	0
Comb1	Combination		0	0	164.9457	223.007	-247.7326	0	0	0	0
Comb2	Combination		0	0	230.924	312.2098	-346.8257	0	0	0	0
Comb3	Combination		0	0	260.0886	349.1411	-389.5109	0	0	0	0
Comb4	Combination	Max	10.9611	3.29	236.781	325.4754	-331.9056	19.8942	0	0	0
Comb4	Combination	Min	-10.9611	-3.29	236.781	311.6573	-377.9424	-19.8942	0	0	0
Comb4-1	Combination	Max	10.9644	3.2933	236.781	325.4824	-331.8987	19.9036	0	0	0
Comb4-1	Combination	Min	-10.9644	-3.2933	236.781	311.6504	-377.9493	-19.9036	0	0	0
Comb4-2	Combination	Max	10.9644	3.2933	236.781	325.4824	-331.8987	19.9036	0	0	0
Comb4-2	Combination	Min	-10.9644	-3.2933	236.781	311.6504	-377.9493	-19.9036	0	0	0
Comb4-3	Combination	Max	10.9644	3.2933	236.781	325.4824	-331.8987	19.9036	0	0	0
Comb4-3	Combination	Min	-10.9644	-3.2933	236.781	311.6504	-377.9493	-19.9036	0	0	0
Comb4-4	Combination	Max	3.2933	10.9646	236.781	341.5921	-348.0081	21.0353	0	0	0
Comb4-4	Combination	Min	-3.2933	-10.9646	236.781	295.5406	-361.8399	-21.0353	0	0	0
Comb4-5	Combination	Max	3.2933	10.9646	236.781	341.5921	-348.0081	21.0353	0	0	0
Comb4-5	Combination	Min	-3.2933	-10.9646	236.781	295.5406	-361.8399	-21.0353	0	0	0
Comb4-6	Combination	Max	3.2933	10.9646	236.781	341.5921	-348.0081	21.0353	0	0	0
Comb4-6	Combination	Min	-3.2933	-10.9646	236.781	295.5406	-361.8399	-21.0353	0	0	0
Comb4-7	Combination	Max	3.2933	10.9646	236.781	341.5921	-348.0081	21.0353	0	0	0
Comb4-7	Combination	Min	-3.2933	-10.9646	236.781	295.5406	-361.8399	-21.0353	0	0	0
Comb5	Combination		0	0	203.7918	273.9649	-305.3775	0	0	0	0

Table 5.2 - Centers Of Mass And Rigidity

Story	Diaphragm	Mass X kg	Mass Y kg	XCM m	YCM m	Cum Mass X kg	Cum Mass Y kg	XCCM m	YCCM m	XCR m	YCR m
PISO 1	D1	9629.49	9629.49	1.5033	1.3535	9629.49	9629.49	1.5033	1.3535		

Table 5.3 - Diaphragm Center Of Mass Displacements

Story	Diaphragm	Output Case	Case Type	Step Type	UX mm	UY mm	RZ rad	Point	X m	Y m	Z m
PISO 1	D1	Dead	LinStatic		4.637E-06	1.13E-05	9.385E-10	7	1.5033	1.3535	2.1
PISO 1	D1	Adicional	LinStatic		-3.764E-06	-1.06E-05	-3.969E-11	7	1.5033	1.3535	2.1
PISO 1	D1	Viva	LinStatic		-1.568E-05	-4.419E-05	-1.654E-10	7	1.5033	1.3535	2.1

Table 5.3 - Diaphragm Center Of Mass Displacements (continued)

Story	Diaphragm	Output Case	Case Type	Step Type	UX mm	UY mm	RZ rad	Point	X m	Y m	Z m
PISO 1	D1	SX	LinRespSpec	Max	0.011	1.945E-06	4.511E-08	7	1.5033	1.3535	2.1
PISO 1	D1	SY	LinRespSpec	Max	1.945E-06	0.012	3.194E-08	7	1.5033	1.3535	2.1
PISO 1	D1	FHEX	LinStatic		0.011	3.865E-07	-9.744E-09	7	1.5033	1.3535	2.1
PISO 1	D1	FHEY	LinStatic		3.865E-07	0.012	8.717E-09	7	1.5033	1.3535	2.1
PISO 1	D1	Comb1	Combination		8.726E-07	6.986E-07	8.988E-10	7	1.5033	1.3535	2.1
PISO 1	D1	Comb2	Combination		1.222E-06	9.781E-07	1.258E-09	7	1.5033	1.3535	2.1
PISO 1	D1	Comb3	Combination		-2.405E-05	-6.986E-05	8.139E-10	7	1.5033	1.3535	2.1
PISO 1	D1	Comb4	Combination	Max	0.002	0.0004831	8.727E-09	7	1.5033	1.3535	2.1
PISO 1	D1	Comb4	Combination	Min	-0.002	-0.001	-6.901E-09	7	1.5033	1.3535	2.1
PISO 1	D1	Comb4-1	Combination	Max	0.002	0.0004836	8.73E-09	7	1.5033	1.3535	2.1
PISO 1	D1	Comb4-1	Combination	Min	-0.002	-0.001	-6.904E-09	7	1.5033	1.3535	2.1
PISO 1	D1	Comb4-2	Combination	Max	0.002	0.0004836	8.73E-09	7	1.5033	1.3535	2.1
PISO 1	D1	Comb4-2	Combination	Min	-0.002	-0.001	-6.904E-09	7	1.5033	1.3535	2.1
PISO 1	D1	Comb4-3	Combination	Max	0.002	0.0004836	8.73E-09	7	1.5033	1.3535	2.1
PISO 1	D1	Comb4-3	Combination	Min	-0.002	-0.001	-6.904E-09	7	1.5033	1.3535	2.1
PISO 1	D1	Comb4-4	Combination	Max	0.0004594	0.002	7.413E-09	7	1.5033	1.3535	2.1
PISO 1	D1	Comb4-4	Combination	Min	-0.0004887	-0.002	-5.587E-09	7	1.5033	1.3535	2.1
PISO 1	D1	Comb4-5	Combination	Max	0.0004594	0.002	7.413E-09	7	1.5033	1.3535	2.1
PISO 1	D1	Comb4-5	Combination	Min	-0.0004887	-0.002	-5.587E-09	7	1.5033	1.3535	2.1
PISO 1	D1	Comb4-6	Combination	Max	0.0004594	0.002	7.413E-09	7	1.5033	1.3535	2.1
PISO 1	D1	Comb4-6	Combination	Min	-0.0004887	-0.002	-5.587E-09	7	1.5033	1.3535	2.1
PISO 1	D1	Comb4-7	Combination	Max	0.0004594	0.002	7.413E-09	7	1.5033	1.3535	2.1
PISO 1	D1	Comb4-7	Combination	Min	-0.0004887	-0.002	-5.587E-09	7	1.5033	1.3535	2.1
PISO 1	D1	Comb5	Combination		-1.481E-05	-4.349E-05	7.334E-10	7	1.5033	1.3535	2.1

