" DISEÑOS TIPO PARA LOS MODULOS DE LOS CENTROS DE DESARROLLO INFANTIL
CDI 160 NIÑOS"

CONTIENE

MEMORIA DE ANALISIS, CÁLCULO Y DISEÑO Y ESTRUCTURAL
INFRAESTRUCTURA EDUCATIVA

CENTRO DE DESARROLLO INFANTIL 160 NIÑOS

BLOQUE 5

ZONA ALTA / INTERMEDIA / BAJA

CONSULTOR
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MEMORIAS DE ANALISIS, CALCULO Y DISEÑO ESTRUCTURAL, PARA LA INFRAESTRUCTURA EDUCATVIA – CENTRO DE DESARROLLO INFANTIL

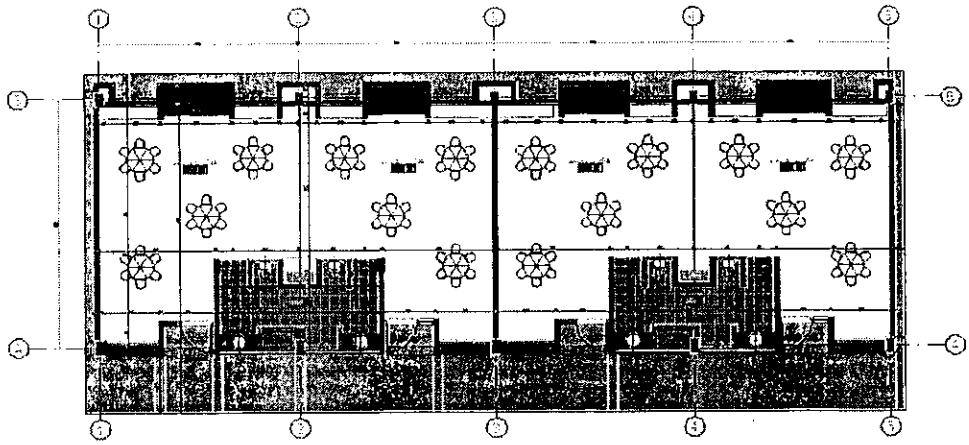
1. OBJETO

ING Ingeniería SAS contrató con VHG & ASOCIADOS Ltda la realización de los Estudios y Diseños para la "DISEÑOS – CONSULTORIA PARA EL AJUSTE DE LOS DISEÑOS TIPO PARA LOS MODULOS DE LOS CENTROS DE DESARROLLO INFANTIL – CDI 160 NIÑOS"

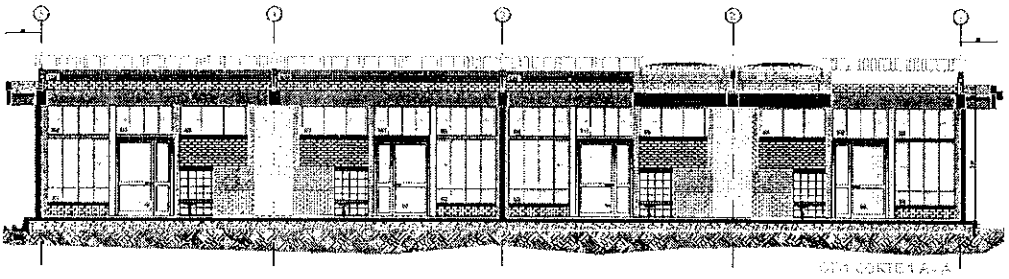
En cumplimiento de este objetivo, relacionado con el área de Diseño Estructural, se presenta a continuación la memoria de análisis y calculo estructural junto con los planos de diseño estructural para la Infraestructura del BLOQUE 5 del CDI 160 Niños

2. DESCRIPCIÓN

El BLOQUE 5 que hace parte del CDI 160 Niños, consta de salones destinado a sala cuna, sala para lactarios, control esfínteres, gateo y batería sanitaria; la edificación arquitectónicamente esta configurada en altura en un solo nivel, y en planta se muestra implantada en un área aprox de 283 m2 la que resulta de una configuración conformada por cinco (5) ejes en sentido longitudinal que van del 1 al 5 y en sentido transversal por dos (2) ejes, el A y B; a continuación se presentan detalles en planta y en altura de la arquitectura del modulo típico en consideración.



Configuracion en planta – BLOQUE 5 / CDI 160 Niños



Fachada lateral – BLOQUE 5 / CDI 160 Niños

3. LOCALIZACION DEL PROYECTO

La zona del proyecto en estudio corresponde al territorio nacional y esto por cuanto a que lo que se pretende es efectuar una tipificación de las instituciones educativas teniendo en cuenta que desde el punto de vista de la sismicidad donde se puedan emplazar los proyectos estos podrán localizarse en zonas de amenaza sísmica Alta, Intermedia y Baja, como las define la norma N.S.R-10; y a su vez y para cada una de estas zonas las características del suelo variarán a suelos Tipo A, B, C, D, y E de acuerdo con la definición que para el efecto indica la norma referida.

4. ALCANCE

El estudio comprende la realización del análisis estático ante la acción de las cargas muertas, vivas, de viento, y dinámicas a las que estará sometida la estructura y su cimentación, y a partir de esto la realización de los cálculos necesarios que den como resultado el diseño estructural de todos los elementos componentes de la edificación

Las instituciones educativas y sus edificaciones anexas deberán ser analizadas y producto de esto diseñadas para que puedan ser implantadas en diferentes regiones del territorio nacional; en este orden de ideas deberán tener un funcionamiento ante cargas de servicio y ultimas tal que su estabilidad global y la de sus elementos conformantes se cumpla para Condiciones de Zona Sísmica Alta, Intermedia y Baja, así como para suelos agrupados por tipo AB, CD y E, todo lo anterior de común acuerdo con las definiciones y procedimientos enmarcados en el Titulo A, B, C y E de la norma NSR-10.

4.1. CONSIDERACIONES GENERALES

El análisis y diseño se realizó de acuerdo con los lineamientos establecidos en el Reglamento Colombiano de Construcción Sismo Resistente – NSR-10

4.2. CONSIDERACIONES PARTICULARES

El análisis y diseño del BLOQUE 5 que se detalla a continuación se realizará para la zona de Amenaza Sismica Alta, Intermedia y Baja.

5. ESPECIFICACIONES DE MATERIALES

5.1. CONCRETOS _ ACERO

f'_c : Resistencia nominal del concreto a compresión
f_y : Resistencia nominal a la fluencia del acero de refuerzo
f_s : Resistencia del acero en el rango elástico
f_r : Modulo de rotura del concreto
M_{sr} : Momento de agrietamiento por flexión

Concreto Estructural

Columnas	f'_c = 28. MPa (280 Kg/cm^2). Relación agua cemento menor o igual a 0.45
Vigas aéreas	f'_c = 21. MPa (210 Kg/cm^2). Relación agua cemento menor o igual a 0.45
Vigas, Zapatas de cimentación	f'_c = 24.5. MPa (245 Kg/cm^2).
Concreto de limpieza	f'_c = 14.00 MPa (140 Kg/cm^2).

Acero de Refuerzo

Acero de Refuerzo	≥ 3/8", f_y = 420. MPa (4200 Kg/cm^2).
Malla Electrosoldada	f_y = 420. MPa (4200 Kg/cm^2).
Perfiles	Norma NSR-10, ASTM A1011 Grado 50
Angulos metálicos	A572 Gr.50

5.2. SUELOS

Se efectuaron análisis particulares para suelos Agrupados por tipo AB, CD y E de acuerdo con la descripción de la tabla A.2.4.-1 de la Norma NSR-10.

Particularmente el suelo se idealizó como un medio continuo conformado por resortes desacoplados con una magnitud Ks (kN/m2/m) = FS x 40 x $_{adm}$ (kN/m2) (ec.9-9 - foundation Analysis and Desing -- Joseph Bowles -4th edition). En esta ecuación 40 esta calibrado para asentamientos de 1pulg (25.4mm) por lo que deberá modificarse cuando para un estudio particular el estudio de las condiciones de suelos considere un asentamiento diferente, asi mismo se asumió un valor de FS = 2.0.

Como se mencionó al inicio la tipificación de las edificaciones se realizó teniendo en cuenta que una de las variables para el análisis y diseño consistirá en tener en cuenta diferentes condiciones de suelos de fundación, esta variable se obtuvo agrupando los suelos en tipos AB, CD y E; a cada una de estas condiciones, y teniendo en cuenta la descripción que la norma NSR-10 en el numeral A.2.4.-1 da para los diferentes perfiles de suelos, se le asignó un valor para la capacidad admisible ($_{adm}$) por lo que a partir de ello se calculó un valor para el modulo de subrasante (Ks) aplicando la formulación antes indicada.

A continuación se presenta la tipificación de los suelos, asignando para cada una de ellas la capacidad admisible ($_{adm}$) y su correspondiente módulo de subrasante (Ks)

Tipo Suelo	$_{adm}$, (kN/m^2)	Ks (kN/m^2 / m)
AB	400	32000
CD	150	12000
E	100	8000

En el modelo matemático del sistema de cimentación los ejes estructurales se cargaron con las reacciones provenientes de la estructura (reacciones de un análisis estructural efectuado en ETABs 9.7.4), y la combinación de estas para cargas de servicio y ultimas sirvieron para verificar que las cargas trasmitidas al suelo no superaran la capacidad admisible del mismo, y para el diseño estructural de los diferentes elementos de la cimentación respectivamente.

6. EVALUACIÓN DE CARGAS

Las cargas evaluadas son las cargas debidas al peso propio de la estructura, las cargas permanentes impuestas por paneles de cubierta y acabados, la carga viva transitoria sobre la cubierta, Cargas por Granizo cuando aplique según la zona del país, cargas de viento y los efectos sísmicos dependientes de la zona de amenaza sísmica para cada análisis en particular.

6.1. CARGAS APLICADAS

Se adoptó por criterio para el análisis y diseño estructural el Reglamento Colombiano de Construcción Sismo Resistente NSR-10, por tanto las cargas tenidas en cuentas para el estudio son todas las

aplicables del capitulo del B.1 al B.4 y particularmente las definidas en el Capitulo B.6 de la referida norma.

6.1.1. Peso Propio (Pp)

Corresponde a la carga por peso propio de los elementos que constituyen la estructura, el programa de análisis lo tiene en cuenta internamente al definir para Pp la condición Self Weight =1.0

6.1.2. Carga permanente (Ld)

La carga sobre impuesta (D) para cada eje o area de la estructura se evalúa a continuación

Analisis de Cargas

Estructura de Concreto

Nivel: Cubierta

Carga Muerta Distribuida en Cubierta:

Peso Propio **(PP)**: ETAB la tiene en cuenta para cada elemento, se ha definido en el analisis como PP. Esta condicion de carga tiene en cuenta el peso de vigas, viguetas y columnas

Carga Muerta, **LD - analisis carga cubiertas / cielo raso**:

Cub. Liviana. Teja tipo sandwich, aluzinc cal.26, aislante en poliuretano e=30mm. 4.8kg/m2 + Corrreas (9.56kg/m2)			0.17 kN/m2
Cielo Raso: Tablero de yeso	e(mm) =	10	0.08 kN/m2
Sistema Susp. Madera			0.15 kN/m2
Instalaciones electricas, luminarias			0.15 kN/m2
Marco metalico apoyo correas, TUB. 100x150x6		Colmena	0.05 kN/m2
Total LD =			**0.60 kN/m2**

Cargas sobre ejes

Ejes: ***1 y 5 entre A y B***					
Carga en cubierta / Cielo Raso	W=	0.60 kN/m2			
Apoyo 1 y 4	B/2	3.00 m	D =	2.52	kN
	L/6 =	1.41 m			
Apoyo 2 y 3	B/2	3.00 m	D =	5.04	kN
	L/3 =	2.81 m			
Ladrillo Tolete Macizo Prensado, 2.9 kg/und y 60 und/m2. Pega = 0.023m3/m2	W=	2.29 kN/m2	D =	0.80	kN/m
	h=	0.35 m			

Ejes: ***2 entre A y B***					
Carga en cubierta / Cielo Raso	W=	0.60 kN/m2			
Apoyo 1 y 3	B =	6.00 m	D =	5.11	kN
	L/4 =	1.43 m			
Apoyo 2	B =	6.00 m	D =	10.23	kN
	L/2 =	2.85 m			
Ladrillo Tolete Macizo Prensado, 2.9 kg/und y 60 und/m2. Pega = 0.023m3/m2	W=	2.29 kN/m2	D =	0.80	kN/m
	h=	0.35 m			

Ejes: ***3 y 4 entre A y B***					
Carga en cubierta / Cielo Raso	W=	0.60 kN/m2			
Apoyo 1 y 4	B =	6.00 m	D =	5.04	kN
	L/6 =	1.41 m			
Apoyo 2 y 3	B =	6.00 m	D =	10.08	kN
	L/3 =	2.81 m			
Ladrillo Tolete Macizo Prensado, 2.9 kg/und y 60 und/m2. Pega = 0.023m3/m2	W=	2.29 kN/m2	D =	0.80	kN/m
	h=	0.35 m			

Ejes: ***A entre 1 y 5***

Carga en cubierta / Cielo Raso	W=	0.60 kN/m2	D =	0.90	kN/m
	L =	1.50 m			
Ventana en Aluminio tipo Persiana	W=	0.50 kN/m2	D =	0.23	kN/m
	h=	0.45 m			
Ladrillo Tolete Macizo Prensado, 2.9 kg/und y 60 und/m2. Pega = 0.023m3/m2	W=	2.29 kN/m2	D =	0.57	kN/m
	h=	0.25 m			
			LDt =	1.69	kN/m

B entre 1 y 5, y Murete Perimetral

Ladrillo Tolete Macizo Prensado, 2.9 kg/und y 60 und/m2. Pega = 0.023m3/m2	W=	2.29 kN/m2	D =0.69	kN/m	
	h=	0.30 m			

Tanque de almacenamiento

Peso Tanque Plastico	Wpp=	0.42	kN/und
Capacidad 2000 lts	Wcap=	20.00	kN/und
Cantidad	Cant =	2.0	Und
Area de apoyo	A=	12.42	m2
Total WLD		**3.29**	kN/m2

6.1.3. Carga Viva de Cubierta (Lr)

La carga Viva (Lr) sobre la cubierta, para cada eje o area de la estructura se evalúa a continuación

Tabla B.4.2.1-2
Cargas vivas mínimas en cubiertas

Tipo de cubierta	Carga uniforme (kN/m²) por m² de área en planta	Carga uniforme (kgf/m²) por m² de área en planta
Cubiertas, Azoteas y Terrazas	la misma del resto de la edificación (Nota 1)	la misma del resto de la edificación (Nota 1)
Cubiertas usadas para jardines de cubierta o para usos especiales	5.00	500
Cubiertas inclinadas con más de 15° de pendiente en estructura metálica o de madera con imposibilidad física de verse sometidas a cargas superiores a la aquí estipulada	0.35	35
Cubiertas inclinadas con pendiente de 15° o menos en estructura metálica o de madera con imposibilidad física de verse sometidas a cargas superiores a la aquí estipulada	0.60	60

Tabla tomada de N.S.R-10, Capitulo B.4, num B.4.2

INGENIERIA ESTRUCTURAL S.A.S
Evaluamos el Pasado · Analizamos el Presente · Diseñamos el Futuro
Nit.900482474-1

Carga Viva (Lr) / Granizo (G)

p= 7.0% % = 4.01° => Lr en Cubiertas = **0.50** kN/m2

Ejes: ***1 y 5 entre A y B***

Apoyo 1/4, Carga Viva / Granizo en Cubierta	B =	3.00 m	Lr =	2.11 kN
	L =	1.41 m		
Apoyo 2/3, Carga Viva / Granizo en Cubierta	B =	3.00 m	Lr =	4.22 kN
	L =	2.81		

Ejes: ***2 entre A y B***

Apoyo 1/3, Carga Viva / Granizo en Cubierta	B =	6.00 m	Lr =	4.28 kN
	L =	1.43 m		
Apoyo 2, Carga Viva / Granizo en Cubierta	B =	6.00 m	Lr =	8.55 kN
	L =	2.85		

Ejes: ***3 y 4 entre A y B***

Apoyo 1/4, Carga Viva / Granizo en Cubierta	B =	6.00 m	Lr =	4.22 kN
	L =	1.41 m		
Apoyo 2/3, Carga Viva / Granizo en Cubierta	B =	6.00 m	Lr =	8.43 kN
	L =	2.81		

Ejes: ***A y B entre 1 y 5***

Carga Viva / Granizo en Cubierta	L =	1.00 m	Lr =	0.50 kN/m

6.1.4. Carga por Granizo (G)

El mapa de sismicidad del territorio nacional, figura A.2.3-1 de la NSR-10, muestra que las regiones sísmicas Altas e Intermedias se ubican en su gran mayoría en zonas de la cordillera occidental, central y en gran medida en la oriental a alturas sobre el nivel del mar mayores a los 1500m, es decir en lugares con alta posibilidad de ocurrencia de granizadas intensas; y lo contrario ocurre en áreas de sismicidad baja, por tal motivo en el presente estudio se ha tenido en cuenta que la carga de granizo (G) solo aplica para zonas de amenaza sísmica Alta e Intermedia y no aplica para zonas de Amenaza Baja.

B.4.8.3 — CARGA DE GRANIZO

B.4.8.3.1 — Las cargas de granizo, G, deben tenerse en cuenta en las regiones del país con más de 2 000 metros de altura sobre el nivel del mar o en lugares de menor altura donde la autoridad municipal o distrital así lo exija.

B.4.8.3.2 — En los municipios y o sitios donde la carga de granizo deba tenerse en cuenta, su valor es de 1.0 kN/m^2 (100 kgf/m^2). Para cubiertas con una inclinación mayor a 15° este valor puede reducirse a 0.5 kN/m^2 (50 kgf/m^2).

En B.4.8.3.2 La pendiente de 15° debe cambiarse por 15%.

Notas:

Numeral tomado de de Capitulo B.4 de N.S.R-10. Según decreto 092 de 17 de Enero de 2011, "En B.4.8.3.2 La pendiente de 15° debe cambiarse por 15%"

Carga Viva (Lr) / Granizo (G)

p= 7.0% % = 4.01° => G en Cubiertas = **1.00** kN/m2

Ejes: ***1 y 5 entre A y B***					
Apoyo 1/4, Carga Viva / Granizo en	B =	3.00	m		
Cubierta	L =	1.41	m	G =	4.22 kN
Apoyo 2/3, Carga Viva / Granizo en	B =	3.00	m		
Cubierta	L =	2.81		G =	8.43 kN
Ejes: ***2 entre A y B***					
Apoyo 1/3, Carga Viva / Granizo en	B =	6.00	m		
Cubierta	L =	1.43	m	G =	8.55 kN
Apoyo 2, Carga Viva / Granizo en	B =	6.00	m		
Cubierta	L =	2.85		G =	17.10 kN
Ejes: ***3 y 4 entre A y B***					
Apoyo 1/4, Carga Viva / Granizo en	B =	6.00	m		
Cubierta	L =	1.41	m	G =	8.43 kN
Apoyo 2/3, Carga Viva / Granizo en	B =	6.00	m		
Cubierta	L =	2.81		G =	16.86 kN
Ejes: ***A y B entre 1 y 5***					
Carga Viva / Granizo en Cubierta	L =	1.00	m	G =	1.00 kN/

6.1.5. Carga sísmica (Fx / Ex)

Para la tipificación de las Instituciones educativas y sus edificaciones anexas se exige que esta se realice con fundamento en las tres regiones en las que a nivel global la norma NSR-10 da una caracterización sísmica del país, estas regiones o zonas corresponden a Baja, Intermedia y Alta.

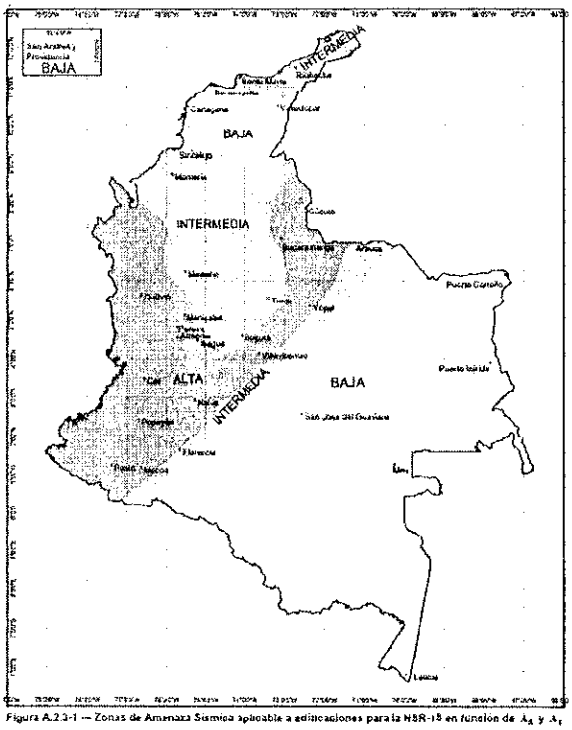


Figura A.2.3-1 – Zonas de Amenaza Sísmica aplicable a edificaciones para la NSR-10 en función de A_a y A_v

Un parámetro que puede dar una "medida" cualitativa del grado de sismicidad lo da el coeficiente que representa la aceleración horizontal pico efectiva, para diseño, Aa; así mismo ello también se puede lograr con su correspondiente en la velocidad representado por el coeficiente Av.

Los valores de Aa / Av varían desde la región 1 a la 10 entre 0.05 a 0.50 respectivamente de tal manera que a mayor región o coeficiente mayor es el grado de sismicidad de la zona en estudio.

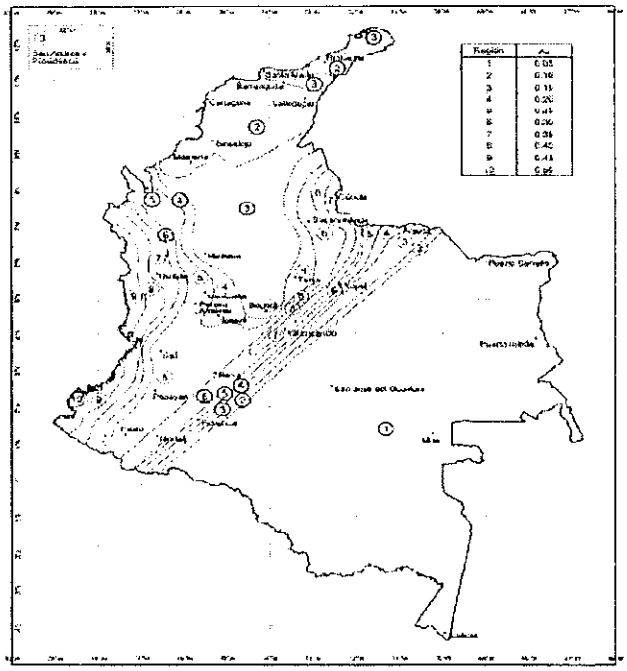


Figura A.2.3-2 — Mapa de valores de A_a

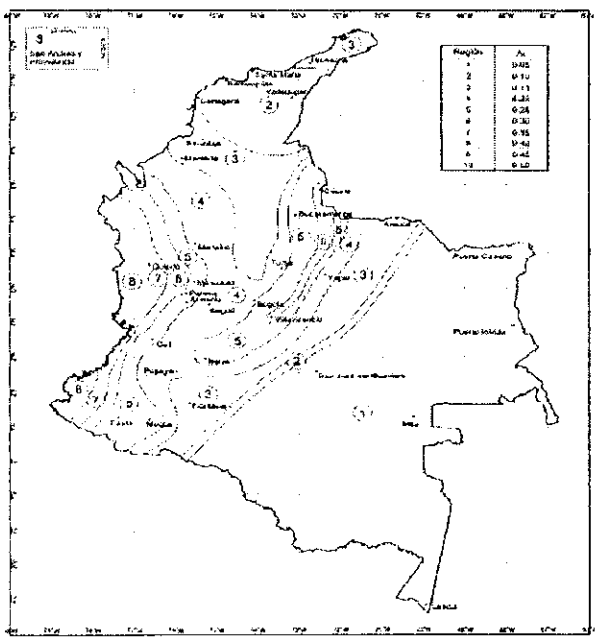


Figura A.2.3-3 - Mapa de valores de A_v

Efectuar la tipificación de las estructuras basándose para ello en cada una de las regiones y su correspondiente coeficiente, de forma sucesiva, se convierte en una labor dispendiosa, pero más allá de ello en un proceso que a nivel de diseño estructural no mostraría diferencias significativas en la geometría de las secciones de elementos estructurales y su correspondiente refuerzo.

Por otra parte y al realizar un análisis del mapa de regiones, figura A.2.3-2, y del mapa de Zona de amenaza sísmica, figura A.2.3-1, encontramos que para Zonas de Amenaza sísmica Intermedia la región que predomina es la 3 y la 4, para Zona de amenaza sísmica Alta la que va de la región 5 a la 10, y para Zona de amenaza sísmica Baja la región 1 y 2; con fundamento en lo anterior el análisis lo realizaremos para la Zona de Amenaza Sísmica alta en región 8 con coeficientes de 0.4 y 0.4 para Aa y Av respectivamente, Zona de Amenaza Sísmica Intermedia en región 4 con coeficientes de 0.15 y 0.2 para Aa y Av respectivamente, y Zona de Amenaza Sísmica Baja en región 2 con coeficientes de 0.1 y 0.1 para Aa y Av respectivamente.

Zona	Ad	Aa	Av
Alta	0.10	0.40	0.40
Intermedia	0.06	0.15	0.20
Baja	0.03	0.10	0.10

Coeficientes Aa / Av /Ad consolidados para evaluación de espectro elástico de aceleraciones

La norma NSR-10 clasifica los suelos de acuerdo con una escala que va del tipo de perfil del A al F, numeral A.2.4.4 – tabla A.2.4-1 de la norma NSR-10, de tal manera que de acuerdo con esto y con los coeficientes Aa y Av se obtengan los valores del coeficiente de amplificación que afecta la aceleración en la zona de periodos cortos, debida a los efectos de sitio, Fa, y del coeficiente de amplificación que afecta la aceleración en la zona de periodos Intermedios, debida a los efectos de sitio, Fv.

Tabla A.2.4-1
Clasificación de los perfiles de suelo

Tipo de perfil	Descripción	Definición
A	Perfil de roca competente	$\bar{v}_s \geq 1500$ m/s
B	Perfil de roca de rigidez media	1500 m/s $\geq \bar{v}_s \geq 760$ m/s
C	Perfiles de suelo muy denso o roca blanda, que cumplan con el criterio de velocidad de la onda de cortante, o	760 m/s $\geq \bar{v}_s \geq 360$ m/s
	perfiles de suelo muy denso o roca blanda que cumplan con cualquiera de los dos criterios	$\bar{N} \geq 50$ golpes/pie $\bar{s}_u \geq 100$ kPa (1 kg/cm^2)
D	Perfiles de suelo rígido que cumplan con el criterio de velocidad de la onda de cortante, o	360 m/s $\geq \bar{v}_s \geq 180$ m/s
	perfiles de suelo rígido que cumplan cualquiera de los dos criterios	$15 \leq \bar{N} \leq 50$ 50 kPa (0.5 kg/cm^2) $\leq \bar{s}_u \leq 100$ kPa (1 kg/cm^2)
E	Perfil que cumpla el criterio de velocidad de la onda de cortante, o	$\bar{v}_s < 180$ m/s
	perfil que contenga un espesor total H mayor de 3 m de arcillas blandas	IP > 20 w ≥ 40% $\bar{s}_u < 50$ kPa (0.5 kg/cm^2)
F	Los perfiles de suelo tipo F requieren una evaluación específica del sitio por ingenieros geotecnistas de acuerdo con lo establecido en el A.2.4.6. Se consideran las siguientes subclases:	
	F_1 — Suelos susceptibles a la falla o colapso causado por la saturación sísmica, tales como suelos licuables, arcillas sensitivas, suelos dispersivos o débilmente cementados, etc.	
	F_2 — Turba y arcillas orgánicas y muy orgánicas (H > 3 m para turba o arcillas orgánicas y muy orgánicas)	
	F_3 — Arcillas de muy alta plasticidad (H > 7.5 m con índice de Plasticidad IP > 75)	
	F_4 — Perfiles de gran espesor de arcillas de rigidez mediana a blanda (H > 36 m)	

Con los coeficientes Aa / Av y el tipo del perfil de suelo se obtienen los valores de Fa y Fv en las tablas A.2.4.-3 y A.2.4-4 del título A de la norma NSR-10, ahora bien de acuerdo con la descripción del tipo de perfil de suelos dada en la tabla A.2.4-1 de la NSR-10 es posible clasificar los perfiles por grupos así: suelos constituidos por roca competente y rígida, grupo AB, suelos muy densos a rígidos, grupo CD, suelos conformados por arcillas blandas, grupo E; por tal motivo y debido a lo anterior se hace necesario construir gráficos para obtener valores de Fa / Fv en función de los coeficientes Aa / Av y los perfiles de suelos entre A y B para el grupo AB, entre C y D para el grupo CD, y entre E y F para el grupo EF

Tabla A.2.4-3
Valores del coeficiente F_a, para la zona de períodos cortos del espectro

Tipo de Perfil	Intensidad de los movimientos sísmicos				
	$A_a \leq 0.1$	$A_a = 0.2$	$A_a = 0.3$	$A_a = 0.4$	$A_a \geq 0.5$
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.2	1.2	1.1	1.0	1.0
D	1.6	1.4	1.2	1.1	1.0
E	2.5	1.7	1.2	0.9	0.9
F	Véase nota	Véase nota	Véase nota	Véase nota	Véase nota

Nota: Para el perfil tipo F debe realizarse una investigación geotécnica particular para el lugar específico y debe llevarse a cabo un análisis de amplificación de onda de acuerdo con A.2.10

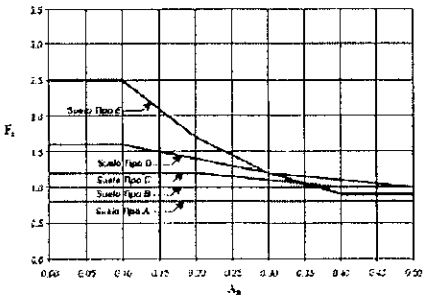


Figura A.2.4-1 - Coeficiente de amplificación F_a del suelo para la zona de períodos cortos del espectro

Tabla A.2.4-4
Valores del coeficiente F_v, para la zona de períodos intermedios del espectro

Tipo de Perfil	Intensidad de los movimientos sísmicos				
	$A_v \leq 0.1$	$A_v = 0.2$	$A_v = 0.3$	$A_v = 0.4$	$A_v \geq 0.5$
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.7	1.6	1.5	1.4	1.3
D	2.4	2.0	1.8	1.6	1.5
E	3.5	3.2	2.8	2.4	2.4
F	Véase nota	Véase nota	Véase nota	Véase nota	Véase nota

Nota: Para el perfil tipo F debe realizarse una investigación geotécnica particular para el lugar específico y debe llevarse a cabo un análisis de amplificación de onda de acuerdo con A.2.10.

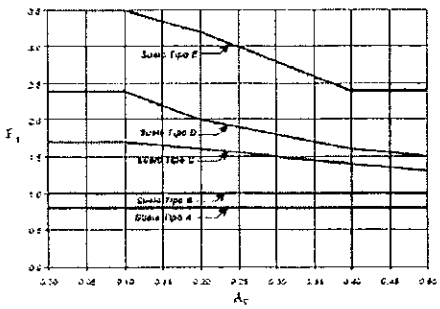
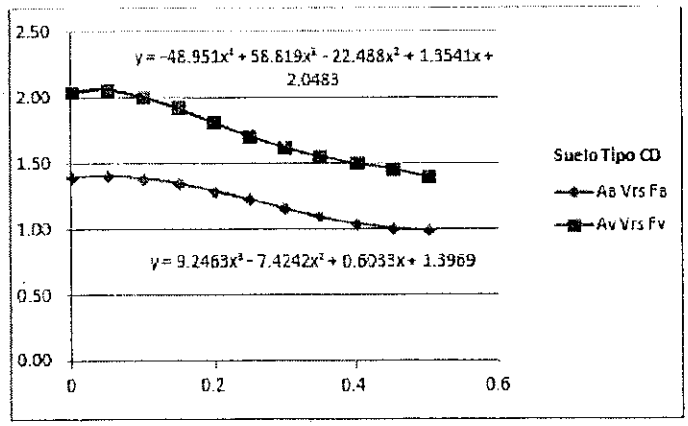


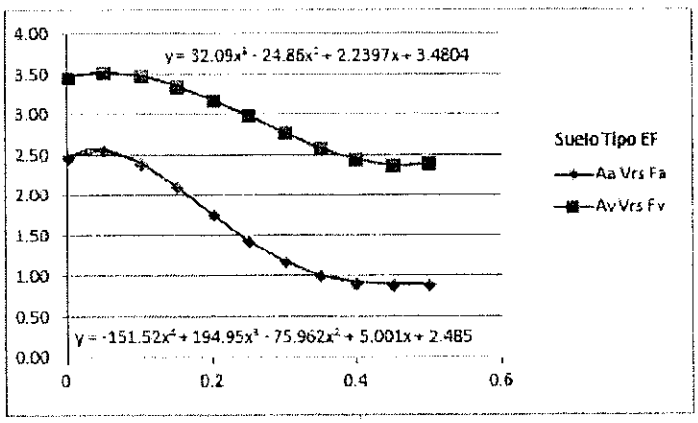
Figura A.2.4-2 – Coeficiente de amplificación F_v del suelo para la zona de períodos intermedios del espectro

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	C-D		EF	
Aa/Av	Fa	Fv	Fa	Fv
0	1.40	2.05	2.49	3.48
0.05	1.41	2.07	2.57	3.53
0.1	1.39	2.01	2.41	3.49
0.15	1.35	1.92	2.11	3.37
0.2	1.29	1.81	1.76	3.19
0.25	1.23	1.71	1.44	2.99
0.3	1.18	1.62	1.19	2.78
0.35	1.10	1.55	1.01	2.59
0.4	1.04	1.50	0.93	2.45
0.45	1.01	1.46	0.90	2.33
0.5	1.00	1.43	0.89	2.40

Tabla de valores de Fa / Fv en función de coeficientes Aa / Av y perfil de suelos por Grupo



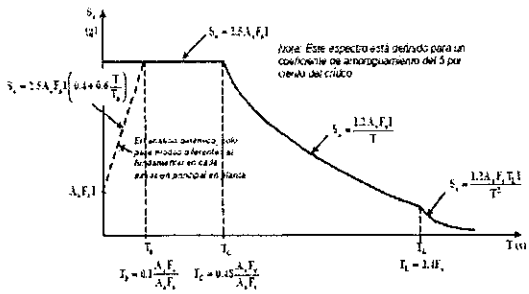


Gráficos con valores de Fa / Fv en función de coeficientes Aa / Av y perfil de suelos por Grupo, preparados a partir de tabla de valores para grupos de suelos

La edificación en estudio se analizó globalmente para dos (2) consideraciones, una que corresponde a un estado de servicio en el que la operatividad de la estructura se verificará manteniendo las deformaciones por carga sísmica dentro de las derivas máximas permitidas por la Norma NSR-10, y la otra asegurando que la resistencia de los elementos estructurales ante cargas ultimas sea mayor a las que por las solicitaciones de las diferentes cargas se producen en la estructura; el 1er caso se cumple verificando que la edificación se mantenga dentro del rango elástico de respuesta al verse sometida ante cargas sísmicas correspondientes al inicio del daño, o umbral de daño, y para el caso de diseño opteniendo la carga sísmica por medio del espectro elástico de aceleraciones, en ambos casos la carga sísmica sobre la estructura se obtuvo por medio de la forma del espectro elástico de aceleraciones, Sd o Sa, aplicada sobre la masa propia de la edificación.

Se debe tener en cuenta que los movimientos sísmicos del umbral de daño aplican a edificaciones clasificadas como indispensables de los grupos de uso III y IV.

El espectro elástico de aceleraciones, Sa, expresada como la fracción de la gravedad, para un coeficiente de cinco por ciento (5%) del amortiguamiento critico, que se utilizará en el análisis y diseño se definió de acuerdo con el numeral A.2.6 de NSR-10 y corresponde a:



Forma del espectro elástico de aceleraciones como fracción de la gravedad para diseño

El espectro de aceleraciones horizontales para el umbral de daño en el campo elástico, para un amortiguamiento critico del 2%, Sd, expresado como la fracción de la gravedad que se utilizará para verificación de derivas de acuerdo con el numeral A.12.3 de NSR-10 corresponde a:

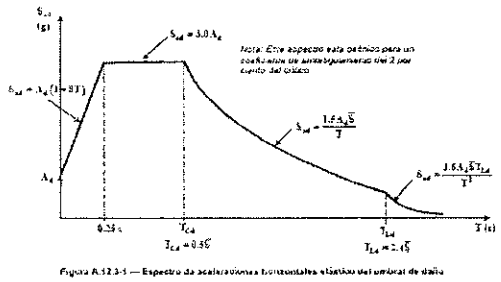


Figura A.12.3-1 — Espectro de aceleraciones horizontales elástico del umbral de daño

Forma del espectro elástico de aceleraciones en el umbral de daño como una fracción de la gravedad, para verificación de derivas

La deriva máxima permitida, para cualquier piso no puede exceder los límites definidos en la tabla A.6.4.-1 de NSR-10

Derivas máximas como porcentaje de h_{pi}

Estructuras de:	Deriva máxima
concreto reforzado, metálicas, de madera, y de mampostería que cumplen los requisitos de A.6.4.2.2	$1.0\% \left(\Delta^i_{max} \leq 0.010\ h_{pi}\right)$
de mampostería que cumplen los requisitos de A.6.4.2.3	$0.5\% \left(\Delta^i_{max} \leq 0.005\ h_{pi}\right)$

Deriva máxima permitida – Numeral A.6.4 de NSR-10

La deriva máxima permitida, para el umbral de daño, en cualquier punto de la edificación no puede exceder los límites definidos en la tabla A.12.5.-1 de NSR-10

Tabla A.12.5-1
Derivas máximas para el umbral de daño como porcentaje de h_{pi}

Estructuras de:	Deriva máxima
concreto reforzado, metálicas, de madera, y de mampostería que cumplen los requisitos de A.12.5.3.1	$0.40\% \left(\Delta^i_{max} \leq 0.0040\ h_{pi}\right)$
de mampostería que cumplen los requisitos de A.12.5.3.2	$0.20\% \left(\Delta^i_{max} \leq 0.0020\ h_{pi}\right)$

A continuación se presenta el cálculo del espectro de aceleraciones horizontales para cada grupo de suelos; el análisis dinámico empleado en el presente estudio corresponde al Método del Análisis Dinámico Elástico Espectral, por tal motivo en los cálculos que se presentan a continuación se efectúa también el ajuste de los resultados de acuerdo con el numeral A.5.4.5 de la norma NSR-10.

Los efectos dinámicos sobre la estructura producidos por el sismo se calcularon a través del método Dinámico Elástico Espectral descrito en el numeral A.5.4 del título A de la norma NSR-10.

Las fuerzas sísmicas se identifican en el modelo matemático con Fx/y y Ex/y, la primera corresponde a la carga para la determinación de desplazamientos laterales (deriva en X/Y) y la segunda a la fuerza sísmica para diseño

Fx/y = Fuerza sísmica para determinación de derivas en sentido X / Y

Ex/y = Fuerza sísmica para Diseño de elementos = Fx/y / $_{p\ a\ r}$ Ro

$_{p,\ a}$ corresponden a los factores de reducción por irregularidades en planta y altura del coeficiente de disipación de energía básico Ro, para los casos en estudio ambos factores tienen un valor de 1.0

$_{r}$ corresponde al factor de reducción por ausencia de redundancia, para los casos en estudio los valores son los siguientes:

Estructuras en Zona de Amenaza Sísmica Alta => DES => $_{r}$ = 0.75 - Num. A.3.3.8.2 de NSR-10

Estructuras en Zona de Amenaza Sísmica Inter. => DMO => $_{r}$ = 0.75 - Num. A.3.3.8.2 de NSR-10

Estructuras en Zona de Amenaza Sísmica Baja => DMI => $_{r}$ = 1.0 - Num. A.3.3.8.1 de NSR-10

El coeficiente de disipación de energía básico Ro asignado para los casos en estudio corresponde a:

Estructuras en Zona de Amenaza Sísmica Alta => DES => Ro = 7.0 – Tabla A.3.3. de NSR-10

Estructuras en Zona de Amenaza Sísmica Inter. => DMO => Ro = 5.0 – Tabla A.3.3. de NSR-10

Estructuras en Zona de Amenaza Sísmica Baja => DMI => Ro = 2.5 – Tabla A.3.3. de NSR-10

6.1.5.1. Zona Alta

Espectro de aceleraciones horizontales del Umbral de daño, Zona de Amenaza Sísmica Alta– Perfil de suelo AB/CD/E

ANALISIS SISMICO

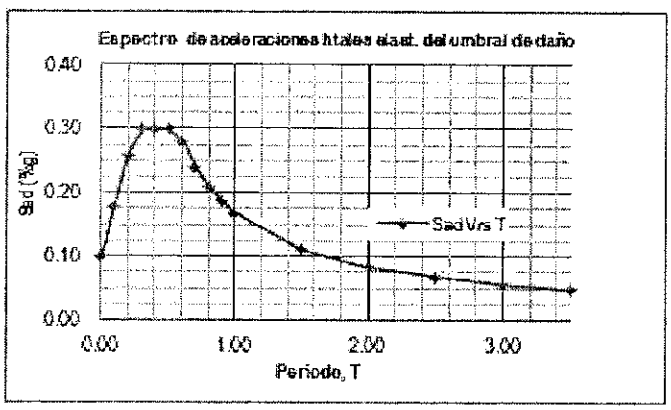
El procedimiento que se seguirá para efectos de tener en cuenta los efectos dinámicos producidos en la estructura por el sismo de diseño será el Método del Análisis Dinámico Elástico Espectral, este se describe en el numeral A.5.4 de la N.S.R-10.