5.2 Story Results

Table 5.4 - Story Max Over Avg Displacements

Story	Output Case	Case Type	Step Type	Direction	Maximum mm	Average mm	Ratio
PISO 1	Dead	LinStatic		X	5.907E-06	4.64E-06	1.273
PISO 1	Dead	LinStatic		Y	1.271E-05	1.13E-05	1.125
PISO 1	Adicional	LinStatic		X	3.818E-06	3.764E-06	1.014
PISO 1	Adicional	LinStatic		Y	1.066E-05	1.06E-05	1.006
PISO 1	Viva	LinStatic		X	1.591E-05	1.568E-05	1.014
PISO 1	Viva	LinStatic		Y	4.443E-05	4.418E-05	1.006
PISO 1	SX	LinRespSpec	Max	X	0.011	0.011	1.004
PISO 1	SY	LinRespSpec	Max	Y	0.012	0.012	1.003
PISO 1	FHEX	LinStatic		X	0.011	0.011	1.001
PISO 1	FHEY	LinStatic		Y	0.012	0.012	1.001
PISO 1	Comb1	Combination		X	2.089E-06	8.758E-07	2.385
PISO 1	Comb1	Combination		Y	2.044E-06	6.956E-07	2.938

Table 5.4 - Story Max Over Avg Displacements (continued)

Story	Output Case	Case Type	Step Type	Direction	Maximum mm	Average mm	Ratio
PISO 1	Comb2	Combination		X	2.925E-06	1.226E-06	2.385
PISO 1	Comb2	Combination		Y	2.861E-06	9.739E-07	2.938
PISO 1	Comb3	Combination		X	2.514E-05	2.404E-05	1.046
PISO 1	Comb3	Combination		Y	7.108E-05	6.986E-05	1.017
PISO 1	Comb4	Combination	Max	X	0.002	0.002	1.003
PISO 1	Comb4	Combination	Max	Y	0.0004954	0.0004925	1.006
PISO 1	Comb4	Combination	Min	X	0.002	0.002	1.004
PISO 1	Comb4	Combination	Min	Y	0.001	0.001	1
PISO 1	Comb4-1	Combination	Max	X	0.002	0.002	1.003
PISO 1	Comb4-1	Combination	Max	Y	0.0004959	0.000493	1.006
PISO 1	Comb4-1	Combination	Min	X	0.002	0.002	1.004
PISO 1	Comb4-1	Combination	Min	Y	0.001	0.001	1
PISO 1	Comb4-2	Combination	Max	X	0.002	0.002	1.003
PISO 1	Comb4-2	Combination	Max	Y	0.0004959	0.000493	1.006
PISO 1	Comb4-2	Combination	Min	X	0.002	0.002	1.004
PISO 1	Comb4-2	Combination	Min	Y	0.001	0.001	1
PISO 1	Comb4-3	Combination	Max	X	0.002	0.002	1.003
PISO 1	Comb4-3	Combination	Max	Y	0.0004959	0.000493	1.006
PISO 1	Comb4-3	Combination	Min	X	0.002	0.002	1.004
PISO 1	Comb4-3	Combination	Min	Y	0.001	0.001	1
PISO 1	Comb4-4	Combination	Max	X	0.0004656	0.0004653	1.001
PISO 1	Comb4-4	Combination	Max	Y	0.002	0.002	1.004
PISO 1	Comb4-4	Combination	Min	X	0.0004974	0.0004945	1.006
PISO 1	Comb4-4	Combination	Min	Y	0.002	0.002	1.002
PISO 1	Comb4-5	Combination	Max	X	0.0004656	0.0004653	1.001
PISO 1	Comb4-5	Combination	Max	Y	0.002	0.002	1.004
PISO 1	Comb4-5	Combination	Min	X	0.0004974	0.0004945	1.006
PISO 1	Comb4-5	Combination	Min	Y	0.002	0.002	1.002
PISO 1	Comb4-6	Combination	Max	X	0.0004656	0.0004653	1.001
PISO 1	Comb4-6	Combination	Max	Y	0.002	0.002	1.004
PISO 1	Comb4-6	Combination	Min	X	0.0004974	0.0004945	1.006
PISO 1	Comb4-6	Combination	Min	Y	0.002	0.002	1.002
PISO 1	Comb4-7	Combination	Max	X	0.0004656	0.0004653	1.001
PISO 1	Comb4-7	Combination	Max	Y	0.002	0.002	1.004
PISO 1	Comb4-7	Combination	Min	X	0.0004974	0.0004945	1.006
PISO 1	Comb4-7	Combination	Min	Y	0.002	0.002	1.002
PISO 1	Comb5	Combination		X	1.58E-05	1.481E-05	1.067
PISO 1	Comb5	Combination		Y	4.459E-05	4.349E-05	1.025

Table 5.5 - Story Drifts

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
PISO 1	Dead	LinStatic		X	0	14	3	0	2.1
PISO 1	Dead	LinStatic		Y	6.051E-09	14	3	0	2.1
PISO 1	Adicional	LinStatic		X	0	14	3	0	2.1

Table 5.5 - Story Drifts (continued)