PARAMETROS PARA EL ANALISIS		Derivas
Grupo de Uso :	III	NSR-10, Tabla A.2.5-1
Coeficiente de Importancia (I) =	1.00	NSR-10, A.6.2.1.2

MOVIMIENTO SISMICO DE DISEÑO
ESPECTRO DE DISEÑO

Localización de Proyecto (Zona):	Alta
Perfil de Suelo	A-B
Ad (g) = Acel. hrz. pico efectiva para umbral de daño =	0.10
Aa (g) = Acel. hrz. pico efectiva, para diseño =	0.40
Av (g) = Acel. de la vel. pico efec. para diseño =	0.40
Fa = Coef. de ampl. afecta la acel. en zona de T_{corto} =	0.90
Fv = Coef. de ampl. afecta la vel. en zona de T_{roc} =	0.90
T_{cd} (s) = 0.25 sg	0.25
T_{ao} (s) = 0.5 (1.25Fv)=	0.56
T_{Lo} (s) = 2.4 (1.25Fv)=	2.70
I = Coef. de importancia	1.00

T (seg)	A-B S_{ad} %g
0.00	0.10
0.10	0.18
0.20	0.26
0.30	0.30
0.40	0.30
0.50	0.30
0.60	0.26
0.70	0.24
0.80	0.21
0.90	0.19
1.00	0.17
1.50	0.11
2.00	0.08
2.50	0.07
3.00	0.06
3.50	0.05
4.00	0.04
4.50	0.04
5.00	0.03



COEFICIENTE DE CAPACIDAD DE DISIPACION DE ENERGIA, R

(Sistema Estructural de Pórtico en Concreto)

$R = \Phi_a \Phi_p \Phi_r R_O$

Normas Aplicables: NSR-10, Numerales A.3.3.3, Tabla A.3-3, Tabla A.3-5 a la 7

Capacidad de Disipacion de Energia =	DES		
Zona Amenaza Sismica =	Alta	R_O = 7.00	Portico Resistente a Mtos
Uso Permitido =	Si		
Altura Máxima =	Sin Limite		

IRREGULARIDADES DE LA ESTRUCTURA

Irregularidad Torsional en Planta NSR-10, Capitulo A.3 figura A.3-1

No hay Irregularidad Torsional ϕ_x = 1.00

No hay Irregularidad Torsional ϕ_y = 1.00

CUBIERTA	*Sismo en X*	Δ_1 =	12.6	mm	Δ_2 =	12.6	mm	ϕ_x = 1.00
	Sismo en Y	Δ_1 =	7.5	mm	Δ_2 =	7.5	mm	ϕ_y = 1.00

Tipo 2P (Si o No):	N	ϕ_p =	1.00	*Tipo 3P* (Si o No):	S	ϕ_p =	0.90
Tipo 4P (Si o No):	N	ϕ_p =	1.00	*Tipo 5P* (Si o No):	N	ϕ_p =	1.00

Irregularidad Torsional en Altura NSR-10, Capitulo A.3 figura A.3-2

Tipo 1aA/1bA (Si o No):	N	ϕ_a =	1.00	*Tipo 2A* (Si o No):	N	ϕ_a =	1.00
Tipo 3A (Si o No):	N	ϕ_a =	1.00	*Tipo 4A* (Si o No):	N	ϕ_a =	1.00
Tipo 5aA/5bA (Si o No):	N	ϕ_a =	1.00				

Irregularidad en Planta, ϕ_x =	0.90	Rx = 6.30	
Irregularidad en Planta, ϕ_y =	0.90		Portico Resistente a Mtos
Irregularidad en altura, ϕ_a =	1.00	Ry = 4.73	
Ausencia de redundancia, r_x =	1.00		
Ausencia de redundancia, r_y =	0.75		

Tx = 0.38 sg
Ty = 0.28 sg

CORRECCION DE R PARA PERIODOS DE VIBRACION QUE TIENDAN A CERD NSR-10, Numeral A.2.9.4

RCx = (R-1) T/To + 1 ≤ R = 21.07

Rx = 6.30

RCy = (R-1) T/To + 1 ≤ R = 11.59

Ry = 4.73

M = 113.13 kN sg^2/m
Tx = 0.379 sg
Ty = 0.284 sg

Numero de Modos de Vibración (NM)
NSR-10, Capitulo A.5 Numeral A.5.4.2
p = 3

Combinación de los Modos
NSR-10, Capitulo A.5 Numeral A.5.4.4
Combinación Modal: CQC
Combinación Direccional: SRSS

Análisis
Descripción: La estructura se modeló en ETABS, *Versión 9.7.4.* Para efectos de conocer el periodo de la estructura ver resultados de análisis modal

Participación de masa en X, %Mx =	99.9%	p es el adecuado => Ok	NSR-10, Capitulo A.5
Participación de masa en Y, %My = (Ver resultados de Análisis Modal)	99.7%	p es el adecuado => Ok	Numeral A.5.4.2

Ajuste de los Resultados — NSR-10, Capitulo A.5 Numeral A.5.4.5

Clasificación de la estructura (Regular o Irregular) = I
= 0.90 Cu= 1.75 - 1.2AvFv = 1.318
C_t = 0.047 $Cu Ta (sg) = Cu C_t h_n$ = 0.26 Vs = Sd g M = 333 kN — NSR-10, Capitulo A.4, Numerales A.4.2.2
h_n (m) = 4.90 Sa = 0.30

Cortante Dinamico (sin corregir)

Cortante Dinámico Total en la Base, Vi_{tx} = 298 kN — ***Vtx > 0.9* Vs => Ok No Ajustar Resultados*** — SF_x = 1.00
Cortante Dinámico Total en la Base, Vi_{ty} = 272 kN — ***Vty < 0.9*Vs => Ajustar Resultados*** — SF_y = 1.10

Cortante Dinamico (Corregidos)

Cortante Dinámico Total en la Base, Vf_{tx} = 298 kN — $Vf_{tx} = SFx\ Vf_{tx}$ — *en modelo:* $F_{x/y} = SF_{x/y}\ Sa\ M$ — SF_x = 1.00
Cortante Dinámico Total en la Base, Vf_{ty} = 299 kN — $Vf_{ty} = SFy\ Vf_{ty}$ — SF_y = 1.00

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Espectro de aceleraciones para diseño, para Zona de amenaza sísmica Alta, y para cada grupo de perfil de suelos.

Espectro de aceleraciones, Zona de Amenaza Sísmica Alta – Perfil de suelo AB

ANALISIS SISMICO

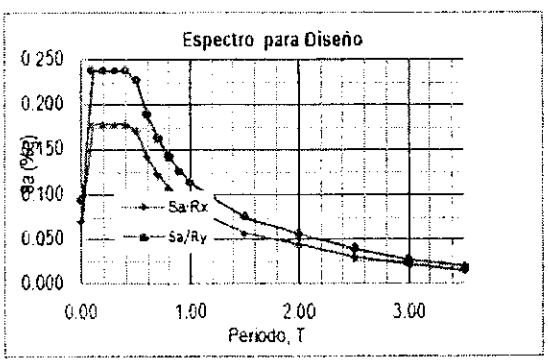
El procedimiento que se seguirá para efectos de tener en cuenta los efectos dinámicos producidos en la estructura por el sismo de diseño será el Método del Análisis Dinamico Elastico Espectral, este se describe en el numeral A.5.4 de la N.S.R-10.

PARAMETROS PARA EL ANALISIS		Diseño
Grupo de Uso :	III	NSR-10, Tabla A.2.5-1
Coeficiente de Importancia (I) =	1.25	NSR-10, A.6.2.1.2

MOVIMIENTO SISMICO DE DISEÑO
ESPECTRO DE DISEÑO

Localización de Proyecto (Zona):	Alta
Perfil de Suelo	AB
Aa (g) = Acel. intal pico efectiva, para diseño =	0.40
Av (g) = Acel. de la vel. pico efec. para diseño =	0.40
Fa = Coef. de ampl. afecta la acel. en zona de T_{corto} =	0.90
Fv = Coef. de ampl. afecta la vel. en zona de T_{medio} =	0.90
T_o (s) = Periodo Inicial	0.10
T_c (s) = Periodo Corto	0.48
T_L (s) = Periodo largo	2.16
I = Coef. de Importancia	1.25

T (seg)	AB S_a %g
0.00	0.45
0.10	1.13
0.20	1.13
0.30	1.13
0.40	1.13
0.50	1.08
0.60	0.90
0.70	0.77
0.80	0.68
0.90	0.60
1.00	0.54
1.50	0.36
2.00	0.27
2.50	0.19
3.00	0.13
3.50	0.10
4.00	0.07
4.50	0.06
5.00	0.05



INGENIERIA ESTRUCTURAL S.A.S
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Espectro de aceleraciones, Zona de Amenaza Sísmica Alta – Perfil de suelo CD

ANALISIS SISMICO

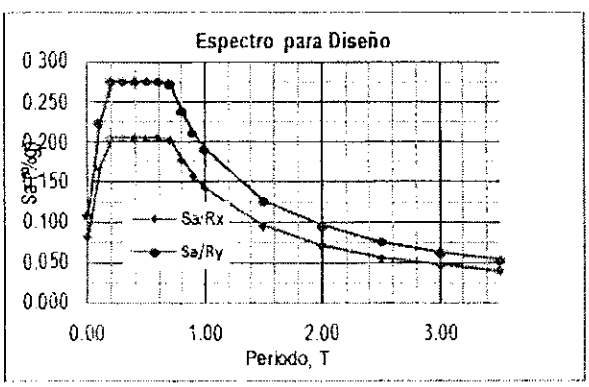
El procedimiento que se seguirá para efectos de tener en cuenta los efectos dinámicos producidos en la estructura por el sismo de diseño será el Método del Análisis Dinamico Elastico Espectral, este se describe en el numeral A.5.4 de la N.S.R-10.

PARAMETROS PARA EL ANALISIS	- Diseño	
Grupo de Uso :	III	NSR-10, Tabla A.2.5-1
Coeficiente de Importancia (I) =	1.25	NSR-10, A.6.2.1.2

MOVIMIENTO SISMICO DE DISEÑO
ESPECTRO DE DISEÑO

Localización de Proyecto (Zona):	Asa
Perfil de Suelo	CD
Aa (g) = Acel. hal pico efectiva, para diseño =	0.40
Av (g) = Acel. de la vel. pico efec. para diseño =	0.40
Fa = Coef. de ampl. afecta la acel. en zona de T_{corto} =	1.04
Fv = Coef. de ampl. afecta la vel. en zona de $T_{med.}$ =	1.50
T_o (s) = Periodo Inicial	0.14
T_c (s) = Periodo Corto	0.69
T_L (s) = Periodo largo	3.61
I = Coef. de Importancia	1.25

T (seg)	CD S_a %g
0.00	0.52
0.10	1.06
0.20	1.30
0.30	1.30
0.40	1.30
0.50	1.30
0.60	1.30
0.70	1.29
0.80	1.13
0.90	1.00
1.00	0.90
1.50	0.60
2.00	0.45
2.50	0.35
3.00	0.30
3.50	0.26
4.00	0.20
4.50	0.16
5.00	0.13



INGENIERIA ESTRUCTURAL S.A.S
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Nit.900482474-1

Espectro de aceleraciones, Zona de Amenaza Sísmica Alta – Perfil de suelo E

ANALISIS SISMICO

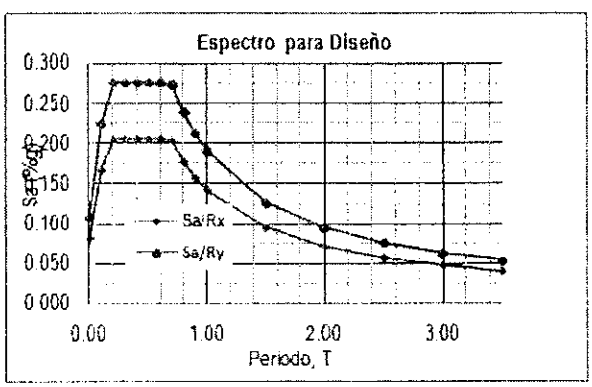
El procedimiento que se seguirá para efectos de tener en cuenta los efectos dinámicos producidos en la estructura por el sismo de diseño será el Método del Análisis Dinamico Elassico Espectral, este se describe en el numeral A.5.4 de la N.S.R-10.

PARAMETROS PARA EL ANALISIS	Diseño	
Grupo de Uso :	III	NSR-10, Tabla A.2.5-1
Coeficiente de Importancia (I) =	1.25	NSR-10, A.6.2.1.2

MOVIMIENTO SISMICO DE DISEÑO
ESPECTRO DE DISEÑO

Localización de Proyecto (Zona):	Alta
Perfil de Suelo	E
Aa (g) = Acel. hal pico efectva, para diseño =	0.40
Av (g) = Acel. de la vel. pico efec. para diseño =	0.40
Fa = Coef. de ampl. afecta la acel. en zona de T_{corto} =	0.93
Fv = Coef. de ampl. afecta la vel. en zona de T_{inter} =	2.45
T_o (s) = Periodo Inicial	0.26
T_c(s) = Periodo Corto	1.27
T_L(s) = Periodo largo	5.89
I = Coef. de Importancia	1.25

T (seg)	E S_a %g
0.00	0.46
0.10	0.73
0.20	0.99
0.30	1.16
0.40	1.16
0.50	1.16
0.60	1.16
0.70	1.16
0.80	1.16
0.90	1.16
1.00	1.16
1.50	0.98
2.00	0.74
2.60	0.59
3.00	0.49
3.50	0.42
4.00	0.37
4.50	0.33
5.00	0.29



6.1.5.2. Zona Intermedia

Espectro de aceleraciones horizontales del Umbral de daño, Zona de Amenaza Sísmica Intermedia– Perfil de suelo AB/CD/E

ANALISIS SISMICO

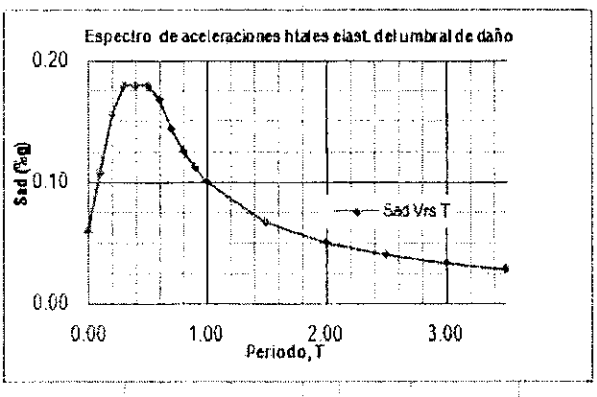
El procedimiento que se seguirá para efectos de tener en cuenta los efectos dinámicos producidos en la estructura por el sismo de diseño será el Método del Análisis Dinamico Elastico Espectral, este se describe en el numeral A.5.4 de la N.S.R-10.

PARAMETROS PARA EL ANALISIS		Derivas
Grupo de Uso :	III	NSR-10, Tabla A.2.5-1
Coeficiente de Importancia (I) =	1.00	NSR-10, A.6.2.1.2

MOVIMIENTO SISMICO DE DISEÑO
ESPECTRO DE DISEÑO

Localización de Proyecto (Zona):	Intermedia
Perfil de Suelo	AB
Ad (g) = Acel. mat pico efectiva para umbral de daño =	0.06
Aa (g) = Acel. mat pico efectiva, para diseño =	0.15
Av (g) = Acel. de la vel. pico efec. para diseño =	0.20
Fa = Coef. de ampl. afecta la acel. en zona de T_{corto} =	0.90
Fv = Coef. de ampl. afecta la vel. en zona de $T_{1.0s}$ =	0.90
T_{od} (s) = 025 sg	0.25
T_{cd} (s) = 0.5 (1.25Fv)=	0.56
T_{Lo} (s) = 2.4 (1.25Fv)=	2.70
I = Coef. de Importancia	1.00

T (seg)	AB S_{ad} %g
0.00	0.06
0.10	0.11
0.20	0.16
0.30	0.18
0.40	0.18
0.50	0.18
0.60	0.17
0.70	0.14
0.80	0.13
0.90	0.11
1.00	0.10
1.50	0.07
2.00	0.05
2.50	0.04
3.00	0.03
3.50	0.03
4.00	0.03
4.50	0.02
5.00	0.02



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COEFICIENTE DE CAPACIDAD DE DISIPACION DE ENERGIA, R

(Sistema Estructural de Pórtico en Concreto)

$R = \Phi_a \Phi_p \Phi_r R_o$

Normas Aplicables: NSR-10, Numerales A.3.3.3, Tabla A.3-3, Tabla A.3-5 a la 7

Capacidad de Disipación de Energía =	DMO		
Zona Amenaza Sísmica =	Intermedia	R_o = 5.00	Portico Resistente a Mtos
Uso Permitido =	Sí		
Altura Máxima =	Sin Limite		

IRREGULARIDADES DE LA ESTRUCTURA

Irregularidad Torsional en Planta NSR-10, Capitulo A.3 figura A.3-1

No hay Irregularidad Torsional Φ_{px} = 1.00

No hay Irregularidad Torsional Φ_{py} = 1.00

CUBIERTA	*Sismo en X*	Δ_1 =	6.6 mm	Δ_2 =	6.6 mm	Φ_{px} =	1.00	
	Sismo en Y	Δ_1 =	4.3 mm	Δ_2 =	4.3 mm	Φ_{py} =	1.00	

Tipo 2P (Si u No):	N	Φ_p =	1.00	*Tipo 3P* (Si o No):	S	Φ_p =	0.90
Tipo 4P (Si o No):	N	Φ_p =	1.00	*Tipo 5P* (Si o No):	N	Φ_p =	1.00

Irregularidad Torsional en Altura NSR-10, Capitulo A.3 figura A.3-2

Tipo 1aA/1bA (Si o No):	N	Φ_a =	1.00	*Tipo 2A* (Si o No):	N	Φ_a =	1.00
Tipo 3A (Si o No):	N	Φ_a =	1.00	*Tipo 4A* (Si o No):	N	Φ_a =	1.00
Tipo 5aA/5bA (Si o No):	N	Φ_a =	1.00				

Irregularidad en Planta, Φ_{px} =	0.90	Rx = 4.50	
Irregularidad en Planta, Φ_{py} =	0.90		Portico Resistente a Mtos
Irregularidad en altura, Φ_a =	1.00	Ry = 3.38	
Ausencia de redundancia, Φ_{rx} =	1.00		
Ausencia de redundancia, Φ_{ry} =	0.75		

Tx = 0.38 sg
Ty = 0.28 sg

CORRECCION DE R PARA PERIODOS DE VIBRACION QUE TIENDAN A CERO NSR-10, Numeral A.2.9.4

$R_{Cx} = (R-1)\, T/To + 1 \leq R$ = 10.94

Rx = 4.50

$R_{Cy} = (R-1)\, T/To + 1 \leq R$ = 6.06

Ry = 3.38

M = 113.13 kN sg^2/m
Tx = 0.379 sg
Ty = 0.284 sg

Numero de Modos de Vibración (NM)
NSR-10, Capitulo A.5 Numeral A.5.4.2
p = 3

Combinación de los Modos
NSR-10, Capitulo A.5 Numeral A.5.4.4
Combinación Modal: CQC
Combinación Direccional: SRSS

Análisis
Descripción: La estructura se modeló en ETABS, ***Versión 9.7.4.*** Para efectos de conocer el periodo de la estructura ver resultados de análisis modal

Participación de masa en X, %Mx =	99.9%	p es el adecuado => Ok	NSR-10, Capitulo A.5
Participación de masa en Y, %My =	99.7%	p es el adecuado => Ok	Numeral A.5.4.2

(Ver resultados de Análisis Modal)

Ajuste de los Resultados NSR-10, Capitulo A.5 Numeral A.5.4.5

Clasificación de la estructura (Regular o Irregular) = I

= 0.90 Cu= 1.75 - 1.2AuFv = 1.534

C_t = 0.047 $Cu Ta (sg) = Cu C_t h_n^{\alpha}$ = 0.30 Vs = Sd g M = 200 kN

h_n (m) = 4.90 Sa = 0.18

NSR-10, Capitulo A.4, Numerales A.4.2.2

Cortante Dinamico (sin corregir)

Cortante Dinámico Total en la Base, Vi_{tx} = 179 kN ***Vtx > 0.9* Vs => Ok No Ajustar Resultados*** SF_x = **1.00**

Cortante Dinámico Total en la Base, Vi_{ty} = 180 kN ***Vty > 0.9*Vs => Ok No Ajustar Resultados*** SF_y = **1.00**

Cortante Dinamico (Corregidos)

Cortante Dinámico Total en la Base, Vf_{tx} = 179 kN $Vf_{tx} = SFx\ Vf\ tx$ *en modelo:* $F_{x/y} = SF_{x/y}\ Sa\ M$ SF_x = **1.00**

Cortante Dinámico Total en la Base, Vf_{ty} = 180 kN $Vf_{ty} = SFy\ Vf\ ty$ SF_y = **1.00**

Espectro de aceleraciones para diseño, para Zona de amenaza sísmica Intermedia, y para cada grupo de perfil de suelos.

Espectro de aceleraciones, Zona de Amenaza Sísmica Intermedia – Perfil de suelo AB

ANALISIS SISMICO

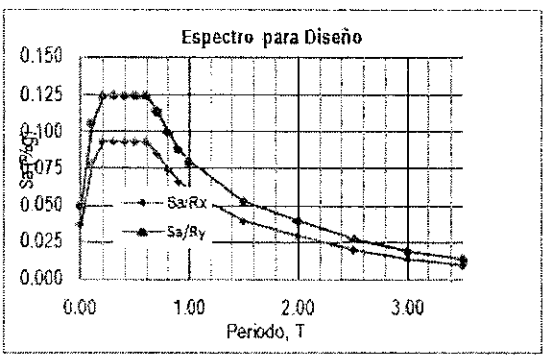
El procedimiento que se seguirá para efectos de tener en cuenta los efectos dinámicos producidos en la estructura por el sismo de diseño será el Método del Análisis Dinamico Elastico Espectral, este se describe en el numeral A.5.4 de la N.S.R-10.

PARAMETROS PARA EL ANALISIS		Diseño
Grupo de Uso :	III	NSR-10, Tabla A.2.5-1
Coeficiente de Importancia (I) =	1.25	NSR-10, A.6.2.1.2

MOVIMIENTO SISMICO DE DISEÑO
ESPECTRO DE DISEÑO

Localización de Proyecto (Zona):	Intermedia
Perfil de Suelo	AB
Aa (g) = Acel. hital pico efectiva, para diseño =	0.15
Av (g) = Acel. de la vel. pico efec. para diseño =	0.20
Fa = Coef. de ampl. afecta la acel. en zona de T_{corto} =	0.90
Fv = Coef. de ampl. afecta la vel. en zona de T_{inter} =	0.90
T_o (s) = Periodo Inicial	0.13
T_c (s) = Periodo Corto	0.64
T_L (s) = Periodo largo	2.16
I = Coef. de Importantancia	1.25

T (seg)	AB S_a %g
0.00	0.17
0.10	0.36
0.20	0.42
0.30	0.42
0.40	0.42
0.50	0.42
0.60	0.42
0.70	0.39
0.80	0.34
0.90	0.30
1.00	0.27
1.50	0.18
2.00	0.14
2.50	0.09
3.00	0.06
3.50	0.05
4.00	0.04
4.50	0.03
5.00	0.02



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Espectro de aceleraciones, Zona de Amenaza Sísmica Intermedia – Perfil de suelo CD

ANALISIS SISMICO

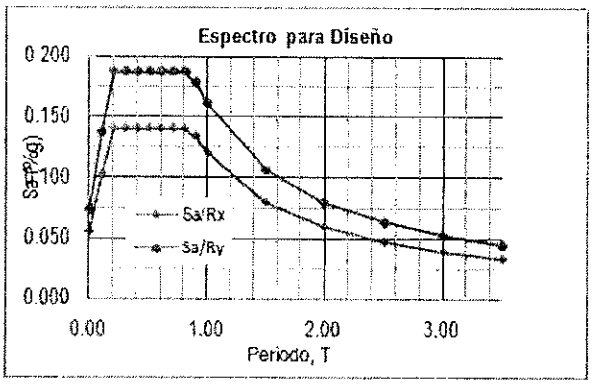
El procedimiento que se seguirá para efectos de tener en cuenta los efectos dinámicos producidos en la estructura por el sismo de diseño será el Método del Análisis Dinamico Elastico Espectral, este se describe en el numeral A.5.4 de la N.S.R-10.

PARAMETROS PARA EL ANALISIS		Diseño
Grupo de Uso :	III	NSR-10, Tabla A.2.5-1
Coeficiente de Importancia (I) =	1.25	NSR-10, A.6.2.1.2

MOVIMIENTO SISMICO DE DISEÑO
ESPECTRO DE DISEÑO

Localización de Proyecto (Zona):	Intermedia
Perfil de Suelo	CD
Aa (g) = Acel. hal pico efectiva, para diseño =	0.15
Av (g) = Acel. de la vel. pico efec. para diseño =	0.20
Fa = Coef. de ampl. afecta la acel. en zona de T_{corto} =	1.35
Fv = Coef. de ampl. afecta la vel. en zona de T_{Fval} =	1.81
T_o (s) = Periodo Inicial	0.18
T_c(s) = Periodo Corto	0.86
T_L(s) = Periodo largo	4.35
I = Coef. de Importantancia	1.25

T (seg)	CD S_a %g
0.00	0.25
0.10	0.47
0.20	0.63
0.30	0.63
0.40	0.63
0.50	0.63
0.60	0.63
0.70	0.63
0.80	0.63
0.90	0.60
1.00	0.54
1.50	0.36
2.00	0.27
2.50	0.22
3.00	0.18
3.50	0.16
4.00	0.14
4.50	0.12
5.00	0.09



INGENIERIA ESTRUCTURAL S.A.S
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Espectro de aceleraciones, Zona de Amenaza Sísmica Intermedia – Perfil de suelo E

ANALISIS SISMICO

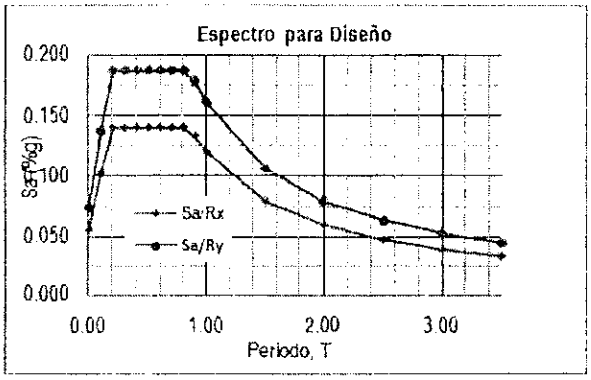
El procedimiento que se seguirá para efectos de tener en cuenta los efectos dinámicos producidos en la estructura por el sismo de diseño será el Método del Análisis Dinamico Elastico Espectral, este se describe en el numeral A.5.4 de la N.S.R-10.

PARAMETROS PARA EL ANALISIS		Diseño
Grupo de Uso :	III	NSR-10, Tabla A.2.5-1
Coeficiente de Importancia (I) =	1.25	NSR-10, A.6.2.1.2

MOVIMIENTO SISMICO DE DISEÑO
ESPECTRO DE DISEÑO

Localización de Proyecto (Zona):	Intermedia
Perfil de Suelo	E
Aa (g) = Acel. hial pico efecava, para diseño =	0.15
Av (g) = Acel. de la vel. pico efec. para diseño =	0.20
Fa = Coef. de ampl. afecta la acel. en zona de T_{corto} =	2.11
Fv = Coef. de ampl. afecta la vel. en zona de T_{inter} =	3.19
T_o (s) = Periodo Inicial	0.20
T_c(s) = Periodo Corto	0.97
T_L(s) = Periodo largo	7.66
I = Coef. de Importancia	1.25

T (seg)	E S_a %g
0.00	0.40
0.10	0.69
0.20	0.98
0.30	0.99
0.40	0.99
0.50	0.99
0.60	0.99
0.70	0.99
0.80	0.99
0.90	0.99
1.00	0.96
1.50	0.64
2.00	0.48
2.50	0.38
3.00	0.32
3.50	0.27
4.00	0.24
4.50	0.21
5.00	0.19



6.1.5.3. Zona Baja

Espectro de aceleraciones horizontales del Umbral de daño, Zona de Amenaza Sísmica Baja– Perfil de suelo AB/CD/E

ANALISIS SISMICO

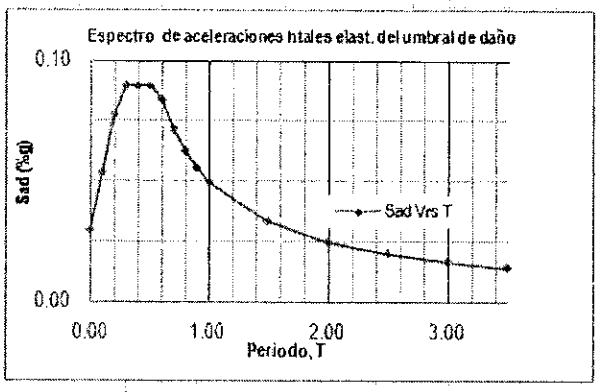
El procedimiento que se seguirá para efectos de tener en cuenta los efectos dinámicos producidos en la estructura por el sismo de diseño será el Método del Análisis Dinamico Elassico Espectral, este se describe en el numeral A.5.4 de la N.S.R-10.

PARAMETROS PARA EL ANALISIS	Derivas	
Grupo de Uso :	III	NSR-10, Tabla A.2.5-1
Coeficiente de Importancia (I) =	1.00	NSR-10, A.6.2.1.2

MOVIMIENTO SISMICO DE DISEÑO
ESPECTRO DE DISEÑO

Localización de Proyecto (Zona):	Baja
Perfil de Suelo	AB
Ad (g) = Acel. hzal pico efectiva para umbral de daño =	0.03
Aa (g) = Acel. hzal pico efectiva, para diseño =	0.10
Av (g) = Acel. de la vel. pico efec. para diseño =	0.10
Fa = Coef. de ampl. afecta la acel. en zona de T_{corto} =	0.90
Fv = Coef. de ampl. afecta la vel. en zona de $T_{inter.}$ =	0.90
T_{cd} (s) = 025 sg	0.25
T_{cd} (s) = 0.5 (1.25Fv)=	0.56
T_{Ld} (s) = 2.4 (1.25Fv)=	2.70
I = Coef. de Importantancia	1.00

T (seg)	AB S_{ad} %g
0.00	0.03
0.10	0.05
0.20	0.08
0.30	0.09
0.40	0.09
0.50	0.09
0.60	0.08
0.70	0.07
0.80	0.06
0.90	0.06
1.00	0.05
1.50	0.03
2.00	0.03
2.50	0.02
3.00	0.02
3.50	0.01
4.00	0.01
4.50	0.01
5.00	0.01



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COEFICIENTE DE CAPACIDAD DE DISIPACION DE ENERGIA, R

(Sistema Estructural de Pórtico en Concreto)

$R = a_p r R$

Normas Aplicables: NSR-10, Numerales A.3.3.3, Tabla A.3-3, Tabla A.3-5 a la 7

Capacidad de Disipación de Energía	DMI		
= Zona Amenaza Sísmica =	Baja	R^o = 2.50	Pórtico Resistente a Mtos
Uso Permitido =	Si		
Altura Máxima =	Sin Límite		

IRREGULARIDADES DE LA ESTRUCTURA

Irregularidad Torsional en Planta NSR-10, Capitulo A.3 figura A.3-1

No hay Irregularidad Torsional p_x = 1.00

No hay Irregularidad Torsional p_y = 1.00

CUBIERTA	*Sismo en X*	Δ_1 =	3.8 mm	Δ_2 =	3.8 mm	p_x =	1.00	
	Sismo en Y	Δ_1 =	2.1 mm	Δ_2 =	2.0 mm	p_y =	1.00	

Tipo 2P (Si o No):	N	p =	1.00	*Tipo 3P* (Si o No):	S	p =	0.90
Tipo 4P (Si o No):	N	p =	1.00	*Tipo 5P* (Si o No):	N	p =	1.00

Irregularidad Torsional en Altura NSR-10, Capitulo A.3 figura A.3-2

Tipo 1aA/1bA (Si o No):	N	a =	1.00	*Tipo 2A* (Si o No):	N	a =	1.00
Tipo 3A (Si o No):	N	a =	1.00	*Tipo 4A* (Si o No):	N	a =	1.00
Tipo 5aA/5bA (Si o No):	N	a =	1.00				

Irregularidad en Planta, p_x =	0.90	Rx = 2.25	
Irregularidad en Planta, p_y =	0.90		Pórtico Resistente a Mtos
Irregularidad en altura, a =	1.00	Ry = 1.69	
Ausencia de redundancia, r_x =	1.00		
Ausencia de redundancia, r_y =	0.75		

Tx = 0.40 sg

Ty = 0.30 sg

CORRECCION DE R PARA PERIDDDS DE VIBRACION QUE TIENDAN A CERO NSR-10, Numeral A.2.9.4

$R_{Cx} = (R-1)\,T/To + 1 \leq R$ = 6.01

Rx = 2.25

$R_{Cy} = (R-1)\,T/To + 1 \leq R$ = 3.06

Ry = 1.69

M = 111.53 kN sg^2/m
Tx = 0.401 sg
Ty = 0.300 sg

Numero de Modos de Vibración (NM)
NSR-10, Capitulo A.5 Numeral A.5.4.2
p = 3

Combinación de los Modos
NSR-10, Capitulo A.5 Numeral A.5.4.4
Combinación Modal: CQC
Combinación Direccional: SRSS

Análisis
Descripción. La estructura se modeló en ETABS, *Versión 9.7.4.* Para efectos de conocer el periodo de la estructura ver resultados de análisis modal

Participación de masa en X, %Mx =	99.9%	p es el adecuado => Ok	NSR-10, Capitulo A.5
Participación de masa en Y, %My =	99.7%	p es el adecuado => Ok	Numeral A.5.4.2
(Ver resultados de Análisis Modal)			

Ajuste de los Resultados NSR-10, Capitulo A.5 Numeral A.5.4.5

Clasificación de la estructura (Regular o Irregular) = I

= 0.90 Cu= 1.75 - 1.2AvFv = 1.642

C_t = 0.047 $Cu Ta_{(sg)} = Cu C_t h_n^{\alpha}$ = 0.32 Vs = Sd g M = 98 kN NSR-10, Capitulo A.4, Numerales A.4.2.2

h_n (m) = 4.90 Sa = 0.09

Cortante Dinamico (sin corregir)

Cortante Dinámico Total en la Base, Vi_{tx} = 88 kN ***Vtx > 0.9* Vs => Ok No Ajustar Resultados*** SF_x = 1.00

Cortante Dinámico Total en la Base, Vi_{ty} = 88 kN ***Vty > 0.9*Vs => Ok No Ajustar Resultados*** SF_y = 1.00

Cortante Dinamico (Corregidos)

Cortante Dinámico Total en la Base, Vf_{tx} = 88 kN $Vf_{tx} = SFx\ Vf\ tx$ *en modelo:* $F_{x/y} = SF_{x/y}\ Sa\ M$ SF_x = 1.00

Cortante Dinámico Total en la Base, Vf_{ty} = 88 kN $Vf_{ty} = SFy\ Vf\ ty$ SF_y = 1.00

Espectro de aceleraciones para diseño, para Zona de amenaza sísmica Baja, y para cada grupo de perfil de suelos.

Espectro de aceleraciones, Zona de Amenaza Sísmica Baja – Perfil de suelo AB

ANALISIS SISMICO

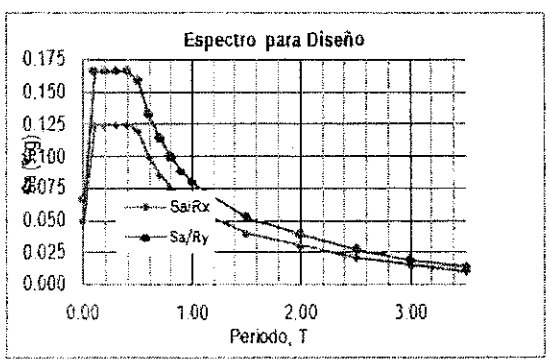
El procedimiento que se seguirá para efectos de tener en cuenta los efectos dinámicos producidos en la estructura por el sismo de diseño será el Método del Analisis Dinamico Elastico Espectral, este se describe en el numeral A.5.4 de la N.S.R-10.

PARAMETROS PARA EL ANALISIS		Diseño
Grupo de Uso :	III	NSR-10, Tabla A.2.5-1
Coeficiente de Importancia (I) =	1.25	NSR-10, A.6.2.1.2

MOVIMIENTO SISMICO DE DISEÑO
ESPECTRO DE DISEÑO

Localización de Proyecto (Zona):	Baja
Perfil de Suelo	AB
Aa (g) = Acel. hrial pico efectiva, para diseño =	0.10
Av (g) = Acel. de la vel. pico efec. para diseño =	0.10
Fa = Coef. de ampl. afecta la acel. en zona de T_{corto} =	0.90
Fv = Coef. de ampl. afecta la vel. en zona de T_{inter} =	0.90
T_o (s) = Periodo Inicial	0.10
T_c(s) = Periodo Corto	0.48
T_L(s) = Periodo largo	2.16
I = Coef. de Importancia	1.25

T (seg)	AB S_a %g
0.00	0.11
0.10	0.28
0.20	0.28
0.30	0.28
0.40	0.28
0.50	0.27
0.60	0.23
0.70	0.19
0.80	0.17
0.90	0.15
1.00	0.14
1.50	0.09
2.00	0.07
2.50	0.05
3.00	0.03
3.50	0.02
4.00	0.02
4.50	0.01
5.00	0.01



Espectro de aceleraciones, Zona de Amenaza Sísmica Baja – Perfil de suelo CD

ANALISIS SISMICO

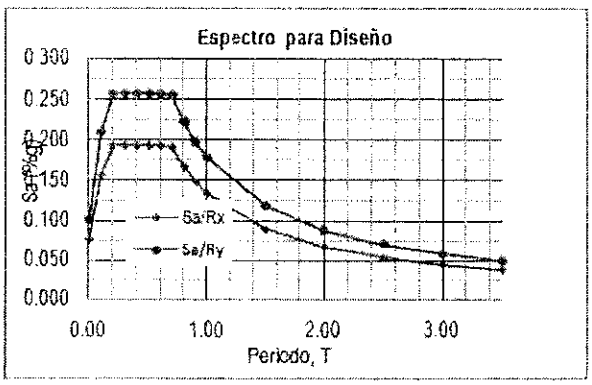
El procedimiento que se seguirá para efectos de tener en cuenta los efectos dinámicos producidos en la estructura por el sismo de diseño será el Método del Análisis Dinamico Elastico Espectral, este se describe en el numeral A.5.4 de la N.S.R-10.

PARAMETROS PARA EL ANALISIS		Diseño
Grupo de Uso :	III	NSR-10, Tabla A.2.5-1
Coeficiente de Importancia (I) =	1.25	NSR-10, A.6.2.1.2

MOVIMIENTO SISMICO DE DISEÑO
ESPECTRO DE DISEÑO

Localización de Proyecto (Zona):	Baja
Perfil de Suelo	CD
Aa (g) = Acel. hital pico efectiva, para diseño =	0.10
Av (g) = Acel. de la vel. pico efec. para diseño =	0.10
Fa = Coef. de ampl. afecta la acel. en zona de T_{corto} =	1.39
Fv = Coef. de ampl. afecta la vel. en zona de $T_{inter.}$ =	2.01
T_o (s) = Periodo Inicial	0.14
T_c(s) = Periodo Corto	0.69
T_L(s) = Periodo largo	4.83
I = Coef. de Importancia	1.25

T (seg)	CD S_a %g
0.00	0.17
0.10	0.35
0.20	0.44
0.30	0.44
0.40	0.44
0.50	0.44
0.60	0.44
0.70	0.43
0.80	0.38
0.90	0.34
1.00	0.30
1.50	0.20
2.00	0.15
2.50	0.12
3.00	0.10
3.50	0.09
4.00	0.08
4.50	0.07
5.00	0.06



Espectro de aceleraciones, Zona de Amenaza Sísmica Baja – Perfil de suelo E

ANALISIS SISMICO

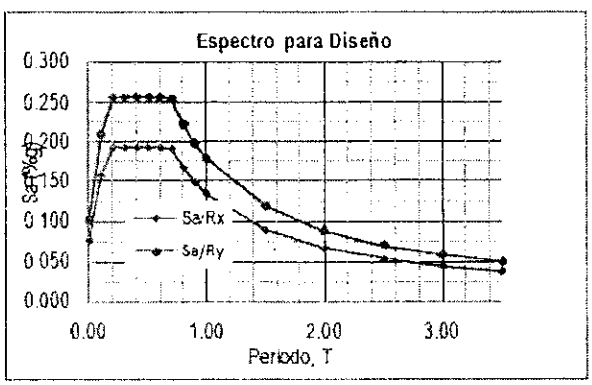
El procedimiento que se seguirá para efectos de tener en cuenta los efectos dinámicos producidos en la estructura por el sismo de diseño será el Método del Análisis Dinamico Elastico Espectral, este se describe en el numeral A.5.4 de la N.S.R-10.

PARAMETROS PARA EL ANALISIS		Diseño
Grupo de Uso :	III	NSR-10, Tabla A.2.5-1
Coeficiente de Importancia (I) =	1.25	NSR-10, A.6.2.1.2

MOVIMIENTO SISMICO DE DISEÑO
ESPECTRO DE DISEÑO

Localización de Proyecto (Zona):	Baja
Perfil de Suelo	E
Aa (g) = Acel. hal pico efectiva, para diseño =	0.10
Av (g) = Acel. de la vel. pico efec. para diseño =	0.10
Fa = Coef. de ampl. afecta la acel. en zona de T_{corto} =	2.41
Fv = Coef. de ampl. afecta la vel. en zona de T_{inter} =	3.49
T_o (s) = Periodo Inicial	0.15
T_c (s) = Periodo Corto	0.70
T_L (s) = Periodo largo	8.37
I = Coef. de Importancia	1.25

T (seg)	E S_a %g
0.00	0.30
0.10	0.61
0.20	0.75
0.30	0.75
0.40	0.75
0.50	0.75
0.60	0.75
0.70	0.75
0.80	0.65
0.90	0.58
1.00	0.52
1.50	0.35
2.00	0.26
2.50	0.21
3.00	0.17
3.50	0.15
4.00	0.13
4.50	0.12
5.00	0.10



6.1.6. Cargas de Viento (W)

La carga de viento se tuvo en cuenta solo para el análisis y diseño de elementos de cubierta metálica, en este caso para el diseño de elementos de lamina delgada (perlines); para la estructura aporticada en concreto no se tuvo en cuenta dado que su magnitud comparada con la carga sísmica es muy pequeña y por tanto no es determinante.

La carga de viento (w) para diseño de perlines corresponde a 0.40 kN/m2

6.2. COMBINACIONES DE CARGA

Fueron tenidas en cuenta las combinaciones de carga del capitulo B.2 de la NSR-10, tanto las relacionadas para el método de Resistencia Ultima, numeral B.2.4, como las del Método de los Esfuerzos admisibles, numeral B.2.3, las primeras para la definición del diseño y las segundas para verificación de los criterios de estabilidad.

7. ANALISIS DE LA ESTRUCTURA

El sistema estructural básico propuesto para el BLOQUE 5 corresponde a pórticos en concreto resistentes a momento; el pórtico para el modulo en estudio lo conforman cinco (5) ejes localizados en sentido transversal (sentido Y) implantados sobre los ejes del 1 al 5, dos (2) en sentido Longuitudinal (sentido X) el A y B, y un solo nivel en altura (sentido Z).

La estructura la conforman columnas en concreto de 30x50 para la zona alta, zona Intermedia y baja; y vigas aéreas también en concreto de 30x40cm.

Todo el sistema descrito anteriormente se soporta en zapatas de cimentación vinculadas en sentido transversal y longitudinal por vigas de amarre, este sistema así conformado se localiza dentro del terreno a una cota asumida en el presente estudio de -1.50m bajo el nivel de piso terminado.

El sistema estructural propuesto para la estructura aporticada en concreto se analizó utilizando para ello ETABS 9.7.4; mediante este software el edificio es idealizado por pórticos interconectados por losas de entrepiso que constituyen diafragmas rígidos en su propio plano, cada columna admite deformaciones axiales por flexión y corte (en el caso particular de la estructura en consideración estas deformaciones son prácticamente nulas dada la poca carga que llega a las columnas), así mismo las vigas admiten deformaciones por flexión y corte.

Las cargas aplicadas a la estructura fueron las correspondientes al peso propio de los elementos estructurales (PP), carga muerta (LD) debida a los acabados, muros de fachada y divisorios, carga viva para cubiertas (Lr), Granizo (G) y las correspondientes a las solicitaciones por sismo en dirección X (Fx / Ex) y Y (Fy / Ey).

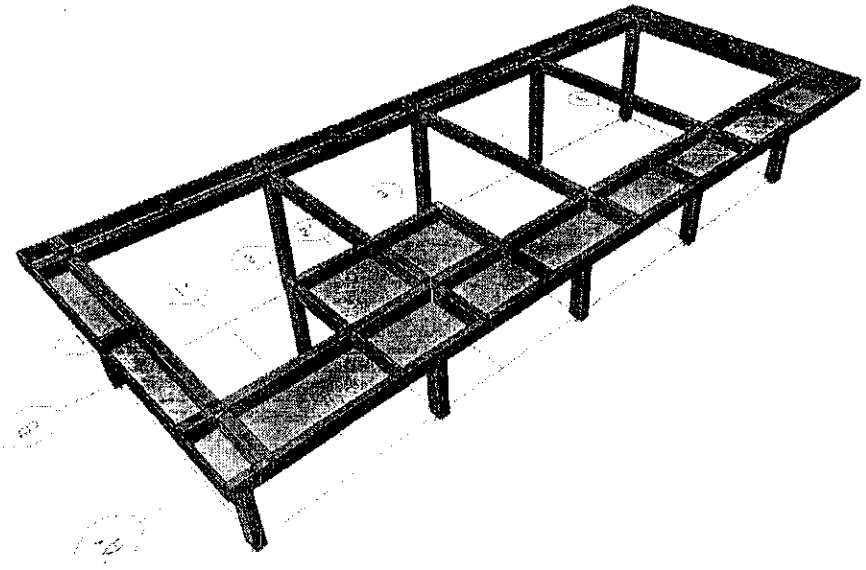
La cimentación se analizó a través de un modelo matemático en SAFE v12., estructurado por elementos tipo Frame para las vigas de cimentación y elementos tipo Shell para las zapatas; en este modelo todo el sistema se apoya directamente al suelo a través de resortes desacoplados con una magnitud Ks definida según lo anunciado en el numeral 5.2 del presente estudio.

Los ejes en el modelo matematico se cargaron con las reacciones provenientes de la estructura, y la combinación de estas para cargas de servicio y últimas sirvieron para verificar que las cargas trasmitidas al suelo no superaran la capacidad admisible del mismo, y para el diseño estructural de los diferentes elementos de la cimentación respectivamente.

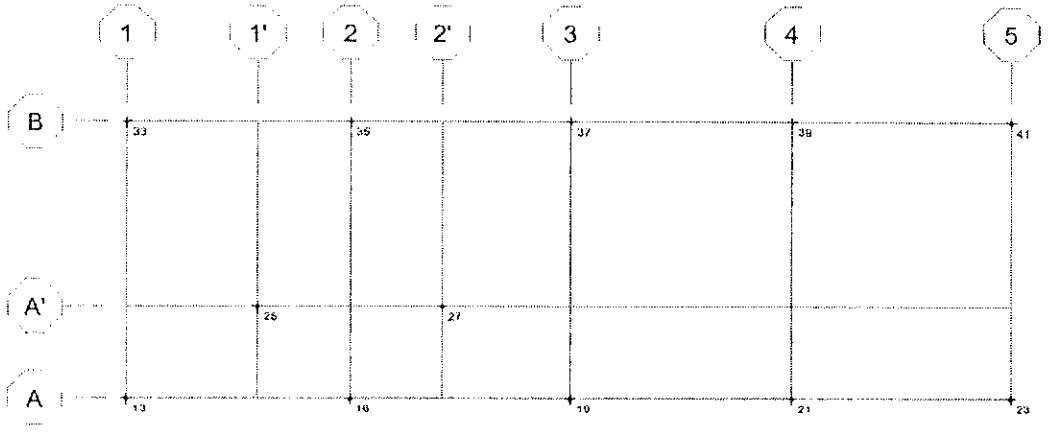
8. ANALISIS y DISEÑO CON ETABs 9.7.4

8.1. Modulo BLOQUE 5 _ CDI 160 Niños

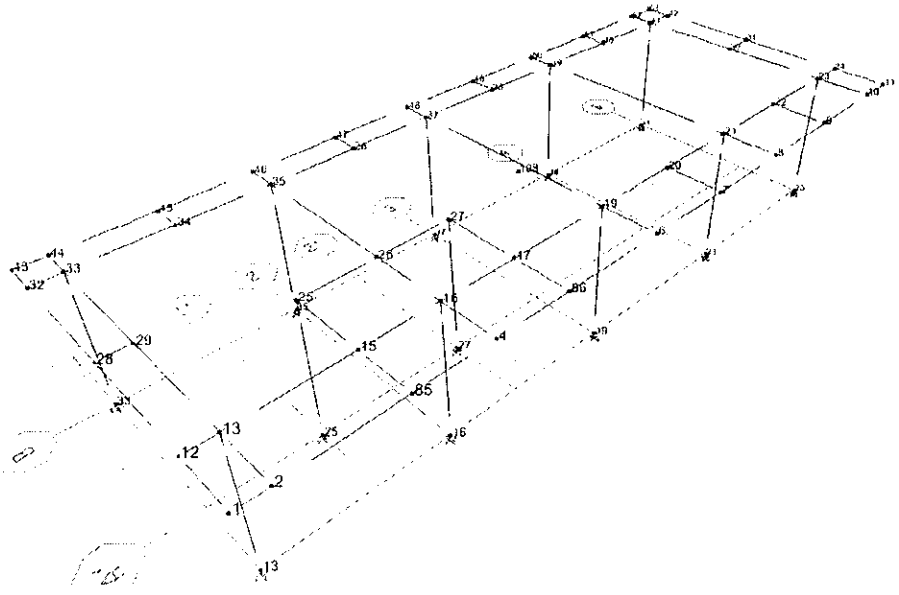
8.1.1. Modelo Matematico



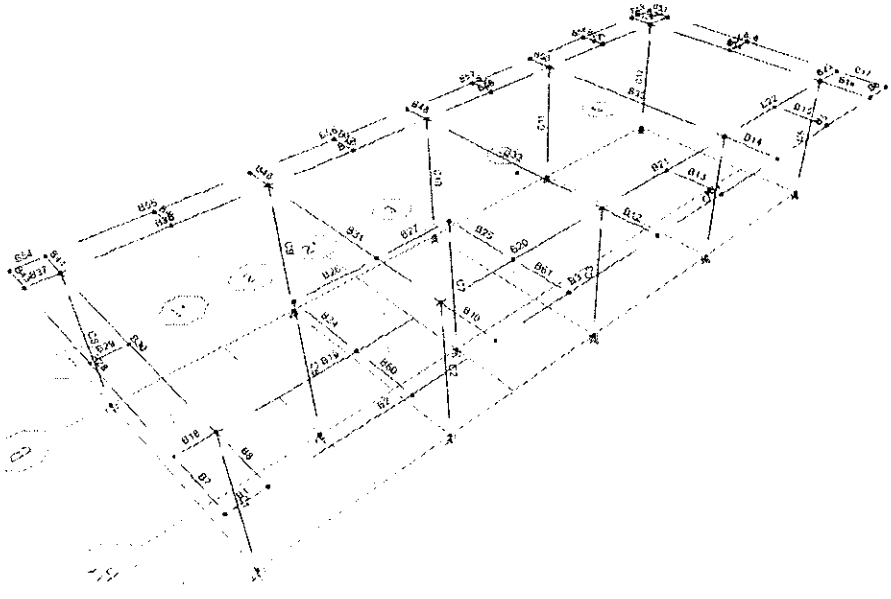
Modelo 3D – Portico en concreto



Modelo 2D - Numeracion apoyos



Modelo 3D – Numeracion nudos



Modelo 3D – Numeracion elementos

8.1.2. Sistema de coordenadas, conectividades, Materiales, Geometria Secciones

ETABS v9.7.4 File:CDI-BLOQUE 5-Alta/Int./BAJA-A8/CD/E-160-VR.1.0 Units:KN-m julio 17, 2013 9:26 PAGE 1

S T O R Y D A T A

STORY	SIMILAR TO	HEIGHT	ELEVATION
CUBIERTA	None	4.900	4.900
BASE	None		0.000

C O O R D I N A T E S Y S T E M L O C A T I O N D A T A

NAME	TYPE	X	Y	ROTATION	BUBBLESIZE	VISIBLE
GLOBAL	Cartesian	0.000	0.000	0.00000	1.500	Yes

C O O R D I N A T E S Y S T E M G R I D D A T A

SYSTEM NAME	GRID DIR	GRID ID	GRID TYPE	GRID HIDE	BUBBLE LOC	GRID COORDINATE
GLOBAL	X	1	Primary	No	Top	0.000
GLOBAL	X	1'	Primary	No	Top	3.500
GLOBAL	X	2	Primary	No	Top	6.000
GLOBAL	X	2'	Primary	No	Top	8.500
GLOBAL	X	3	Primary	No	Top	12.000
GLOBAL	X	4	Primary	No	Top	18.000
GLOBAL	X	5	Primary	No	Top	24.000
GLOBAL	Y	A	Primary	No	Left	0.000
GLOBAL	Y	A'	Primary	No	Left	2.550
GLOBAL	Y	B	Primary	No	Left	7.700

P O I N T C O O R D I N A T E S

POINT	X	Y	DZ-BELOW
1	-0.900	-1.950	0.000
2	0.000	-1.950	0.000
4	6.000	-1.950	0.000
6	12.000	-1.950	0.000
7	15.000	-1.950	0.000
8	18.000	-1.950	0.000
9	21.000	-1.950	0.000
10	24.000	-1.950	0.000
11	25.200	-1.950	0.000
12	-0.900	0.000	0.000
13	0.000	0.000	0.000
15	3.500	0.000	0.000
16	6.000	0.000	0.000
17	8.500	0.000	0.000
19	12.000	0.000	0.000
20	15.000	0.000	0.000
21	18.000	0.000	0.000
22	21.000	0.000	0.000
23	24.000	0.000	0.000
24	25.200	0.000	0.000
25	3.500	2.550	0.000
26	6.000	2.550	0.000
27	8.500	2.550	0.000
28	-0.900	3.850	0.000

P O I N T C O D R D I N A T E S

PDINT	X	Y	DZ-BELOW
29	0.000	3.850	0.000
30	24.000	3.850	0.000
31	25.200	3.850	0.000
32	-0.900	7.700	0.000
33	0.000	7.700	0.000
34	3.000	7.700	0.000
35	6.000	7.700	0.000
36	9.000	7.700	0.000
37	12.000	7.700	0.000
38	15.000	7.700	0.000
39	18.000	7.700	0.000
40	21.000	7.700	0.000
41	24.000	7.700	0.000
42	25.200	7.700	0.000
43	-0.900	8.700	0.000
44	0.000	8.700	0.000
45	3.000	8.700	0.000
46	6.000	8.700	0.000
47	9.000	8.700	0.000
48	12.000	8.700	0.000
49	15.000	8.700	0.000
50	18.000	8.700	0.000
51	21.000	8.700	0.000
52	24.000	8.700	0.000
53	25.200	8.700	0.000
85	3.500	-1.950	0.000
86	8.500	-1.950	0.000

COLUMN CONNECTIVITY DATA

COLUMN	I END PT	J END PT	I END STORY
C1	13	13	Below
C2	16	16	Below
C3	19	19	Below
C4	21	21	Below
C5	23	23	Below
C6	25	25	Below
C7	27	27	Below
C8	33	33	Below
C9	35	35	Below
C10	37	37	Below
C11	39	39	Below
C12	41	41	Below

BEAM CONNECTIVITY DATA

BEAM	I END PT	J END PT
B1	1	2
B2	2	4
B3	4	6
B4	6	8
B5	8	10
B6	10	11
B7	12	1
B8	13	2
B10	16	4
B12	19	6
B13	20	7
B14	21	8
B15	22	9
B16	23	10
B17	24	11
B18	12	13
B19	13	16
B20	16	19
B21	19	21
B22	21	23
B23	23	24
B24	25	15
B25	27	17
B26	25	26
B27	26	27
B28	32	12
B29	28	29
B30	13	33

BEAM CONNECTIVITY DATA

BEAM	I END PT	J END PT
B31	16	35
B32	19	37
B33	21	39
B34	23	41
B35	30	31
B36	42	24
B37	32	33
B38	33	35
B39	35	37
B40	37	39
B41	39	41
B42	41	42
B43	43	32
B44	44	33
B45	45	34
B46	46	35
B47	47	36
B48	48	37
B49	49	38
B50	50	39
B51	51	40
B52	52	41
B53	53	42
B54	43	44
B55	44	46
B56	46	48
B57	48	50
B58	50	52
B59	52	53
B60	15	85
B61	17	86

FLOOR CONNECTIVITY DATA

FLOOR	POINT	POINT	POINT	POINT
F1	1	4	16	12
F2	4	6	19	16
F3	6	8	21	19
F4	8	11	24	21
F5	15	17	27	25
F6	12	13	33	32
F7	23	24	42	41
F8	32	35	46	43
F9	35	37	48	46
F10	37	39	50	48
F11	39	42	53	50

MATERIAL PROPERTY DATA

MATERIAL NAME	MATERIAL TYPE	DESIGN TYPE	MATERIAL DIR/PLANE	MODULUS OF ELASTICITY	POISSON'S RATIO	THERMAL COEFF	SHEAR MODULUS
STEEL	Iso	Steel	All	199947978.80	0.3000	1.1700E-05	76903068.77
FC21	Iso	Concrete	All	21538106.000	0.2000	9.9000E-06	8974210.833
OTHER	Iso	None	All	199947978.80	0.3000	1.1700E-05	76903068.77
FC28	Iso	Concrete	All	24870062.000	0.2000	9.9000E-06	10362525.833

M A T E R I A L P R O P E R T Y M A S S A N D W E I G H T

MATERIAL NAME	MASS PER UNIT VDL	WEIGHT PER UNIT VDL
STEEL	7.8271E+00	7.6820E+01
FC21	2.4007E+00	2.3562E+01
OTHER	7.8271E+00	7.6820E+01
FC28	2.4007E+00	2.3562E+01

M A T E R I A L D E S I G N D A T A F O R C O N C R E T E M A T E R I A L S

MATERIAL NAME	LIGHTWEIGHT CONCRETE	CONCRETE FC	REBAR FY	REBAR FYS	LIGHTWT REDUC FACT
FC21	No	21000.000	420000.000	420000.000	N/A
FC28	No	28000.000	420000.000	420000.000	N/A

F R A M E S E C T I O N P R O P E R T Y D A T A

FRAME SECTION NAME	MATERIAL NAME	SECTION SHAPE NAME OR NAME IN SECTION DATABASE FILE	CONC CDL	CONC BEAM
C30X50A	FC28	Rectangular	Yes	
VG30X40	FC21	Rectangular		Yes
VG20X40	FC21	Rectangular		Yes
R	FC21	Rectangular		Yes
C30X50B	FC28	Rectangular	Yes	
C30X50C	FC28	Rectangular	Yes	
C30X50D	FC28	Rectangular	Yes	
C30X50E	FC28	Rectangular	Yes	
C20X40	FC28	Rectangular	Yes	
VG25X40	FC21	Rectangular		Yes

F R A M E S E C T I O N P R O P E R T Y D A T A

FRAME SECTION NAME	SECTION DEPTH	FLANGE WIDTH TOP	FLANGE THICK TOP	WEB THICK	FLANGE WIDTH BOT	FLANGE THICK BOT
C30X50A	0.3000	0.5000	0.0000	0.0000	0.0000	0.0000
VG30X40	0.4000	0.3000	0.0000	0.0000	0.0000	0.0000
VG20X40	0.4000	0.2000	0.0000	0.0000	0.0000	0.0000
R	0.4000	0.1000	0.0000	0.0000	0.0000	0.0000
C30X50B	0.3000	0.5000	0.0000	0.0000	0.0000	0.0000
C30X50C	0.3000	0.5000	0.0000	0.0000	0.0000	0.0000
C30X50D	0.3000	0.5000	0.0000	0.0000	0.0000	0.0000
C30X50E	0.3000	0.5000	0.0000	0.0000	0.0000	0.0000
C20X40	0.2000	0.4000	0.0000	0.0000	0.0000	0.0000
VG25X40	0.4000	0.2500	0.0000	0.0000	0.0000	0.0000

F R A M E S E C T I O N P R O P E R T Y D A T A

FRAME SECTION NAME	SECTION AREA	TORSIONAL CONSTANT	MOMENTS OF INERTIA I33	MOMENTS OF INERTIA I22	SHEAR AREAS A2	SHEAR AREAS A3
C30X50A	0.1500	0.0028	0.0011	0.0031	0.1250	0.1250
VG30X40	0.1200	0.0019	0.0016	0.0009	0.1000	0.1000
VG20X40	0.0800	0.0007	0.0011	0.0003	0.0667	0.0667
R	0.0400	0.0001	0.0005	0.0000	0.0333	0.0333
C30X50B	0.1500	0.0028	0.0011	0.0031	0.1250	0.1250
C30X50C	0.1500	0.0028	0.0011	0.0031	0.1250	0.1250
C30X50D	0.1500	0.0028	0.0011	0.0031	0.1250	0.1250
C30X50E	0.1500	0.0028	0.0011	0.0031	0.1250	0.1250
C20X40	0.0800	0.0007	0.0003	0.0011	0.0667	0.0667
VG25X40	0.1000	0.0013	0.0013	0.0005	0.0833	0.0833

F R A M E S E C T I O N P R O P E R T Y D A T A

FRAME SECTION NAME	SECTION MODULI S33	SECTION MODULI S22	PLASTIC MODULI Z33	PLASTIC MODULI Z22	RADIUS OF GYRATION R33	RADIUS OF GYRATION R22
C30X50A	0.0075	0.0125	0.0113	0.0188	0.0866	0.1443
VG30X40	0.0080	0.0060	0.0120	0.0090	0.1155	0.0866
VG20X40	0.0053	0.0027	0.0080	0.0040	0.1155	0.0577
R	0.0027	0.0007	0.0040	0.0010	0.1155	0.0289
C30X50B	0.0075	0.0125	0.0113	0.0188	0.0866	0.1443
C30X50C	0.0075	0.0125	0.0113	0.0188	0.0866	0.1443
C30X50D	0.0075	0.0125	0.0113	0.0188	0.0866	0.1443
C30X50E	0.0075	0.0125	0.0113	0.0188	0.0866	0.1443
C20X40	0.0027	0.0053	0.0040	0.0080	0.0577	0.1155
VG25X40	0.0067	0.0042	0.0100	0.0063	0.1155	0.0722

F R A M E S E C T I O N W E I G H T S A N D M A S S E S

FRAME SECTION NAME	TOTAL WEIGHT	TOTAL MASS
C30X50A	34.6356	3.5290
VC30X40	275.5294	25.2037
VG20X40	117.8080	11.4571
R	57.7730	5.0976
C30X50B	86.5889	8.8726
C30X50C	51.9533	5.2935
C30X50D	0.0000	0.0000
C30X50E	0.0000	0.0000
C20X40	18.4723	1.8821
VG25X40	11.3096	1.1523

C O N C R E T E C O L U M N D A T A

FRAME SECTION NAME	REINF CONFIGURATION LONGIT	LATERAL	REINF SIZE/TYPE	NUM BARS 3DIR/2DIR	NUM BARS CIRCULAR	BAR COVER
C30X50A	Rectangular	Ties	#4/Check	4/3	N/A	0.0400
C30X50B	Rectangular	Ties	#5/Check	4/3	N/A	0.0400
C30X50C	Rectangular	Ties	#5/Check	4/3	N/A	0.0400
C30X50D	Rectangular	Ties	#6/Check	4/3	N/A	0.0400
C30X50E	Rectangular	Ties	#6/Check	5/3	N/A	0.0400
E20X40	Rectangular	Ties	#4/Check	4/3	N/A	0.0400

C O N C R E T E B E A M D A T A

FRAME SECTION NAME	TOP COVER	BOT COVER	TOP LEFT AREA	TOP RIGHT AREA	BOT LEFT AREA	BOT RIGHT AREA
VG30x40	0.0400	0.0300	0.000	0.000	0.000	0.000
VG20X40	0.0400	0.0300	0.000	0.000	0.000	0.000
R	0.0400	0.0300	0.000	0.000	0.000	0.000
VG25X40	0.0400	0.0300	0.000	0.000	0.000	0.000

S U P P O R T (R E S T R A I N T) D A T A

STORY	POINT	/----RESTRAINED DOF's----/ UX	UY	UZ	RX	RY	RZ
BASE	13	Yes	Yes	Yes	Yes	Yes	Yes
BASE	16	Yes	Yes	Yes	Yes	Yes	Yes
BASE	19	Yes	Yes	Yes	Yes	Yes	Yes
BASE	21	Yes	Yes	Yes	Yes	Yes	Yes
BASE	23	Yes	Yes	Yes	Yes	Yes	Yes
BASE	25	Yes	Yes	Yes	Yes	Yes	Yes
BASE	27	Yes	Yes	Yes	Yes	Yes	Yes
BASE	33	Yes	Yes	Yes	Yes	Yes	Yes
BASE	35	Yes	Yes	Yes	Yes	Yes	Yes
BASE	37	Yes	Yes	Yes	Yes	Yes	Yes
BASE	39	Yes	Yes	Yes	Yes	Yes	Yes
BASE	41	Yes	Yes	Yes	Yes	Yes	Yes

W A L L , S L A B , D E C K & O P E N I N G A S S I G N M E N T S T O A R E A O B J E C T S

STORY LEVEL	AREA ID	AREA TYPE	SECTION TYPE	SECTION LABEL
CUBIERTA	F1	Floor	Slab	PLACA10
CUBIERTA	F2	Floor	Slab	PLACA10
CUBIERTA	F3	Floor	Slab	PLACA10
CUBIERTA	F4	Floor	Slab	PLACA10
CUBIERTA	F5	Floor	Slab	PLACA10
CUBIERTA	F6	Floor	Slab	PLACA10
CUBIERTA	F7	Floor	Slab	PLACA10
CUBIERTA	F8	Floor	Slab	PLACA10
CUBIERTA	F9	Floor	Slab	PLACA10
CUBIERTA	F10	Floor	Slab	PLACA10
CUBIERTA	F11	Floor	Slab	PLACA10

8.1.3. Asignación de elementos.

8.1.3.1. Vigas - Zona Alta / Intermedia / Baja, Todos los tipos de Suelo

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F R A M E S E C T I O N A S S I G N M E N T S T O L I N E O B J E C T S

STORY LEVEL	LINE ID	LINE TYPE	SECTION TYPE	AUTO SELECT SECTION	ANALYSIS SECTION	DESIGN PROCEDURE	DESIGN SECTION
CUBIERTA	B1	Beam	Rectangular	None	VG20X40	Conc Frame	VG20X40
CUBIERTA	B2	Beam	Rectangular	None	VG20X40	Conc Frame	VG20X40
CUBIERTA	B3	Beam	Rectangular	None	VG20X40	Conc Frame	VG20X40
CUBIERTA	B4	Beam	Rectangular	None	VG20X40	Conc Frame	VG20X40
CUBIERTA	B5	Beam	Rectangular	None	VG20X40	Conc Frame	VG20X40
CUBIERTA	B6	Beam	Rectangular	None	VG20X40	Conc Frame	VG20X40
CUBIERTA	B7	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B8	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B10	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B12	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B13	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B14	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B15	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B16	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B17	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B18	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B19	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B20	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B21	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B22	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B23	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B24	Beam	Rectangular	None	VG20X40	Conc Frame	VG20X40
CUBIERTA	B25	Beam	Rectangular	None	VG20X40	Conc Frame	VG20X40
CUBIERTA	B26	Beam	Rectangular	None	VG25X40	Conc Frame	VG25X40
CUBIERTA	B27	Beam	Rectangular	None	VG25X40	Conc Frame	VG25X40
CUBIERTA	B28	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B29	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B30	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B31	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B32	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B33	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B34	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B35	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B36	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B37	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B38	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B39	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B40	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B41	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B42	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B43	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B44	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B45	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B46	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B47	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B48	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B49	Beam	Rectangular	NDne	R	Conc Frame	R
CUBIERTA	B50	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B51	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B52	Beam	Rectangular	None	VG30X40	Conc Frame	VG30X40
CUBIERTA	B53	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B54	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B55	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B56	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B57	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B58	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B59	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B60	Beam	Rectangular	None	R	Conc Frame	R
CUBIERTA	B61	Beam	Rectangular	None	R	Conc Frame	R

8.1.3.2. Columnas

Zona alta / Suelo Tipo AB

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FRAME SECTION ASSIGNMENTS TO LINE OBJECTS

STORY LEVEL	LINE ID	LINE TYPE	SECTION TYPE	AUTO SELECT SECTION	ANALYSIS SECTION	DESIGN PROCEDURE	DESIGN SECTION
CUBIERTA	C1	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C2	Column	Rectangular	None	C30X50C	Conc Frame	C30X50C
CUBIERTA	C3	Column	Rectangular	None	C30X50C	Conc Frame	C30X50C
CUBIERTA	C4	Column	Rectangular	None	C30X50C	Conc Frame	C30X50C
CUBIERTA	C5	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C6	Column	Rectangular	None	C20X40	Conc Frame	C20X40
CUBIERTA	C7	Column	Rectangular	None	C20X40	Conc Frame	C20X40
CUBIERTA	C8	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C9	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C10	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C11	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C12	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A

Zona alta / Suelo Tipo CD

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FRAME SECTION ASSIGNMENTS TO LINE OBJECTS

STORY LEVEL	LINE ID	LINE TYPE	SECTION TYPE	AUTO SELECT SECTION	ANALYSIS SECTION	DESIGN PROCEDURE	DESIGN SECTION
CUBIERTA	C1	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C2	Column	Rectangular	None	C30X50C	Conc Frame	C30X50C
CUBIERTA	C3	Column	Rectangular	None	C30X50C	Conc Frame	C30X50C
CUBIERTA	C4	Column	Rectangular	None	C30X50C	Conc Frame	C30X50C
CUBIERTA	C5	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C6	Column	Rectangular	None	C20X40	Conc Frame	C20X40
CUBIERTA	C7	Column	Rectangular	None	C20X40	Conc Frame	C20X40
CUBIERTA	C8	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C9	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C10	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C11	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C12	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B

Zona alta / Suelo Tipo E

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FRAME SECTION ASSIGNMENTS TO LINE OBJECTS

STORY LEVEL	LINE ID	LINE TYPE	SECTION TYPE	AUTO SELECT SECTION	ANALYSIS SECTION	DESIGN PROCEDURE	DESIGN SECTION
CUBIERTA	C1	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C2	Column	Rectangular	None	C30X50C	Conc Frame	C30X50C
CUBIERTA	C3	Column	Rectangular	None	C30X50C	Conc Frame	C30X50C
CUBIERTA	C4	Column	Rectangular	None	C30X50C	Conc Frame	C30X50C
CUBIERTA	C5	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C6	Column	Rectangular	None	C20X40	Conc Frame	C20X40
CUBIERTA	C7	Column	Rectangular	None	C20X40	Conc Frame	C20X40
CUBIERTA	C8	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C9	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C10	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C11	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C12	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A

Zona Intermedia / Suelo Tipo AB

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FRAME SECTION ASSIGNMENTS TO LINE OBJECTS

STORY LEVEL	LINE ID	LINE TYPE	SECTION TYPE	AUTO SELECT SECTION	ANALYSIS SECTION	DESIGN PROCEDURE	DESIGN SECTION
CUBIERTA	C1	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C2	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C3	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C4	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C5	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C6	Column	Rectangular	None	C20X40	Conc Frame	C20X40
CUBIERTA	C7	Column	Rectangular	None	C20X40	Conc Frame	C20X40
CUBIERTA	C8	Column	Rectangular	NDne	C30X50A	Conc Frame	C30X50A
CUBIERTA	C9	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C10	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C11	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C12	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A

Zona Intermedia / Suelo Tipo CD

ETABS v9.7.4 File:CDI-BLLOQUE 5-INTER-CD-160-VR. 0 Units:KN-m julio 17, 2013 8:45 PAGE 1

FRAME SECTION ASSIGNMENTS TO LINE OBJECTS

STORY LEVEL	LINE ID	LINE TYPE	SECTION TYPE	AUTO SELECT SECTION	ANALYSIS SECTION	DESIGN PROCEDURE	DESIGN SECTION
CUBIERTA	C1	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C2	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C3	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C4	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C5	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C6	Column	Rectangular	None	C20X40	Conc Frame	C20X40
CUBIERTA	C7	Column	Rectangular	None	C20X40	Conc Frame	C20X40
CUBIERTA	C8	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C9	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C10	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C11	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C12	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A

Zona Intermedia / Suelo Tipo E

ETABS v9.7.4 File:CDI-BLLOQUE 5-INTER-E-160-VR. 0 Units:KN-m julio 17, 2013 8:46 PAGE 1

FRAME SECTION ASSIGNMENTS TO LINE OBJECTS

STORY LEVEL	LINE ID	LINE TYPE	SECTION TYPE	AUTO SELECT SECTION	ANALYSIS SECTION	DESIGN PROCEDURE	DESIGN SECTION
CUBIERTA	C1	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C2	Column	Rectangular	None	C30X50C	Conc Frame	C30X50C
CUBIERTA	C3	Column	Rectangular	None	C30X50C	Conc Frame	C30X50C
CUBIERTA	C4	Column	Rectangular	None	C30X50C	Conc Frame	C30X50C
CUBIERTA	C5	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C6	Column	Rectangular	None	C20x40	Conc Frame	C20x40
CUBIERTA	C7	Column	Rectangular	None	C20X40	Conc Frame	C20X40
CUBIERTA	C8	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C9	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C10	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C11	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C12	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B

Zona Baja / Suelo Tipo AB

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F R A M E S E C T I O N A S S I G N M E N T S T O L I N E O B J E C T S

STORY LEVEL	LINE ID	LINE TYPE	SECTION TYPE	AUTO SELECT SECTION	ANALYSIS SECTION	DESIGN PROCEDURE	DESIGN SECTION
CUBIERTA	C1	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C2	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C3	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C4	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C5	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C6	Column	Rectangular	None	C20X40	Conc Frame	C20X40
CUBIERTA	C7	Column	Rectangular	None	C20X40	Conc Frame	C20X40
CUBIERTA	C8	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C9	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C10	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C11	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C12	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A

Zona Baja / Suelo Tipo CD

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F R A M E S E C T I O N A S S I G N M E N T S T O L I N E O B J E C T S

STORY LEVEL	LINE ID	LINE TYPE	SECTION TYPE	AUTO SELECT SECTION	ANALYSIS SECTION	DESIGN PROCEDURE	DESIGN SECTION
CUBIERTA	C1	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C2	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C3	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C4	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C5	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C6	Column	Rectangular	None	C20X40	Conc Frame	C20X40
CUBIERTA	C7	Column	Rectangular	None	C20X40	Conc Frame	C20X40
CUBIERTA	C8	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C9	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C10	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C11	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A
CUBIERTA	C12	Column	Rectangular	None	C30X50A	Conc Frame	C30X50A

Zona Baja / Suelo Tipo E

ETABS v9.7.4 File:CDI-BLLOQUE 5-BAJA-E-160-VR. 0 Units:KN-m julio 17, 2013 8:51 PAGE 1

F R A M E S E C T I O N A S S I G N M E N T S T O L I N E O B J E C T S

STORY LEVEL	LINE ID	LINE TYPE	SECTION TYPE	AUTO SELECT SECTION	ANALYSIS SECTION	DESIGN PROCEDURE	DESIGN SECTION
CUBIERTA	C1	Column	Rectangular	None	C30X50C	Conc Frame	C30X50C
CUBIERTA	C2	Column	Rectangular	None	C30X50C	Conc Frame	C30X50C
CUBIERTA	C3	Column	Rectangular	None	C30X50C	Conc Frame	C30X50C
CUBIERTA	C4	Column	Rectangular	None	C30X50C	Conc Frame	C30X50C
CUBIERTA	C5	Column	Rectangular	None	C30X50C	Conc Frame	C30X50C
CUBIERTA	C6	Column	Rectangular	None	C20X40	Conc Frame	C20X40
CUBIERTA	C7	Column	Rectangular	None	C20X40	Conc Frame	C20X40
CUBIERTA	C8	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C9	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C10	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C11	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B
CUBIERTA	C12	Column	Rectangular	None	C30X50B	Conc Frame	C30X50B

8.1.4. Cargas, Combinaciones

ETABS v9.7.4 File:COI-BLOQUE 5-Alta/Int./Baja-AB/CD/E-160-VR.1.0 Units:KN-m julio 17, 2013 11:46 PAGE 1

S T A T I C L O A D C A S E S

STATIC CASE	CASE TYPE	AUTO LAT LOAD	SELF WT MULTIPLIER	NOTIONAL FACTOR	NOTIONAL DIRECTION
PP	DEAD	N/A	1.0000		
DL	DEAD	N/A	0.0000		
LR	LIVE	N/A	0.0000		
G	SNOW	N/A	0.0000		

ETABS v9.7.4 File:COI-BLOQUE 5-Alta-AB-160-VR.1.0 Units:KN-m julio 2, julio 17, 2013 11:46 PAGE 1

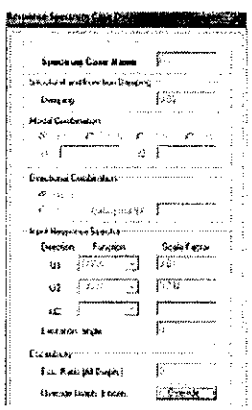
RESP SPEC CASE: EX

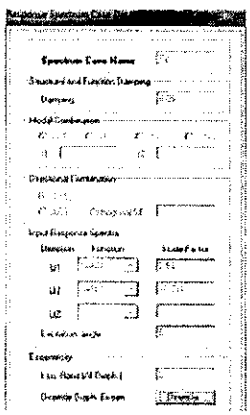
BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SARX	9.81
U2	SARY	3.234
UZ	----	N/A





RESP SPEC CASE: EY

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

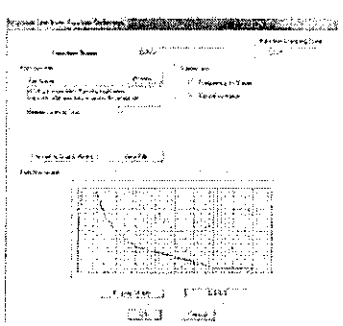
DIRECTION	FUNCTION	SCALE FACT
U1	SARX	2.94
U2	SARY	10.791
U2	----	N/A

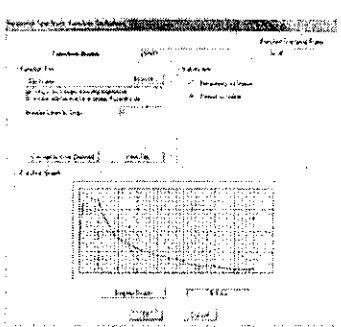
FUNCTION NAME: SARX

PERIOD	ACCEL
0.00	0.071
0.10	0.179
0.20	0.179
0.30	0.179
0.40	0.179
0.50	0.171
0.60	0.143
0.70	0.122
0.80	0.107
0.90	0.095
1.00	0.086
1.50	0.057
2.00	0.043
2.50	0.030
3.00	0.021
3.50	0.015
4.00	0.012
4.50	0.009
5.00	0.007

FUNCTION NAME: SARY

PERIOD	ACCEL
0.00	0.095
0.10	0.238
0.20	0.238
0.30	0.238
0.40	0.238
0.50	0.229
0.60	0.190
0.70	0.163
0.80	0.143
0.90	0.127
1.00	0.114
1.50	0.076
2.00	0.057
2.50	0.039
3.00	0.027
3.50	0.020
4.00	0.015
4.50	0.012
5.00	0.010





R E S P O N S E S P E C T R U M C A S E S

RESP SPEC CASE: EX

BASIC RESPONSE SPECTRUM DATA

MO DAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SARX	9.81
U2	SARY	3.234
UZ	----	N/A

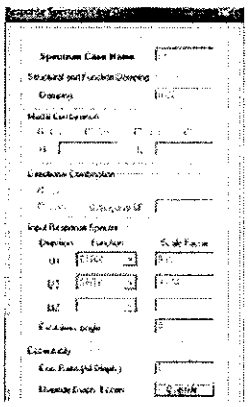
RESP SPEC CASE: EY

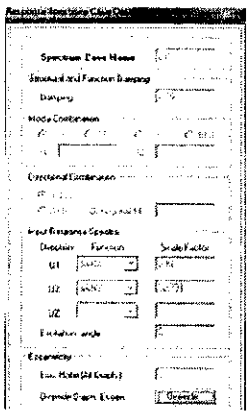
BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SARX	2.94
U2	SARY	10.791
UZ	----	N/A





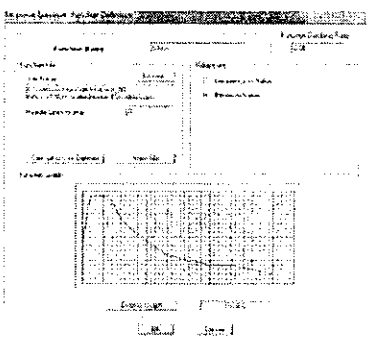
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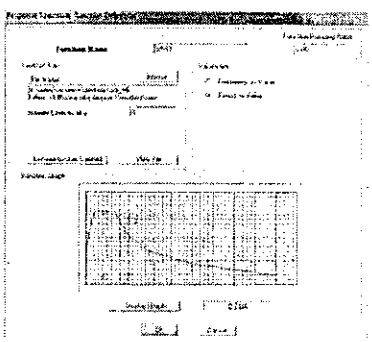
FUNCTION NAME: SARX

PERIOD	ACCEL
0.00	0.083
0.10	0.169
0.20	0.207
0.30	0.207
0.40	0.207
0.50	0.207
0.60	0.207
0.70	0.205
0.80	0.179
0.90	0.159
1.00	0.143
1.50	0.095
2.00	0.072
2.50	0.057
3.00	0.048
3.50	0.041
4.00	0.032
4.50	0.026
5.00	0.021

FUNCTION NAME: SARY

PERIOD	ACCEL
0.00	0.110
0.10	0.225
0.20	0.276
0.30	0.276
0.40	0.276
0.50	0.276
0.60	0.276
0.70	0.273
0.80	0.239
0.90	0.212
1.00	0.191
1.50	0.127
2.00	0.095
2.50	0.076
3.00	0.064
3.50	0.055
4.00	0.043
4.50	0.034
5.00	0.028





R E S P O N S E S P E C T R U M C A S E S

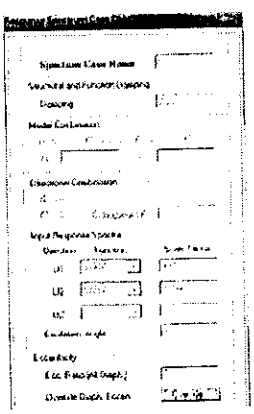
RESP SPEC CASE: EX

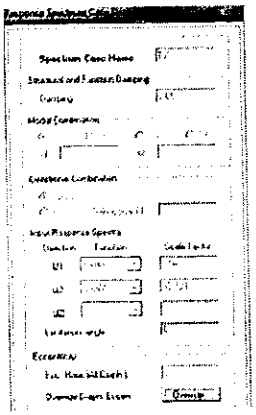
BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUR ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SARX	9.81
U2	SARY	3.234
UZ	----	N/A





RESP SPEC CASE: EY

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SARX	2.94
U2	SARY	10.791
UZ	----	N/A

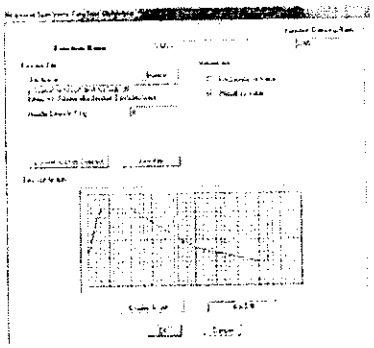
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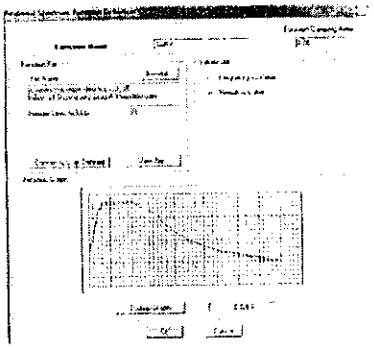
FUNCTION NAME: SARX

PERIOD	ACCEL
0.00	0.07
0.10	0.12
0.20	0.16
0.30	0.18
0.40	0.18
0.50	0.18
0.60	0.18
0.70	0.18
0.80	0.18
0.90	0.18
1.00	0.18
1.50	0.16
2.00	0.12
2.50	0.09
3.00	0.08
3.50	0.07
4.00	0.06
4.50	0.05
5.00	0.05

FUNCTION NAME: SARY

PERIOD	ACCEL
0.00	0.10
0.10	0.16
0.20	0.22
0.30	0.26
0.40	0.26
0.50	0.26
0.60	0.26
0.70	0.26
0.80	0.26
0.90	0.26
1.00	0.26
1.50	0.22
2.00	0.16
2.50	0.13
3.00	0.11
3.50	0.09
4.00	0.08
4.50	0.07
5.00	0.07





R E S P O N S E S P E C T R U M C A S E S

RESP SPEC CASE: EX

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SARX	9.81
U2	SARY	3.234
U3	----	N/A

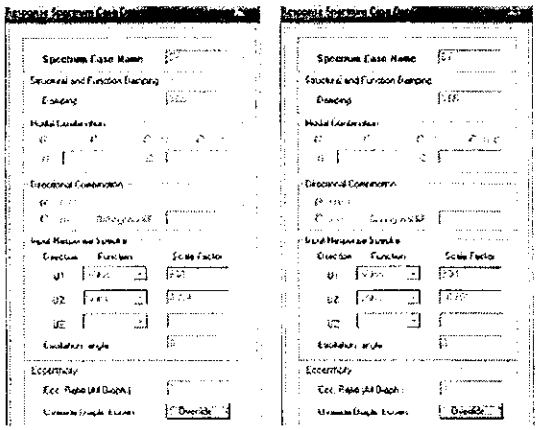
RESP SPEC CASE: EY

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SARX	2.94
U2	SARY	10.791
U3	----	N/A



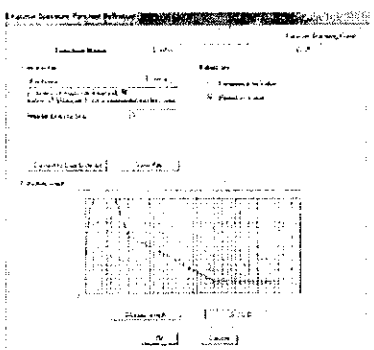
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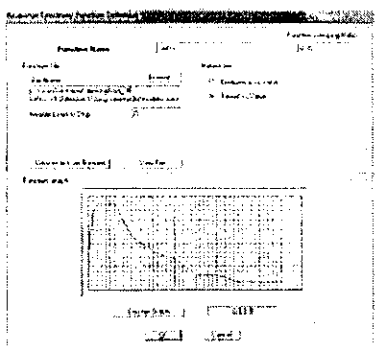
FUNCTION NAME: SARX

PERIOD	ACCEL
0.00	0.038
0.10	0.080
0.20	0.094
0.30	0.094
0.40	0.094
0.50	0.094
0.60	0.094
0.70	0.086
0.80	0.075
0.90	0.067
1.00	0.060
1.50	0.040
2.00	0.030
2.50	0.021
3.00	0.014
3.50	0.011
4.00	0.008
4.50	0.006
5.00	0.005

FUNCTION NAME: SARY

PERIOD	ACCEL
0.00	0.050
0.10	0.106
0.20	0.125
0.30	0.125
0.40	0.125
0.50	0.125
0.60	0.125
0.70	0.114
0.80	0.100
0.90	0.089
1.00	0.080
1.50	0.053
2.00	0.040
2.50	0.028
3.00	0.019
3.50	0.014
4.00	0.011
4.50	0.009
5.00	0.007





R E S P O N S E S P E C T R U M C A S E S

RESP SPEC CASE: EX

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SARX	9.81
U2	SARY	3.234
UZ	----	N/A

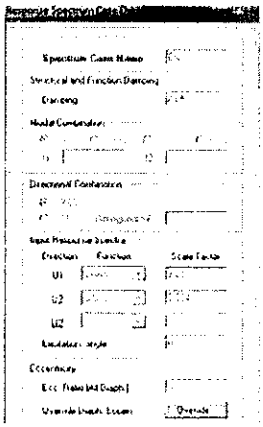
RESP SPEC CASE: EY

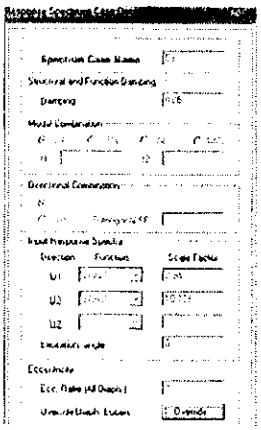
BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SARX	2.94
U2	SARY	10.791
UZ	----	N/A