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
PISO 1	Adicional	LinStatic		Y	5.078E-09	14	3	0	2.1
PISO 1	Viva	LinStatic		X	7.575E-09	14	3	0	2.1
PISO 1	Viva	LinStatic		Y	2.116E-08	14	3	0	2.1
PISO 1	SX	LinRespSpec	Max	X	5E-06	21	3	2.7	2.1
PISO 1	SY	LinRespSpec	Max	Y	6E-06	14	3	0	2.1
PISO 1	FHEX	LinStatic		X	5E-06	21	3	2.7	2.1
PISO 1	FHEY	LinStatic		Y	6E-06	14	3	0	2.1
PISO 1	Comb1	Combination		X	0	14	3	0	2.1
PISO 1	Comb1	Combination		Y	0	14	3	0	2.1
PISO 1	Comb2	Combination		X	0	14	3	0	2.1
PISO 1	Comb2	Combination		Y	0	14	3	0	2.1
PISO 1	Comb3	Combination		X	1.197E-08	21	3	2.7	2.1
PISO 1	Comb3	Combination		Y	3.385E-08	1	0	0	2.1
PISO 1	Comb4	Combination	Max	X	1E-06	21	3	2.7	2.1
PISO 1	Comb4	Combination	Max	Y	2.359E-07	14	3	0	2.1
PISO 1	Comb4	Combination	Min	X	1E-06	21	3	2.7	2.1
PISO 1	Comb4	Combination	Min	Y	2.759E-07	14	3	0	2.1
PISO 1	Comb4-1	Combination	Max	X	1E-06	21	3	2.7	2.1
PISO 1	Comb4-1	Combination	Max	Y	2.362E-07	14	3	0	2.1
PISO 1	Comb4-1	Combination	Min	X	1E-06	21	3	2.7	2.1
PISO 1	Comb4-1	Combination	Min	Y	2.761E-07	14	3	0	2.1
PISO 1	Comb4-2	Combination	Max	X	1E-06	21	3	2.7	2.1
PISO 1	Comb4-2	Combination	Max	Y	2.362E-07	14	3	0	2.1
PISO 1	Comb4-2	Combination	Min	X	1E-06	21	3	2.7	2.1
PISO 1	Comb4-2	Combination	Min	Y	2.761E-07	14	3	0	2.1
PISO 1	Comb4-3	Combination	Max	X	1E-06	21	3	2.7	2.1
PISO 1	Comb4-3	Combination	Max	Y	2.362E-07	14	3	0	2.1
PISO 1	Comb4-3	Combination	Min	X	1E-06	21	3	2.7	2.1
PISO 1	Comb4-3	Combination	Min	Y	2.761E-07	14	3	0	2.1
PISO 1	Comb4-4	Combination	Max	X	2.217E-07	21	3	2.7	2.1
PISO 1	Comb4-4	Combination	Max	Y	1E-06	14	3	0	2.1
PISO 1	Comb4-4	Combination	Min	X	2.368E-07	21	3	2.7	2.1
PISO 1	Comb4-4	Combination	Min	Y	1E-06	14	3	0	2.1
PISO 1	Comb4-5	Combination	Max	X	2.217E-07	21	3	2.7	2.1
PISO 1	Comb4-5	Combination	Max	Y	1E-06	14	3	0	2.1
PISO 1	Comb4-5	Combination	Min	X	2.368E-07	21	3	2.7	2.1
PISO 1	Comb4-5	Combination	Min	Y	1E-06	14	3	0	2.1
PISO 1	Comb4-6	Combination	Max	X	2.217E-07	21	3	2.7	2.1
PISO 1	Comb4-6	Combination	Max	Y	1E-06	14	3	0	2.1
PISO 1	Comb4-6	Combination	Min	X	2.368E-07	21	3	2.7	2.1
PISO 1	Comb4-6	Combination	Min	Y	1E-06	14	3	0	2.1
PISO 1	Comb4-7	Combination	Max	X	2.217E-07	21	3	2.7	2.1
PISO 1	Comb4-7	Combination	Max	Y	1E-06	14	3	0	2.1
PISO 1	Comb4-7	Combination	Min	X	2.368E-07	21	3	2.7	2.1
PISO 1	Comb4-7	Combination	Min	Y	1E-06	14	3	0	2.1

Table 5.5 - Story Drifts (continued)

Story	Output Case	Case Type	Step Type	Direction	Drift	Label	X m	Y m	Z m
PISO 1	Comb5	Combination		X	7.523E-09	21	3	2.7	2.1
PISO 1	Comb5	Combination		Y	2.123E-08	1	0	0	2.1

Table 5.6 - Story Max Over Avg Drifts

Story	Output Case	Case Type	Step Type	Direction	Max Drift mm	Avg Drift mm	Ratio
PISO 1	Dead	LinStatic		X	5.907E-06	4.64E-06	1.273
PISO 1	Dead	LinStatic		Y	1.271E-05	1.13E-05	1.125
PISO 1	Adicional	LinStatic		X	3.818E-06	3.764E-06	1.014
PISO 1	Adicional	LinStatic		Y	1.066E-05	1.06E-05	1.006
PISO 1	Viva	LinStatic		X	1.591E-05	1.568E-05	1.014
PISO 1	Viva	LinStatic		Y	4.443E-05	4.418E-05	1.006
PISO 1	SX	LinRespSpec	Max	X	0.011	0.011	1.004
PISO 1	SY	LinRespSpec	Max	Y	0.012	0.012	1.003
PISO 1	FHEX	LinStatic		X	0.011	0.011	1.001
PISO 1	FHEY	LinStatic		Y	0.012	0.012	1.001
PISO 1	Comb1	Combination		X	2.089E-06	8.758E-07	2.385
PISO 1	Comb1	Combination		Y	2.044E-06	6.956E-07	2.938
PISO 1	Comb2	Combination		X	2.925E-06	1.226E-06	2.385
PISO 1	Comb2	Combination		Y	2.861E-06	9.739E-07	2.938
PISO 1	Comb3	Combination		X	2.514E-05	2.404E-05	1.046
PISO 1	Comb3	Combination		Y	7.108E-05	6.986E-05	1.017
PISO 1	Comb4	Combination	Max	X	0.002	0.002	1.003
PISO 1	Comb4	Combination	Max	Y	0.0004954	0.0004925	1.006
PISO 1	Comb4	Combination	Min	X	0.002	0.002	1.004
PISO 1	Comb4	Combination	Min	Y	0.001	0.001	1
PISO 1	Comb4-1	Combination	Max	X	0.002	0.002	1.003
PISO 1	Comb4-1	Combination	Max	Y	0.0004959	0.000493	1.006
PISO 1	Comb4-1	Combination	Min	X	0.002	0.002	1.004
PISO 1	Comb4-1	Combination	Min	Y	0.001	0.001	1
PISO 1	Comb4-2	Combination	Max	X	0.002	0.002	1.003
PISO 1	Comb4-2	Combination	Max	Y	0.0004959	0.000493	1.006
PISO 1	Comb4-2	Combination	Min	X	0.002	0.002	1.004
PISO 1	Comb4-2	Combination	Min	Y	0.001	0.001	1
PISO 1	Comb4-3	Combination	Max	X	0.002	0.002	1.003
PISO 1	Comb4-3	Combination	Max	Y	0.0004959	0.000493	1.006
PISO 1	Comb4-3	Combination	Min	X	0.002	0.002	1.004
PISO 1	Comb4-3	Combination	Min	Y	0.001	0.001	1
PISO 1	Comb4-4	Combination	Max	X	0.0004656	0.0004653	1.001
PISO 1	Comb4-4	Combination	Max	Y	0.002	0.002	1.004
PISO 1	Comb4-4	Combination	Min	X	0.0004974	0.0004945	1.006
PISO 1	Comb4-4	Combination	Min	Y	0.002	0.002	1.002
PISO 1	Comb4-5	Combination	Max	X	0.0004656	0.0004653	1.001
PISO 1	Comb4-5	Combination	Max	Y	0.002	0.002	1.004
PISO 1	Comb4-5	Combination	Min	X	0.0004974	0.0004945	1.006

Table 5.6 - Story Max Over Avg Drifts (continued)