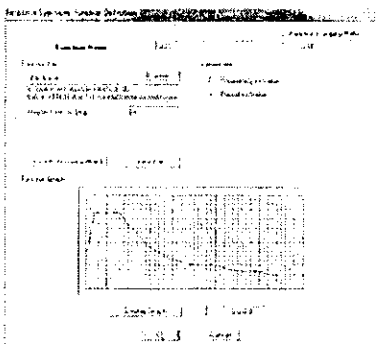
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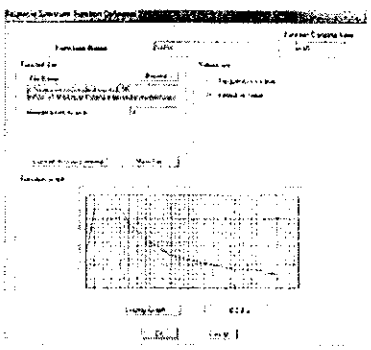
FUNCTION NAME: SARX

PERIOD	ACCEL
0.00	0.056
0.10	0.104
0.20	0.141
0.30	0.141
0.40	0.141
0.50	0.141
0.60	0.141
0.70	0.141
0.80	0.141
0.90	0.134
1.00	0.121
1.50	0.081
2.00	0.060
2.50	0.048
3.00	0.040
3.50	0.035
4.00	0.030
4.50	0.026
5.00	0.021

FUNCTION NAME: SARY

PERIOD	ACCEL
0.00	0.075
0.10	0.138
0.20	0.188
0.30	0.188
0.40	0.188
0.50	0.188
0.60	0.188
0.70	0.188
0.80	0.188
0.90	0.179
1.00	0.161
1.50	0.107
2.00	0.081
2.50	0.064
3.00	0.054
3.50	0.046
4.00	0.040
4.50	0.035
5.00	0.028





RESPONSE SPECTRUM CASES

RE SP SPEC CASE: EX

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SARX	9.81
U2	SARY	3.234
UZ	----	N/A

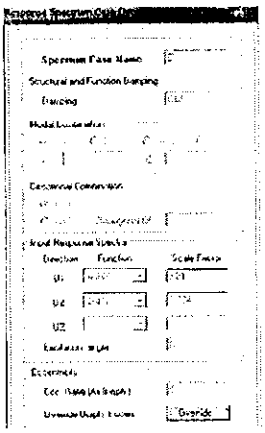
RESP SPEC CASE: EY

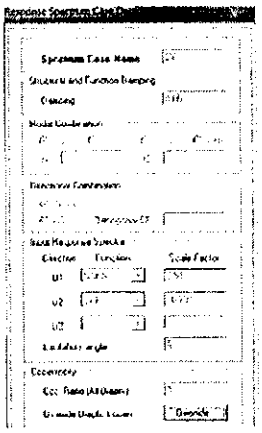
BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SARX	2.94
U2	SARY	10.791
UZ	----	N/A





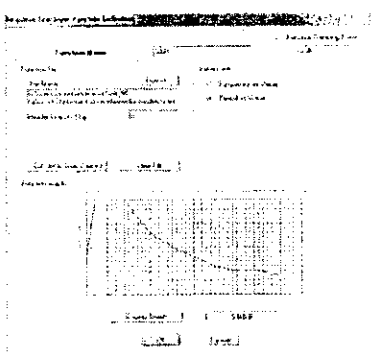
RESPONSE SPECTRUM FUNCTION - FROM FILE

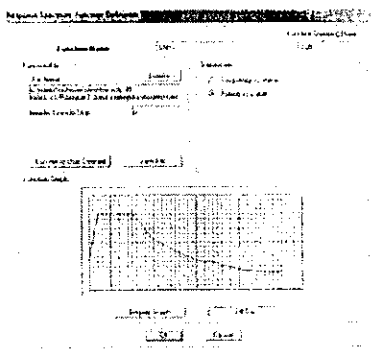
FUNCTION NAME: SARY

PERIOD	ACCEL
0.000	0.088
0.100	0.353
0.200	0.218
0.300	0.220
0.400	0.220
0.500	0.220
0.600	0.220
0.700	0.220
0.800	0.220
0.900	0.220
1.000	0.213
1.500	0.142
2.000	0.106
2.500	0.085
3.000	0.071
3.500	0.061
4.000	0.053
4.500	0.047
5.000	0.043

FUNCTION NAME: SARX

PERIOD	ACCEL
0.00	0.12
0.10	0.20
0.20	0.29
0.30	0.29
0.40	0.29
0.50	0.29
0.60	0.29
0.70	0.29
0.80	0.29
0.90	0.29
1.00	0.28
1.50	0.19
2.00	0.14
2.50	0.11
3.00	0.09
3.50	0.08
4.00	0.07
4.50	0.06
5.00	0.06





RESPONSE SPECTRUM CASES

RESP SPEC CASE: EX

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SARX	9.81
U2	SARY	3.234
UZ	----	N/A

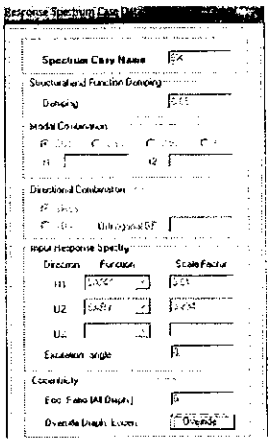
RESP SPEC CASE: EY

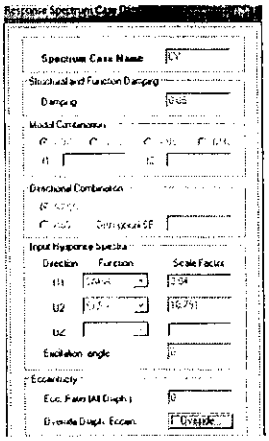
BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SARX	2.94
U2	SARY	10.791
UZ	----	N/A





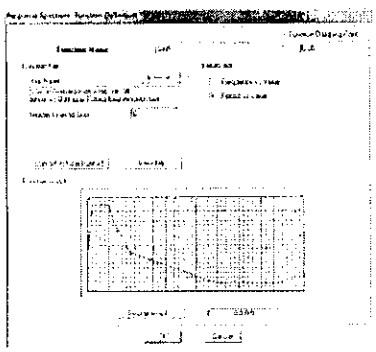
RESPONSE SPECTRUM FUNCTION - FROM FILE

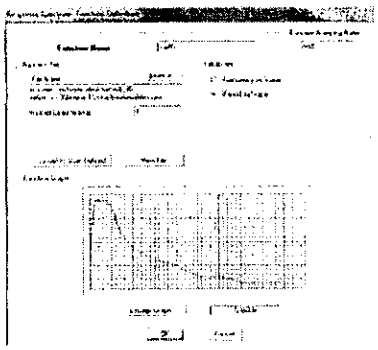
FUNCTION NAME: SARX

PERIOD	ACCEL
0.00	0.050
0.10	0.125
0.20	0.125
0.30	0.125
0.40	0.125
0.50	0.120
0.60	0.100
0.70	0.086
0.80	0.075
0.90	0.067
1.00	0.060
1.50	0.040
2.00	0.030
2.50	0.021
3.00	0.014
3.50	0.011
4.00	0.008
4.50	0.006
5.00	0.005

FUNCTION NAME: SARY

PERIOD	ACCEL
0.00	0.067
0.10	0.167
0.20	0.167
0.30	0.167
0.40	0.167
0.50	0.160
0.60	0.133
0.70	0.114
0.80	0.100
0.90	0.089
1.00	0.080
1.50	0.053
2.00	0.040
2.50	0.028
3.00	0.019
3.50	0.014
4.00	0.011
4.50	0.009
5.00	0.007





R E S P O N S E S P E C T R U M C A S E S

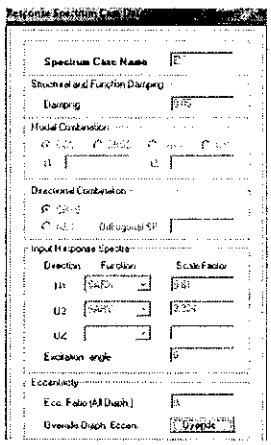
RESP SPEC CASE: EX

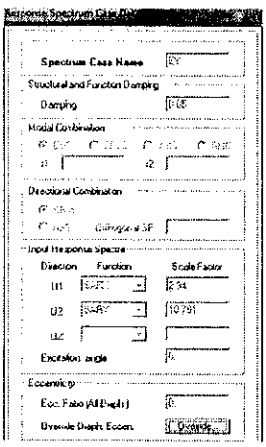
BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMB O	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SARX	9.81
U2	SARY	3.234
U Z	----	N/A





RESP SPEC CASE: EY

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SARX	2.94
U2	SARY	10.791
UZ	----	N/A

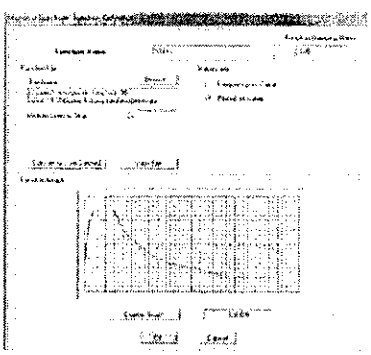
R E S P O N S E S P E C T R U M F U N C T I O N - F R O M F I L E

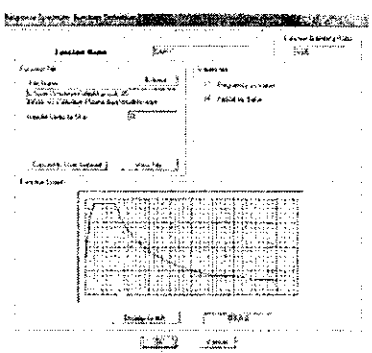
FUNCTION NAME: SARX

PERIOD	ACCEL
0.00	0.077
0.10	0.158
0.20	0.193
0.30	0.193
0.40	0.193
0.50	0.193
0.60	0.193
0.70	0.192
0.80	0.168
0.90	0.149
1.00	0.134
1.50	0.089
2.00	0.067
2.50	0.054
3.00	0.045
3.50	0.038
4.00	0.034
4.50	0.030
5.00	0.026

FUNCTION NAME: SARY

PERIOD	ACCEL
0.00	0.103
0.10	0.210
0.20	0.258
0.30	0.258
0.40	0.258
0.50	0.258
0.60	0.258
0.70	0.256
0.80	0.224
0.90	0.199
1.00	0.179
1.50	0.119
2.00	0.089
2.50	0.072
3.00	0.060
3.50	0.051
4.00	0.045
4.50	0.040
5.00	0.035





RESPONSE SPECTRUM CASES

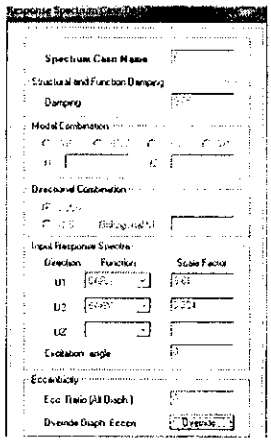
RESP SPEC CASE: EX

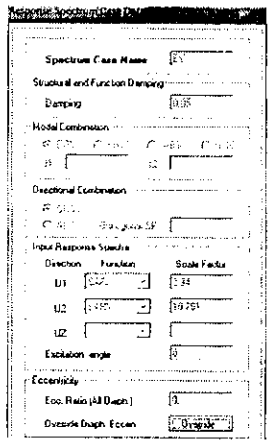
BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SARX	9.81
U2	SARY	3.234
UZ	----	N/A





RESP SPEC CASE: EY

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SARX	2.94
U2	SARY	10.791
UZ	----	N/A

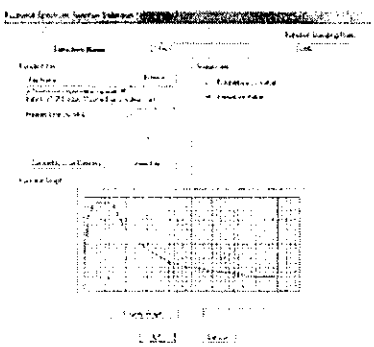
RESPONSE SPECTRUM FUNCTION - FROM FILE

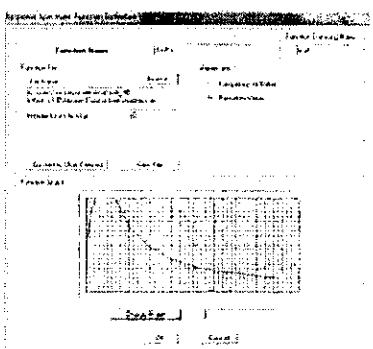
FUNCTION NAME: SARX

PERIOD	ACCEL
0.000	0.134
0.100	0.272
0.200	0.334
0.300	0.334
0.400	0.334
0.500	0.334
0.600	0.334
0.700	0.332
0.800	0.291
0.900	0.258
1.000	0.233
1.500	0.155
2.000	0.116
2.500	0.093
3.000	0.078
3.500	0.066
4.000	0.058
4.500	0.052
5.000	0.047

FUNCTION NAME: SARY

PERIOD	ACCEL
0.00	0.18
0.10	0.36
0.20	0.45
0.30	0.45
0.40	0.45
0.50	0.45
0.60	0.45
0.70	0.44
0.80	0.39
0.90	0.34
1.00	0.31
1.50	0.21
2.00	0.16
2.50	0.12
3.00	0.10
3.50	0.09
4.00	0.08
4.50	0.07
5.00	0.06





POINT LOAD ASSIGNMENTS TO LINE OBJECTS

LOAD CASE	STORY LEVEL	LINE ID	LOAD TYPE	LOAD DIRECTION	ABSOLUTE DISTANCE	APPLIED LOAD
DL	CUBIERTA	B30	Force	Gravity	0.000	2.52
DL	CUBIERTA	B30	Force	Gravity	2.541	5.04
DL	CUBIERTA	B30	Force	Gravity	5.159	5.04
DL	CUBIERTA	B30	Force	Gravity	7.700	2.52
DL	CUBIERTA	B31	Force	Gravity	2.580	5.11
DL	CUBIERTA	B31	Force	Gravity	5.159	10.23
DL	CUBIERTA	B31	Force	Gravity	7.700	5.11
DL	CUBIERTA	B32	Force	Gravity	0.000	5.04
DL	CUBIERTA	B32	Force	Gravity	2.541	10.08
DL	CUBIERTA	B32	Force	Gravity	5.159	10.08
DL	CUBIERTA	B32	Force	Gravity	7.700	5.04
DL	CUBIERTA	B33	Force	Gravity	0.000	5.04
DL	CUBIERTA	B33	Force	Gravity	2.541	10.08
DL	CUBIERTA	B33	Force	Gravity	5.159	10.08
DL	CUBIERTA	B33	Force	Gravity	7.700	5.04
DL	CUBIERTA	B34	Force	Gravity	0.000	2.52
DL	CUBIERTA	B34	Force	Gravity	2.541	5.04
DL	CUBIERTA	B34	Force	Gravity	5.159	5.04
DL	CUBIERTA	B34	Force	Gravity	7.700	2.52
LR	CUBIERTA	B30	Force	Gravity	0.000	2.11
LR	CUBIERTA	B30	Force	Gravity	2.541	4.22
LR	CUBIERTA	B30	Force	Gravity	5.159	4.22
LR	CUBIERTA	B30	Force	Gravity	7.700	2.11
LR	CUBIERTA	B31	Force	Gravity	2.580	4.28
LR	CUBIERTA	B31	Force	Gravity	5.151	8.55
LR	CUBIERTA	B31	Force	Gravity	7.700	4.28
LR	CUBIERTA	B32	Force	Gravity	0.000	4.22
LR	CUBIERTA	B32	Force	Gravity	2.541	8.43
LR	CUBIERTA	B32	Force	Gravity	5.159	8.43
LR	CUBIERTA	B32	Force	Gravity	7.700	4.22
LR	CUBIERTA	B33	Force	Gravity	0.000	4.22
LR	CUBIERTA	B33	Force	Gravity	2.541	8.43
LR	CUBIERTA	B33	Force	Gravity	5.159	8.43
LR	CUBIERTA	B33	Force	Gravity	7.700	4.22
LR	CUBIERTA	B34	Force	Gravity	0.000	2.11
LR	CUBIERTA	B34	Force	Gravity	2.541	4.22
LR	CUBIERTA	B34	Force	Gravity	5.159	4.22
LR	CUBIERTA	B34	Force	Gravity	7.700	2.11
G	CUBIERTA	B30	Force	Gravity	0.000	4.22
G	CUBIERTA	B30	Force	Gravity	2.541	8.43
G	CUBIERTA	B30	Force	Gravity	5.159	8.43
G	CUBIERTA	B30	Force	Gravity	7.700	4.22
G	CUBIERTA	B31	Force	Gravity	2.580	8.55
G	CUBIERTA	B31	Force	Gravity	5.151	17.10
G	CUBIERTA	B31	Force	Gravity	7.700	8.55
G	CUBIERTA	B32	Force	Gravity	0.000	8.43
G	CUBIERTA	B32	Force	Gravity	2.541	16.86
G	CUBIERTA	B32	Force	Gravity	5.159	16.86
G	CUBIERTA	B32	Force	Gravity	7.700	8.43
G	CUBIERTA	B33	Force	Gravity	0.000	8.43
G	CUBIERTA	B33	Force	Gravity	2.541	16.86
G	CUBIERTA	B33	Force	Gravity	5.159	16.86
G	CUBIERTA	B33	Force	Gravity	7.700	8.43
G	CUBIERTA	B34	Force	Gravity	0.000	4.22
G	CUBIERTA	B34	Force	Gravity	2.541	8.43
G	CUBIERTA	B34	Force	Gravity	5.159	8.43
G	CUBIERTA	B34	Force	Gravity	7.700	4.22

DISTRIBUTED LOAD ASSIGNMENTS TO LINE OBJECTS

LOAD CASE	STORY LEVEL	LINE ID	LOAD TYPE	LOAD DIRECTION	ABSOLUTE DISTANCE A	ABSOLUTE DISTANCE B	LOAD A PER LENGTH	LOAD B PER LENGTH
DL	CUBIERTA	B1	Force	Gravity	0.000	0.900	0.690	0.690
DL	CUBIERTA	B2	Force	Gravity	0.000	6.000	0.690	0.690
DL	CUBIERTA	B3	Force	Gravity	0.000	6.000	0.690	0.690
DL	CUBIERTA	B4	Force	Gravity	0.000	6.000	0.690	0.690
DL	CUBIERTA	B5	Force	Gravity	0.000	6.000	0.690	0.690
DL	CUBIERTA	B6	Force	Gravity	0.000	1.200	0.690	0.690
DL	CUBIERTA	B7	Force	Gravity	0.000	1.950	0.690	0.690
DL	CUBIERTA	B17	Force	Gravity	0.000	1.950	0.690	0.690
DL	CUBIERTA	B19	Force	Gravity	0.000	6.000	1.690	1.690
DL	CUBIERTA	B20	Force	Gravity	0.000	6.000	1.690	1.690
DL	CUBIERTA	B21	Force	Gravity	0.000	6.000	1.690	1.690
DL	CUBIERTA	B22	Force	Gravity	0.000	6.000	1.690	1.690
DL	CUBIERTA	B28	Force	Gravity	0.000	7.700	0.690	0.690
DL	CUBIERTA	B30	Force	Gravity	0.000	7.700	0.800	0.800
DL	CUBIERTA	B31	Force	Gravity	0.000	7.700	0.800	0.800
DL	CUBIERTA	B32	Force	Gravity	0.000	7.700	0.800	0.800
DL	CUBIERTA	B33	Force	Gravity	0.000	7.700	0.800	0.800
DL	CUBIERTA	B34	Force	Gravity	0.000	7.700	0.800	0.800

DISTRIBUTED LOAD ASSIGNMENTS TO LINE OBJECTS

LOAD CASE	STORY LEVEL	LINE ID	LOAD TYPE	LOAD DIRECTION	ABSOLUTE DISTANCE A	ABSOLUTE DISTANCE B	LOAD A PER LENGTH	LOAD B PER LENGTH
DL	CUBIERTA	B36	Force	Gravity	0.000	7.700	0.690	0.690
DL	CUBIERTA	B38	Force	Gravity	0.000	6.000	0.690	0.690
DL	CUBIERTA	B39	Force	Gravity	0.000	6.000	0.690	0.690
DL	CUBIERTA	B40	Force	Gravity	0.000	6.000	0.690	0.690
DL	CUBIERTA	B41	Force	Gravity	0.000	6.000	0.690	0.690
DL	CUBIERTA	B43	Force	Gravity	0.000	1.000	0.690	0.690
DL	CUBIERTA	B53	Force	Gravity	0.000	1.000	0.690	0.690
DL	CUBIERTA	B54	Force	Gravity	0.000	0.900	0.690	0.690
DL	CUBIERTA	B55	Force	Gravity	0.000	6.000	0.690	0.690
DL	CUBIERTA	B56	Force	Gravity	0.000	6.000	0.690	0.690
DL	CUBIERTA	B57	Force	Gravity	0.000	6.000	0.690	0.690
DL	CUBIERTA	B58	Force	Gravity	0.000	6.000	0.690	0.690
DL	CUBIERTA	B59	Force	Gravity	0.000	1.200	0.690	0.690
LR	CUBIERTA	B19	Force	Gravity	0.000	6.000	0.500	0.500
LR	CUBIERTA	B20	Force	Gravity	0.000	6.000	0.500	0.500
LR	CUBIERTA	B21	Force	Gravity	0.000	6.000	0.500	0.500
LR	CUBIERTA	B22	Force	Gravity	0.000	6.000	0.500	0.500
LR	CUBIERTA	B38	Force	Gravity	0.000	6.000	0.500	0.500
LR	CUBIERTA	B39	Force	Gravity	0.000	6.000	0.500	0.500
LR	CUBIERTA	B40	Force	Gravity	0.000	6.000	0.500	0.500
LR	CUBIERTA	B41	Force	Gravity	0.000	6.000	0.500	0.500
G	CUBIERTA	B19	Force	Gravity	0.000	6.000	1.000	1.000
G	CUBIERTA	B20	Force	Gravity	0.000	6.000	1.000	1.000
G	CUBIERTA	B21	Force	Gravity	0.000	6.000	1.000	1.000
G	CUBIERTA	B22	Force	Gravity	0.000	6.000	1.000	1.000
G	CUBIERTA	B38	Force	Gravity	0.000	6.000	1.000	1.000
G	CUBIERTA	B39	Force	Gravity	0.000	6.000	1.000	1.000
G	CUBIERTA	B40	Force	Gravity	0.000	6.000	1.000	1.000
G	CUBIERTA	B41	Force	Gravity	0.000	6.000	1.000	1.000

UNIFORM LOAD ASSIGNMENTS TO AREA OBJECTS

CASE	STORY	AREA	AREATYPE	DIRECTION	LOAD
DL	CUBIERTA	F5	Floor	Gravity	3.2900
LR	CUBIERTA	F1	Floor	Gravity	0.5000
LR	CUBIERTA	F2	Floor	Gravity	0.5000
LR	CUBIERTA	F3	Floor	Gravity	0.5000
LR	CUBIERTA	F4	Floor	Gravity	0.5000
LR	CUBIERTA	F5	Floor	Gravity	0.5000
LR	CUBIERTA	F6	Floor	Gravity	0.5000
LR	CUBIERTA	F7	Floor	Gravity	0.5000
LR	CUBIERTA	F8	Floor	Gravity	0.5000
LR	CUBIERTA	F9	Floor	Gravity	0.5000
LR	CUBIERTA	F10	Floor	Gravity	0.5000
LR	CUBIERTA	F11	Floor	Gravity	0.5000
G	CUBIERTA	F1	Floor	Gravity	1.0000
G	CUBIERTA	F2	Floor	Gravity	1.0000
G	CUBIERTA	F3	Floor	Gravity	1.0000
G	CUBIERTA	F4	Floor	Gravity	1.0000
G	CUBIERTA	F5	Floor	Gravity	0.5000
G	CUBIERTA	F6	Floor	Gravity	1.0000
G	CUBIERTA	F7	Floor	Gravity	1.0000
G	CUBIERTA	F8	Floor	Gravity	1.0000
G	CUBIERTA	F9	Floor	Gravity	1.0000
G	CUBIERTA	F10	Floor	Gravity	1.0000
G	CUBIERTA	F11	Floor	Gravity	1.0000

L O A D I N G C O M B I N A T I O N S

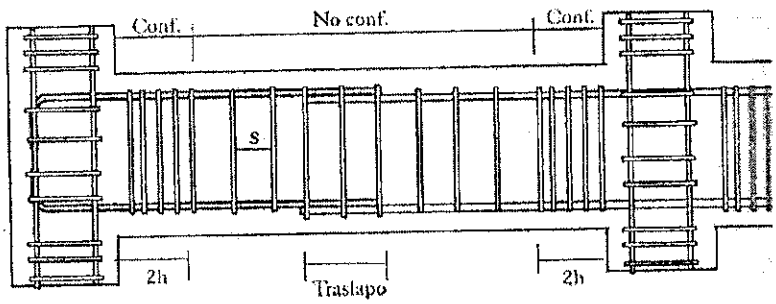
COMBO	COMBO TYPE	CASE	CASE TYPE	SCALE FACTOR
D	ADD	PP	Static	1.0000
		DL	Static	1.0000
DRV1X	ADD	D	Combo	1.0000
		EX	Spectra	1.0000
DRV1Y	ADD	D	Combo	1.0000
		EY	Spectra	1.0000
DRV2X	ADD	D	Combo	0.6000
		EX	Spectra	1.0000
DRV2Y	ADD	D	Combo	0.6000
		EY	Spectra	1.0000
DIS1A	ADD	D	Combo	1.2000
		LR	Static	1.6000
DIS1B	ADD	D	Combo	1.2000
		G	Static	1.6000
DIS2X	ADD	D	Combo	1.2000
		EX	Spectra	1.0000
		LR	Static	1.0000
DIS2Y	ADD	D	Combo	1.2000
		EY	Spectra	1.0000
		LR	Static	1.0000
DIS3X	ADD	D	Combo	0.9000
		EX	Spectra	1.0000
DIS3Y	ADD	D	Combo	0.9000
		EY	Spectra	1.0000
ENVOL	ENVE	DIS1A	Combo	1.0000
		DIS1B	Combo	1.0000
		DIS2X	Combo	1.0000
		DIS2Y	Combo	1.0000
		DIS3X	Combo	1.0000
		DIS3Y	Combo	1.0000

8.1.5. Resultados – Diseño, vigas

Realizado el análisis estructural se presentan a continuación los diagramas de momento, cortante, y refuerzo de vigas para las tres zonas y tipos de suelo en estudio

Combinacion para diseño: ENVOL (ver 8.1.4)

Diseño a cortante



Porticos con DES

Norma: NSR-10, Numeral C.21.5.3.2

Zona Confinada:

Nota. Análisis para fleje No.3, Av= 0.71

cm2 S ≤ 15 cm => Av / S = 0.095 cm2/cm

S ≤ d/4; d= 50 - 4= 46cm, S = 11.5cm => Av / S = 0.125 cm2 /

cm S ≤ 6 db; db = 5/8", S = 9.5cm => Av / S = 0.149 cm2 / cm

Acero transv. Para cortante = Av / S = 0.149 cm2 / cm para S = 9.5 c/c en una long. de 2h = 100 cm , o lo que por diseño se requiera; se tomará la cuantia mayor.

Zona No Confinada:

S ≤ d/2; d= 50 - 4= 46cm, S = 23cm => Av / S = 0.062 cm2 / cm, o lo que por diseño se requiera; se tomará la cuantia mayor.

Porticos con DMO

Norma: NSR-10, Numeral C.21.3.4.6

Zona Confinada:

Nota. Análisis para fleje No.3, Av= 0.71

cm2 S ≤ 30 cm => Av / S = 0.047 cm2/cm

S ≤ d/4; d= 50 - 4= 46cm, S = 11.5cm => Av / S = 0.125 cm2 /

cm S ≤ 8 db; db = 5/8", S = 12.7 => Av / S = 0.112 cm2 / cm

S ≤ 24 de; de = 3/8", S = 22.9 => Av / S = 0.0.062 cm2 / cm

Acero transv. para oortante = Av / S = 0.125 cm2 / cm para S = 11.5 c/c en una long. de 2h = 100 cm , o lo que por diseño se requiera; se tomará la cuantia mayor.

Zona No Confinada:

S ≤ d/2; d= 50 - 4= 46cm, S = 23cm => Av / S = 0.062 cm2 / cm, o lo que por diseño se requiera; se tomará la cuantia mayor.

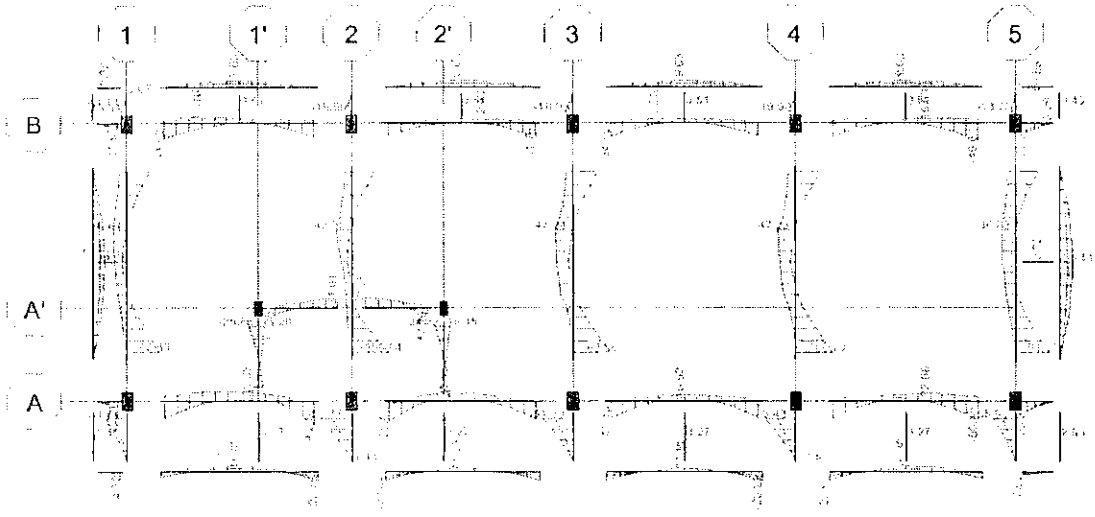
Diseño a flexion

$_{min}$ = 1.4 / fy (Mpa), fy = 420 Mpa => $_{min}$ **= 0.0033**

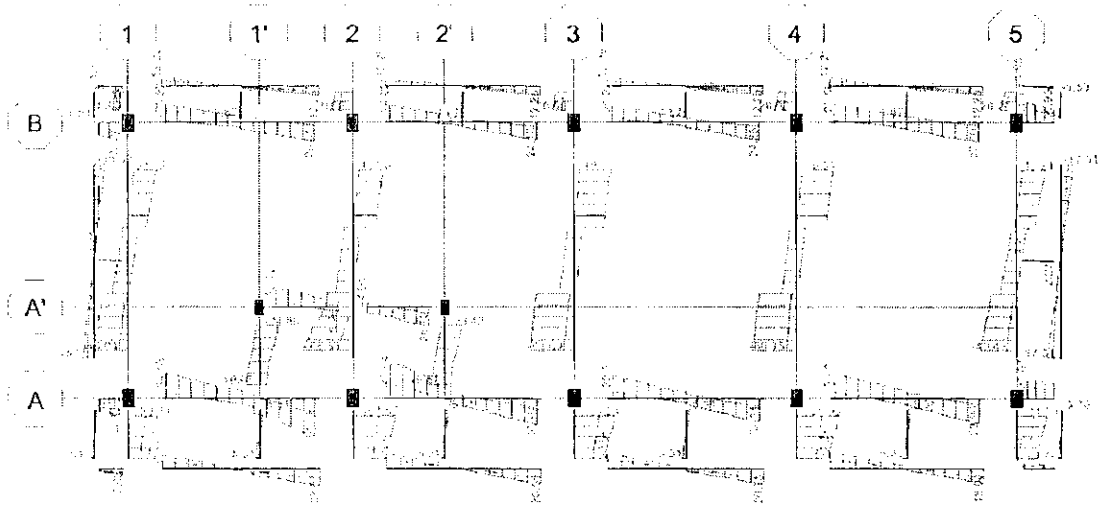
$_{max}$ **= 0.025**

Para DMO (NSR 10, numeral C.21.3.4.3) debe haber al menos dos (2) barras continuas arriba y abajo, para pórticos con DES la NSR-10 (numeral C.21.5.2.1) no especifica el diámetro de este refuerzo

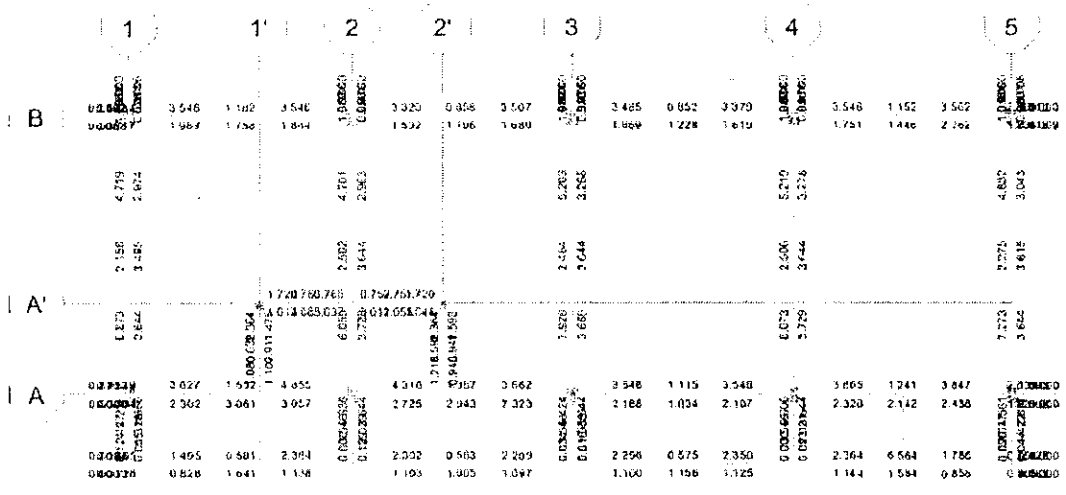
8.1.5.1. Vigas Zona alta, Suelo Tipo AB



Plan View - CBT - Elevation 4.4 Moment 3-3 Diagram (ENVOL)

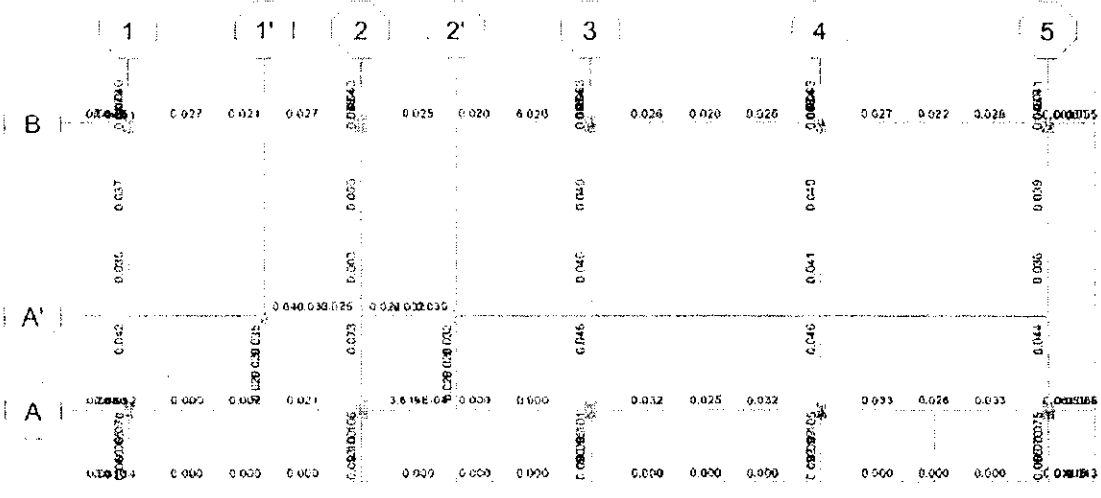


Plan View - CBT - Elevation 4.4 Shear Force 2-2 Diagram (ENVOL)



Plan View - CBT - Elevation 440 Longitudinal Reinforcing

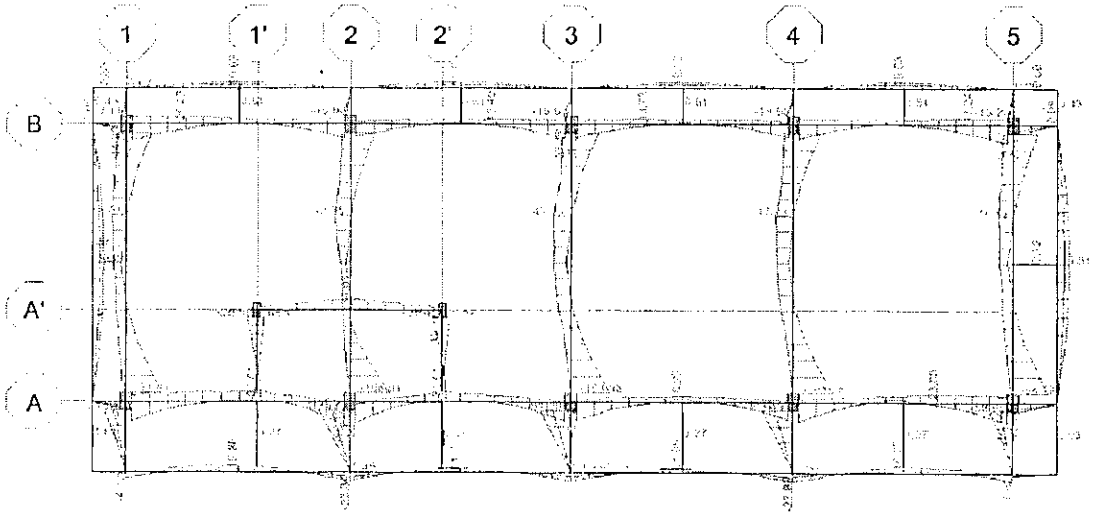
Nota: acero en cm2



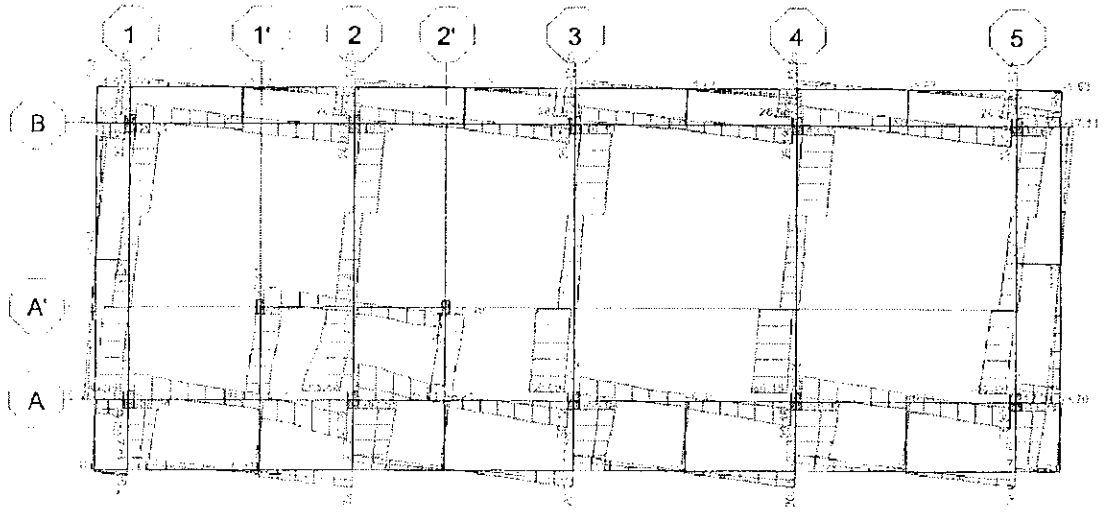
Plan View - CBT - Elevation 440 Shear Reinforcing

Nota: el refuerzo se da en términos de Av / s (cm2/cm)

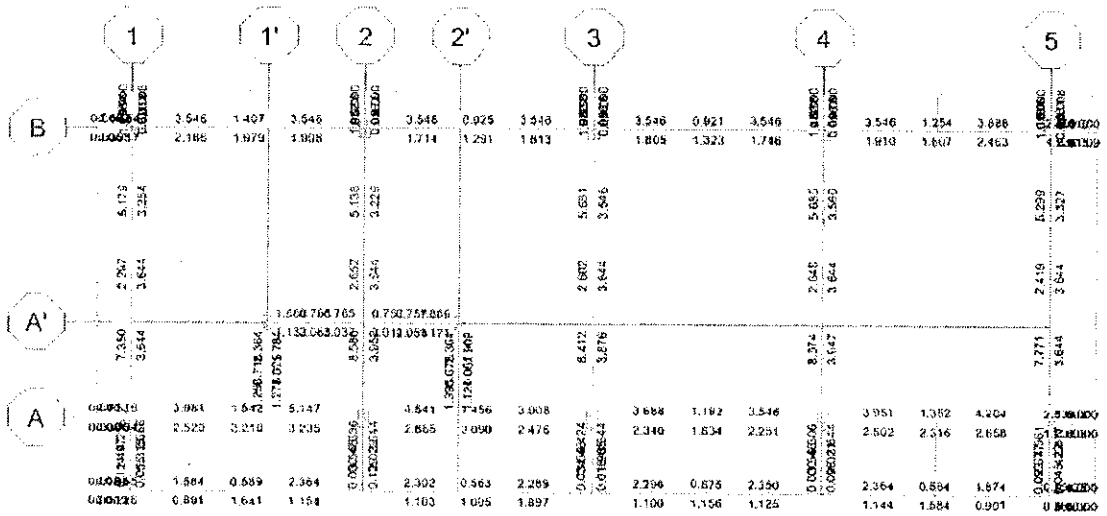
8.1.5.2. Vigas Zona alta, Suelo Tipo CD



Plan View - CBT - Elevation 4.4 - Moment 3-3 Diagram (ENVOL)

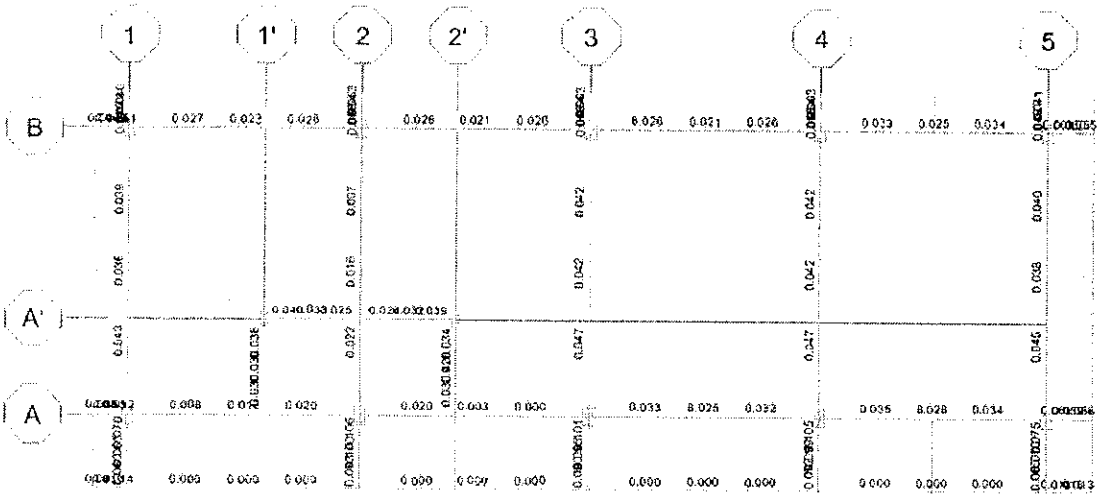


Plan View - CBT - Elevation 4.4 - Shear Force 2-2 Diagram - (ENVOL)