Story	Output Case	Case Type	Step Type	Direction	Max Drift mm	Avg Drift mm	Ratio
PISO 1	Comb4-5	Combination	Min	Y	0.002	0.002	1.002
PISO 1	Comb4-6	Combination	Max	X	0.0004656	0.0004653	1.001
PISO 1	Comb4-6	Combination	Max	Y	0.002	0.002	1.004
PISO 1	Comb4-6	Combination	Min	X	0.0004974	0.0004945	1.006
PISO 1	Comb4-6	Combination	Min	Y	0.002	0.002	1.002
PISO 1	Comb4-7	Combination	Max	X	0.0004656	0.0004653	1.001
PISO 1	Comb4-7	Combination	Max	Y	0.002	0.002	1.004
PISO 1	Comb4-7	Combination	Min	X	0.0004974	0.0004945	1.006
PISO 1	Comb4-7	Combination	Min	Y	0.002	0.002	1.002
PISO 1	Comb5	Combination		X	1.58E-05	1.481E-05	1.067
PISO 1	Comb5	Combination		Y	4.459E-05	4.349E-05	1.025

Table 5.7 - Story Forces

Story	Output Case	Case Type	Step Type	Location	P kN	VX kN	VY kN	T kN-m	MX kN-m	MY kN-m
PISO 1	Dead	LinStatic		Top	14.5974	0	0	0	20.393	-22.3599
PISO 1	Dead	LinStatic		Bottom	155.6226	0	0	0	210.7771	-233.8979
PISO 1	Adicional	LinStatic		Top	9.3231	0	0	0	12.2299	-13.8348
PISO 1	Adicional	LinStatic		Bottom	9.3231	0	0	0	12.2299	-13.8348
PISO 1	Viva	LinStatic		Top	38.8461	0	0	0	50.9579	-57.6448
PISO 1	Viva	LinStatic		Bottom	38.8461	0	0	0	50.9579	-57.6448
PISO 1	SX	LinRespSpec	Max	Top	0	76.7241	0.0126	104.5112	0	0
PISO 1	SX	LinRespSpec	Max	Bottom	0	76.7241	0.0126	104.5112	0.0265	161.1207
PISO 1	SY	LinRespSpec	Max	Top	0	0.0126	76.7257	115.8274	0	0
PISO 1	SY	LinRespSpec	Max	Bottom	0	0.0126	76.7257	115.8274	161.1239	0.0265
PISO 1	FHEX	LinStatic		Top	0	-76.7269	0	103.8497	0	0
PISO 1	FHEX	LinStatic		Bottom	0	-76.7269	0	103.8497	0	-161.1264
PISO 1	FHEY	LinStatic		Top	0	0	-76.7269	-115.3455	0	0
PISO 1	FHEY	LinStatic		Bottom	0	0	-76.7269	-115.3455	161.1264	0
PISO 1	Comb1	Combination		Top	23.9204	0	0	0	32.6229	-36.1947
PISO 1	Comb1	Combination		Bottom	164.9457	0	0	0	223.007	-247.7326
PISO 1	Comb2	Combination		Top	33.4886	0	0	0	45.6721	-50.6726
PISO 1	Comb2	Combination		Bottom	230.924	0	0	0	312.2098	-346.8257
PISO 1	Comb3	Combination		Top	90.8583	0	0	0	120.6801	-135.6654
PISO 1	Comb3	Combination		Bottom	260.0886	0	0	0	349.1411	-389.5109
PISO 1	Comb4	Combination	Max	Top	67.5506	10.9611	3.29	19.8942	90.1054	-101.0785
PISO 1	Comb4	Combination	Max	Bottom	236.781	10.9611	3.29	19.8942	325.4754	-331.9056
PISO 1	Comb4	Combination	Min	Top	67.5506	-10.9611	-3.29	-19.8942	90.1054	-101.0785
PISO 1	Comb4	Combination	Min	Bottom	236.781	-10.9611	-3.29	-19.8942	311.6573	-377.9424
PISO 1	Comb4-1	Combination	Max	Top	67.5506	10.9644	3.2933	19.9036	90.1054	-101.0785
PISO 1	Comb4-1	Combination	Max	Bottom	236.781	10.9644	3.2933	19.9036	325.4824	-331.8987
PISO 1	Comb4-1	Combination	Min	Top	67.5506	-10.9644	-3.2933	-19.9036	90.1054	-101.0785
PISO 1	Comb4-1	Combination	Min	Bottom	236.781	-10.9644	-3.2933	-19.9036	311.6504	-377.9493
PISO 1	Comb4-2	Combination	Max	Top	67.5506	10.9644	3.2933	19.9036	90.1054	-101.0785
PISO 1	Comb4-2	Combination	Max	Bottom	236.781	10.9644	3.2933	19.9036	325.4824	-331.8987

Table 5.7 - Story Forces (continued)

Story	Output Case	Case Type	Step Type	Location	P kN	VX kN	VY kN	T kN-m	MX kN-m	MY kN-m
PISO 1	Comb4-2	Combination	Min	Top	67.5506	-10.9644	-3.2933	-19.9036	90.1054	-101.0785
PISO 1	Comb4-2	Combination	Min	Bottom	236.781	-10.9644	-3.2933	-19.9036	311.6504	-377.9493
PISO 1	Comb4-3	Combination	Max	Top	67.5506	10.9644	3.2933	19.9036	90.1054	-101.0785
PISO 1	Comb4-3	Combination	Max	Bottom	236.781	10.9644	3.2933	19.9036	325.4824	-331.8987
PISO 1	Comb4-3	Combination	Min	Top	67.5506	-10.9644	-3.2933	-19.9036	90.1054	-101.0785
PISO 1	Comb4-3	Combination	Min	Bottom	236.781	-10.9644	-3.2933	-19.9036	311.6504	-377.9493
PISO 1	Comb4-4	Combination	Max	Top	67.5506	3.2933	10.9646	21.0353	90.1054	-101.0785
PISO 1	Comb4-4	Combination	Max	Bottom	236.781	3.2933	10.9646	21.0353	341.5921	-348.0081
PISO 1	Comb4-4	Combination	Min	Top	67.5506	-3.2933	-10.9646	-21.0353	90.1054	-101.0785
PISO 1	Comb4-4	Combination	Min	Bottom	236.781	-3.2933	-10.9646	-21.0353	295.5406	-361.8399
PISO 1	Comb4-5	Combination	Max	Top	67.5506	3.2933	10.9646	21.0353	90.1054	-101.0785
PISO 1	Comb4-5	Combination	Max	Bottom	236.781	3.2933	10.9646	21.0353	341.5921	-348.0081
PISO 1	Comb4-5	Combination	Min	Top	67.5506	-3.2933	-10.9646	-21.0353	90.1054	-101.0785
PISO 1	Comb4-5	Combination	Min	Bottom	236.781	-3.2933	-10.9646	-21.0353	295.5406	-361.8399
PISO 1	Comb4-6	Combination	Max	Top	67.5506	3.2933	10.9646	21.0353	90.1054	-101.0785
PISO 1	Comb4-6	Combination	Max	Bottom	236.781	3.2933	10.9646	21.0353	341.5921	-348.0081
PISO 1	Comb4-6	Combination	Min	Top	67.5506	-3.2933	-10.9646	-21.0353	90.1054	-101.0785
PISO 1	Comb4-6	Combination	Min	Bottom	236.781	-3.2933	-10.9646	-21.0353	295.5406	-361.8399
PISO 1	Comb4-7	Combination	Max	Top	67.5506	3.2933	10.9646	21.0353	90.1054	-101.0785
PISO 1	Comb4-7	Combination	Max	Bottom	236.781	3.2933	10.9646	21.0353	341.5921	-348.0081
PISO 1	Comb4-7	Combination	Min	Top	67.5506	-3.2933	-10.9646	-21.0353	90.1054	-101.0785
PISO 1	Comb4-7	Combination	Min	Bottom	236.781	-3.2933	-10.9646	-21.0353	295.5406	-361.8399
PISO 1	Comb5	Combination		Top	62.7665	0	0	0	83.5808	-93.8395
PISO 1	Comb5	Combination		Bottom	203.7918	0	0	0	273.9649	-305.3775