Plan View - CBT - Elevation 440 Longitudinal Reinforcing

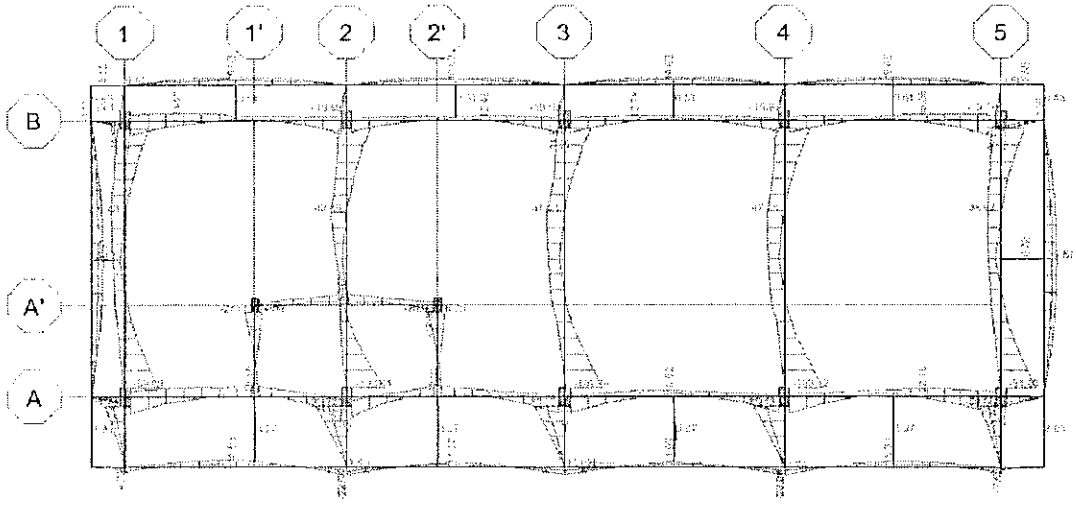
Nota: acero en cm2



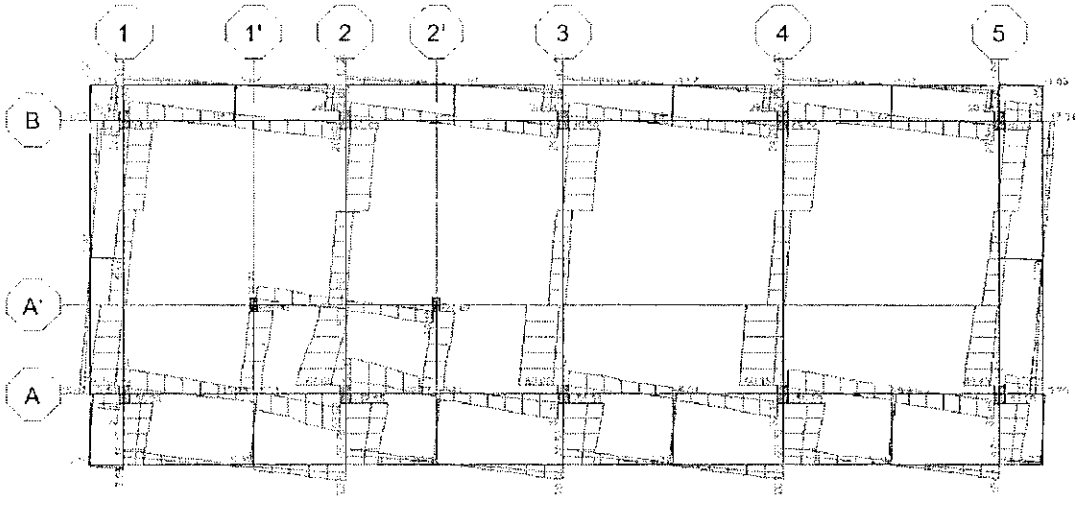
Plan View - CBT - Elevation 440 Shear Reinforcing

Nota: el refuerzo se da en términos de Av / s (cm2/cm)

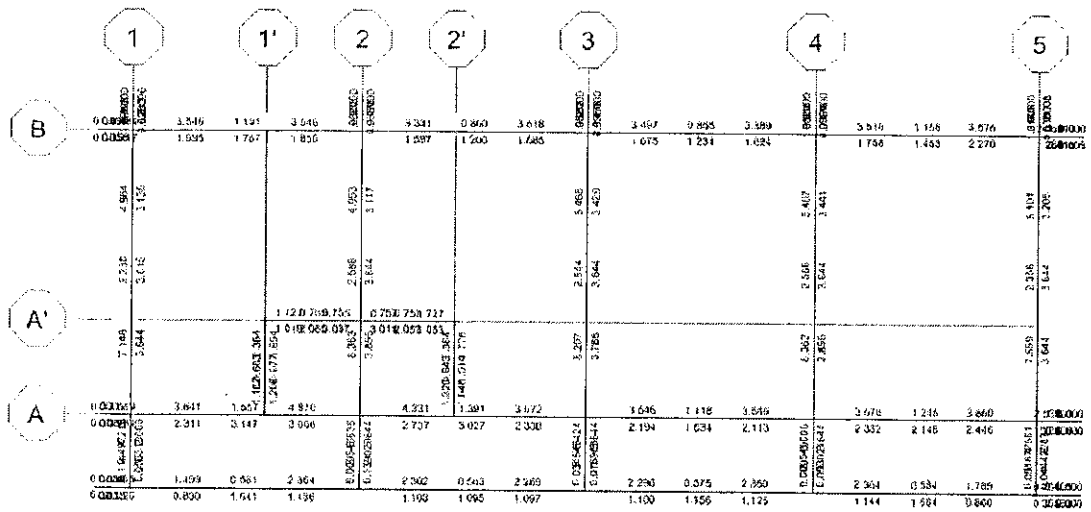
8.1.5.3. Vigas Zona alta, Suelo Tipo E



Plan View - CBT - Elevation 4.4 Moment 3-3 Diagram (ENVOL)

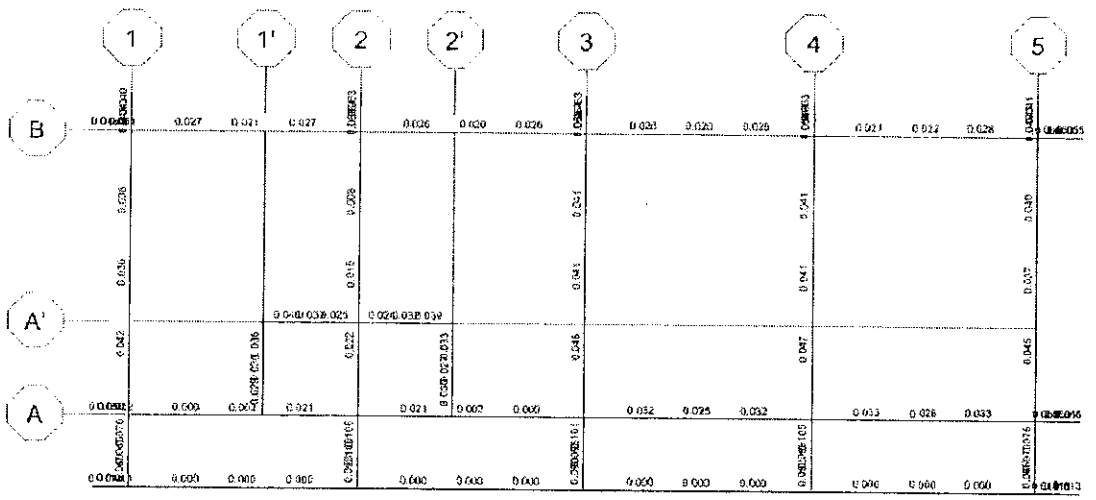


Plan View - CBT - Elevation 4.4 Shear Force 2-2 Diagram (ENVOL)



Plan View - CBT - Elevation 440 Longitudinal Reinforcing

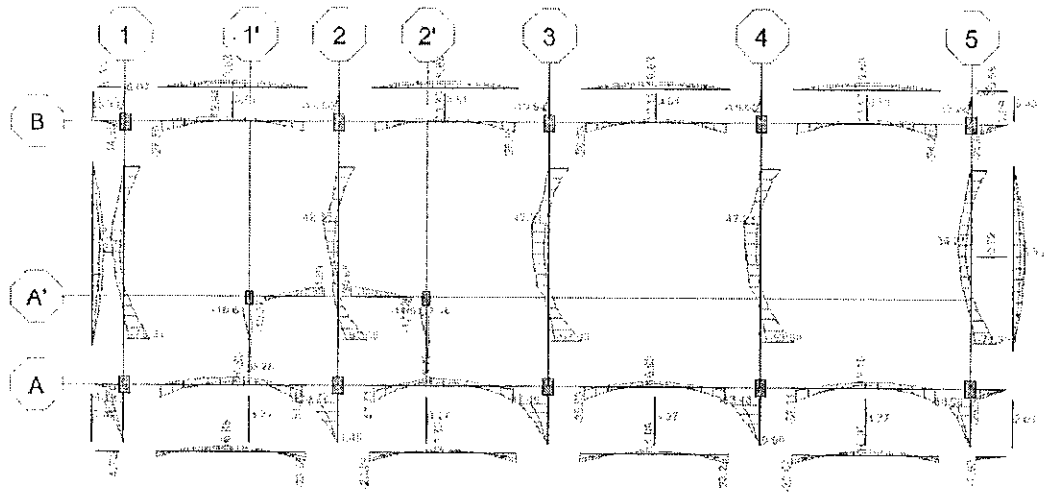
Nota: acero en cm2



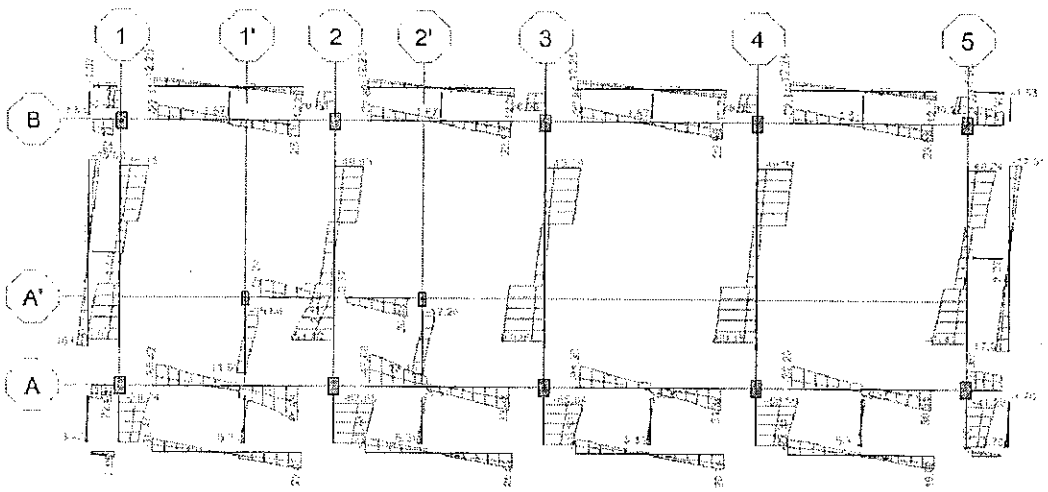
Plan View - CBT - Elevation 440 Shear Reinforcing

Nota: el refuerzo se da en términos de Av / s (cm2/cm)

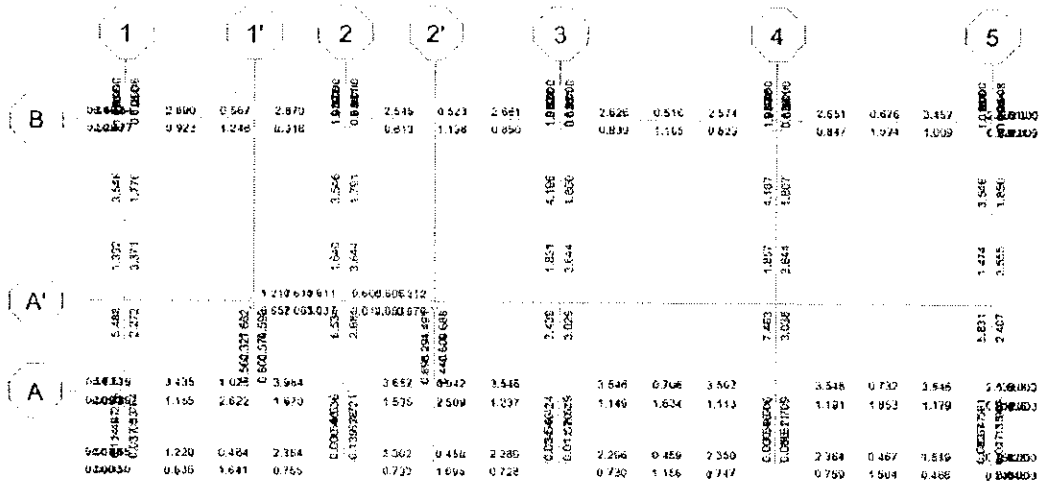
8.1.5.4. Vigas Zona Intermedia, Suelo Tipo AB



Plan View - CBT - Elevation 4.4 Moment 3-3 Diagram (ENVOL)

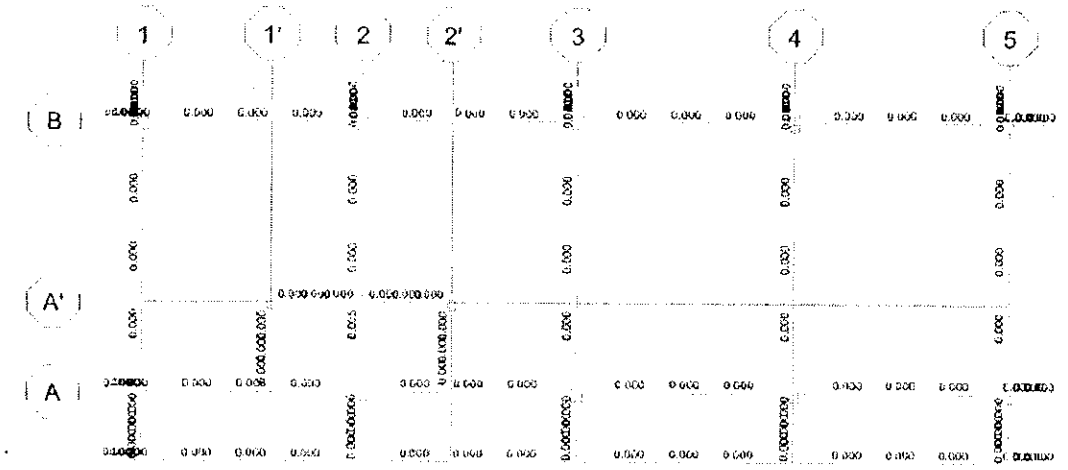


Plan View - CBT - Elevation 4.4 Shear Force 2-2 Diagram (ENVOL)



Plan View - CBT - Elevation 440 Longitudinal Reinforcing

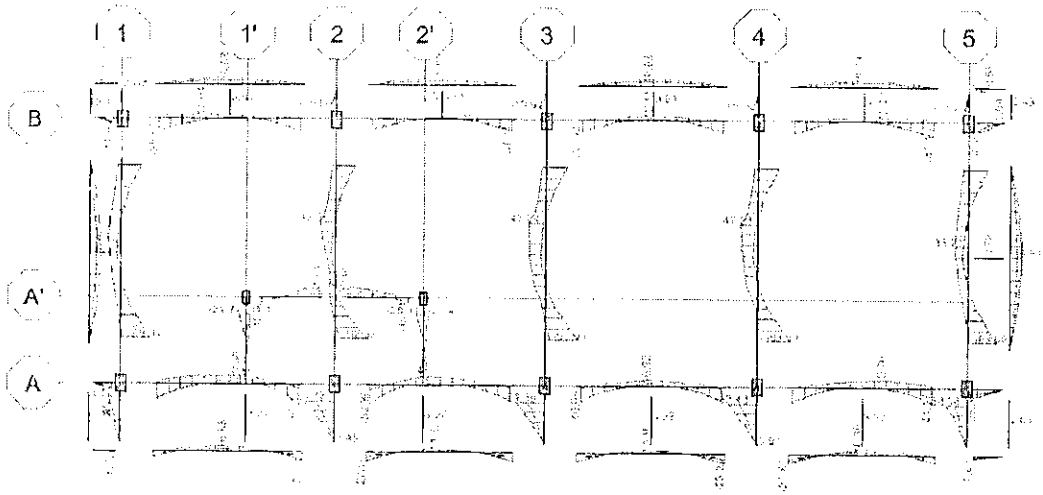
Nota: acero en cm2



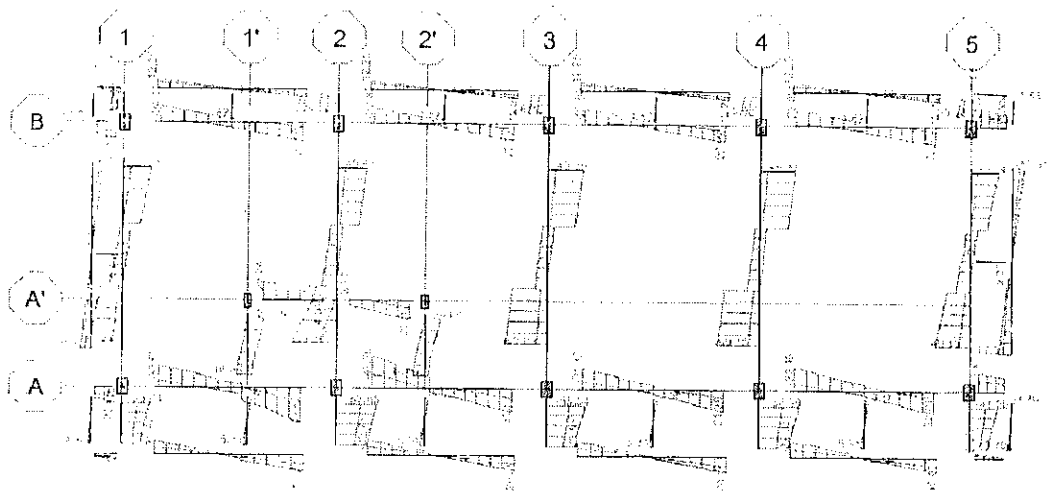
Plan View - CBT - Elevation 440 Shear Reinforcing

Nota: el refuerzo se da en términos de Av / s (cm2/cm)

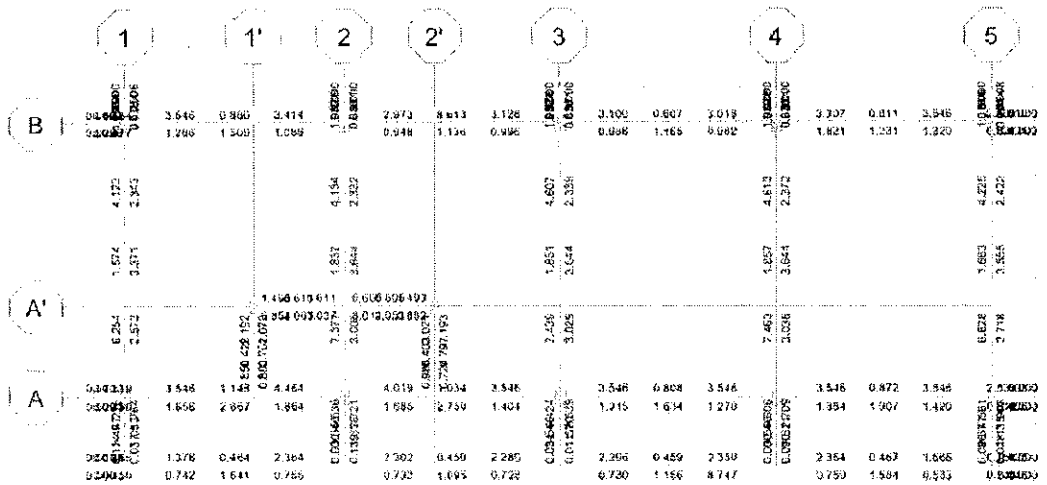
8.1.5.5. Vigas Zona Intermedia, Suelo Tipo CD



Plan View - CBT - Elevation 4.4 Moment 3-3 Diagram (ENVOL)

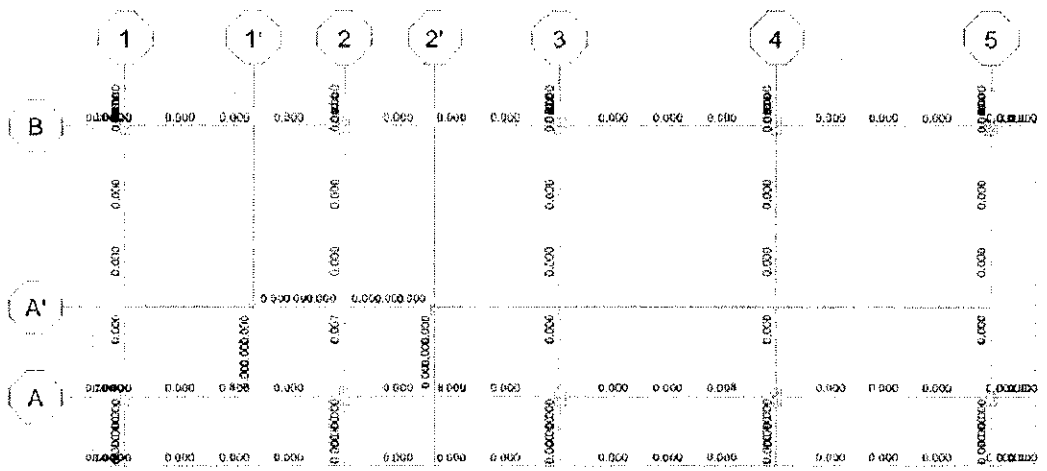


Plan View - CBT - Elevation 4.4 Shear Force 2-2 Diagram (ENVOL)



Plan View - CBT - Elevation 440 Longitudinal Reinforcing

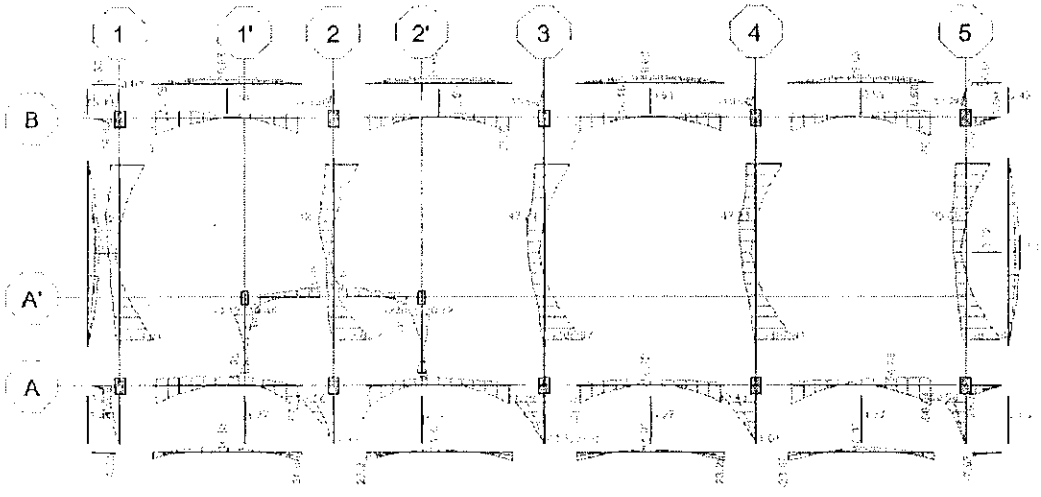
Nota: acero en cm2



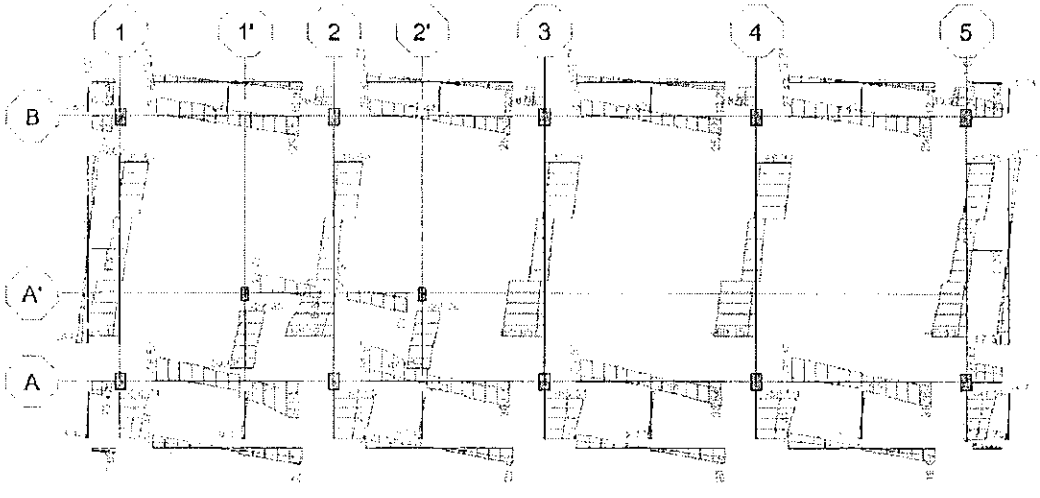
Plan View - CBT - Elevation 440 Shear Reinforcing

Nota: el refuerzo se da en términos de Av / s (cm2/cm)

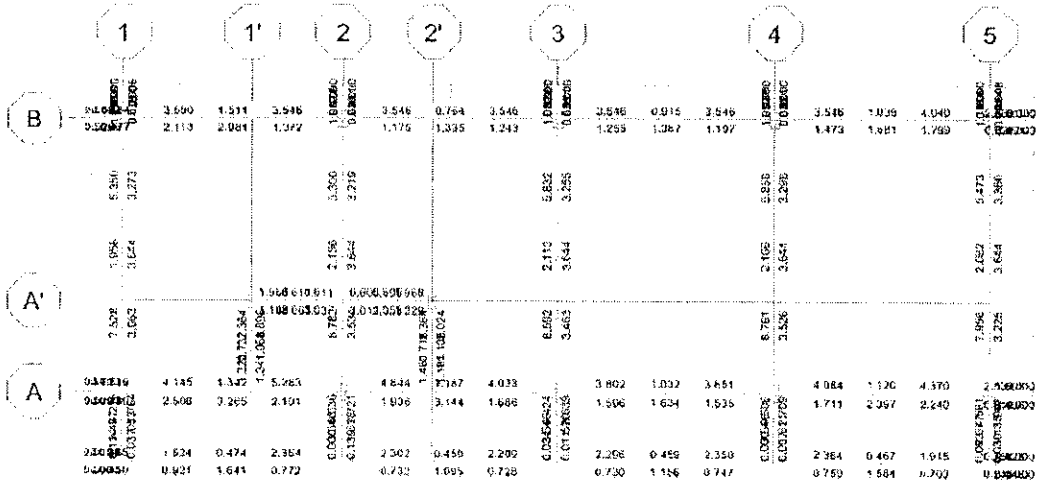
8.1.5.6. Vigas Zona Intermedia, Suelo Tipo E



Plan View - CBT - Elevation 4.4 - Moment 3-3 Diagram* (ENVOL)

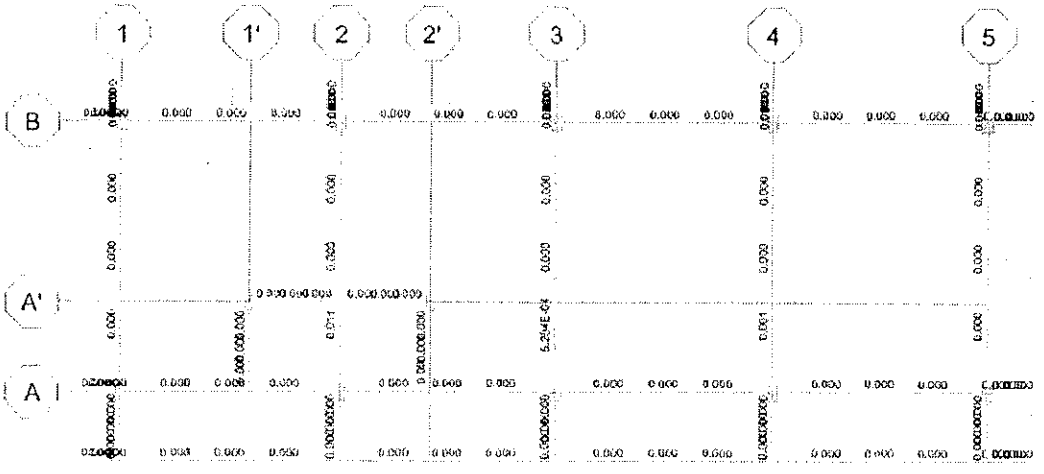


Plan View - CBT - Elevation 4.4 - Shear Force 2-2 Diagram (ENVOL)



Plan View - CBT - Elevation 440 Longitudinal Reinforcing

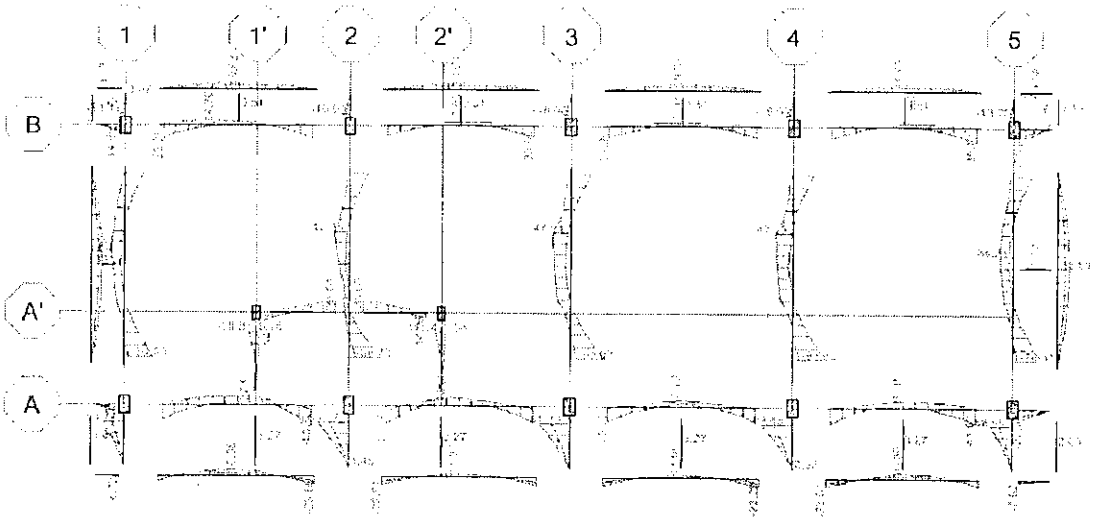
Nota: acero en cm2



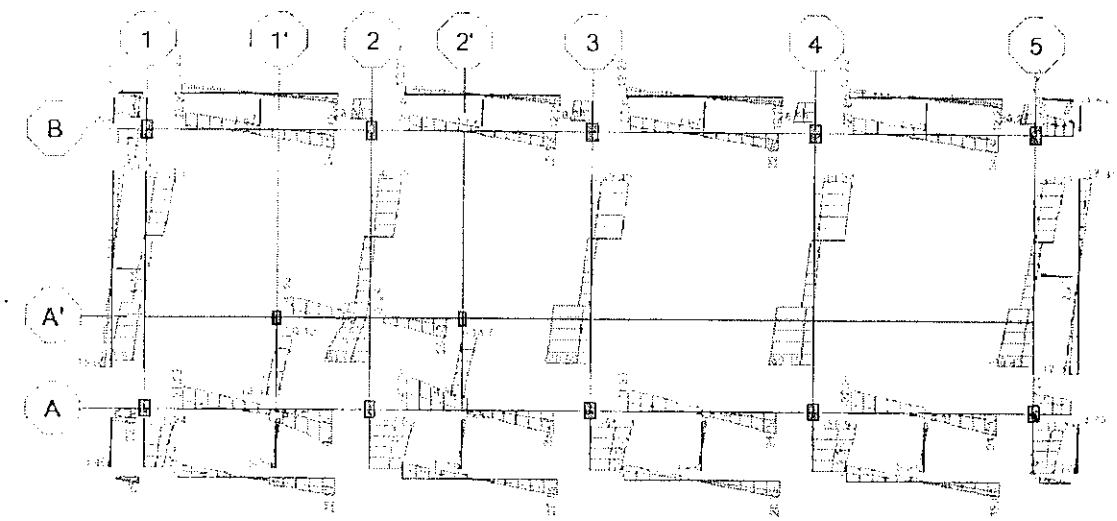
Plan View - CBT - Elevation 440 Shear Reinforcing

Nota: el refuerzo se da en términos de Av / s (cm2/cm)

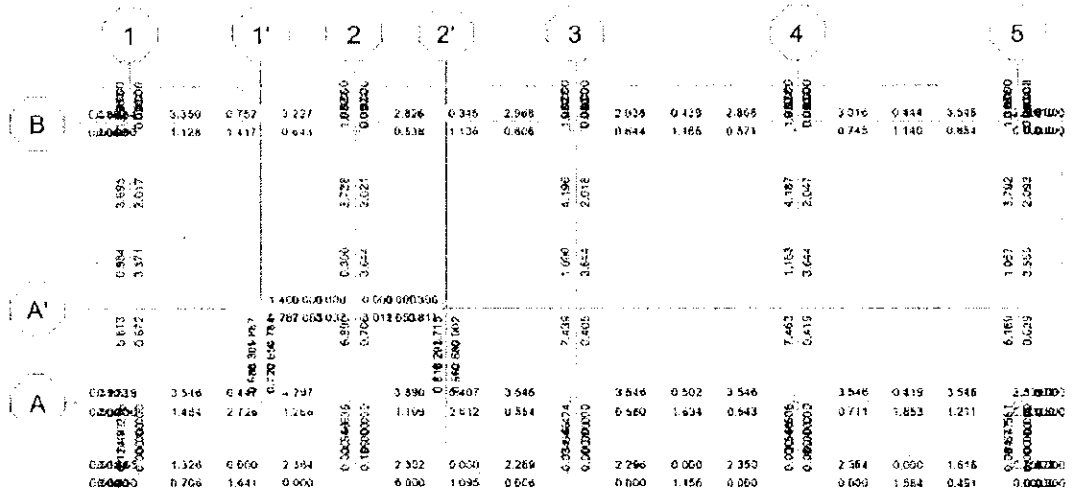
8.1.5.7. Vigas Zona Baja, Suelo Tipo AB



Plan View - CBT - Elevation 4.4 Moment 3-3 Diagram (ENVOL)

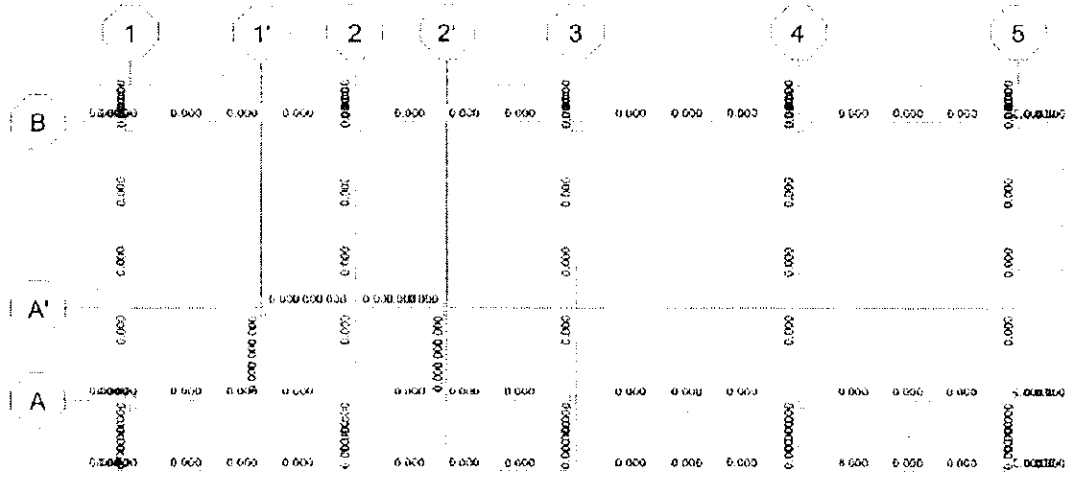


Plan View - CBT - Elevation 4.4 Shear Force 2-2 Diagram (ENVOL)



Plan View - CBT - Elevation 440 Longitudinal Reinforcing

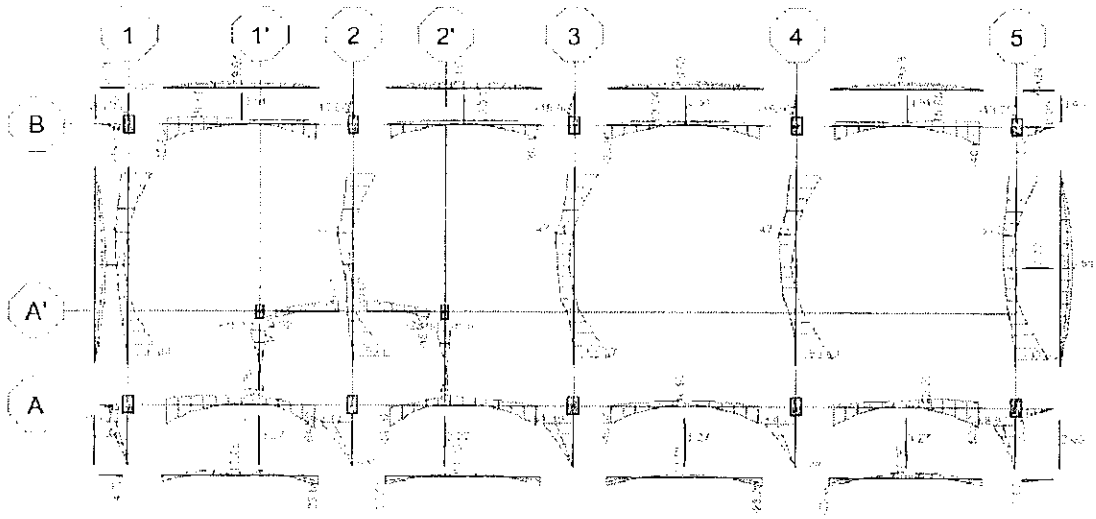
Nota: acero en cm2



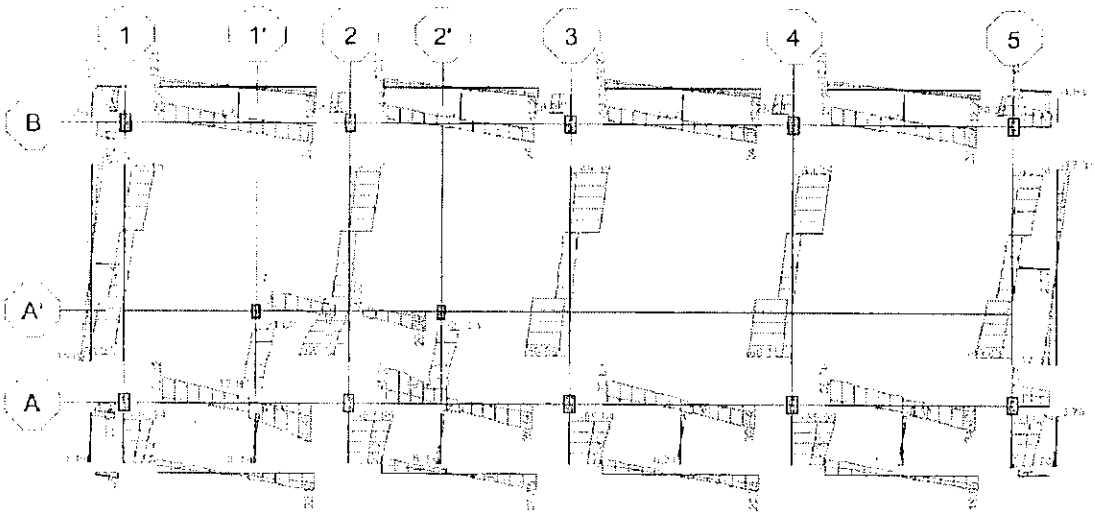
Plan View - CBT - Elevation 440 Shear Reinforcing

Nota: el refuerzo se da en términos de Av / s (cm2/cm)

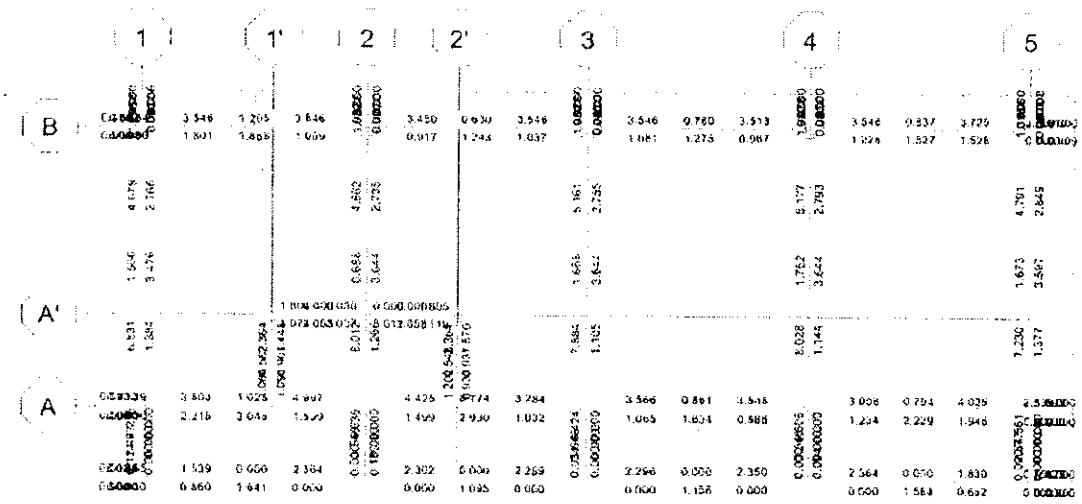
8.1.5.8. Vigas Zona Baja, Suelo Tipo CD



Plan View - CBT - Elevation 4.4 Moment 3-3 Diagram (ENVOL)

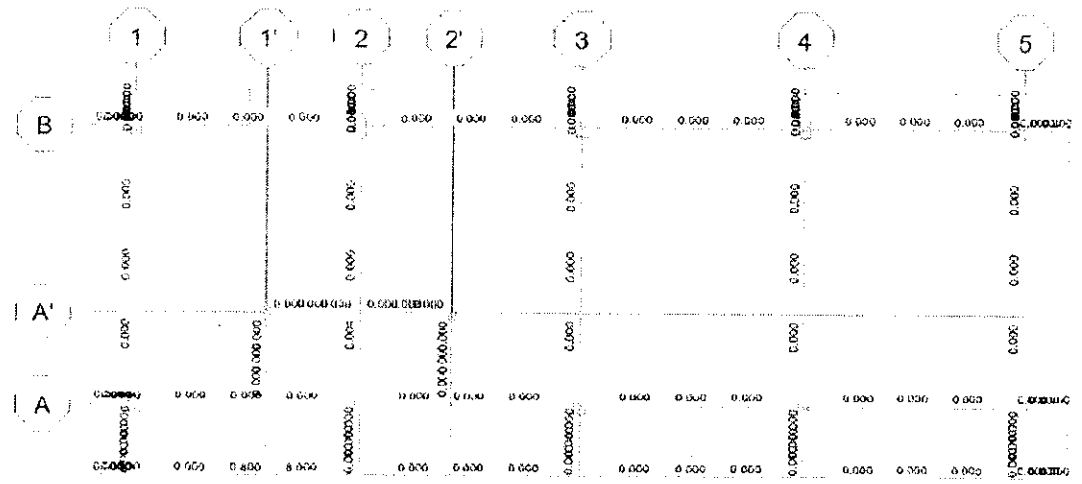


Plan View - CBT - Elevation 4.4 Shear Force 2-2 Diagram (ENVOL)