5.3 Point Results

Table 5.8 - Joint Reactions

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	1	1	Dead	LinStatic		2.161	1.9031	38.722	-0.386	0.6773	-1.28E-05
CIMENTACION	1	1	Adicional	LinStatic		0.5025	0.4045	2.4213	-0.2529	0.3554	2.16E-05
CIMENTACION	1	1	Viva	LinStatic		2.0939	1.6853	10.0886	-1.0539	1.4808	0.0001
CIMENTACION	1	1	SX	LinRespSpec	Max	19.0998	1.7515	24.2177	0.1946	3.9595	0.0352
CIMENTACION	1	1	SY	LinRespSpec	Max	1.8786	19.1381	26.7633	4.1619	0.2519	0.0392
CIMENTACION	1	1	FHEX	LinStatic		-19.1591	-1.6933	-24.215	0.1841	-3.9693	0.0354
CIMENTACION	1	1	FHEY	LinStatic		-1.8326	-19.1804	-26.7653	4.1694	-0.2443	-0.0393
CIMENTACION	1	1	Comb1	Combination		2.6636	2.3076	41.1433	-0.6389	1.0327	8.803E-06
CIMENTACION	1	1	Comb2	Combination		3.729	3.2306	57.6006	-0.8945	1.4457	1.232E-05
CIMENTACION	1	1	Comb3	Combination		6.5465	5.4656	65.5136	-2.4528	3.6085	0.0002
CIMENTACION	1	1	Comb4	Combination	Max	8.0992	5.5248	64.0672	-1.6144	3.2965	0.0068
CIMENTACION	1	1	Comb4	Combination	Min	2.4811	3.384	54.8538	-2.0267	2.1436	-0.0066
CIMENTACION	1	1	Comb4-1	Combination	Max	8.1001	5.5257	64.0693	-1.6142	3.2967	0.0068
CIMENTACION	1	1	Comb4-1	Combination	Min	2.4802	3.3831	54.8516	-2.0269	2.1434	-0.0066
CIMENTACION	1	1	Comb4-2	Combination	Max	8.1001	5.5257	64.0693	-1.6142	3.2967	0.0068
CIMENTACION	1	1	Comb4-2	Combination	Min	2.4802	3.3831	54.8516	-2.0269	2.1434	-0.0066

Table 5.8 - Joint Reactions (continued)

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	1	1	Comb4-3	Combination	Max	8.1001	5.5257	64.0693	-1.6142	3.2967	0.0068
CIMENTACION	1	1	Comb4-3	Combination	Min	2.4802	3.3831	54.8516	-2.0269	2.1434	-0.0066
CIMENTACION	1	1	Comb4-4	Combination	Max	6.378	7.2644	64.3239	-1.2174	2.9259	0.0072
CIMENTACION	1	1	Comb4-4	Combination	Min	4.2023	1.6444	54.5971	-2.4236	2.5142	-0.007
CIMENTACION	1	1	Comb4-5	Combination	Max	6.378	7.2644	64.3239	-1.2174	2.9259	0.0072
CIMENTACION	1	1	Comb4-5	Combination	Min	4.2023	1.6444	54.5971	-2.4236	2.5142	-0.007
CIMENTACION	1	1	Comb4-6	Combination	Max	6.378	7.2644	64.3239	-1.2174	2.9259	0.0072
CIMENTACION	1	1	Comb4-6	Combination	Min	4.2023	1.6444	54.5971	-2.4236	2.5142	-0.007
CIMENTACION	1	1	Comb4-7	Combination	Max	6.378	7.2644	64.3239	-1.2174	2.9259	0.0072
CIMENTACION	1	1	Comb4-7	Combination	Min	4.2023	1.6444	54.5971	-2.4236	2.5142	-0.007
CIMENTACION	1	1	Comb5	Combination		4.7574	3.9929	51.2318	-1.6927	2.5135	0.0001
CIMENTACION	14	5	Dead	LinStatic		-2.1746	1.9556	38.8505	-0.4036	-0.6822	0.0001
CIMENTACION	14	5	Adicional	LinStatic		-0.4947	0.3898	2.3752	-0.2483	-0.3541	-4.65E-05
CIMENTACION	14	5	Viva	LinStatic		-2.061	1.6243	9.8966	-1.0347	-1.4756	-0.0002
CIMENTACION	14	5	SX	LinRespSpec	Max	19.0937	1.7489	24.2185	0.192	3.9529	0.0352
CIMENTACION	14	5	SY	LinRespSpec	Max	1.7393	19.2687	26.7695	4.1799	0.2237	0.0396
CIMENTACION	14	5	FHEX	LinStatic		-19.1529	1.6895	24.214	-0.1813	-3.9628	0.0354
CIMENTACION	14	5	FHEY	LinStatic		1.7836	-19.2268	-26.7683	4.1725	0.231	0.0395
CIMENTACION	14	5	Comb1	Combination		-2.6692	2.3455	41.2257	-0.6519	-1.0363	1.327E-05
CIMENTACION	14	5	Comb2	Combination		-3.7369	3.2837	57.716	-0.9127	-1.4509	1.858E-05
CIMENTACION	14	5	Comb3	Combination		-6.5008	5.4135	65.3054	-2.4378	-3.6045	-0.0003
CIMENTACION	14	5	Comb4	Combination	Max	-2.4619	5.5145	63.9745	-1.6104	-2.1449	0.0065
CIMENTACION	14	5	Comb4	Combination	Min	-8.0663	3.3632	54.7604	-2.0235	-3.2934	-0.0069
CIMENTACION	14	5	Comb4-1	Combination	Max	-2.461	5.5154	63.9767	-1.6102	-2.1447	0.0065
CIMENTACION	14	5	Comb4-1	Combination	Min	-8.0672	3.3623	54.7582	-2.0237	-3.2936	-0.0069
CIMENTACION	14	5	Comb4-2	Combination	Max	-2.461	5.5154	63.9767	-1.6102	-2.1447	0.0065
CIMENTACION	14	5	Comb4-2	Combination	Min	-8.0672	3.3623	54.7582	-2.0237	-3.2936	-0.0069
CIMENTACION	14	5	Comb4-3	Combination	Max	-2.461	5.5154	63.9767	-1.6102	-2.1447	0.0065
CIMENTACION	14	5	Comb4-3	Combination	Min	-8.0672	3.3623	54.7582	-2.0237	-3.2936	-0.0069
CIMENTACION	14	5	Comb4-4	Combination	Max	-4.1965	7.2674	64.2318	-1.2114	-2.5176	0.007
CIMENTACION	14	5	Comb4-4	Combination	Min	-6.3318	1.6103	54.5031	-2.4225	-2.9207	-0.0074
CIMENTACION	14	5	Comb4-5	Combination	Max	-4.1965	7.2674	64.2318	-1.2114	-2.5176	0.007
CIMENTACION	14	5	Comb4-5	Combination	Min	-6.3318	1.6103	54.5031	-2.4225	-2.9207	-0.0074
CIMENTACION	14	5	Comb4-6	Combination	Max	-4.1965	7.2674	64.2318	-1.2114	-2.5176	0.007
CIMENTACION	14	5	Comb4-6	Combination	Min	-6.3318	1.6103	54.5031	-2.4225	-2.9207	-0.0074
CIMENTACION	14	5	Comb4-7	Combination	Max	-4.1965	7.2674	64.2318	-1.2114	-2.5176	0.007
CIMENTACION	14	5	Comb4-7	Combination	Min	-6.3318	1.6103	54.5031	-2.4225	-2.9207	-0.0074
CIMENTACION	14	5	Comb5	Combination		-4.7303	3.9698	51.1223	-1.6866	-2.5119	-0.0002
CIMENTACION	4	2	Dead	LinStatic		2.2805	-1.9153	38.9495	0.3988	0.7487	-4.259E-05
CIMENTACION	4	2	Adicional	LinStatic		0.4732	-0.3974	2.2913	0.2546	0.3441	4.577E-05
CIMENTACION	4	2	Viva	LinStatic		1.9718	-1.6558	9.5472	1.0608	1.4337	0.0002
CIMENTACION	4	2	SX	LinRespSpec	Max	19.2812	1.5964	24.203	0.1685	3.9904	0.0357
CIMENTACION	4	2	SY	LinRespSpec	Max	1.8713	19.0993	26.7587	4.1189	0.248	0.0392
CIMENTACION	4	2	FHEX	LinStatic		-19.2228	1.65	-24.2073	-0.1776	-3.9808	-0.0355
CIMENTACION	4	2	FHEY	LinStatic		1.8281	-19.1419	26.7642	4.1264	0.2409	-0.0393

Table 5.8 - Joint Reactions (continued)

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	4	2	Comb1	Combination		2.7538	-2.3127	41.2408	0.6534	1.0928	3.179E-06
CIMENTACION	4	2	Comb2	Combination		3.8553	-3.2377	57.7371	0.9148	1.5299	4.45E-06
CIMENTACION	4	2	Comb3	Combination		6.4594	-5.4244	64.7644	2.4814	3.6052	0.0003
CIMENTACION	4	2	Comb4	Combination	Max	8.111	-3.3844	63.6405	2.0455	3.3257	0.007
CIMENTACION	4	2	Comb4	Combination	Min	2.4417	-5.4776	54.4317	1.6443	2.1643	-0.0066
CIMENTACION	4	2	Comb4-1	Combination	Max	8.1119	-3.3835	63.6427	2.0457	3.3259	0.007
CIMENTACION	4	2	Comb4-1	Combination	Min	2.4408	-5.4785	54.4296	1.6442	2.1641	-0.0066
CIMENTACION	4	2	Comb4-2	Combination	Max	8.1119	-3.3835	63.6427	2.0457	3.3259	0.007
CIMENTACION	4	2	Comb4-2	Combination	Min	2.4408	-5.4785	54.4296	1.6442	2.1641	-0.0066
CIMENTACION	4	2	Comb4-3	Combination	Max	8.1119	-3.3835	63.6427	2.0457	3.3259	0.007
CIMENTACION	4	2	Comb4-3	Combination	Min	2.4408	-5.4785	54.4296	1.6442	2.1641	-0.0066
CIMENTACION	4	2	Comb4-4	Combination	Max	6.3709	-1.6332	63.8982	2.4408	2.9516	0.0073
CIMENTACION	4	2	Comb4-4	Combination	Min	4.1818	-7.2288	54.174	1.2491	2.5384	-0.0069
CIMENTACION	4	2	Comb4-5	Combination	Max	6.3709	-1.6332	63.8982	2.4408	2.9516	0.0073
CIMENTACION	4	2	Comb4-5	Combination	Min	4.1818	-7.2288	54.174	1.2491	2.5384	-0.0069
CIMENTACION	4	2	Comb4-6	Combination	Max	6.3709	-1.6332	63.8982	2.4408	2.9516	0.0073
CIMENTACION	4	2	Comb4-6	Combination	Min	4.1818	-7.2288	54.174	1.2491	2.5384	-0.0069
CIMENTACION	4	2	Comb4-7	Combination	Max	6.3709	-1.6332	63.8982	2.4408	2.9516	0.0073
CIMENTACION	4	2	Comb4-7	Combination	Min	4.1818	-7.2288	54.174	1.2491	2.5384	-0.0069
CIMENTACION	4	2	Comb5	Combination		4.7256	-3.9684	50.788	1.7142	2.5264	0.0002
CIMENTACION	21	6	Dead	LinStatic		-2.267	-1.9435	39.1006	0.4325	-0.7881	2.997E-05
CIMENTACION	21	6	Adicional	LinStatic		-0.4811	-0.3969	2.2353	0.2547	-0.3486	-2.233E-05
CIMENTACION	21	6	Viva	LinStatic		-2.0046	-1.6538	9.3138	1.0611	-1.4526	-0.0001
CIMENTACION	21	6	SX	LinRespSpec	Max	19.2503	1.5913	24.2022	0.1627	3.956	0.0357
CIMENTACION	21	6	SY	LinRespSpec	Max	1.7375	19.2199	26.7741	4.1248	0.2177	0.0396
CIMENTACION	21	6	FHEX	LinStatic		-19.1921	-1.6463	24.2083	0.1721	-3.9464	-0.0355
CIMENTACION	21	6	FHEY	LinStatic		-1.7791	-19.1778	26.7694	4.1174	-0.2244	0.0395
CIMENTACION	21	6	Comb1	Combination		-2.7481	-2.3404	41.336	0.6872	-1.1368	7.646E-06
CIMENTACION	21	6	Comb2	Combination		-3.8474	-3.2766	57.8703	0.9621	-1.5915	1.07E-05
CIMENTACION	21	6	Comb3	Combination		-6.5051	-5.4546	64.5052	2.5224	-3.6883	-0.0001
CIMENTACION	21	6	Comb4	Combination	Max	-2.4779	-3.4113	63.5218	2.0858	-2.2423	0.0067
CIMENTACION	21	6	Comb4	Combination	Min	-8.1269	-5.5134	54.312	1.6857	-3.3912	-0.0069
CIMENTACION	21	6	Comb4-1	Combination	Max	-2.477	-3.4104	63.524	2.086	-2.2421	0.0067
CIMENTACION	21	6	Comb4-1	Combination	Min	-8.1278	-5.5142	54.3098	1.6856	-3.3914	-0.0069
CIMENTACION	21	6	Comb4-2	Combination	Max	-2.477	-3.4104	63.524	2.086	-2.2421	0.0067
CIMENTACION	21	6	Comb4-2	Combination	Min	-8.1278	-5.5142	54.3098	1.6856	-3.3914	-0.0069
CIMENTACION	21	6	Comb4-3	Combination	Max	-2.477	-3.4104	63.524	2.086	-2.2421	0.0067
CIMENTACION	21	6	Comb4-3	Combination	Min	-8.1278	-5.5142	54.3098	1.6856	-3.3914	-0.0069
CIMENTACION	21	6	Comb4-4	Combination	Max	-4.2282	-1.6475	63.7812	2.4822	-2.6159	0.0071
CIMENTACION	21	6	Comb4-4	Combination	Min	-6.3765	-7.2771	54.0526	1.2894	-3.0175	-0.0073
CIMENTACION	21	6	Comb4-5	Combination	Max	-4.2282	-1.6475	63.7812	2.4822	-2.6159	0.0071
CIMENTACION	21	6	Comb4-5	Combination	Min	-6.3765	-7.2771	54.0526	1.2894	-3.0175	-0.0073
CIMENTACION	21	6	Comb4-6	Combination	Max	-4.2282	-1.6475	63.7812	2.4822	-2.6159	0.0071
CIMENTACION	21	6	Comb4-6	Combination	Min	-6.3765	-7.2771	54.0526	1.2894	-3.0175	-0.0073
CIMENTACION	21	6	Comb4-7	Combination	Max	-4.2282	-1.6475	63.7812	2.4822	-2.6159	0.0071