Plan View - CBT - Elevation 440 Longitudinal Reinforcing

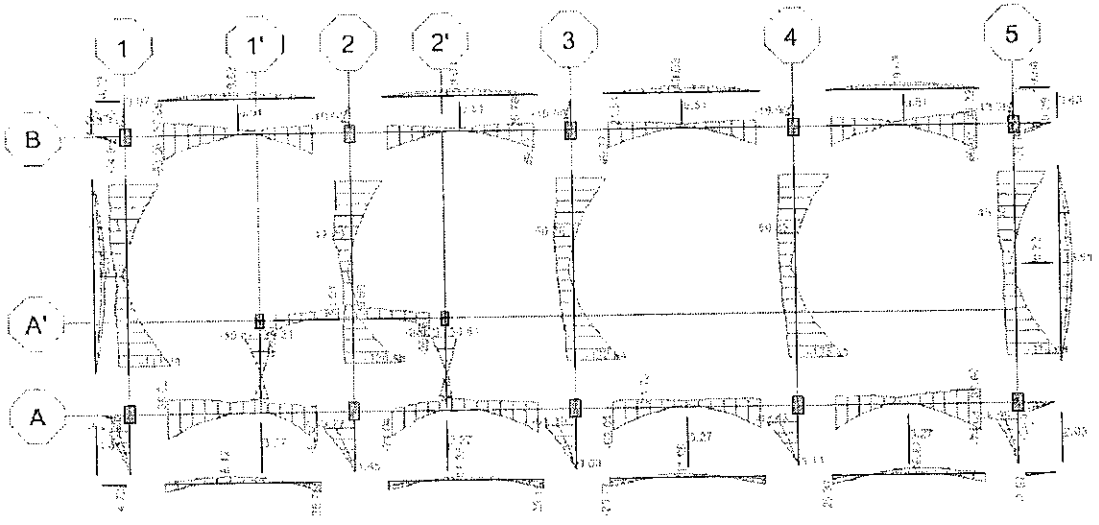
Nota: acero en cm2



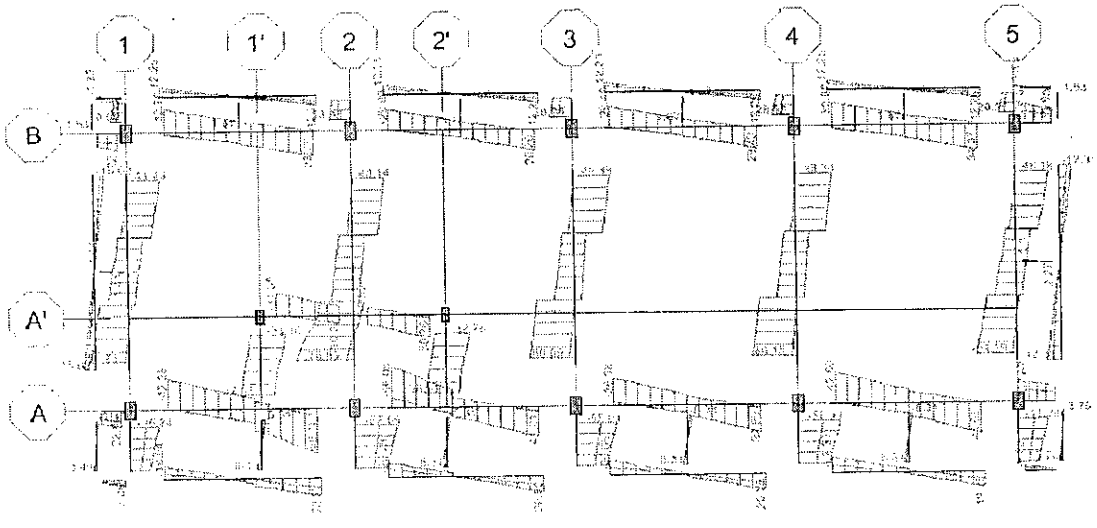
Plan View - CBT - Elevation 440 Shear Reinforcing

Nota: el refuerzo se da en términos de Av / s (cm2/cm)

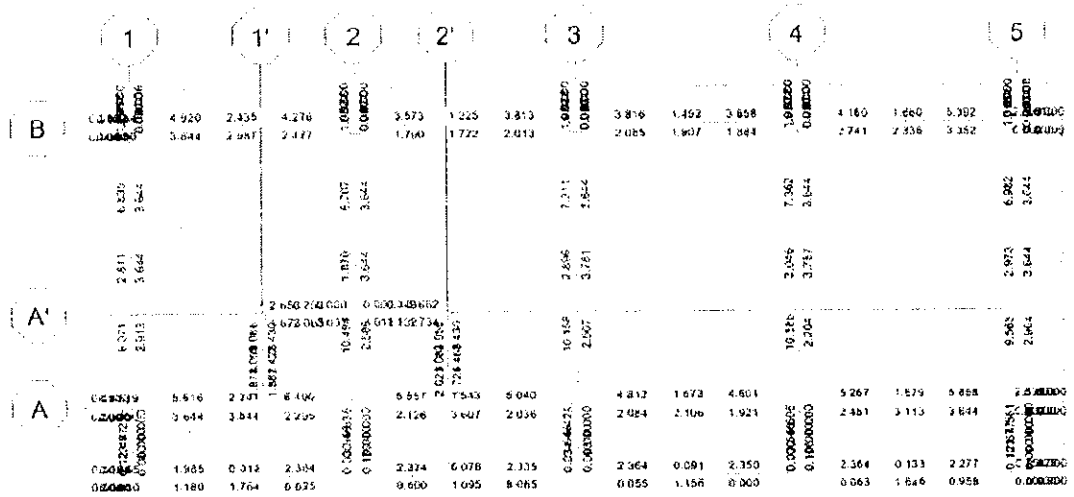
8.1.5.9. Vigas Zona Baja, Suelo Tipo E



Plan View - CBT - Elevation 4.4 Moment 3-3 Diagram (ENVOL)

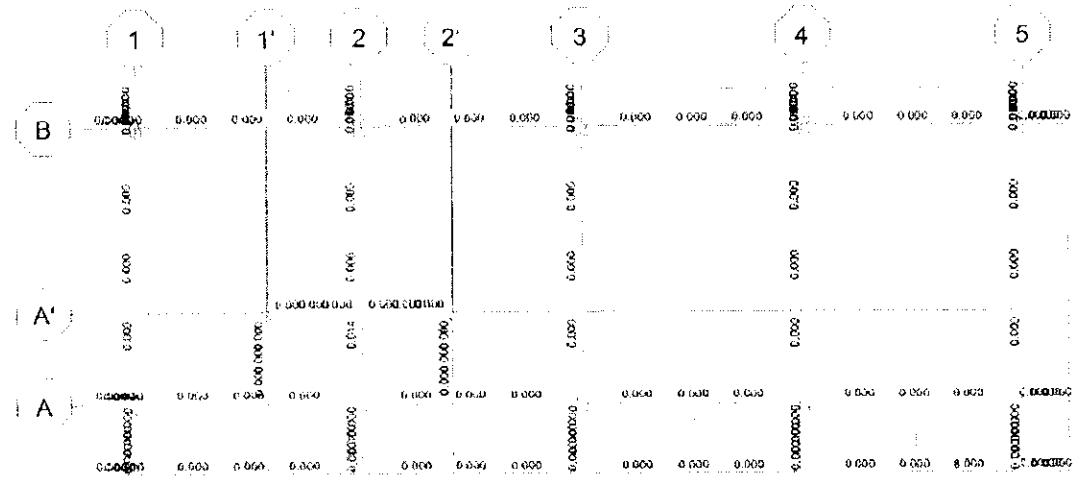


Plan View - CBT - Elevation 4.4 Shear Force 2-2 Diagram (ENVOL)



Plan View - CBT - Elevation 440 Longitudinal Reinforcing

Nota: acero en cm2



Plan View - CBT - Elevation 440 Shear Reinforcing

Nota: el refuerzo se da en términos de Av / s (cm2/cm)

8.1.6. Resultados – Diseño, columnas

8.1.6.1. Zona alta, Suelo Tipo AB

ETABS v9.7.4 File:CDI-BLOQUE 5-ALTA-AB-160-VR.1.0 Units:KN-m julio 17, 2013 6:47 PAGE 2

C O L U M N F O R C E S

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
CUBIERTA	C1	DIS1A	0.0000	-151.88	-3.48	-4.87	-0.058	-16.882	-5.356
			2.2500	-142.33	-3.48	-4.87	-0.058	-5.934	2.475
			4.5000	-132.79	-3.48	-4.87	-0.058	5.014	10.306
CUBIERTA	C1	DIS1B	0.0000	-172.88	-3.98	-7.83	-0.052	-23.078	-6.123
			2.2500	-163.33	-3.98	-7.83	-0.052	-5.463	2.843
			4.5000	-153.79	-3.98	-7.83	-0.052	12.151	11.809
CUBIERTA	C1	DIS2X MAX	0.0000	-134.15	12.78	5.22	0.729	13.529	38.519
			2.2500	-124.61	12.78	5.22	0.729	1.812	9.765
			4.5000	-115.07	12.78	5.22	0.729	14.609	38.351
CUBIERTA	C1	DIS2X MIN	0.0000	-153.70	-19.32	-12.72	-0.849	-42.652	-48.578
			2.2500	-144.16	-19.32	-12.72	-0.849	-14.057	-5.123
			4.5000	-134.61	-19.32	-12.72	-0.849	-9.978	-19.008
CUBIERTA	C1	DIS2Y MAX	0.0000	-130.38	1.66	20.91	0.750	63.736	8.182
			2.2500	-120.84	1.66	20.91	0.750	16.699	4.707
			4.5000	-111.29	1.66	20.91	0.750	34.972	18.768
CUBIERTA	C1	DIS2Y MIN	0.0000	-157.47	-8.20	-28.41	-0.870	-92.859	-18.241
			2.2500	-147.93	-8.20	-28.41	-0.870	-28.945	-0.065
			4.5000	-138.39	-8.20	-28.41	-0.870	-30.341	0.575
CUBIERTA	C1	DIS3X MAX	0.0000	-88.23	13.87	7.55	0.741	20.070	40.184
			2.2500	-81.07	13.87	7.55	0.741	3.106	8.992
			4.5000	-73.92	13.87	7.55	0.741	10.657	35.140
CUBIERTA	C1	DIS3X MIN	0.0000	-107.78	-18.23	-10.39	-0.836	-36.111	-46.913
			2.2500	-100.62	-18.23	-10.39	-0.836	-12.763	-5.896
			4.5000	-93.46	-18.23	-10.39	-0.836	-13.930	-22.219
CUBIERTA	C1	DIS3Y MAX	0.0000	-84.46	2.74	23.24	0.763	70.277	9.847
			2.2500	-77.30	2.74	23.24	0.763	17.994	3.934
			4.5000	-70.14	2.74	23.24	0.763	31.020	15.557
CUBIERTA	C1	DIS3Y MIN	0.0000	-111.55	-7.11	-26.07	-0.858	-86.318	-16.576
			2.2500	-104.39	-7.11	-26.07	-0.858	-27.651	-0.838
			4.5000	-97.24	-7.11	-26.07	-0.858	-34.293	-2.636
CUBIERTA	C2	DIS1A	0.0000	-219.05	0.70	-0.59	-0.061	-10.476	1.411
			2.2500	-209.51	0.70	-0.59	-0.061	-9.149	-0.167
			4.5000	-199.97	0.70	-0.59	-0.061	-7.821	-1.746
CUBIERTA	C2	DIS1B	0.0000	-237.80	0.85	-1.48	-0.052	-13.310	1.698
			2.2500	-228.25	0.85	-1.48	-0.052	-9.987	-0.211
			4.5000	-218.71	0.85	-1.48	-0.052	-6.664	-2.120
CUBIERTA	C2	DIS2X MAX	0.0000	-198.95	21.09	8.30	0.529	16.181	52.028
			2.2500	-189.41	21.09	8.30	0.529	-2.481	4.566
			4.5000	-179.87	21.09	8.30	0.529	3.566	39.695
CUBIERTA	C2	DIS2X MIN	0.0000	-221.06	-19.80	-8.44	-0.657	-34.419	-49.426
			2.2500	-211.51	-19.80	-8.44	-0.657	-15.449	-4.866
			4.5000	-201.97	-19.80	-8.44	-0.657	-21.185	-42.898
CUBIERTA	C2	DIS7Y MAX	0.0000	-177.36	6.86	27.05	0.663	72.546	16.686
			2.2500	-167.82	6.86	27.05	0.663	11.691	1.267
			4.5000	-158.28	6.86	27.05	0.663	31.546	10.960
CUBIERTA	C2	DIS2Y MIN	0.0000	-242.64	-5.57	-27.18	-0.790	-90.785	-14.084
			2.2500	-233.10	-5.57	-27.18	-0.790	-29.620	-1.568
			4.5000	-223.56	-5.57	-27.18	-0.790	-49.166	-14.163

INGENIERIA ESTRUCTURAL S.A.S
Evaluamos el Pasado · Analizamos el Presente · Diseñamos el Futuro
Nit.900482474-1

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
CUBIERTA	C2	DIS3X MAX	0.0000	-135.14	20.86	8.97	0.541	20.156	51.565
			2.2500	-127.98	20.86	8.97	0.541	-0.009	4.624
			4.5000	-120.82	20.86	8.97	0.541	4.533	40.275
CUBIERTA	E2	DIS3X MIN	0.0000	-157.24	-20.04	-7.77	-0.644	-30.444	-49.889
			2.2500	-150.09	-20.04	-7.77	-0.644	-12.977	-4.808
			4.5000	-142.93	-20.04	-7.77	-0.644	-20.218	-42.318
CUBIERTA	C2	DIS3Y MAX	0.0000	-113.55	6.62	27.72	0.675	76.522	16.223
			2.2500	-106.39	6.62	27.72	0.675	14.162	1.326
			4.5000	-99.23	6.62	27.72	0.675	32.513	11.540
CUBIERTA	C2	DIS3Y MIN	0.0000	-178.83	-5.80	-26.52	-0.778	-86.810	-14.547
			2.2500	-171.67	-5.80	-26.52	-0.778	-27.149	-1.509
			4.5000	-164.52	-5.80	-26.52	-0.778	-48.199	-13.583
CUBIERTA	C3	DIS1A	0.0000	-190.02	0.84	-2.52	-0.031	-13.912	1.625
			2.2500	-180.47	0.84	-2.52	-0.031	-8.247	-0.267
			4.5000	-170.93	0.84	-2.52	-0.031	-2.583	-2.159
CUBIERTA	C3	DIS1B	0.0000	-224.69	0.85	-7.12	-0.012	-22.621	1.685
			2.2500	-215.14	0.85	-7.12	-0.012	-6.597	-0.227
			4.5000	-205.60	0.85	-7.12	-0.012	9.426	-2.139
CUBIERTA	C3	DIS2X MAX	0.0000	-172.68	20.13	6.47	0.549	12.462	50.465
			2.2500	-163.13	20.13	6.47	0.549	-2.101	5.176
			4.5000	-153.59	20.13	6.47	0.549	2.460	35.898
CUBIERTA	C3	DIS2X MIN	0.0000	-181.17	-18.49	-8.05	-0.624	-33.753	-47.323
			2.2500	-171.62	-18.49	-8.05	-0.624	-15.649	-5.717
			4.5000	-162.08	-18.49	-8.05	-0.624	-16.667	-40.123
CUBIERTA	C3	DIS2Y MAX	0.0000	-162.78	6.75	23.38	0.687	66.267	16.478
			2.2500	-153.24	6.75	23.38	0.687	13.659	1.431
			4.5000	-143.70	6.75	23.38	0.687	24.743	9.711
CUBIERTA	C3	DIS2Y MIN	0.0000	-191.06	-5.11	-24.96	-0.761	-87.558	-13.335
			2.2500	-181.52	-5.11	-24.96	-0.761	-31.408	-1.973
			4.5000	-171.97	-5.11	-24.96	-0.761	-38.951	-13.936
CUBIERTA	C3	DIS3X MAX	0.0000	-112.08	19.90	8.83	0.550	19.206	50.005
			2.2500	-104.92	19.90	8.83	0.550	-0.666	5.239
			4.5000	-97.76	19.90	8.83	0.550	-1.416	36.484
CUBIERTA	C3	DIS3X MIN	0.0000	-120.57	-18.73	-5.69	-0.622	-27.009	-47.783
			2.2500	-113.41	-18.73	-5.69	-0.622	-14.214	-5.654
			4.5000	-106.25	-18.73	-5.69	-0.622	-20.543	-39.537
CUBIERTA	C3	DIS3Y MAX	0.0000	-102.18	6.52	25.74	0.688	73.011	16.018
			2.2500	-95.02	6.52	25.74	0.688	15.093	1.494
			4.5000	-87.87	6.52	25.74	0.688	20.868	10.297
CUBIERTA	C3	DIS3Y MIN	0.0000	-130.46	-5.35	-22.60	-0.760	-80.814	-13.795
			2.2500	-123.30	-5.35	-22.60	-0.760	-29.974	-1.909
			4.5000	-116.15	-5.35	-22.60	-0.760	-42.826	-13.350
CUBIERTA	C4	DIS1A	0.0000	-189.94	-0.05	-2.06	0.003	-13.250	0.175
			2.2500	-180.39	-0.05	-2.06	0.003	-8.621	0.277
			4.5000	-170.85	-0.05	-2.06	0.003	-3.993	0.380
CUBIERTA	C4	DIS1B	0.0000	-225.46	-0.06	-6.69	0.022	-21.871	0.199
			2.2500	-215.92	-0.06	-6.69	0.022	-6.815	0.330
			4.5000	-206.37	-0.06	-6.69	0.022	8.241	0.460
CUBIERTA	C4	DIS2X MAX	0.0000	-171.87	19.97	6.97	0.680	13.881	50.160
			2.2500	-162.33	19.97	6.97	0.680	-1.789	5.223
			4.5000	-152.78	19.97	6.97	0.680	0.344	40.402
CUBIERTA	C4	DIS2X MIN	0.0000	-181.38	-20.05	-7.61	-0.688	-33.928	-49.824
			2.2500	-171.83	-20.05	-7.61	-0.688	-16.812	-4.711
			4.5000	-162.29	-20.05	-7.61	-0.688	-17.501	-39.714
CUBIERTA	C4	DIS2Y MAX	0.0000	-167.46	6.02	22.77	0.767	65.320	15.293
			2.2500	-157.92	6.02	22.77	0.767	14.086	1.760

C O L U M N F O R C E S

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			4.5000	-42.54	-6.82	-3.52	-0.166	-10.458	-5.618
CUBIERTA	C6	DIS2Y MAX	0.0000	-28.97	-0.13	12.19	0.170	29.718	1.066
			2.2500	-23.88	-0.13	12.19	0.170	2.292	1.485
			4.5000	-18.79	-0.11	12.19	0.170	17.608	8.399
CUBIERTA	C6	DIS2Y MIN	0.0000	-60.66	-3.30	-11.67	-0.203	-34.906	-6.487
			2.2500	-55.57	-3.30	-11.67	-0.203	-8.650	0.816
			4.5000	-50.48	-3.30	-11.67	-0.203	-25.136	1.623
CUBIERTA	C6	DIS3X MAX	0.0000	-22.80	4.05	4.02	0.136	8.681	10.700
			2.2500	-18.98	4.05	4.02	0.136	-0.332	1.582
			4.5000	-15.17	4.05	4.02	0.136	3.970	13.712
CUBIERTA	C6	DIS3X MIN	0.0000	-38.61	-6.16	-3.54	-0.162	-11.981	-14.018
			2.2500	-34.79	-6.16	-3.54	-0.162	-4.042	-0.157
			4.5000	-30.97	-6.16	-3.54	-0.162	-9.418	-7.546
CUBIERTA	C6	DIS3Y MAX	0.0000	-14.86	0.53	12.17	0.173	30.662	2.118
			2.2500	-11.04	0.53	12.17	0.173	3.284	1.046
			4.5000	-7.22	0.53	12.17	0.173	18.648	6.471
CUBIERTA	C6	DIS3Y MIN	0.0000	-46.55	-2.64	-11.69	-0.199	-33.962	-5.436
			2.2500	-42.73	-2.64	-11.69	-0.199	-7.658	0.378
			4.5000	-38.91	-2.64	-11.69	-0.199	-24.096	-0.305
CUBIERTA	C7	DIS1A	0.0000	-45.50	2.13	-0.39	-0.016	-3.936	3.533
			2.2500	-40.41	2.13	-0.39	-0.016	-3.061	-1.251
			4.5000	-35.32	2.13	-0.39	-0.016	-2.186	-6.036
CUBIERTA	C7	DIS1B	0.0000	-49.49	2.56	-0.68	-0.013	-4.883	4.242
			2.2500	-44.40	2.56	-0.68	-0.013	-3.345	-1.511
			4.5000	-39.32	2.56	-0.68	-0.013	-1.808	-7.264
CUBIERTA	C7	DIS2X MAX	0.0000	-36.43	6.94	3.28	0.138	6.101	15.406
			2.2500	-31.34	6.94	3.28	0.138	-1.286	-0.199
			4.5000	-26.25	6.94	3.28	0.138	4.299	4.869
CUBIERTA	C7	DIS2X MIN	0.0000	-50.03	-3.08	-3.94	-0.172	-13.428	-8.988
			2.2500	-44.94	-3.08	-3.94	-0.172	-4.565	-2.064
			4.5000	-39.85	-3.08	-3.94	-0.172	-8.673	-15.812
CUBIERTA	C7	DIS2Y MAX	0.0000	-27.47	3.46	11.60	0.172	28.572	6.889
			2.2500	-22.38	3.46	11.60	0.172	2.480	-0.767
			4.5000	-17.29	3.46	11.60	0.172	19.237	-2.247
CUBIERTA	C7	DIS2Y MIN	0.0000	-58.98	0.40	-12.25	-0.206	-35.898	-0.472
			2.2500	-53.90	0.40	-12.25	-0.206	-8.331	-1.496
			4.5000	-48.81	0.40	-12.25	-0.206	-23.612	-8.696
CUBIERTA	C7	DIS3X MAX	0.0000	-22.79	6.21	3.44	0.141	7.357	14.198
			2.2500	-18.97	6.21	3.44	0.141	-0.385	0.234
			4.5000	-15.15	6.21	3.44	0.141	4.845	6.942
CUBIERTA	C7	DIS3X MIN	0.0000	-36.38	-3.81	-3.78	-0.169	-12.172	-10.196
			2.2500	-32.57	-3.81	-3.78	-0.169	-3.664	-1.631
			4.5000	-28.75	-3.81	-3.78	-0.169	-8.128	-13.739
CUBIERTA	C7	DIS3Y MAX	0.0000	-13.83	2.73	11.75	0.175	29.828	5.682
			2.2500	-10.01	2.73	11.75	0.175	3.381	-0.334
			4.5000	-6.19	2.73	11.75	0.175	19.783	-0.174
CUBIERTA	C7	DIS3Y MIN	0.0000	-45.34	-0.33	-12.09	-0.203	-34.642	-1.679
			2.2500	-41.52	-0.33	-12.09	-0.203	-7.430	-1.063
			4.5000	-37.71	-0.33	-12.09	-0.203	-23.066	-6.623
CUBIERTA	C8	DIS1A	0.0000	-118.75	-0.44	3.07	-0.036	-4.181	-0.401
			2.2500	-109.21	-0.44	3.07	-0.036	-11.083	0.587
			4.5000	-99.67	-0.44	3.07	-0.036	-17.985	1.574
CUBIERTA	C8	DIS1B	0.0000	-136.39	-0.79	5.33	-0.033	-2.021	-0.963
			2.2500	-126.85	-0.79	5.33	-0.033	-14.007	0.825
			4.5000	-117.30	-0.79	5.33	-0.033	-25.994	2.613
CUBIERTA	C8	DIS2X MAX	0.0000	-102.31	12.32	10.40	0.891	21.806	34.848

C O L U M N F O R C E S

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-92.77	12.32	10.40	0.891	-1.598	7.133
			4.5000	-83.22	12.32	10.40	0.891	-4.912	22.947
CUBIERTA	C8	DIS2X MIN							
			0.0000	-121.96	-12.93	-5.98	-0.967	-31.845	-35.228
			2.2500	-112.42	-12.93	-5.98	-0.967	-18.380	-6.141
			4.5000	-102.87	-12.93	-5.98	-0.967	-25.003	-20.582
CUBIERTA	C8	DIS2Y MAX							
			0.0000	-102.36	3.92	25.31	0.838	70.743	11.492
			2.2500	-92.82	3.92	25.31	0.838	13.798	2.678
			4.5000						
CUBIERTA	C8	DIS2Y MIN		-83.28	3.92	25.31	0.838	13.234	8.506
			0.0000	-121.90	-4.53	-20.89	-0.914	-80.783	-11.872
			2.2500	-112.36	-4.53	-20.89	-0.914	-33.775	-1.686
			4.5000	-102.82	-4.53	-20.89	-0.914	-43.150	-6.141
CUBIERTA	C8	DIS3X MAX							
			0.0000	-66.00	12.56	8.78	0.899	22.013	35.158
			2.2500	-58.84	12.56	8.78	0.899	2.267	6.896
			4.5000	-51.69	12.56	8.78	0.899	2.611	22.162
CUBIERTA	C8	DIS3X MIN							
			0.0000	-85.65	-12.68	-7.61	-0.959	-31.639	-34.917
			2.2500	-78.49	-12.68	-7.61	-0.959	-14.514	-6.378
			4.5000	-71.33	-12.68	-7.61	-0.959	-17.480	-21.367
CUBIERTA	C8	DIS3Y MAX	0.0000	-66.05	4.16	23.68	0.846	70.950	11.803
			2.2500	-58.90	4.16	23.68	0.846	17.663	2.441
			4.5000	-51.74	4.16	23.68	0.846	20.757	7.721
CUBIERTA	C8	DIS3Y MIN							
			0.0000	-85.59	-4.28	-22.52	-0.906	-80.576	-11.562
			2.2500	-78.44	-4.28	-22.52	-0.906	-29.910	-1.923
			4.5000	-71.28	-4.28	-22.52	-0.906	-35.626	-6.926
CUBIERTA	C9	DIS1A							
			0.0000	-135.52	0.45	1.59	-0.061	-6.996	1.025
			2.2500	-125.98	0.45	1.59	-0.061	-10.574	0.023
			4.5000	-116.44	0.45	1.59	-0.061	-14.152	-0.980
CUBIERTA	C9	DIS1B							
			0.0000	-161.16	0.51	3.94	-0.057	-4.670	1.141
			2.2500	-151.62	0.51	3.94	-0.057	-13.537	-0.006
			4.5000	-142.08	0.51	3.94	-0.057	-22.405	-1.153
CUBIERTA	C9	DIS2X MAX							
			0.0000	-122.61	16.94	7.60	0.604	15.047	42.275
			2.2500	-113.07	16.94	7.60	0.604	-2.061	4.262
			4.5000	-103.52	16.94	7.60	0.604	-2.543	32.127
CUBIERTA	C9	DIS2X MIN							
			0.0000	-128.97	-16.10	-6.33	-0.727	-31.029	-40.319
			2.2500	-219.43	-16.10	-6.33	-0.727	-16.786	-4.096
			4.5000	-109.89	-16.10	-6.33	-0.727	-19.169	-33.951
CUBIERTA	C9	DIS2Y MAX							
			0.0000	-116.69	5.90	23.02	0.698	66.048	14.698
			2.2500	-107.14	5.90	23.02	0.698	14.262	1.412
			4.5000	-97.60	5.90	23.02	0.698	15.811	10.050
CUBIERTA	C9	DIS2Y MIN							
			0.0000	-134.89	-5.06	-21.74	-0.821	-82.030	-12.742
			2.2500	-125.35	-5.06	-21.74	-0.821	-33.110	-1.346
			4.5000	-115.81	-5.06	-21.74	-0.821	-37.523	-11.874
CUBIERTA	C9	DIS3X MAX							
			0.0000	-79.00	16.80	6.25	0.618	15.800	41.972
			2.2500	-71.84	16.80	6.25	0.618	1.733	4.167
			4.5000	-64.68	16.80	6.25	0.618	4.291	32.439
CUBIERTA	C9	DIS3X MIN	0.0000	-85.36	-16.24	-7.68	-0.713	-30.276	-40.622
			2.2500	-78.20	-16.24	-7.68	-0.713	-12.993	-4.091
			4.5000	-71.05	-16.24	-7.68	-0.713	-12.335	-33.639
CUBIERTA	C9	DIS3Y MAX							
			0.0000	-73.07	5.77	21.66	0.712	66.801	14.395
			2.2500	-65.92	5.77	21.66	0.712	18.056	1.417
			4.5000	-58.76	5.77	21.66	0.712	22.645	10.362
CUBIERTA	C9	DIS3Y MIN							
			0.0000	-91.28	-5.20	-23.09	-0.807	-81.277	-13.044
			2.2500	-84.13	-5.20	-23.09	-0.807	-29.316	-1.341
			4.5000	-76.97	-5.20	-23.09	-0.807	-30.689	-11.562
CUBIERTA	C10	DIS1A							
			0.0000	-139.40	0.30	3.78	-0.035	-3.880	0.789
			2.2500	-129.86	0.30	3.78	-0.035	-12.377	0.118
			4.5000	-120.32	0.30	3.78	-0.035	-20.874	-0.553
CUBIERTA	C10	DIS1B							
			0.0000	-168.54	0.30	8.40	-0.023	2.129	0.807

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-158.99	0.30	8.40	-0.023	-16.770	0.128
			4.5000	-149.45	0.30	8.40	-0.023	-35.668	-0.551
CUBIERTA	C10	DIS2X MAX	0.0000	-125.61	15.85	8.87	0.582	16.268	40.504
			2.2500	-116.06	15.85	8.87	0.582	-3.695	4.850
			4.5000	-106.52	15.85	8.87	0.582	-6.969	29.704
CUBIERTA	C10	DIS2X MIN	0.0000	-131.32	-15.26	-4.80	-0.659	-28.568	-38.948
			2.2500	-121.78	-15.26	-4.80	-0.659	-17.769	-4.622
			4.5000	-112.24	-15.26	-4.80	-0.659	-23.658	-30.804
CUBIERTA	C10	DIS2Y MAX	0.0000	-118.96	5.48	24.78	0.705	68.449	14.009
			2.2500	-109.41	5.48	24.78	0.705	12.685	1.683
			4.5000						
CUBIERTA	C10	DIS2Y MIN		-99.87	5.48	24.78	0.705	12.451	9.545
			0.0000	-137.98	-4.89	-20.71	-0.782	-80.749	-12.453
			2.2500	-128.43	-4.89	-20.71	-0.782	-34.149	-1.454
			4.5000	-118.89	-4.89	-20.71	-0.782	-43.078	-10.644
CUBIERTA	C10	DIS3X MAX	0.0000	-79.82	15.77	6.19	0.587	14.968	40.296
			2.2500	-72.67	15.77	6.19	0.587	1.044	4.817
			4.5000	-65.51	15.77	6.19	0.587	3.810	29.846
CUBIERTA	C10	DIS3X MIN	0.0000	-85.54	-15.33	-7.48	-0.655	-29.868	-39.156
			2.2500	-78.38	-15.33	-7.48	-0.655	-13.029	-4.655
			4.5000	-71.23	-15.33	-7.48	-0.655	-12.879	-30.662
CUBIERTA	C10	DIS3Y MAX	0.0000	-73.17	5.40	22.10	0.709	67.149	13.801
			2.2500	-66.01	5.40	22.10	0.709	17.425	1.649
			4.5000	-58.86	5.40	22.10	0.709	23.230	9.687
CUBIERTA	C10	DIS3Y MIN	0.0000	-92.19	-4.97	-23.40	-0.777	-82.049	-12.661
			2.2500	-85.03	-4.97	-23.40	-0.777	-29.410	-1.487
			4.5000	-77.88	-4.97	-23.40	-0.777	-32.299	-10.503
CUBIERTA	C11	DIS1A	0.0000	-138.44	0.52	3.73	0.011	-4.023	1.155
			2.2500	-128.89	0.52	3.73	0.011	-12.422	-0.017
			4.5000	-119.35	0.52	3.73	0.011	-20.820	-1.188
CUBIERTA	C11	DIS1B	0.0000	-167.79	0.52	8.45	0.036	2.277	1.162
			2.2500	-158.25	0.52	8.45	0.036	-16.743	-0.001
			4.5000	-148.70	0.52	8.45	0.036	-35.763	-1.163
CUBIERTA	C11	DIS2X MAX	0.0000	-124.09	16.84	9.28	0.639	17.524	42.135
			2.2500	-114.54	16.84	9.28	0.639	-3.349	4.234
			4.5000	-105.00	16.84	9.28	0.639	-6.206	31.274
CUBIERTA	C11	DIS2X MIN	0.0000	-130.76	-15.80	-5.36	-0.635	-30.308	-39.835
			2.2500	-121.22	-15.80	-5.36	-0.635	-18.257	-4.280
			4.5000	-111.67	-15.80	-5.36	-0.635	-24.222	-33.667
CUBIERTA	C11	DIS2Y MAX	0.0000	-117.66	5.95	24.92	0.759	68.686	14.782
			2.2500	-108.12	5.95	24.92	0.759	12.607	1.390
			4.5000						
CUBIERTA	C11	DIS2Y MIN		-98.58	5.95	24.92	0.759	13.044	9.610
			0.0000	-137.18	-4.91	-21.00	-0.755	-81.470	-12.482
			2.2500	-127.64	-4.91	-21.00	-0.755	-34.213	-1.436
			4.5000	-118.10	-4.91	-21.00	-0.755	-43.472	-12.002
CUBIERTA	C11	DIS3X MAX	0.0000	-78.46	16.72	6.57	0.627	16.160	41.841
			2.2500	-71.31	16.72	6.57	0.627	1.375	4.232
			4.5000	-64.15	16.72	6.57	0.627	4.606	31.563
CUBIERTA	C11	DIS3X MIN	0.0000	-85.14	-15.93	-8.06	-0.646	-31.672	-40.128
			2.2500	-77.98	-15.93	-8.06	-0.646	-13.533	-4.282
			4.5000	-70.82	-15.93	-8.06	-0.646	-13.411	-33.378
CUBIERTA	C11	DIS3Y MAX	0.0000	-72.04	5.82	22.22	0.747	67.322	14.489
			2.2500	-64.88	5.82	22.22	0.747	17.331	1.388
			4.5000	-57.72	5.82	22.22	0.747	23.855	9.899
CUBIERTA	C11	DIS3Y MIN	0.0000	-91.56	-5.04	-23.71	-0.766	-82.834	-12.776
			2.2500	-84.40	-5.04	-23.71	-0.766	-29.489	-1.439
			4.5000	-77.25	-5.04	-23.71	-0.766	-32.660	-11.713
CUBIERTA	C12	DIS1A	0.0000	-126.91	-0.76	3.05	0.004	-4.973	-0.913

8.1.6.2. Zona Alta, Suelo Tipo CD

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C O L U M N F O R C E S

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
CUBIERTA	C1	DIS1A	0.0000	-151.88	-3.48	-4.87	-0.058	-16.882	-5.356
			2.2500	-142.33	-3.48	-4.87	-0.058	-5.934	2.475
			4.5000	-132.79	-3.48	-4.87	-0.058	5.014	10.306
CUBIERTA	C1	DIS1B	0.0000	-172.88	-3.98	-7.83	-0.052	-23.078	-6.123
			2.2500	-163.33	-3.98	-7.83	-0.052	-5.463	2.843
			4.5000	-153.79	-3.98	-7.83	-0.052	12.151	11.809
CUBIERTA	C1	DIS2X MAX	0.0000	-132.61	15.30	6.64	0.853	17.990	45.357
			2.2500	-123.07	15.30	6.64	0.853	3.073	10.934
			4.5000	-113.53	15.30	6.64	0.853	16.560	42.854
CUBIERTA	C1	DIS7X MIN	0.0000	-155.24	-21.84	-14.14	-0.973	-47.113	-55.416
			2.2500	-145.69	-21.84	-14.14	-0.973	-15.318	-6.292
			4.5000	-136.15	-21.84	-14.14	-0.973	-11.929	-23.511
CUBIERTA	C1	DIS2Y MAX	0.0000	-128.22	2.44	24.84	0.879	76.236	10.257
			2.2500	-118.67	2.44	24.84	0.879	20.343	5.082
			4.5000	-109.13	2.44	24.84	0.879	40.185	20.199
CUBIERTA	C1	DIS2Y MIN	0.0000	-159.63	-8.97	-32.34	-0.999	-105.359	-20.317
			2.2500	-150.09	-8.97	-32.34	-0.999	-32.589	-0.441
			4.5000	-140.55	-8.97	-32.34	-0.999	-35.554	-0.856
CUBIERTA	C1	DIS3X MAX	0.0000	-86.69	16.39	8.97	0.865	24.531	47.022
			2.2500	-79.53	16.39	8.97	0.865	4.367	10.161
			4.5000	-72.38	16.39	8.97	0.865	12.608	39.644
CUBIERTA	C1	DIS3X MIN	0.0000	-109.32	-20.75	-11.81	-0.960	-40.572	-53.751
			2.2500	-102.16	-20.75	-11.81	-0.960	-14.024	-7.065
			4.5000	-95.00	-20.75	-11.81	-0.960	-15.881	-26.722
CUBIERTA	C1	DIS3Y MAX	0.0000	-82.30	3.52	27.17	0.892	82.777	11.923
			2.2500	-75.14	3.52	27.17	0.892	21.637	4.330
			4.5000	-67.98	3.52	27.17	0.892	36.233	16.988
CUBIERTA	C1	DIS3Y MIN	0.0000	-313.71	-7.89	-30.01	-0.987	-98.818	-18.652
			2.2500	-106.55	-7.89	-30.01	-0.987	-31.295	-1.213
			4.5000	-99.40	-7.89	-30.01	-0.987	-39.506	-4.067
CUBIERTA	C2	DIS1A	0.0000	-219.05	0.70	-0.59	-0.061	-10.476	1.411
			2.2500	-209.51	0.70	-0.59	-0.061	-9.149	-0.167
			4.5000	-199.97	0.70	-0.59	-0.061	-7.821	-1.746
CUBIERTA	C2	DIS1B	0.0000	-237.80	0.85	-1.48	-0.052	-13.310	1.698
			2.2500	-228.25	0.85	-1.48	-0.052	-9.987	-0.211
			4.5000	-218.71	0.85	-1.48	-0.052	-6.664	-2.120
CUBIERTA	C2	DIS2X MAX	0.0000	-197.19	24.31	9.64	0.622	20.215	59.994
			2.2500	-187.65	24.31	9.64	0.622	-1.447	5.306
			4.5000	-178.11	24.31	9.64	0.622	5.540	46.179
CUBIERTA	C2	DIS2X MIN	0.0000	-222.81	-23.02	-9.77	-0.750	-38.454	-57.392
			2.2500	-213.27	-23.02	-9.77	-0.750	-16.482	-5.607
			4.5000	-203.73	-23.02	-9.77	-0.750	-23.159	-49.382
CUBIERTA	C2	DIS2Y MAX	0.0000	-172.15	7.83	31.38	0.779	85.585	19.103
			2.2500	-162.61	7.83	31.38	0.779	14.989	1.490
			4.5000	-153.07	7.83	31.38	0.779	37.990	12.933
CUBIERTA	C2	DIS2Y MIN	0.0000	-247.86	-6.54	-31.51	-0.906	-103.824	-16.501
			2.2500	-238.31	-6.54	-31.51	-0.906	-32.918	-1.790
			4.5000	-228.77	-6.54	-31.51	-0.906	-55.609	-16.137
CUBIERTA	C2	DIS3X MAX	0.0000	-133.38	24.07	10.30	0.635	24.191	59.530
			2.2500	-126.22	24.07	10.30	0.635	1.024	5.365
			4.5000	-119.06	24.07	10.30	0.635	6.507	46.759
CUBIERTA	C2	DIS3X MIN	0.0000	-159.00	-23.25	-9.10	-0.738	-34.479	-57.855

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-117.37	-0.76	3.05	0.004	-11.836	0.787
			4.5000	-107.83	-0.76	3.05	0.004	-18.698	2.487
CUBIERTA	C12	DIS1B							
			0.0000	-145.97	-0.58	5.76	0.029	-1.715	-0.610
			2.2500	-136.43	-0.58	5.76	0.029	-14.669	0.686
			4.5000	-126.89	-0.58	5.76	0.029	-27.623	1.983
CUBIERTA	C12	DIS2X MAX							
			0.0000	-109.55	11.86	10.73	0.979	22.196	34.127
			2.2500	-100.01	11.86	10.73	0.979	-1.954	7.437
			4.5000	-90.47	11.86	10.73	0.979	-4.580	24.608
CUBIERTA	C12	DIS2X MIN	0.0000	-129.97	-13.51	-6.67	-0.988	-34.600	-36.183
			2.2500	-120.42	-13.51	-6.67	-0.988	-19.590	-5.788
			4.5000	-110.88	-13.51	-6.67	-0.988	-26.105	-19.253
CUBIERTA	C12	DIS2Y MAX							
			0.0000	-109.65	3.41	25.30	0.900	69.838	10.673
			2.2500	-100.10	3.41	25.30	0.900	12.915	3.002
			4.5000	-90.56	3.41	25.30	0.900	13.324	10.025
CUBIERTA	C12	DIS2Y MIN							
			0.0000	-129.87	-5.06	-21.24	-0.909	-82.242	-12.729
			2.2500	-120.33	-5.06	-21.24	-0.909	-34.459	-1.353
			4.5000	-110.79	-5.06	-21.24	-0.909	-44.009	-4.670
CUBIERTA	C12	DIS3X MAX							
			0.0000	-70.67	11.98	8.95	0.969	22.211	34.239
			2.2500	-63.51	11.98	8.95	0.969	2.069	7.277
			4.5000	-56.35	11.98	8.95	0.969	3.450	24.177
CUBIERTA	C12	DIS3X MIN							
			0.0000	-91.08	-13.39	-8.45	-0.998	-34.585	-36.071
			2.2500	-83.93	-13.39	-8.45	-0.998	-15.568	-5.947
			4.5000	-76.77	-13.39	-8.45	-0.998	-18.075	-19.684
CUBIERTA	C12	DIS3Y MAX							
			0.0000	-70.76	3.53	23.52	0.890	69.853	10.785
			2.2500	-63.61	3.53	23.52	0.890	16.938	2.843
			4.5000	-56.45	3.53	23.52	0.890	21.354	9.594
CUBIERTA	C12	DIS3Y MIN	0.0000	-90.99	-4.94	-23.02	-0.919	-82.227	-12.617
			2.2500	-83.83	-4.94	-23.02	-0.919	-30.437	-1.513
			4.5000	-76.68	-4.94	-23.02	-0.919	-35.979	-5.101

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CONCRETE COLUMN CHECK OUTPUT (ACI 318-08/IBC 2009)