Table 5.8 - Joint Reactions (continued)

Story	Label	Unique Name	Output Case	Case Type	Step Type	FX kN	FY kN	FZ kN	MX kN-m	MY kN-m	MZ kN-m
CIMENTACION	21	6	Comb4-7	Combination	Min	-6.3765	-7.2771	54.0526	1.2894	-3.0175	-0.0073
CIMENTACION	21	6	Comb5	Combination		-4.7527	-3.9942	50.6497	1.7483	-2.5894	-0.0001

5.4 Modal Results

Table 5.9 - Modal Periods And Frequencies

Case	Mode	Period sec	Frequency cyc/sec	CircFreq rad/sec	Eigenvalue rad2/sec2
Modal	1	0.008	128.212	805.5827	648963.4167
Modal	2	0.007	135.188	849.4131	721502.6453
Modal	3	0.007	152.419	957.6795	917150.101

Table 5.10 - Modal Participating Mass Ratios (Part 1 of 2)

Case	Mode	Period sec	UX	UY	UZ	SumUX	SumUY	SumUZ	RX	RY	RZ	SumRX
Modal	1	0.008	0	1	0	0	1	0	1	0	2.81E-05	1
Modal	2	0.007	0.9999	0	0	0.9999	1	0	0	0.9999	0.0001	1
Modal	3	0.007	0.0001	2.064E-05	0	1	1	0	2.064E-05	0.0001	0.9999	1

Table 5.10 - Modal Participating Mass Ratios (Part 2 of 2)

SumRY	SumRZ
0	2.81E-05
0.9999	0.0001
1	1

Table 5.11 - Modal Load Participation Ratios

Case	ItemType	Item	Static %	Dynamic %
Modal	Acceleration	UX	100	100
Modal	Acceleration	UY	100	100
Modal	Acceleration	UZ	0	0

Table 5.12 - Modal Direction Factors

Case	Mode	Period sec	UX	UY	UZ	RZ
Modal	1	0.008	0	1	0	0
Modal	2	0.007	1	0	0	0
Modal	3	0.007	0	0	0	1

6 Design Data

This chapter provides design data and results.

6.1 Concrete Frame Design

Table 6.1 - Concrete Beam Overwrites - ACI 318-19 (Part 1 of 2)

Story	Label	Unique Name	Design Type	Design Section	Frame Type	LLRF	Unbraced Length Ratio (Major)	Unbraced Length Ratio (Minor)
PISO 1	B6	1	Beam	Program Determined	Program Determined	0	0	0
PISO 1	B7	5	Beam	Program Determined	Program Determined	0	0	0
PISO 1	B8	7	Beam	Program Determined	Program Determined	0	0	0
PISO 1	B15	10	Beam	Program Determined	Program Determined	0	0	0

Table 6.1 - Concrete Beam Overwrites - ACI 318-19 (Part 2 of 2)

Consider Torsion?	Ignore Beneficial Pu for Beam Design?
Program Determined	Program Determined
Program Determined	Program Determined
Program Determined	Program Determined
Program Determined	Program Determined

Table 6.2 - Concrete Beam Flexure Envelope - ACI 318-19

Story	Label	UniqueName	Section	Location	(-) Moment kN-m	(-) Combo	As Top mm2	(+) Moment kN-m	(+) Combo	As Bot mm2
PISO 1	B6	1	VIGUETA	End-I	-0.016	Comb2	200	0.0301	Comb3	200
PISO 1	B6	1	VIGUETA	Middle	-0.008	Comb2	200	0.0467	Comb3	200
PISO 1	B6	1	VIGUETA	End-J	-0.0266	Comb2	200	0.0031	Comb3	200
PISO 1	B7	5	VIGUETA	End-I	-0.0202	Comb2	200	0.0287	Comb3	200
PISO 1	B7	5	VIGUETA	Middle	-0.007	Comb2	200	0.1133	Comb3	200
PISO 1	B7	5	VIGUETA	End-J	-0.0286	Comb3	200	0.0833	Comb3	200
PISO 1	B8	7	VIGUETA	End-I	-0.0205	Comb2	200	0.027	Comb3	200
PISO 1	B8	7	VIGUETA	Middle	-0.0124	Comb2	200	0.0975	Comb3	200
PISO 1	B8	7	VIGUETA	End-J	-0.0055	Comb3	200	0.0838	Comb3	200
PISO 1	B15	10	VIGUETA	End-I	0	Comb3	0	0	Comb3	0
PISO 1	B15	10	VIGUETA	Middle	0	Comb3	0	0.0965	Comb3	200
PISO 1	B15	10	VIGUETA	End-J	0	Comb3	0	0	Comb3	0

Table 6.3 - Concrete Beam Shear Envelope - ACI 318-19 (Part 1 of 2)