BIAXIAL P-M INTERACTION CAPACITY CHECK AND SHEAR DESIGN OF COLUMN-TYPE ELEMENTS

STORY ID	COLUMN LINE	SECTION ID	STATION ID	INTERACTION RATIO	COMBO ID	SHEAR22 REBAR	COMBO ID	SHEAR33 REBAR	COMBO ID
CUBIERTA	C1	C30x50B	0.000	0.507	DIS2Y	0.040	DIS3Y	0.025	DIS2Y
CUBIERTA	C1	C30x50B	225.000	0.151	DIS2Y	0.040	DIS3Y	0.025	DIS2Y
CUBIERTA	C1	C30x50B	450.000	0.343	DIS2X	0.040	DIS3Y	0.025	DIS2Y
CUBIERTA	C2	C30x50C	0.000	0.464	DIS2X	0.069	DIS3Y	0.024	DIS3Y
CUBIERTA	C2	C30x50C	225.000	0.164	DIS2Y	0.069	DIS3Y	0.024	DIS3Y
CUBIERTA	C2	C30x50C	450.000	0.858					
CUBIERTA	C3	C30x50C	0.000	0.447	DIS2X	0.054	DIS3Y	0.023	DIS3Y
CUBIERTA	C3	C30x50C	225.000	0.157	DIS2Y	0.054	DIS3Y	0.023	DIS3Y
CUBIERTA	C3	C30x50C	450.000	0.329	DIS3X	0.054	DIS3Y	0.023	DIS3Y
CUBIERTA	C4	C30x50C	0.000	0.445	DIS2X	0.054	DIS3Y	0.022	DIS3Y
CUBIERTA	C4	C30x50C	225.000	0.160	DIS2Y	0.054	DIS3Y	0.022	DIS3Y
CUBIERTA	C4	C30x50C	450.000	0.337	DIS3X	0.054	DIS3Y	0.022	DIS3Y
CUBIERTA	C5	C30x50B	0.000	0.495	DIS2X	0.047	DIS3Y	0.024	DIS2Y
CUBIERTA	C5	C30x50B	225.000	0.154	DIS2Y	0.047	DIS3Y	0.024	DIS2Y
CUBIERTA	C5	C30x50B	450.000	0.292	DIS3X	0.047	DIS3Y	0.024	DIS2Y
CUBIERTA	C6	C20x40	0.000	0.465	DIS2X	0.026	DIS3Y	0.014	DIS2Y
CUBIERTA	C6	C20x40	225.000	0.111	DIS2Y	0.026	DIS3Y	0.014	DIS2Y
CUBIERTA	C6	C20x40	450.000	0.456	DIS2X	0.026	DIS3Y	0.014	DIS2Y
CUBIERTA	C7	C20x40	0.000	0.477	DIS2X	0.026	DIS3Y	0.014	DIS2Y
CUBIERTA	C7	C20x40	225.000	0.108	DIS2Y	0.026	DIS3Y	0.014	DIS2Y
CUBIERTA	C7	C20x40	450.000	0.454	DIS2X	0.026	DIS3Y	0.014	DIS2Y
CUBIERTA	C8	C30x50A	0.000	0.550	DIS3Y	0.039	DIS3Y	0.022	DIS2Y
CUBIERTA	C8	C30x50A	225.000	0.159	DIS3Y	0.039	DIS3Y	0.022	DIS2Y
CUBIERTA	C8	C30x50A	450.000	0.271	DIS2X	0.039	DIS3Y	0.022	DIS2Y
CUBIERTA	C9	C30x50B	0.000	0.472	DIS3Y	0.048	DIS3Y	0.020	DIS3Y
CUBIERTA	C9	C30x50B	225.000	0.150	DIS2Y	0.048	DIS3Y	0.020	DIS3Y
CUBIERTA	C9	C30x50B	450.000	0.327	DIS3X	0.048	DIS3Y	0.020	DIS3Y
CUBIERTA	C10	C30x50B	0.000	0.474	DIS3Y	0.048	DIS3Y	0.022	DIS2Y
CUBIERTA	C10	C30x50B	225.000	0.154	DIS2Y	0.048	DIS3Y	0.022	DIS2Y
CUBIERTA	C10	C30x50B	450.000	0.299	DIS2X	0.048	DIS3Y	0.022	DIS2Y
CUBIERTA	C11	C30x50B	0.000	0.482	DIS3Y	0.048	DIS3Y	0.022	DIS2Y
CUBIERTA	C11	C30x50B	225.000	0.154	DIS2Y	0.048	DIS3Y	0.022	DIS2Y
CUBIERTA	C11	C30x50B	450.000	0.326	DIS3X	0.048	DIS3Y	0.022	DIS2Y
CUBIERTA	C12	C30x50A	0.000	0.562	DIS3Y	0.045	DIS3Y	0.022	DIS2Y
CUBIERTA	C12	C30x50A	225.000	0.161	DIS2Y	0.045	DIS3Y	0.022	DIS2Y
CUBIERTA	C12	C30x50A	450.000	0.288	DIS2X	0.045	DIS3Y	0.022	DIS2Y

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CONCRETE COLUMN JOINT OUTPUT (ACI 318-08/IBC 2009)

BEAM TO COLUMN CAPACITY RATIOS AND JOINT SHEAR CAPACITY CHECK

STORY ID	COLUMN LINE	SECTION ID	<-(6/5)BEAM-COLUMN CAPACITY RATIOS-> MAJOR	COMBO	MINOR	COMBO	<--JOINT SHEAR CAPACITY RATIOS----> MAJOR	COMBO	MINOR	COMBO
CUBIERTA	C1	C30x50B	0.707	DIS3Y	0.857	DIS3Y	0.341	DIS2X	0.596	DIS2X
CUBIERTA	C2	C30x50C	0.858							
CUBIERTA	C3	C30x50C	0.825	DIS3Y	0.881	DIS3Y	0.458	DIS2X	0.723	DIS2X
CUBIERTA	C4	C30x50C	0.822	DIS3Y	0.887	DIS3Y	0.459	DIS2X	0.732	DIS2X
CUBIERTA	C5	C30x50B	0.815	DIS3Y	0.901	DIS3Y	0.396	DIS2X	0.634	DIS2X
CUBIERTA	C6	C20x40	0.758	DIS3Y	0.459	DIS3Y	0.252	DIS2X	0.346	DIS2X
CUBIERTA	C7	C20x40	0.759	DIS3Y	0.460	DIS3Y	0.252	DIS2X	0.346	DIS2X
CUBIERTA	C8	C30x50A	0.864	DIS3X	0.606	DIS3X	0.333	DIS2X	0.334	DIS2X
CUBIERTA	C9	C30x50B	0.854	DIS3Y	0.522	DIS3Y	0.403	DIS2X	0.353	DIS2X
CUBIERTA	C10	C30x50B	0.854	DIS3Y	0.565	DIS3Y	0.404	DIS2X	0.385	DIS2X
CUBIERTA	C11	C30x50B	0.853	DIS3Y	0.567	DIS3Y	0.403	DIS2X	0.386	DIS2X
CUBIERTA	C12	C30x50A	0.989	DIS3X	0.616	DIS3X	0.377	DIS2X	0.342	DIS2X

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-151.84	-23.25	-9.10	-0.738	-14.011	-5.548
			4.5000	-144.69	-23.25	-9.10	-0.738	-22.193	-48.802
CUBIERTA	C2	DIS3Y MAX	0.0000	-108.34	7.60	32.04	0.791	89.560	18.640
			2.2500	-101.18	7.60	32.04	0.791	17.460	1.548
			4.5000	-94.02	7.60	32.04	0.791	38.956	13.514
CUBIERTA	C2	DIS3Y MIN	0.0000	-184.04	-6.77	-30.85	-0.894	-99.848	-16.964
			2.2500	-176.89	-6.77	-30.85	-0.894	-30.447	-1.732
			4.5000	-169.73	-6.77	-30.85	-0.894	-54.642	-15.557
CUBIERTA	C3	DIS1A	0.0000	-190.02	0.84	-2.52	-0.031	-13.912	1.625
			2.2500	-180.47	0.84	-2.52	-0.031	-8.247	-0.267
			4.5000	-170.93	0.84	-2.52	-0.031	-2.583	-2.159
CUBIERTA	C3	DIS1B	0.0000	-224.69	0.85	-7.12	-0.012	-22.621	1.685
			2.2500	-215.14	0.85	-7.12	-0.012	-6.597	-0.227
			4.5000	-205.60	0.85	-7.12	-0.012	9.426	-2.139
CUBIERTA	C3	DIS2X MAX	0.0000	-172.00	23.16	7.63	0.641	16.151	58.143
			2.2500	-162.46	23.16	7.63	0.641	-1.019	6.031
			4.5000	-152.91	23.16	7.63	0.641	3.986	41.867
CUBIERTA	C3	DIS2X MIN	0.0000	-181.84	-21.53	-9.21	-0.716	-37.442	-55.000
			2.2500	-172.30	-21.53	-9.21	-0.716	-16.730	-6.572
			4.5000	-162.76	-21.53	-9.21	-0.716	-18.194	-46.092
CUBIERTA	C3	DIS2Y MAX	0.0000	-160.52	7.68	27.24	0.802	78.547	18.820
			2.2500	-150.98	7.68	27.24	0.802	17.257	1.699
			4.5000	-141.44	7.68	27.24	0.802	29.828	11.570
CUBIERTA	C3	DIS2Y MIN	0.0000	-193.32	-6.04	-28.81	-0.877	-99.838	-15.677
			2.2500	-183.77	-6.04	-28.81	-0.877	-35.006	-2.240
			4.5000	-174.23	-6.04	-28.81	-0.877	-44.036	-15.795
CUBIERTA	C3	DIS3X MAX	0.0000	-111.40	22.93	9.99	0.643	22.895	57.683
			2.2500	-104.24	22.93	9.99	0.643	0.415	6.094
			4.5000	-97.08	22.93	9.99	0.643	0.111	42.453
CUBIERTA	C3	DIS3X MIN	0.0000	-121.24	-21.76	-6.85	-0.715	-30.698	-55.460
			2.2500	-114.09	-21.76	-6.85	-0.715	-15.296	-6.509
			4.5000	-106.93	-21.76	-6.85	-0.715	-22.069	-45.505
CUBIERTA	C3	DIS3Y MAX	0.0000	-99.92	7.45	29.60	0.804	85.291	18.360
			2.2500	-92.77	7.45	29.60	0.804	18.691	1.762
			4.5000	-85.61	7.45	29.60	0.804	25.953	12.156
CUBIERTA	C3	DIS3Y MIN	0.0000	-132.72	-6.28	-26.45	-0.875	-93.094	-16.137
			2.2500	-125.56	-6.28	-26.45	-0.875	-33.572	-2.177
			4.5000	-118.40	-6.28	-26.45	-0.875	-47.911	-15.209
CUBIERTA	C4	DIS1A	0.0000	-189.94	-0.05	-2.06	0.003	-13.250	0.175
			2.2500	-180.39	-0.05	-2.06	0.003	-8.621	0.277
			4.5000	-170.85	-0.05	-2.06	0.003	-3.993	0.380
CUBIERTA	C4	DIS1B	0.0000	-225.46	-0.06	-6.69	0.022	-21.871	0.199
			2.2500	-215.92	-0.06	-6.69	0.022	-6.815	0.330
			4.5000	-206.37	-0.06	-6.69	0.022	8.241	0.460
CUBIERTA	C4	DIS2X MAX	0.0000	-171.12	23.11	8.13	0.788	17.690	58.010
			2.2500	-161.58	23.11	8.13	0.788	-0.593	6.003
			4.5000	-152.03	23.11	8.13	0.788	1.766	46.692
CUBIERTA	C4	DIS2X MIN	0.0000	-182.13	-23.19	-8.77	-0.795	-37.737	-57.673
			2.2500	-172.58	-23.19	-8.77	-0.795	-18.009	-5.491
			4.5000	-163.04	-23.19	-8.77	-0.795	-18.923	-46.004
CUBIERTA	C4	DIS2Y MAX	0.0000	-166.00	6.97	26.46	0.890	77.349	17.669
			2.2500	-156.46	6.97	26.46	0.890	17.820	1.996
			4.5000	-146.92	6.97	26.46	0.890	24.554	14.375
CUBIERTA	C4	DIS2Y MIN	0.0000	-187.24	-7.05	-27.10	-0.898	-97.396	-17.333
			2.2500	-177.70	-7.05	-27.10	-0.898	-36.421	-1.484
			4.5000	-168.16	-7.05	-27.10	-0.898	-41.711	-13.687

C O L U M N F O R C E S

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
CUBIERTA	C4	DIS3X MAX	0.0000	-110.32	23.13	10.38	0.780	24.229	57.960
			2.2500	-103.16	23.13	10.38	0.780	0.883	5.912
			4.5000	-96.01	23.13	10.38	0.780	-1.822	46.561
CUBIERTA	C4	DIS3X MIN	0.0000	-121.33	-23.17	-6.52	-0.803	-31.198	-57.723
			2.2500	-114.17	-23.17	-6.52	-0.803	-16.533	-5.581
			4.5000	-107.01	-23.17	-6.52	-0.803	-22.511	-46.136
CUBIERTA	C4	DIS3Y MAX	0.0000	-105.20	6.99	28.71	0.883	83.888	17.619
			2.2500	-98.05	6.99	28.71	0.883	19.295	1.905
			4.5000	-90.89	6.99	28.71	0.883	20.967	14.243
CUBIERTA	C4	DIS3Y MIN	0.0000	-126.45	-7.03	-24.85	-0.905	-90.857	-17.383
			2.2500	-119.29	-7.03	-24.85	-0.905	-34.946	-1.575
			4.5000	-112.13	-7.03	-24.85	-0.905	-45.299	-13.818
CUBIERTA	C5	DIS1A	0.0000	-160.80	1.69	-5.02	0.003	-17.894	2.982
			2.2500	-151.25	1.69	-5.02	0.003	-6.593	-0.820
			4.5000	-141.71	1.69	-5.02	0.003	4.709	-4.621
CUBIERTA	C5	DIS1B	0.0000	-183.52	2.14	-8.07	0.015	-23.841	3.750
			2.2500	-173.98	2.14	-8.07	0.015	-5.680	-1.055
			4.5000	-164.44	2.14	-8.07	0.015	12.481	-5.860
CUBIERTA	C5	DIS2X MAX	0.0000	-141.56	20.13	6.65	0.987	17.999	53.102
			2.2500	-132.01	20.13	6.65	0.987	3.071	7.803
			4.5000	-122.47	20.13	6.65	0.987	15.581	29.188
CUBIERTA	C5	DIS2X MIN	0.0000	-162.97	-17.09	-14.41	-0.989	-49.323	-47.719
			2.2500	-153.43	-17.09	-14.41	-0.989	-16.946	-9.266
			4.5000	-143.89	-17.09	-14.41	-0.989	-12.006	-37.497
CUBIERTA	C5	DIS2Y MAX	0.0000	-140.40	7.16	23.15	0.985	72.637	17.956
			2.2500	-130.85	7.16	23.15	0.985	20.554	1.841
			4.5000	-121.31	7.16	23.15	0.985	35.118	5.971
CUBIERTA	C5	DIS2Y MIN	0.0000	-164.13	-4.12	-30.91	-0.988	-103.961	-12.573
			2.2500	-154.59	-4.12	-30.91	-0.988	-34.429	-3.304
			4.5000	-145.05	-4.12	-30.91	-0.988	-31.544	-14.279
CUBIERTA	C5	DIS3X MAX	0.0000	-92.83	19.54	9.05	0.982	24.705	52.066
			2.2500	-85.67	19.54	9.05	0.982	4.375	8.096
			4.5000	-78.51	19.54	9.05	0.982	11.482	30.811
CUBIERTA	C5	DIS3X MIN	0.0000	-114.24	-17.68	-12.01	-0.994	-42.618	-48.755
			2.2500	-107.09	-17.68	-12.01	-0.994	-15.643	-8.972
			4.5000	-99.93	-17.68	-12.01	-0.994	-16.105	-35.875
CUBIERTA	C5	DIS3Y MAX	0.0000	-91.67	6.57	25.55	0.980	79.343	16.920
			2.2500	-84.51	6.57	25.55	0.980	21.857	2.134
			4.5000	-77.35	6.57	25.55	0.980	31.020	7.593
CUBIERTA	C5	DIS3Y MIN	0.0000	-115.40	-4.71	-28.50	-0.993	-97.256	-13.609
			2.2500	-108.25	-4.71	-28.50	-0.993	-33.125	-3.011
			4.5000	-101.09	-4.71	-28.50	-0.993	-35.643	-12.657
CUBIERTA	C6	DIS1A	0.0000	-47.14	-1.90	0.22	-0.016	-2.830	-3.009
			2.2500	-42.05	-1.90	0.22	-0.016	-3.337	1.271
			4.5000	-36.96	-1.90	0.22	-0.016	-3.843	5.551
CUBIERTA	C6	DIS1B	0.0000	-51.27	-2.31	-0.01	-0.014	-3.690	-3.654
			2.2500	-46.18	-2.31	-0.01	-0.014	-3.679	1.532
			4.5000	-41.09	-2.31	-0.01	-0.014	-3.667	6.719
CUBIERTA	C6	DIS2X MAX	0.0000	-35.66	4.19	4.64	0.156	9.383	11.589
			2.2500	-30.57	4.19	4.64	0.156	-1.029	2.156
			4.5000	-25.48	4.19	4.64	0.156	3.997	17.309
CUBIERTA	C6	DIS2X MIN	0.0000	-53.97	-7.63	-4.12	-0.189	-14.571	-17.010
			2.2500	-48.88	-7.63	-4.12	-0.189	-5.328	0.144
			4.5000	-43.79	-7.63	-4.12	-0.189	-11.525	-7.287
CUBIERTA	C6	DIS2Y MAX	0.0000	-26.44	0.12	14.09	0.200	34.877	1.660
			2.2500	-21.35	0.12	14.09	0.200	3.166	1.537

C O L U M N F O R C E S

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			4.5000						
CUBIERTA	C6	DIS2Y MIN		-16.26	0.12	14.09	0.200	21.021	8.932
			0.0000	-63.19	-3.55	-13.57	-0.233	-40.065	-7.080
			2.2500	-58.10	-3.55	-13.57	-0.233	-9.524	0.763
			4.5000	-53.01	-3.55	-13.57	-0.233	-28.548	1.090
CUBIERTA	C6	DIS3X MAX							
			0.0000	-21.55	4.86	4.62	0.159	10.327	12.641
			2.2500	-17.73	4.86	4.62	0.159	-0.037	1.718
			4.5000	-13.92	4.86	4.62	0.159	5.037	15.381
CUBIERTA	C6	DIS3X MIN	0.0000	-39.86	-6.96	-4.14	-0.186	-13.627	-15.959
			2.2500	-36.04	-6.96	-4.14	-0.186	-4.337	-0.294
			4.5000	-32.22	-6.96	-4.14	-0.186	-10.485	-9.214
CUBIERTA	C6	DIS3Y MAX	0.0000	-12.33	0.78	14.07	0.203	35.821	2.711
			2.2500	-8.51	0.78	14.07	0.203	4.158	1.099
			4.5000	-4.69	0.78	14.07	0.203	22.060	7.004
CUBIERTA	C6	DIS3Y MIN							
			0.0000	-49.08	-2.89	-13.60	-0.229	-39.121	-6.029
			2.2500	-45.26	-2.89	-13.60	-0.229	-8.532	0.325
			4.5000	-41.44	-2.89	-13.60	-0.229	-27.508	-0.838
CUBIERTA	C7	DIS1A							
			0.0000	-45.50	2.13	-0.39	-0.016	-3.936	3.533
			2.2500	-40.41	2.13	-0.39	-0.016	-3.061	-1.251
			4.5000	-35.32	2.13	-0.39	-0.016	-2.186	-6.036
CUBIERTA	C7	DIS1B							
			0.0000	-49.49	2.56	-0.68	-0.013	-4.883	4.242
			2.2500	-44.40	2.56	-0.68	-0.013	-3.345	-1.511
			4.5000	-39.32	2.56	-0.68	-0.013	-1.808	-7.264
CUBIERTA	C7	DIS2X MAX	0.0000	-35.35	7.72	3.86	0.162	7.660	17.321
			2.2500	-30.26	7.72	3.86	0.162	-1.024	-0.053
			4.5000						
CUBIERTA	C7	DIS2X MIN		-25.18	7.72	3.86	0.162	5.334	6.493
			0.0000	-51.10	-3.87	-4.52	-0.196	-14.986	-10.903
			2.2500	-46.01	-3.87	-4.52	-0.196	-4.827	-2.210
			4.5000	-40.92	-3.87	-4.52	-0.196	-9.709	-17.436
CUBIERTA	C7	DIS2Y MAX							
			0.0000	-24.96	3.70	13.50	0.202	33.718	7.467
			2.2500	-19.87	3.70	13.50	0.202	3.343	-0.709
			4.5000	-14.78	3.70	13.50	0.202	22.658	-1.740
CUBIERTA	C7	DIS2Y MIN							
			0.0000	-61.50	0.16	-14.16	-0.236	-41.045	-1.050
			2.2500	-56.41	0.16	-14.16	-0.236	-9.194	-1.553
			4.5000	-51.32	0.16	-14.16	-0.236	-27.032	-9.203
CUBIERTA	C7	DIS3X MAX							
			0.0000	-21.71	6.99	4.02	0.165	8.916	16.113
			2.2500	-17.89	6.99	4.02	0.165	-0.123	0.380
			4.5000	-14.08	6.99	4.02	0.165	5.880	8.566
CUBIERTA	C7	DIS3X MIN							
			0.0000	-37.46	-4.59	-4.36	-0.193	-13.730	-12.111
			2.2500	-33.64	-4.59	-4.36	-0.193	-3.926	-1.777
			4.5000	-29.83	-4.59	-4.36	-0.193	-9.163	-15.363
CUBIERTA	C7	DIS3Y MAX	0.0000	-11.31	2.97	13.66	0.205	34.975	6.260
			2.2500	-7.50	2.97	13.66	0.205	4.244	-0.277
			4.5000						
CUBIERTA	C7	DIS3Y MIN		-3.68	2.97	13.66	0.205	23.203	0.333
			0.0000	-47.86	-0.57	-14.00	-0.233	-39.789	-2.257
			2.2500	-44.04	-0.57	-14.00	-0.233	-8.293	-1.121
			4.5000	-40.22	-0.57	-14.00	-0.233	-26.486	-7.130
CUBIERTA	C8	DIS1A							
			0.0000	-118.75	-0.44	3.07	-0.036	-4.181	-0.401
			2.2500	-109.21	-0.44	3.07	-0.036	-11.083	0.587
			4.5000	-99.67	-0.44	3.07	-0.036	-17.985	1.574
CUBIERTA	C8	DIS1B							
			0.0000	-136.39	-0.79	5.33	-0.033	-2.021	-0.963
			2.2500	-126.85	-0.79	5.33	-0.033	-14.007	0.825
			4.5000	-117.30	-0.79	5.33	-0.033	-25.994	2.613
CUBIERTA	C8	DIS2X MAX							
			0.0000	-100.76	14.30	11.70	1.037	26.068	40.349
			2.2500	-91.22	14.30	11.70	1.037	-0.265	8.175
			4.5000	-81.68	14.30	11.70	1.037	-3.317	26.364
CUBIERTA	C8	DIS2X MIN							
			0.0000	-123.50	-14.91	-7.29	-1.113	-36.107	-40.729
			2.2500	-113.96	-14.91	-7.29	-1.113	-19.713	-7.183

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COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			4.5000	-104.42	-14.91	-7.29	-1.113	-26.599	-23.999
CUBIERTA	C8	DIS2Y MAX							
			0.0000	-100.81	4.58	29.00	0.978	82.839	13.333
			2.2500	-91.26	4.58	29.00	0.978	17.595	3.022
			4.5000	-81.72	4.58	29.00	0.978	17.735	9.660
CUBIERTA	C8	DIS2Y MIN							
			0.0000	-123.46	-5.19	-24.58	-1.053	-92.878	-13.713
			2.2500	-113.92	-5.19	-24.58	-1.053	-37.573	-2.029
			4.5000	-104.38	-5.19	-24.58	-1.053	-47.651	-7.295
CUBIERTA	C8	DIS3X MAX							
			0.0000	-64.45	14.54	10.08	1.045	26.274	40.660
			2.2500	-57.30	14.54	10.08	1.045	3.600	7.938
			4.5000	-50.14	14.54	10.08	1.045	4.207	25.579
CUBIERTA	C8	DIS3X MIN	0.0000	-87.19	-14.67	-8.91	-1.105	-35.900	-40.418
			2.2500	-80.04	-14.67	-8.91	-1.105	-15.848	-7.420
			4.5000	-72.88	-14.67	-8.91	-1.105	-19.075	-24.784
CUBIERTA	C8	DIS3Y MAX							
			0.0000	-64.50	4.83	27.37	0.986	83.046	13.643
			2.2500	-57.34	4.83	27.37	0.986	21.460	2.785
			4.5000	-50.18	4.83	27.37	0.986	25.258	8.875
CUBIERTA	C8	DIS3Y MIN							
			0.0000	-87.15	-4.95	-26.21	-1.046	-92.672	-13.402
			2.2500	-80.00	-4.95	-26.21	-1.046	-33.708	-2.266
			4.5000	-72.84	-4.95	-26.21	-1.046	-40.127	-8.080
CUBIERTA	C9	DIS1A							
			0.0000	-135.52	0.45	1.59	-0.061	-6.996	1.025
			2.2500	-125.98	0.45	1.59	-0.061	-10.574	0.023
			4.5000	-116.44	0.45	1.59	-0.061	-14.152	-0.980
CUBIERTA	C9	DIS1B							
			0.0000	-161.16	0.51	3.94	-0.057	-4.670	1.141
			2.2500	-151.62	0.51	3.94	-0.057	-13.537	-0.006
			4.5000	-142.08	0.51	3.94	-0.057	-22.405	-1.153
CUBIERTA	C9	DIS2X MAX	0.0000	-122.10	19.53	8.71	0.709	18.720	48.759
			2.2500	-112.56	19.53	8.71	0.709	-0.887	4.810
			4.5000						
CUBIERTA	C9	DIS2X MIN		-103.02	19.53	8.71	0.709	-1.217	37.314
			0.0000	-129.48	-18.69	-7.44	-0.832	-34.703	-46.803
			2.2500	-119.94	-18.69	-7.44	-0.832	-17.960	-4.745
			4.5000	-110.39	-18.69	-7.44	-0.832	-20.495	-39.138
CUBIERTA	C9	DIS2Y MAX							
			0.0000	-115.23	6.77	26.59	0.819	77.869	16.859
			2.2500	-105.69	6.77	26.59	0.819	18.044	1.629
			4.5000						
CUBIERTA	C9	DIS2Y MIN		-96.15	6.77	26.59	0.819	20.069	11.776
			0.0000	-136.35	-5.93	-25.32	-0.943	-93.851	-14.903
			2.2500	-126.80	-5.93	-25.32	-0.943	-36.891	-1.563
			4.5000	-117.26	-5.93	-25.32	-0.943	-41.781	-13.601
CUBIERTA	C9	DIS3X MAX							
			0.0000	-78.49	19.40	7.36	0.723	19.474	48.457
			2.2500	-71.33	19.40	7.36	0.723	2.907	4.815
			4.5000	-64.18	19.40	7.36	0.723	5.616	37.626
CUBIERTA	C9	DIS3X MIN	0.0000	-85.87	-18.83	-8.79	-0.818	-33.949	-47.106
			2.2500	-78.71	-18.83	-8.79	-0.818	-14.167	-4.740
			4.5000	-71.55	-18.83	-8.79	-0.818	-13.661	-38.826
CUBIERTA	C9	DIS3Y MAX	0.0000	-71.62	6.63	25.24	0.834	78.622	16.556
			2.2500	-64.46	6.63	25.24	0.834	21.838	1.634
			4.5000	-57.31	6.63	25.24	0.834	26.903	12.089
CUBIERTA	C9	DIS3Y MIN							
			0.0000	-92.74	-6.07	-26.67	-0.929	-93.098	-15.205
			2.2500	-85.58	-6.07	-26.67	-0.929	-33.098	-1.558
			4.5000	-78.42	-6.07	-26.67	-0.929	-34.947	-13.288
CUBIERTA	C10	DIS1A							
			0.0000	-139.40	0.30	3.78	-0.035	-3.880	0.789
			2.2500	-129.86	0.30	3.78	-0.035	-12.377	0.118
			4.5000	-120.32	0.30	3.78	-0.035	-20.874	-0.553
CUBIERTA	C10	DIS1B							
			0.0000	-168.54	0.30	8.40	-0.023	2.129	0.807
			2.2500	-158.99	0.30	8.40	-0.023	-16.770	0.128
			4.5000	-149.45	0.30	8.40	-0.023	-35.668	-0.551
CUBIERTA	C10	DIS2X MAX							
			0.0000	-125.15	18.29	9.96	0.680	19.847	46.742

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COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-115.61	18.29	9.96	0.680	-2.572	5.594
			4.5000	-106.07	18.29	9.96	0.680	-5.637	34.455
CUBIERTA	C10	DIS2X MIN							
			0.0000	-131.78	-17.70	-5.89	-0.757	-32.147	-45.185
			2.2500	-122.24	-17.70	-5.89	-0.757	-18.892	-5.365
			4.5000	-112.70	-17.70	-5.89	-0.757	-24.990	-35.554
CUBIERTA	C10	DIS2Y MAX							
			0.0000	-117.44	6.30	28.42	0.823	80.360	16.093
			2.2500	-107.89	6.30	28.42	0.823	16.424	1.930
			4.5000						
CUBIERTA	C10	DIS2Y MIN		-98.35	6.30	28.42	0.823	16.884	11.135
			0.0000	-139.49	-5.70	-24.34	-0.900	-92.660	-14.537
			2.2500	-129.95	-5.70	-24.34	-0.900	-37.888	-1.701
			4.5000	-120.41	-5.70	-24.34	-0.900	-47.511	-12.235
CUBIERTA	C10	DIS3X MAX							
			0.0000	-79.37	18.21	7.28	0.684	18.547	46.534
			2.2500	-72.21	18.21	7.28	0.684	2.168	5.561
			4.5000	-65.05	18.21	7.28	0.684	5.142	34.596
CUBIERTA	C10	DIS3X MIN							
			0.0000	-86.00	-17.78	-8.58	-0.752	-33.447	-45.393
			2.2500	-78.84	-17.78	-8.58	-0.752	-14.152	-5.399
			4.5000	-71.68	-17.78	-8.58	-0.752	-14.211	-35.413
CUBIERTA	C10	DIS3Y MAX	0.0000	-71.65	6.22	25.73	0.828	79.060	15.885
			2.2500	-64.50	6.22	25.73	0.828	21.164	1.896
			4.5000	-57.34	6.22	25.73	0.828	27.663	11.277
CUBIERTA	C10	DIS3Y MIN							
			0.0000	-93.71	-5.78	-27.03	-0.896	-93.960	-14.745
			2.2500	-86.55	-5.78	-27.03	-0.896	-33.149	-1.734
			4.5000	-79.40	-5.78	-27.03	-0.896	-36.732	-12.093
CUBIERTA	C11	DIS1A							
			0.0000	-138.44	0.52	3.73	0.011	-4.023	1.155
			2.2500	-128.89	0.52	3.73	0.011	-12.422	-0.017
			4.5000	-119.35	0.52	3.73	0.011	-20.820	-1.188
CUBIERTA	C11	DIS1B							
			0.0000	-167.79	0.52	8.45	0.036	2.277	1.162
			2.2500	-158.25	0.52	8.45	0.036	-16.743	-0.001
			4.5000	-148.70	0.52	8.45	0.036	-35.763	-1.163
CUBIERTA	C11	DIS2X MAX							
			0.0000	-123.55	19.41	10.44	0.739	21.334	48.570
			2.2500	-114.01	19.41	10.44	0.739	-2.161	4.902
			4.5000	-104.47	19.41	10.44	0.739	-4.770	36.373
CUBIERTA	C11	DIS2X MIN							
			0.0000	-131.29	-18.36	-6.52	-0.735	-34.119	-46.270
			2.2500	-121.75	-18.36	-6.52	-0.735	-19.445	-4.949
			4.5000	-112.21	-18.36	-6.52	-0.735	-25.657	-38.765
CUBIERTA	C11	DIS2Y MAX							
			0.0000	-116.10	6.81	28.59	0.880	80.673	16.930
			2.2500	-106.56	6.81	28.59	0.880	16.345	1.613
			4.5000	-97.02	6.81	28.59	0.880	17.556	11.312
CUBIERTA	C11	DIS2Y MIN							
			0.0000	-138.74	-5.76	-24.67	-0.875	-93.458	-14.629
			2.2500	-129.20	-5.76	-24.67	-0.875	-37.951	-1.659
			4.5000	-119.66	-5.76	-24.67	-0.875	-47.983	-13.704
CUBIERTA	C11	DIS3X MAX							
			0.0000	-77.93	19.28	7.74	0.727	19.971	48.276
			2.2500	-70.78	19.28	7.74	0.727	2.562	4.900
			4.5000	-63.62	19.28	7.74	0.727	6.041	36.662
CUBIERTA	C11	DIS3X MIN	0.0000	-85.67	-18.49	-9.23	-0.747	-35.483	-46.563
			2.2500	-78.51	-18.49	-9.23	-0.747	-14.721	-4.951
			4.5000	-71.35	-18.49	-9.23	-0.747	-14.846	-38.476
CUBIERTA	C11	DIS3Y MAX							
			0.0000	-70.48	6.68	25.88	0.868	79.309	16.636
			2.2500	-63.32	6.68	25.88	0.868	21.069	1.611
			4.5000	-56.17	6.68	25.88	0.868	28.367	11.601
CUBIERTA	C11	DIS3Y MIN							
			0.0000	-93.12	-5.89	-27.38	-0.887	-94.821	-14.923
			2.2500	-85.96	-5.89	-27.38	-0.887	-33.227	-1.661
			4.5000	-78.81	-5.89	-27.38	-0.887	-37.172	-13.415
CUBIERTA	C12	DIS1A							
			0.0000	-126.91	-0.76	3.05	0.004	-4.973	-0.913
			2.2500	-117.37	-0.76	3.05	0.004	-11.836	0.787
			4.5000	-107.83	-0.76	3.05	0.004	-18.698	2.487
CUBIERTA	C12	DIS1B							
			0.0000	-145.97	-0.58	5.76	0.029	-1.715	-0.610

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-136.43	-0.58	5.76	0.029	-14.669	0.686
			4.5000	-126.89	-0.58	5.76	0.029	-27.623	1.983
CUBIERTA	C12	DIS2X MAX	0.0000	-107.95	13.85	12.11	1.133	26.702	39.646
			2.2500	-98.40	13.85	12.11	1.133	-0.555	8.475
			4.5000	-88.86	13.85	12.11	1.133	-2.872	28.051
CUBIERTA	C12	DIS2X MIN							
			0.0000	-131.57	-15.50	-8.05	-1.142	-39.105	-41.703
			2.2500	-122.03	-15.50	-8.05	-1.142	-20.989	-6.826
			4.5000	-112.49	-15.50	-8.05	-1.142	-27.812	-22.696
CUBIERTA	C12	DIS2Y MAX	0.0000	-108.03	4.08	29.01	1.044	81.978	12.516
			2.2500	-98.49	4.08	29.01	1.044	16.697	3.345
CUBIERTA	C12	DIS2Y MIN	4.5000	-88.95	4.08	29.01	1.044	17.901	11.182
			0.0000	-131.49	-5.72	-24.95	-1.053	-94.381	-14.572
			2.2500	-121.94	-5.72	-24.95	-1.053	-38.241	-1.696
			4.5000	-112.40	-5.72	-24.95	-1.053	-48.586	-5.828
CUBIERTA	C12	DIS3X MAX							
			0.0000	-69.06	13.97	10.33	1.123	26.717	39.759
			2.2500	-61.91	13.97	10.33	1.123	3.468	8.316
			4.5000	-54.75	13.97	10.33	1.123	5.158	27.620
CUBIERTA	C12	DIS3X MIN	0.0000	-92.69	-15.38	-9.83	-1.152	-39.090	-41.591
			2.2500	-85.53	-15.38	-9.81	-1.152	-16.967	-6.985
			4.5000	-78.38	-15.38	-9.83	-1.152	-19.782	-23.128
CUBIERTA	C12	DIS3Y MAX							
			0.0000	-69.15	4.20	27.23	1.034	81.993	12.628
			2.2500	-61.99	4.20	27.23	1.034	20.720	3.186
			4.5000	-54.84	4.20	27.23	1.034	25.931	10.751
CUBIERTA	C12	DIS3Y MIN	0.0000	-92.60	-5.60	-26.73	-1.063	-94.366	-14.460
			2.2500	-85.45	-5.60	-26.73	-1.063	-34.219	-1.855
			4.5000	-78.29	-5.60	-26.73	-1.063	-40.556	-6.259

CONCRETE COLUMN CHECK OUTPUT (ACI 318-08/IBC 2009)

BIAXIAL P-M INTERACTION CAPACITY CHECK AND SHEAR DESIGN OF COLUMN-TYPE ELEMENTS

STORY ID	COLUMN LINE	SECTION ID	STATION LOC	INTERACTION RATIO	COMBO ID	SHEAR22 REBAR	COMBO ID	SHEAR33 REBAR	COMBO ID
CUBIERTA	C1	C30X50B	0.000	0.593	DIS2Y	0.034	DIS2X	0.028	DIS2Y
CUBIERTA	C1	C30X50B	225.000	0.165	DIS2Y	0.034	DIS2X	0.028	DIS2Y
CUBIERTA	C1	C30X50B	450.000	0.398	DIS2X	0.034	DIS2X	0.028	DIS2Y
CUBIERTA	C2	C30X50C	0.000	0.536	DIS2X	0.038	DIS2X	0.028	DIS3Y
CUBIERTA	C2	C30X50C	225.000	0.178	DIS2Y	0.038	DIS2X	0.028	DIS3Y
CUBIERTA	C2	C30X50C	450.000	0.410	DIS2X	0.038	DIS2X	0.028	DIS3Y
CUBIERTA	C3	C30X50C	0.000	0.515	DIS2X	0.036	DIS2X	0.026	DIS3Y
CUBIERTA	C3	C30X50C	225.000	0.170	DIS2Y	0.036	DIS2X	0.026	DIS3Y
CUBIERTA	C3	C30X50C	450.000	0.390	DIS3X	0.036	DIS2X	0.026	DIS3Y
CUBIERTA	C4	C30X50C	0.000	0.517	DIS3X	0.036	DIS2X	0.025	DIS3Y
CUBIERTA	C4	C30X50C	225.000	0.173	DIS2Y	0.036	DIS2X	0.025	DIS3Y
CUBIERTA	C4	C30X50C	450.000	0.402	DIS3X	0.036	DIS2X	0.025	DIS3Y
CUBIERTA	C5	C30X50B	0.000	0.567	DIS2Y	0.031	DIS2X	0.027	DIS2Y
CUBIERTA	C5	C30X50B	225.000	0.167	DIS2Y	0.031	DIS2X	0.027	DIS2Y
CUBIERTA	C5	C30X50B	450.000	0.346	DIS3X	0.031	DIS2X	0.027	DIS2Y
CUBIERTA	C6	C20X40	0.000	0.528	DIS2X	0.019	DIS2X	0.016	DIS2Y
CUBIERTA	C6	C20X40	225.000	0.120	DIS2Y	0.019	DIS2X	0.016	DIS2Y
CUBIERTA	C6	C20X40	450.000	0.508	DIS2X	0.019	DIS2X	0.016	DIS2Y
CUBIERTA	C7	C20X40	0.000	0.538	DIS2X	0.019	DIS2X	0.016	DIS2Y
CUBIERTA	C7	C20X40	225.000	0.117	DIS2Y	0.019	DIS2X	0.016	DIS2Y
CUBIERTA	C7	C20X40	450.000	0.506	DIS2X	0.019	DIS2X	0.016	DIS2Y
CUBIERTA	C8	C30X50B	0.000	0.544	DIS3Y	0.023	DIS2X	0.025	DIS2Y
CUBIERTA	C8	C30X50B	225.000	0.165	DIS2Y	0.023	DIS2X	0.025	DIS2Y
CUBIERTA	C8	C30X50B	450.000	0.280	DIS2X	0.023	DIS2X	0.025	DIS2Y
CUBIERTA	C9	C30X50B	0.000	0.552	DIS3Y	0.030	DIS2X	0.023	DIS3Y
CUBIERTA	C9	C30X50B	225.000	0.163	DIS2Y	0.030	DIS2X	0.023	DIS3Y
CUBIERTA	C9	C30X50B	450.000	0.387	DIS3X	0.030	DIS2X	0.023	DIS3Y
CUBIERTA	C10	C30X50B	0.000	0.554	DIS3Y	0.028	DIS2X	0.025	DIS2Y

CONCRETE COLUMN CHECK OUTPUT (ACI 318-08/IBC 2009)

BIAXIAL P-M INTERACTION CAPACITY CHECK AND SHEAR DESIGN OF COLUMN-TYPE ELEMENTS

STORY ID	COLUMN LINE	SECTION ID	STATION ID	INTERACTION RATIO	COMBO ID	SHEAR22 REBAR	COMBO ID	SHEAR33 REBAR	COMBO ID
CUBIERTA	C10	C30X50B	225.000	0.168	DIS2Y	0.028	DIS2X	0.025	DIS2Y
CUBIERTA	C10	C30X50B	450.000	0.349	DIS3X	0.028	DIS2X	0.025	DIS2Y
CUBIERTA	C11	C30X50B	0.000	0.563	DIS3Y	0.030	DIS2X	0.025	DIS2Y
CUBIERTA	C11	C30X50B	225.000	0.168	DIS2Y	0.030	DIS2X	0.025	DIS2Y
CUBIERTA	C11	C30X50B	450.000	0.386	DIS3X	0.030	DIS2X	0.025	DIS2Y
CUBIERTA	C12	C30X50B	0.000	0.553	DIS3Y	0.024	DIS2X	0.025	DIS2Y
CUBIERTA	C12	C30X50B	225.000	0.170	DIS2Y	0.024	DIS2X	0.025	DIS2Y
CUBIERTA	C12	C30X50B	450.000	0.296	DIS2X	0.024	DIS2X	0.025	DIS2Y

CONCRETE COLUMN JOINT OUTPUT (ACI 318-08/IBC 2009)

BEAM TO COLUMN CAPACITY RATIOS AND JOINT SHEAR CAPACITY CHECK

STORY ID	COLUMN LINE	SECTION ID	<-(6/5)BEAM-COLUMN CAPACITY RATIOS-> MAJOR	COMBO	MINOR	COMBO	<--JOINT SHEAR CAPACITY RATIOS----> MAJOR	COMBO	MINOR	COMBO
CUBIERTA	C1	C30X50B	0.762	DIS3Y	0.897	DIS3Y	0.368	DIS2X	0.626	DIS2X
CUBIERTA	C2	C30X50C	0.858							
CUBIERTA	C3	C30X50C	0.877	DIS3Y	0.915	DIS3Y	0.488	DIS2X	0.753	DIS2X
CUBIERTA	C4	C30X50C	0.866	DIS3Y	0.922	DIS3Y	0.484	DIS2X	0.763	DIS2X
CUBIERTA	C5	C30X50B	0.870	DIS3Y	0.941	DIS3Y	0.424	DIS2X	0.665	DIS2X
CUBIERTA	C6	C20X40	0.833	DIS3Y	0.461	DIS3Y	0.276	DIS2X	0.346	DIS2X
CUBIERTA	C7	C20X40	0.835	DIS3Y	0.462	DIS3Y	0.277	DIS2X	0.346	DIS2X
CUBIERTA	C8	C30X50B	0.706	DIS3X	0.536	DIS3X	0.333	DIS2X	0.363	DIS2X
CUBIERTA	C9	C30X50B	0.917	DIS3Y	0.560	DIS3Y	0.433	DIS2X	0.381	DIS2X
CUBIERTA	C10	C30X50B	0.886	DIS3Y	0.605	DIS3Y	0.418	DIS2X	0.413	DIS2X
CUBIERTA	C11	C30X50B	0.903	DIS3Y	0.607	DIS3Y	0.426	DIS2X	0.415	DIS2X
CUBIERTA	C12	C30X50B	0.844	DIS3X	0.544	DIS3X	0.400	DIS2X	0.371	DIS2X