Story	Label	UniqueName	Section	Location	V kN	V Combo	At mm2/m	T for At kN-m	T for At Combo	At Torsion mm2/m	T for As kN-m
PISO 1	B6	1	VIGUETA	End-I	0.472	Comb3	0	0.0076	Comb3	0	0.0076
PISO 1	B6	1	VIGUETA	Middle	0.4165	Comb3	0	0.008	Comb3	0	0.008
PISO 1	B6	1	VIGUETA	End-J	0.4522	Comb3	0	0.0074	Comb3	0	0.0074

Table 6.3 - Concrete Beam Shear Envelope - ACI 318-19 (Part 1 of 2, continued)

Story	Label	UniqueName	Section	Location	V kN	V Combo	At mm2/m	T for At kN-m	T for At Combo	At Torsion mm2/m	T for As kN-m
PISO 1	B7	5	VIGUETA	End-I	0.511	Comb3	0	0.0007	Comb3	0	0.0007
PISO 1	B7	5	VIGUETA	Middle	0.318	Comb3	0	0.006	Comb3	0	0.006
PISO 1	B7	5	VIGUETA	End-J	0.3214	Comb3	0	0.0162	Comb3	0	0.0162
PISO 1	B8	7	VIGUETA	End-I	0.4963	Comb3	0	0.0076	Comb3	0	0.0076
PISO 1	B8	7	VIGUETA	Middle	0.359	Comb3	0	0.0026	Comb3	0	0.0026
PISO 1	B8	7	VIGUETA	End-J	0.3795	Comb3	0	0.0214	Comb3	0	0.0214
PISO 1	B15	10	VIGUETA	End-I	0.6549	Comb3	0	0.0168	Comb3	0	0.0168
PISO 1	B15	10	VIGUETA	Middle	0.1137	Comb3	0	0.0098	Comb3	0	0.0098
PISO 1	B15	10	VIGUETA	End-J	0.6285	Comb3	0	0.0098	Comb3	0	0.0098

Table 6.3 - Concrete Beam Shear Envelope - ACI 318-19 (Part 2 of 2)

T for As Combo	As Torsion mm2
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0
Comb3	0

Table 6.4 - Concrete Beam Design Summary - ACI 318-19 (Part 1 of 3)

Story	Label	UniqueName	DesignSect	Station mm	Status	AsTopCombo	AsMinTop mm2	AsTop mm2
PISO 1	B6	1	VIGUETA	0	No Message	Comb3	0	0
PISO 1	B6	1	VIGUETA	450	No Message	Comb3	200	200
PISO 1	B6	1	VIGUETA	450	No Message	Comb2	200	200
PISO 1	B6	1	VIGUETA	900	No Message	Comb2	200	200
PISO 1	B6	1	VIGUETA	900	No Message	Comb2	200	200
PISO 1	B6	1	VIGUETA	1350	No Message	Comb2	200	200
PISO 1	B6	1	VIGUETA	1350	No Message	Comb2	200	200
PISO 1	B6	1	VIGUETA	1800	No Message	Comb2	200	200
PISO 1	B6	1	VIGUETA	1800	No Message	Comb2	200	200
PISO 1	B6	1	VIGUETA	2250	No Message	Comb2	200	200
PISO 1	B6	1	VIGUETA	2250	No Message	Comb2	200	200
PISO 1	B6	1	VIGUETA	2700	No Message	Comb3	0	0
PISO 1	B7	5	VIGUETA	0	No Message	Comb3	0	0
PISO 1	B7	5	VIGUETA	476.3	No Message	Comb3	200	200
PISO 1	B7	5	VIGUETA	476.3	No Message	Comb2	200	200

Table 6.4 - Concrete Beam Design Summary - ACI 318-19 (Part 1 of 3, continued)

Story	Label	UniqueName	DesignSect	Station mm	Status	AsTopCombo	AsMinTop mm2	AsTop mm2
PISO 1	B7	5	VIGUETA	952.5	No Message	Comb2	200	200
PISO 1	B7	5	VIGUETA	952.5	No Message	Comb2	200	200
PISO 1	B7	5	VIGUETA	1428.8	No Message	Comb2	200	200
PISO 1	B7	5	VIGUETA	1428.8	No Message	Comb2	200	200
PISO 1	B7	5	VIGUETA	1905	No Message	Comb2	200	200
PISO 1	B7	5	VIGUETA	1905	No Message	Comb3	0	0
PISO 1	B7	5	VIGUETA	2302.5	No Message	Comb3	0	0
PISO 1	B7	5	VIGUETA	2302.5	No Message	Comb3	200	200
PISO 1	B7	5	VIGUETA	2700	No Message	Comb3	0	0
PISO 1	B8	7	VIGUETA	0	No Message	Comb3	0	0
PISO 1	B8	7	VIGUETA	476.3	No Message	Comb3	200	200
PISO 1	B8	7	VIGUETA	476.3	No Message	Comb2	200	200
PISO 1	B8	7	VIGUETA	952.5	No Message	Comb2	200	200
PISO 1	B8	7	VIGUETA	952.5	No Message	Comb2	200	200
PISO 1	B8	7	VIGUETA	1428.8	No Message	Comb2	200	200
PISO 1	B8	7	VIGUETA	1428.8	No Message	Comb2	200	200
PISO 1	B8	7	VIGUETA	1905	No Message	Comb2	200	200
PISO 1	B8	7	VIGUETA	1905	No Message	Comb3	0	0
PISO 1	B8	7	VIGUETA	2302.5	No Message	Comb3	0	0
PISO 1	B8	7	VIGUETA	2302.5	No Message	Comb3	200	200
PISO 1	B8	7	VIGUETA	2700	No Message	Comb3	0	0
PISO 1	B15	10	VIGUETA	0	No Message	Comb3	0	0
PISO 1	B15	10	VIGUETA	375	No Message	Comb3	0	0
PISO 1	B15	10	VIGUETA	375	No Message	Comb3	0	0
PISO 1	B15	10	VIGUETA	750	No Message	Comb3	0	0

Table 6.4 - Concrete Beam Design Summary - ACI 318-19 (Part 2 of 3)

AsBotCombo	AsMinBot mm2	AsBot mm2	VCombo	VRebar mm2/m	TLngCombo	TLngRebar mm2	TTrnCombo	TTrnRebar mm2/m
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0

Table 6.4 - Concrete Beam Design Summary - ACI 318-19 (Part 2 of 3, continued)

AsBotCombo	AsMinBot mm2	AsBot mm2	VCombo	VRebar mm2/m	TLngCombo	TLngRebar mm2	TTrnCombo	TTrnRebar mm2/m
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	200	200	Comb3	0	Comb3	0	Comb3	0
Comb3	0	0	Comb3	0	Comb3	0	Comb3	0

Table 6.4 - Concrete Beam Design Summary - ACI 318-19 (Part 3 of 3)

ErrMsg
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No Message
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Table 6.4 - Concrete Beam Design Summary - ACI 318-19 (Part 3 of 3, continued)

ErrMsg
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