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C O L U M N F O R C E S

STORY	COLUMN	LOAD	LDC	P	V2	V3	T	M2	M3
CUBIERTA	C1	DIS1A	0.0000	-151.88	-3.48	-4.87	-0.058	-16.882	-5.356
			2.2500	-142.33	-3.48	-4.87	-0.058	-5.934	2.475
			4.5000	-132.79	-3.48	-4.87	-0.058	5.014	10.306
CUBIERTA	C1	DIS1B	0.0000	-172.88	-3.98	-7.83	-0.052	-23.078	-6.123
			2.2500	-163.33	-3.98	-7.83	-0.052	-5.463	2.843
			4.5000	-153.79	-3.98	-7.83	-0.052	12.151	11.809
CUBIERTA	C1	DIS2X MAX	0.0000	-133.95	12.88	5.80	0.740	15.406	38.785
			2.2500	-124.40	12.88	5.80	0.740	2.373	9.811
			4.5000	-114.86	12.88	5.80	0.740	15.364	38.529
CUBIERTA	C1	DIS2X MIN	0.0000	-153.90	-19.42	-13.30	-0.860	-44.529	-48.845
			2.2500	-144.36	-19.42	-13.30	-0.860	-14.618	-5.169
			4.5000	-134.82	-19.42	-13.30	-0.860	-10.733	-19.185
CUBIERTA	C1	DIS2Y MAX	0.0000	-129.17	1.71	23.18	0.820	70.950	8.292
			2.2500	-119.63	1.71	23.18	0.820	18.804	4.749
			4.5000	-110.08	1.71	23.18	0.820	37.978	18.912
CUBIERTA	C1	DIS2Y MIN	0.0000	-158.68	-8.25	-30.68	-0.940	-100.073	-18.351
			2.2500	-149.14	-8.25	-30.68	-0.940	-31.050	-0.107
			4.5000	-139.59	-8.25	-30.68	-0.940	-33.347	0.431
CUBIERTA	C1	DIS3X MAX	0.0000	-88.03	13.96	8.13	0.752	21.947	40.451
			2.2500	-80.87	13.96	8.13	0.752	3.667	9.038
			4.5000	-73.71	13.96	8.13	0.752	11.412	35.318
CUBIERTA	C1	DIS3X MIN	0.0000	-107.98	-18.33	-10.97	-0.847	-37.988	-47.180
			2.2500	-100.82	-18.33	-10.97	-0.847	-13.324	-5.942
			4.5000	-93.67	-18.33	-10.97	-0.847	-14.685	-22.396
CUBIERTA	C1	DIS3Y MAX	0.0000	-83.25	2.80	25.51	0.832	77.491	9.957
			2.2500	-76.09	2.80	25.51	0.832	20.098	3.976
			4.5000	-68.94	2.80	25.51	0.832	34.026	15.701
CUBIERTA	C1	DIS3Y MIN	0.0000	-112.76	-7.16	-28.35	-0.927	-93.533	-16.686
			2.2500	-105.60	-7.16	-28.35	-0.927	-29.755	-0.880
			4.5000	-98.44	-7.16	-28.35	-0.927	-37.299	-2.779
CUBIERTA	C2	DIS1A	0.0000	-219.05	0.70	-0.59	-0.061	-10.476	1.411
			2.2500	-209.51	0.70	-0.59	-0.061	-9.149	-0.167
			4.5000	-199.97	0.70	-0.59	-0.061	-7.821	-1.746
CUBIERTA	C2	DIS1B	0.0000	-237.80	0.85	-1.48	-0.052	-13.310	1.698
			2.2500	-228.25	0.85	-1.48	-0.052	-9.987	-0.211
			4.5000	-218.71	0.85	-1.48	-0.052	-6.664	-2.120
CUBIERTA	C2	DIS2X MAX	0.0000	-198.13	21.22	9.03	0.540	18.383	52.339
			2.2500	-188.59	21.22	9.03	0.540	-1.929	4.595
			4.5000	-179.05	21.22	9.03	0.540	4.663	39.948
CUBIERTA	C2	DIS2X MIN	0.0000	-221.88	-19.93	-9.17	-0.667	-36.622	-49.737
			2.2500	-212.33	-19.93	-9.17	-0.667	-16.000	-4.895
			4.5000	-202.79	-19.93	-9.17	-0.667	-22.283	-43.151
CUBIERTA	C2	DIS2Y MAX	0.0000	-174.35	6.91	29.55	0.727	80.091	16.813
			2.2500	-164.81	6.91	29.55	0.727	13.599	1.276
			4.5000	-155.27	6.91	29.55	0.727	35.275	11.070
CUBIERTA	C2	DIS2Y MIN	0.0000	-245.66	-5.62	-29.69	-0.854	-98.330	-14.211
			2.2500	-236.11	-5.62	-29.69	-0.854	-31.528	-1.577
			4.5000	-226.57	-5.62	-29.69	-0.854	-52.895	-14.273
CUBIERTA	C2	DIS3X MAX	0.0000	-134.32	20.99	9.70	0.552	22.358	51.876
			2.2500	-127.16	20.99	9.70	0.552	0.542	4.653
			4.5000	-120.00	20.99	9.70	0.552	5.630	40.528
CUBIERTA	C2	DIS3X MIN	0.0000	-158.06	-20.16	-8.50	-0.655	-32.646	-50.200
			2.2500	-150.91	-20.16	-8.50	-0.655	-13.529	-4.837

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			4.5000	-143.75	-20.16	-8.50	-0.655	-21.316	-42.571
CUBIERTA	C2	DIS3Y MAX							
			0.0000	-110.54	6.68	30.22	0.739	84.067	16.350
			2.2500	-103.38	6.68	30.22	0.739	16.070	1.335
			4.5000	-96.22	6.68	30.22	0.739	36.242	11.650
CUBIERTA	C2	DIS3Y MIN							
			0.0000	-181.84	-5.85	-29.02	-0.842	-94.355	-14.674
			2.2500	-174.69	-5.85	-29.02	-0.842	-29.057	-1.519
			4.5000	-167.53	-5.85	-29.02	-0.842	-51.928	-13.693
CUBIERTA	C3	DIS1A							
			0.0000	-190.02	0.84	-2.52	-0.031	-13.912	1.625
			2.2500	-180.47	0.84	-2.52	-0.031	-8.247	-0.267
			4.5000	-170.93	0.84	-2.52	-0.031	-2.583	-2.159
CUBIERTA	C3	DIS1B							
			0.0000	-224.69	0.85	-7.12	-0.012	-22.621	1.685
			2.2500	-215.14	0.85	-7.12	-0.012	-6.597	-0.227
			4.5000	-205.60	0.85	-7.12	-0.012	9.426	-2.139
CUBIERTA	C3	DIS2X MAX							
			0.0000	-172.28	20.25	7.14	0.560	14.588	50.765
			2.2500	-162.74	20.25	7.14	0.560	-1.478	5.209
			4.5000	-153.20	20.25	7.14	0.560	3.340	36.132
CUBIERTA	C3	DIS2X MIN	0.0000	-181.56	-18.61	-8.72	-0.634	-35.879	-47.622
			2.2500	-172.01	-18.61	-8.72	-0.634	-16.271	-5.750
			4.5000	-162.47	-18.61	-8.72	-0.634	-17.548	-40.357
CUBIERTA	C3	DIS2Y MAX							
			0.0000	-161.47	6.81	25.62	0.751	73.376	16.614
			2.2500	-151.93	6.81	25.62	0.751	15.742	1.454
			4.5000	-142.39	6.81	25.62	0.751	27.687	9.860
CUBIERTA	C3	OIS2Y MIN	0.0000	-192.37	-5.17	-27.19	-0.825	-94.668	-13.472
			2.2500	-182.82	-5.17	-27.19	-0.825	-33.491	-1.995
			4.5000	-173.28	-5.17	-27.19	-0.825	-41.895	-14.085
CUBIERTA	C3	BIS3X MAX	0.0000	-111.68	20.02	9.50	0.561	21.332	50.305
			2.2500	-104.53	20.02	9.50	0.561	-0.044	5.272
			4.5000						
CUBIERTA	C3	BIS3X MIN		-97.37	20.02	9.50	0.561	-0.535	36.718
			0.0000	-120.96	-18.84	-6.36	-0.633	-29.135	-48.082
			2.2500	-113.80	-18.84	-6.36	-0.633	-14.837	-5.687
			4.5000	-106.64	-18.84	-6.36	-0.633	-21.423	-39.771
CUBIERTA	C3	OIS3Y MAX							
			0.0000	-100.87	6.58	27.98	0.752	80.120	16.154
			2.2500	-93.72	6.58	27.98	0.752	17.176	1.517
			4.5000						
CUBIERTA	C3	DIS3Y MIN		-86.56	6.58	27.98	0.752	23.812	10.446
			0.0000	-131.77	-5.41	-24.83	-0.824	-87.923	-13.932
			2.2500	-124.61	-5.41	-24.83	-0.824	-32.057	-1.932
			4.5000	-117.45	-5.41	-24.83	-0.824	-45.770	-13.499
CUBIERTA	C4	DIS1A							
			0.0000	-189.94	-0.05	-2.06	0.003	-13.250	0.175
			2.2500	-180.39	-0.05	-2.06	0.003	-8.621	0.277
			4.5000	-170.85	-0.05	-2.06	0.003	-3.993	0.380
CUBIERTA	C4	DIS1B							
			0.0000	-225.46	-0.06	-6.69	0.022	-21.871	0.199
			2.2500	-215.92	-0.06	-6.69	0.022	-6.815	0.330
			4.5000	-206.37	-0.06	-6.69	0.022	8.241	0.460
CUBIERTA	C4	DIS2X MAX							
			0.0000	-171.70	20.09	7.58	0.691	15.874	50.466
			2.2500	-162.16	20.09	7.58	0.691	-1.177	5.253
			4.5000	-152.62	20.09	7.58	0.691	1.109	40.647
CUBIERTA	C4	DIS2X MIN							
			0.0000	-181.54	-20.17	-8.23	-0.699	-35.921	-50.130
			2.2500	-172.00	-20.17	-8.23	-0.699	-17.425	-4.741
			4.5000	-162.46	-20.17	-8.23	-0.699	-18.266	-39.960
CUBIERTA	C4	DIS2Y MAX	0.0000	-166.63	6.06	24.90	0.834	72.278	15.412
			2.2500	-157.09	6.06	24.90	0.834	16.245	1.772
			4.5000	-147.54	6.06	24.90	0.834	22.632	12.566
CUBIERTA	C4	DIS2Y MIN							
			0.0000	-186.62	-6.14	-25.55	-0.842	-92.325	-15.075
			2.2500	-177.07	-6.14	-25.55	-0.842	-34.847	-1.260
			4.5000	-167.53	-6.14	-25.55	-0.842	-39.789	-11.878
CUBIERTA	C4	DIS3X MAX							
			0.0000	-110.90	20.11	9.83	0.683	22.413	50.416

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STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-103.75	20.11	9.83	0.683	0.299	5.162
			4.5000	-96.59	20.11	9.83	0.683	-2.479	40.516
CUBIERTA	C4	DIS3X MIN							
			0.0000	-120.75	-20.15	-5.97	-0.706	-29.382	-50.180
			2.2500	-113.59	-20.15	-5.97	-0.706	-15.949	-4.832
			4.5000	-106.43	-20.15	-5.97	-0.706	-21.854	-40.091
CUBIERTA	C4	DIS3Y MAX							
			0.0000	-105.83	6.08	27.15	0.827	78.817	15.362
			2.2500	-98.67	6.08	27.15	0.827	17.721	1.681
			4.5000						
CUBIERTA	C4	DIS3Y MIN		-91.52	6.08	27.15	0.827	19.044	12.434
			0.0000	-125.82	-6.12	-23.30	-0.850	-85.786	-15.125
			2.2500	-118.66	-6.12	-23.30	-0.850	-33.371	-1.351
			4.5000	-111.50	-6.12	-23.30	-0.850	-43.377	-12.009
CUBIERTA	C5	DIS1A							
			0.0000	-160.80	1.69	-5.02	0.003	-17.894	2.982
			2.2500	-151.25	1.69	-5.02	0.003	-6.593	-0.820
			4.5000	-141.71	1.69	-5.02	0.003	4.709	-4.621
CUBIERTA	C5	DIS1B							
			0.0000	-183.52	2.14	-8.07	0.015	-23.841	3.750
			2.2500	-173.98	2.14	-8.07	0.015	-5.680	-1.055
			4.5000	-164.44	2.14	-8.07	0.015	12.481	-5.860
CUBIERTA	C5	DIS2X MAX							
			0.0000	-142.87	17.71	5.74	0.864	15.131	46.527
			2.2500	-133.33	17.71	5.74	0.864	2.262	6.690
			4.5000	-123.78	17.71	5.74	0.864	14.312	24.840
CUBIERTA	C5	DIS2X MIN							
			0.0000	-161.66	-14.66	-13.49	-0.867	-46.456	-41.145
			2.2500	-152.12	-14.66	-13.49	-0.867	-16.136	-8.153
			4.5000	-142.57	-14.66	-13.49	-0.867	-10.738	-33.148
CUBIERTA	C5	DIS2Y MAX							
			0.0000	-141.14	6.44	21.57	0.922	67.488	15.989
			2.2500	-131.60	6.44	21.57	0.922	18.953	1.508
			4.5000	-122.05	6.44	21.57	0.922	33.169	4.670
CUBIERTA	C5	DIS2Y MIN	0.0000	-163.39	-3.39	-29.33	-0.925	-98.812	-10.606
			2.2500	-153.85	-3.39	-29.33	-0.925	-32.828	-2.971
			4.5000	-144.31	-3.39	-29.33	-0.925	-29.595	-12.979
CUBIERTA	C5	DIS3X MAX							
			0.0000	-94.14	17.11	8.14	0.859	21.837	45.491
			2.2500	-86.98	17.11	8.14	0.859	3.565	6.983
			4.5000	-79.83	17.11	8.14	0.859	10.213	26.462
CUBIERTA	C5	DIS3X MIN							
			0.0000	-112.93	-15.25	-11.09	-0.872	-39.750	-42.180
			2.2500	-105.77	-15.25	-11.09	-0.872	-14.833	-7.859
			4.5000	-98.62	-15.25	-11.09	-0.872	-14.836	-31.526
CUBIERTA	C5	DIS3Y MAX							
			0.0000	-92.41	5.85	23.97	0.917	74.193	14.953
			2.2500	-85.25	5.85	23.97	0.917	20.256	1.801
			4.5000	-78.09	5.85	23.97	0.917	29.070	6.293
CUBIERTA	C5	DIS3Y MIN							
			0.0000	-114.66	-3.99	-26.93	-0.930	-92.106	-11.642
			2.2500	-107.50	-3.99	-26.93	-0.930	-31.524	-2.677
			4.5000	-100.35	-3.99	-26.93	-0.930	-33.693	-11.356
CUBIERTA	C6	DIS1A							
			0.0000	-47.14	-1.90	0.22	-0.016	-2.830	-3.009
			2.2500	-42.05	-1.90	0.22	-0.016	-3.337	1.271
			4.5000	-36.96	-1.90	0.22	-0.016	-3.843	5.551
CUBIERTA	C6	DIS1B							
			0.0000	-51.27	-2.31	-0.01	-0.014	-3.690	-3.654
			2.2500	-46.18	-2.31	-0.01	-0.014	-3.679	1.532
			4.5000	-41.09	-2.31	-0.01	-0.014	-3.667	6.719
CUBIERTA	C6	DIS2X MAX							
			0.0000	-36.61	3.42	4.36	0.135	8.586	9.725
			2.2500	-31.52	3.42	4.36	0.135	-1.187	2.025
			4.5000	-26.43	3.42	4.36	0.135	3.501	15.705
CUBIERTA	C6	DIS2X MIN	0.0000	-53.01	-6.86	-3.84	-0.168	-13.775	-15.145
			2.2500	-47.93	-6.86	-3.84	-0.168	-5.171	0.275
			4.5000	-42.84	-6.86	-3.84	-0.168	-11.029	-5.684
CUBIERTA	C6	DIS2Y MAX	0.0000	-27.52	-0.11	13.29	0.186	32.702	1.102
			2.2500	-22.43	-0.11	13.29	0.186	2.797	1.498
			4.5000	-17.34	-0.11	13.29	0.186	19.583	8.455
CUBIERTA	C6	DIS2Y MIN							
			0.0000	-62.10	-3.32	-12.77	-8.219	-37.890	-6.523

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			2.2500	-57.02	-3.32	-12.77	-0.219	-9.155	0.802
			4.5000	-51.93	-3.32	-12.77	-0.219	-27.110	1.567
CUBIERTA	C6	DIS3X MAX	0.0000	-22.50	4.09	4.33	0.139	9.530	10.776
			2.2500	-18.69	4.09	4.33	0.139	-0.195	1.587
			4.5000	-14.87	4.09	4.33	0.139	4.541	13.778
CUBIERTA	C6	DIS3X MIN							
			0.0000	-38.90	-6.19	-3.86	-0.165	-12.831	-14.094
			2.2500	-35.09	-6.19	-3.86	-0.165	-4.179	-0.163
			4.5000	-31.27	-6.19	-3.86	-0.165	-9.989	-7.611
CUBIERTA	C6	DIS3Y MAX	0.0000	-13.41	0.55	13.27	0.190	33.646	2.154
			2.2500	-9.60	0.55	13.27	0.190	3.789	1.060
			4.5000	-5.28	0.55	13.27	0.190	20.622	6.528
CUBIERTA	C6	DIS3Y MIN	0.0000	-47.99	-2.66	-12.79	-0.216	-36.946	-5.472
			2.2500	-44.18	-2.66	-12.79	-0.216	-8.163	0.364
			4.5000	-40.36	-2.66	-12.79	-0.216	-26.070	-0.361
CUBIERTA	C7	DIS1A							
			0.0000	-45.50	2.13	-0.39	-0.016	-3.936	3.533
			2.2500	-40.41	2.13	-0.39	-0.016	-3.061	-1.251
			4.5000	-35.32	2.13	-0.39	-0.016	-2.186	-6.036
CUBIERTA	C7	DIS1B							
			0.0000	-49.49	2.56	-0.68	-0.013	-4.883	4.242
			2.2500	-44.40	2.56	-0.68	-0.013	-3.345	-1.511
			4.5000	-39.32	2.56	-0.68	-0.013	-1.808	-2.264
CUBIERTA	C7	DIS2X MAX							
			0.0000	-36.10	6.97	3.61	0.141	6.987	15.480
			2.2500	-31.01	6.97	3.61	0.141	-1.137	-0.193
			4.5000	-25.92	6.97	3.61	0.141	4.888	4.933
CUBIERTA	C7	DIS2X MIN	0.0000	-50.35	-3.11	-4.27	-0.174	-14.313	-9.063
			2.2500	-45.27	-3.11	-4.27	-0.174	-4.713	-2.070
			4.5000	-40.18	-3.11	-4.27	-0.174	-9.262	-15.876
CUBIERTA	C7	DIS2Y MAX							
			0.0000	-26.03	3.47	12.70	0.188	31.551	6.916
			2.2500	-20.94	3.47	12.70	0.188	2.980	-0.751
			4.5000	-15.85	3.47	12.70	0.188	21.217	-2.205
CUBIERTA	C7	DIS2Y MIN							
			0.0000	-60.43	0.39	-13.35	-0.222	-38.878	-0.499
			2.2500	-55.34	0.39	-13.35	-0.222	-8.830	-1.511
			4.5000	-50.25	0.39	-13.35	-0.222	-25.592	-8.738
CUBIERTA	C7	DIS3X MAX	0.0000	-22.46	6.24	3.77	0.144	8.243	14.273
			2.2500	-18.64	6.24	3.77	0.144	-0.236	0.240
			4.5000	-14.82	6.24	3.77	0.144	5.433	7.006
CUBIERTA	C7	DIS3X MIN							
			0.0000	-36.71	-3.84	-4.11	-0.171	-13.057	-10.270
			2.2500	-32.89	-3.84	-4.11	-0.171	-3.812	-1.637
			4.5000	-29.08	-3.84	-4.11	-0.171	-8.716	-13.803
CUBIERTA	C7	DIS3Y MAX							
			0.0000	-12.38	2.74	12.86	0.191	32.807	5.709
			2.2500	-8.57	2.74	12.86	0.191	3.881	-0.319
			4.5000	-4.75	2.74	12.86	0.191	21.763	-0.132
CUBIERTA	C7	DIS3Y MIN	0.0000	-46.79	-0.34	-13.20	-0.219	-37.621	-1.706
			2.2500	-42.97	-0.34	-13.20	-0.219	-7.929	-1.079
			4.5000	-39.15	-0.34	-13.20	-0.219	-25.046	-6.665
CUBIERTA	C8	DIS1A							
			0.0000	-118.75	-0.44	3.07	-0.036	-4.181	-0.401
			2.2500	-109.21	-0.44	3.07	-0.036	-11.083	0.587
			4.5000	-99.67	-0.44	3.07	-0.036	-17.985	1.574
CUBIERTA	C8	DIS1B							
			0.0000	-136.39	-0.79	5.33	-0.033	-2.021	-0.963
			2.2500	-126.85	-0.79	5.33	-0.033	-14.007	0.825
			4.5000	-117.30	-0.79	5.33	-0.033	-25.994	2.613
CUBIERTA	C8	DIS2X MAX							
			0.0000	-102.18	32.40	10.96	0.903	23.642	35.067
			2.2500	-92.63	12.40	10.96	0.903	-1.020	7.175
			4.5000	-83.09	32.40	10.96	0.903	-4.233	23.083
CUBIERTA	C8	DIS2X MIN	0.0000	-122.09	-13.01	-6.54	-0.978	-33.681	-35.447
			2.2500	-112.55	-13.01	-6.54	-0.978	-18.958	-6.182
			4.5000	-103.01	-13.01	-6.54	-0.978	-25.683	-20.718

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CUBIERTA	C8	DIS2Y MAX	0.0000	-101.53	4.02	27.44	0.913	77.726	11.765
			2.2500	-91.99	4.02	27.44	0.913	15.990	2.725
			4.5000	-82.44	4.02	27.44	0.913	15.832	8.687
CUBIERTA	C8	DIS2Y MIN	0.0000	-122.74	-4.63	-23.02	-0.988	-87.766	-12.146
			2.2500	-113.20	-4.63	-23.02	-0.988	-35.968	-1.732
			4.5000	-103.65	-4.63	-23.02	-0.988	-45.748	-6.322
CUBIERTA	C8	DIS3X MAX	0.0000	-65.87	12.64	9.33	0.911	23.848	35.378
			2.2500	-58.71	12.64	9.33	0.911	2.845	6.938
			4.5000	-51.55	12.64	9.33	0.911	3.291	22.299
CUBIERTA	C8	DIS3X MIN	0.0000	-85.78	-12.76	-8.17	-0.970	-33.474	-35.137
			2.2500	-78.62	-12.76	-8.17	-0.970	-15.093	-6.419
			4.5000	-71.47	-12.76	-8.17	-0.970	-18.159	-21.503
CUBIERTA	C8	DIS3Y MAX	0.0000	-65.22	4.26	25.81	0.921	77.933	12.076
			2.2500	-58.06	4.26	25.81	0.921	19.855	2.487
			4.5000	-50.90	4.26	25.81	0.921	23.356	7.902
CUBIERTA	C8	DIS3Y MIN	0.0000	-86.43	-4.39	-24.65	-0.980	-87.559	-11.835
			2.2500	-79.27	-4.39	-24.65	-0.980	-32.103	-1.969
			4.5000	-72.12	-4.39	-24.65	-0.980	-38.224	-7.107
CUBIERTA	C9	DIS1A	0.0000	-135.52	0.45	1.59	-0.061	-6.996	1.025
			2.2500	-125.98	0.45	1.59	-0.061	-10.574	0.023
			4.5000	-116.44	0.45	1.59	-0.061	-14.152	-0.980
CUBIERTA	C9	DIS1B	0.0000	-161.16	0.51	3.94	-0.057	-4.670	1.141
			2.2500	-151.62	0.51	3.94	-0.057	-13.537	-0.006
			4.5000	-142.08	0.51	3.94	-0.057	-22.405	-1.153
CUBIERTA	C9	DIS2X MAX	0.0000	-122.38	17.04	8.20	0.615	17.036	42.534
			2.2500	-112.84	17.04	8.20	0.615	-1.424	4.188
			4.5000	-103.30	17.04	8.20	0.615	-1.827	32.333
CUBIERTA	C9	DIS2X MIN	0.0000	-129.20	-16.20	-6.93	-0.738	-33.019	-40.578
			2.2500	-119.65	-16.20	-6.93	-0.738	-17.423	-4.122
			4.5000	-110.11	-16.20	-6.93	-0.738	-19.885	-34.158
CUBIERTA	C9	DIS2Y MAX	0.0000	-115.85	6.03	25.08	0.765	72.888	15.011
			2.2500	-106.30	6.03	25.08	0.765	16.451	1.444
			4.5000	-96.76	6.03	25.08	0.765	18.275	10.298
CUBIERTA	C9	DIS2Y MIN	0.0000	-135.73	-5.19	-23.81	-0.888	-88.870	-13.055
			2.2500	-126.19	-5.19	-23.81	-0.888	-35.298	-1.378
			4.5000	-116.65	-5.19	-23.81	-0.888	-39.987	-12.123
CUBIERTA	C9	DIS3X MAX	0.0000	-78.77	16.91	6.85	0.629	17.790	42.231
			2.2500	-71.62	16.91	6.85	0.629	2.370	4.193
			4.5000	-64.46	16.91	6.85	0.629	5.006	32.646
CUBIERTA	C9	DIS3X MIN	0.0000	-85.58	-16.34	-8.28	-0.724	-32.265	-40.880
			2.2500	-78.43	-16.34	-8.28	-0.724	-13.630	-4.117
			4.5000	-71.27	-16.34	-8.28	-0.724	-13.051	-33.845
CUBIERTA	C9	DIS3Y MAX	0.0000	-72.24	5.89	23.73	0.779	73.641	14.709
			2.2500	-65.08	5.89	23.73	0.779	20.244	1.449
			4.5000	-57.92	5.89	23.73	0.779	25.109	10.611
CUBIERTA	C9	DIS3Y MIN	0.0000	-92.12	-5.33	-25.16	-0.874	-88.117	-13.358
			2.2500	-84.96	-5.33	-25.16	-0.874	-31.504	-1.374
			4.5000	-77.81	-5.33	-25.16	-0.874	-33.153	-11.810
CUBIERTA	C10	DIS1A	0.0000	-139.40	0.30	3.78	-0.035	-3.880	0.789
			2.2500	-129.86	0.30	3.78	-0.035	-12.377	0.118
			4.5000	-120.32	0.30	3.78	-0.035	-20.874	-0.553
CUBIERTA	C10	DIS1B	0.0000	-168.54	0.30	8.40	-0.023	2.129	0.807
			2.2500	-158.99	0.30	8.40	-0.023	-16.770	0.128
			4.5000	-149.45	0.30	8.40	-0.023	-35.668	-0.551
CUBIERTA	C10	DIS2X MAX	0.0000	-125.34	15.94	9.50	0.593	18.330	40.753
			2.2500	-115.80	15.94	9.50	0.593	-3.048	4.880

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COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
CUBIERTA	C10	DIS2X MIN	4.5000						
			0.0000	-106.26	15.94	9.50	0.593	-6.202	29.894
			2.2500	-131.59	-15.35	-5.43	-0.670	-30.630	-39.197
			4.5000	-122.04	-15.35	-5.43	-0.670	-18.416	-4.651
				-112.50	-15.35	-5.43	-0.670	-24.426	-30.993
CUBIERTA	C10	DIS2Y MAX							
			0.0000	-118.08	5.60	26.89	0.770	75.345	14.316
			2.2500	-108.53	5.60	26.89	0.770	14.850	1.718
			4.5000	-98.99	5.60	26.89	0.770	15.017	9.782
CUBIERTA	C10	DIS2Y MIN	0.0000	-138.85	-5.01	-22.81	-0.847	-87.645	-12.760
			2.2500	-129.31	-5.01	-22.81	-0.847	-36.314	-1.489
			4.5000	-119.77	-5.01	-22.81	-0.847	-45.645	-10.882
CUBIERTA	C10	DIS3X MAX	0.0000	-79.56	15.87	6.82	0.597	17.030	40.545
			2.2500	-72.40	15.87	6.82	0.597	1.692	4.847
			4.5000	-65.25	15.87	6.82	0.597	4.577	30.036
CUBIERTA	C10	DIS3X MIN							
			0.0000	-85.80	-15.43	-8.11	-0.665	-31.930	-39.405
			2.2500	-78.65	-15.43	-8.11	-0.665	-13.676	-4.685
			4.5000	-71.49	-15.43	-8.11	-0.665	-13.647	-30.852
CUBIERTA	C10	DIS3Y MAX							
			0.0000	-72.29	5.52	24.20	0.775	74.045	14.109
			2.2500	-65.13	5.52	24.20	0.775	19.590	1.685
CUBIERTA	C10	DIS3Y MIN	4.5000	-57.98	5.52	24.20	0.775	25.796	9.924
			0.0000	-93.07	-5.09	-25.50	-0.843	-88.945	-12.968
			2.2500	-85.91	-5.09	-25.50	-0.843	-31.574	-1.522
			4.5000	-78.76	-5.09	-25.50	-0.843	-34.866	-10.740
CUBIERTA	C11	DIS1A							
			0.0000	-138.44	0.52	3.73	0.011	-4.023	1.155
			2.2500	-128.89	0.52	3.73	0.011	-12.422	-0.017
			4.5000	-119.35	0.52	3.73	0.011	-20.820	-1.188
CUBIERTA	C11	DIS1B							
			0.0000	-167.79	0.52	8.45	0.036	2.277	1.162
			2.2500	-158.25	0.52	8.45	0.036	-16.743	-0.001
			4.5000	-148.70	0.52	8.45	0.036	-35.763	-1.163
CUBIERTA	C11	DIS2X MAX							
			0.0000	-123.84	16.95	9.88	0.650	19.503	42.392
			2.2500	-114.30	16.95	9.88	0.650	-2.732	4.261
			4.5000	-104.76	16.95	9.88	0.650	-5.461	31.478
CUBIERTA	C11	DIS2X MIN							
			0.0000	-131.00	-15.90	-5.96	-0.645	-32.288	-40.091
			2.2500	-121.46	-15.90	-5.96	-0.645	-18.874	-4.307
			4.5000	-111.92	-15.90	-5.96	-0.645	-24.967	-33.870
CUBIERTA	C11	DIS2Y MAX							
			0.0000	-116.76	6.08	27.04	0.825	75.620	15.096
			2.2500	-107.22	6.08	27.04	0.825	14.769	1.422
			4.5000	-97.68	6.08	27.04	0.825	15.654	9.859
CUBIERTA	C11	DIS2Y MIN							
			0.0000	-138.08	-5.03	-23.12	-0.821	-88.404	-12.796
			2.2500	-128.54	-5.03	-23.12	-0.821	-36.375	-1.468
			4.5000	-119.00	-5.03	-23.12	-0.821	-46.081	-12.252
CUBIERTA	C11	DIS3X MAX	0.0000	-78.22	16.82	7.18	0.638	18.140	42.098
			2.2500	-71.06	16.82	7.18	0.638	1.992	4.258
CUBIERTA	C11	DIS3X MIN	4.5000	-63.91	16.82	7.18	0.638	5.350	31.767
			0.0000	-85.38	-16.03	-8.67	-0.657	-33.652	-40.385
			2.2500	-78.22	-16.03	-8.67	-0.657	-14.151	-4.309
			4.5000	-71.07	-16.03	-8.67	-0.657	-14.155	-33.581
CUBIERTA	C11	DIS3Y MAX							
			0.0000	-71.14	5.95	24.34	0.814	74.256	14.803
			2.2500	-63.98	5.95	24.34	0.814	19.493	1.420
CUBIERTA	C11	DIS3Y MIN	4.5000	-56.82	5.95	24.34	0.814	26.465	10.149
			0.0000	-92.46	-5.16	-25.83	-0.833	-89.768	-13.090
			2.2500	-85.31	-5.16	-25.83	-0.833	-31.651	-1.471
			4.5000	-78.15	-5.16	-25.83	-0.833	-35.270	-11.963
CUBIERTA	C12	DIS1A							
			0.0000	-126.91	-0.76	3.05	0.004	-4.973	-0.913
			2.2500	-117.37	-0.76	3.05	0.004	-11.836	0.787
			4.5000	-107.83	-0.76	3.05	0.004	-18.698	2.487
CUBIERTA	C12	DIS1B							
			0.0000	-145.97	-0.58	5.76	0.029	-1.715	-0.610
			2.2500	-136.43	-0.58	5.76	0.029	-14.669	0.686

C O L U M N F O R C E S

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			4.5000	-126.89	-0.58	5.76	0.029	-27.623	1.983
CUBIERTA	C12	DIS2X MAX							
			0.0000	-109.41	11.94	11.27	0.991	23.963	34.347
			2.2500	-99.87	11.94	11.27	0.991	-1.402	7.478
			4.5000	-90.33	11.94	11.27	0.991	-3.916	24.746
CUBIERTA	C12	DIS2X MIN							
			0.0000	-130.10	-13.59	-7.21	-1.000	-36.366	-36.404
			2.2500	-120.56	-13.59	-7.21	-1.000	-20.142	-5.829
			4.5000	-111.02	-13.59	-7.21	-1.000	-26.768	-19.391
CUBIERTA	C12	DIS2Y MAX							
			0.0000	-108.78	3.51	27.44	0.976	76.839	10.943
			2.2500	-99.24	3.51	27.44	0.976	15.096	3.049
			4.5000	-89.70	3.51	27.44	0.976	15.963	10.202
CUBIERTA	C12	DIS2Y MIN	0.0000	-130.74	-5.16	-23.38	-0.985	-89.242	-13.000
			2.2500	-121.19	-5.16	-23.38	-0.985	-36.640	-1.400
			4.5000	-111.65	-5.16	-23.38	-0.985	-46.648	-4.847
CUBIERTA	C12	DIS3X MAX							
			0.0000	-70.53	12.06	9.49	0.981	23.978	34.459
			2.2500	-63.38	12.06	9.49	0.981	2.620	7.319
			4.5000	-56.22	12.06	9.49	0.981	4.114	24.314
CUBIERTA	C12	DIS3X MIN							
			0.0000	-91.22	-13.47	-8.99	-1.010	-36.351	-36.291
			2.2500	-84.06	-13.47	-8.99	-1.010	-16.119	-5.989
			4.5000	-76.91	-13.47	-8.99	-1.010	-18.738	-19.822
CUBIERTA	C12	DIS3Y MAX							
			0.0000	-69.90	3.63	25.66	0.966	76.854	11.056
			2.2500	-62.74	3.63	25.66	0.966	19.119	2.890
			4.5000	-55.59	3.63	25.66	0.966	23.993	9.771
CUBIERTA	C12	DIS3Y MIN							
			0.0000	-91.85	-5.04	-25.16	-0.995	-89.227	-12.888
			2.2500	-84.70	-5.04	-25.16	-0.995	-32.618	-1.560
			4.5000	-77.54	-5.04	-25.16	-0.995	-38.618	-5.278

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C O N C R E T E C O L U M N C H E C K O U T P U T (ACI 318-08/IBC 2009)

BIAXIAL P-M INTERACTION CAPACITY CHECK AND SHEAR DESIGN OF COLUMN-TYPE ELEMENTS

STORY ID	COLUMN LINE	SECTION ID	STATION ID	INTERACTION RATIO	COMBO ID	SHEAR22 REBAR	COMBO ID	SHEAR33 REBAR	COMBO ID
CUBIERTA	C1	C30X50B	0.000	0.553	DIS2Y	0.040	DIS3Y	0.027	DIS2Y
CUBIERTA	C1	C30X50B	225.000	0.159	DIS2Y	0.040	DIS3Y	0.027	DIS2Y
CUBIERTA	C1	C30X50B	450.000	0.346	DIS2X	0.040	DIS3Y	0.027	DIS2Y
CUBIERTA	C2	C30X50C	0.000	0.473	DIS2X	0.069	DIS3Y	0.026	DIS3Y
CUBIERTA	C2	C30X50C	225.000	0.172	DIS2Y	0.069	DIS3Y	0.026	DIS3Y
CUBIERTA	C2	C30X50C	450.000	0.858					
CUBIERTA	C3	C30X50C	0.000	0.455	DIS2X	0.054	DIS3Y	0.025	DIS3Y
CUBIERTA	C3	C30X50C	225.000	0.165	DIS2Y	0.054	DIS3Y	0.025	DIS3Y
CUBIERTA	C3	C30X50C	450.000	0.332	DIS3X	0.054	DIS3Y	0.025	DIS3Y
CUBIERTA	C4	C30X50C	0.000	0.453	DIS2X	0.054	DIS3Y	0.024	DIS3Y
CUBIERTA	C4	C30X50C	225.000	0.168	DIS2Y	0.054	DIS3Y	0.024	DIS3Y
CUBIERTA	C4	C30X50C	450.000	0.341	DIS3X	0.054	DIS3Y	0.024	DIS3Y
CUBIERTA	C5	C30X50B	0.000	0.528	DIS2Y	0.047	DIS3Y	0.026	DIS2Y
CUBIERTA	C5	C30X50B	225.000	0.162	DIS2Y	0.047	DIS3Y	0.026	DIS2Y
CUBIERTA	C5	C30X50B	450.000	0.295	DIS3X	0.047	DIS3Y	0.026	DIS2Y
CUBIERTA	C6	C20X40	0.000	0.487	DIS2Y	0.026	DIS3Y	0.015	DIS2Y
CUBIERTA	C6	C20X40	225.000	0.116	DIS2Y	0.026	DIS3Y	0.015	DIS2Y
CUBIERTA	C6	C20X40	450.000	0.462	DIS2X	0.026	DIS3Y	0.015	DIS2Y
CUBIERTA	C7	C20X40	0.000	0.504	DIS2Y	0.026	DIS3Y	0.015	DIS2Y
CUBIERTA	C7	C20X40	225.000	0.113	DIS2Y	0.026	DIS3Y	0.015	DIS2Y
CUBIERTA	C7	C20X40	450.000	0.458	DIS2X	0.026	DIS3Y	0.015	DIS2Y
CUBIERTA	C8	C30X50A	0.000	0.602	DIS3Y	0.039	DIS3Y	0.024	DIS2Y
CUBIERTA	C8	C30X50A	225.000	0.176	DIS3Y	0.039	DIS3Y	0.024	DIS2Y
CUBIERTA	C8	C30X50A	450.000	0.275	DIS2X	0.039	DIS3Y	0.024	DIS2Y
CUBIERTA	C9	C30X50B	0.000	0.515	DIS3Y	0.048	DIS3Y	0.022	DIS3Y
CUBIERTA	C9	C30X50B	225.000	0.157	DIS2Y	0.048	DIS3Y	0.022	DIS3Y
CUBIERTA	C9	C30X50B	450.000	0.331	DIS3X	0.048	DIS3Y	0.022	DIS3Y
CUBIERTA	C10	C30X50B	0.000	0.517	DIS3Y	0.048	DIS3Y	0.024	DIS2Y

CONCRETE COLUMN CHECK OUTPUT (ACI 318-08/IBC 2009)

BIAXIAL P-M INTERACTION CAPACITY CHECK AND SHEAR DESIGN OF COLUMN-TYPE ELEMENTS

STORY ID	COLUMN LINE	SECTION ID	STATION ID	INTERACTION RATIO	COMBO ID	SHEAR22 REBAR	COMBO ID	SHEAR33 REBAR	COMBO ID
CUBIERTA	C10	C30X50B	225.000	0.162	DIS2Y	0.048	DIS3Y	0.024	DIS2Y
CUBIERTA	C10	C30X50B	450.000	0.303	DIS2X	0.048	DIS3Y	0.024	DIS2Y
CUBIERTA	C11	C30X50D	0.000	0.526	DIS3Y	0.048	DIS3Y	0.024	DIS2Y
CUBIERTA	C11	C30X50B	225.000	0.162	DIS2Y	0.048	DIS3Y	0.024	DIS2Y
CUBIERTA	C11	C30X50B	450.000	0.330	DIS3X	0.048	DIS3Y	0.024	DIS2Y
CUBIERTA	C12	C30X50A	0.000	0.613	DIS3Y	0.045	DIS3Y	0.024	DIS2Y
CUBIERTA	C12	C30X50A	225.000	0.176	DIS3Y	0.045	DIS3Y	0.024	DIS2Y
CUBIERTA	C12	C30X50A	450.000	0.292	DIS2X	0.045	DIS3Y	0.024	DIS2Y

CONCRETE COLUMN JOINT OUTPUT (ACI 318-08/IBC 2009)

BEAM TO COLUMN CAPACITY RATIOS AND JOINT SHEAR CAPACITY CHECK

STORY ID	COLUMN LINE	SECTION ID	<-(6/5)BEAM-COLUMN CAPACITY RATIOS-> MAJOR	COMBO	MINOR	COMBO	<--JOINT SHEAR CAPACITY RATIOS----> MAJOR	COMBO	MINOR	COMBO
CUBIERTA	C1	C30X50B	0.710	DIS3Y	0.880	DIS3Y	0.342	DIS2X	0.613	DIS2X
CUBIERTA	C2	C30X50C	0.858							
CUBIERTA	C3	C30X50C	0.827	DIS3Y	0.901	DIS3Y	0.459	DIS2X	0.740	DIS2X
CUBIERTA	C4	C30X50C	0.824	DIS3Y	0.907	DIS3Y	0.459	DIS2X	0.750	DIS2X
CUBIERTA	C5	C30X50B	0.818	DIS3Y	0.924	DIS3Y	0.397	DIS2X	0.652	DIS2X
CUBIERTA	C6	C20X40	0.762	DIS3Y	0.460	DIS3Y	0.253	DIS2X	0.346	DIS2X
CUBIERTA	C7	C20X40	0.764	DIS3Y	0.461	DIS3Y	0.253	DIS2X	0.346	DIS2X
CUBIERTA	C8	C30X50A	0.865	DIS3Y	0.635	DIS3Y	0.333	DIS2X	0.351	DIS2X
CUBIERTA	C9	C30X50B	0.858	DIS3Y	0.544	DIS3Y	0.405	DIS2X	0.369	DIS2X
CUBIERTA	C10	C30X50B	0.858	DIS3Y	0.588	DIS3Y	0.406	DIS2X	0.401	DIS2X
CUBIERTA	C11	C30X50B	0.854	DIS3Y	0.590	DIS3Y	0.404	DIS2X	0.403	DIS2X
CUBIERTA	C12	C30X50A	0.992	DIS3Y	0.645	DIS3Y	0.378	DIS2X	0.358	DIS2X

8.1.6.4. Zona intermedia, Suelo Tipo AB

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C O L U M N F O R C E S

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
CUBIERTA	C1	DIS1A							
			0.0000	-151.88	-3.48	-4.87	-0.058	-16.882	-5.356
			2.2500	-142.33	-3.48	-4.87	-0.058	-5.934	2.475
			4.5000	-132.79	-3.48	-4.87	-0.058	5.014	10.306
CUBIERTA	C1	DIS1B							
			0.0000	-172.88	-3.98	-7.83	-0.052	-23.078	-6.123
			2.2500	-163.33	-3.98	-7.83	-0.052	-5.463	2.843
			4.5000	-153.79	-3.98	-7.83	-0.052	12.151	11.809
CUBIERTA	C1	DIS2X MAX							
			0.0000	-138.79	5.17	0.96	0.354	0.193	17.851
			2.2500	-129.25	5.17	0.96	0.354	-1.955	6.232
			4.5000	-119.70	5.17	0.96	0.354	8.773	24.740
CUBIERTA	C1	DIS2X MIN							
			0.0000	-149.06	-11.70	-8.46	-0.474	-29.316	-27.911
			2.2500	-139.52	-11.70	-8.46	-0.474	-10.290	-1.590
			4.5000	-129.97	-11.70	-8.46	-0.474	-4.142	-5.397
CUBIERTA	C1	DIS2Y MAX							
			0.0000	-136.81	-0.68	9.20	0.365	26.561	1.912
			2.2500	-127.27	-0.68	9.20	0.365	5.864	3.575
			4.5000	-117.72	-0.68	9.20	0.365	19.467	14.451
CUBIERTA	C1	DIS2Y MIN							
			0.0000	-151.04	-5.86	-16.70	-0.486	-55.684	-11.971
			2.2500	-141.50	-5.86	-16.70	-0.486	-18.110	1.067
			4.5000	-131.95	-5.86	-16.70	-0.486	-14.836	4.892
CUBIERTA	C1	DIS3X MAX	0.0000	-92.87	6.25	3.29	0.367	6.734	19.516
			2.2500	-85.71	6.25	3.29	0.367	-0.661	5.459
			4.5000						
CUBIERTA	C1	DIS3X MIN		-78.56	6.25	3.29	0.367	4.821	21.529
			0.0000	-103.14	-10.62	-6.13	-0.462	-22.775	-26.245
			2.2500	-95.98	-10.62	-6.13	-0.462	-8.996	-2.363
			4.5000	-88.82	-10.62	-6.13	-0.462	-8.094	-8.608
CUBIERTA	C1	DIS3Y MAX							
			0.0000	-90.89	0.41	11.53	0.378	33.102	3.577
			2.2500	-83.73	0.41	11.53	0.378	7.158	2.802
			4.5000						
CUBIERTA	C1	DIS3Y MIN		-76.58	0.41	11.53	0.378	15.515	11.240
			0.0000	-105.12	-4.77	-14.37	-0.473	-49.143	-10.306
			2.2500	-97.96	-4.77	-14.37	-0.473	-16.815	0.295
			4.5000	-90.80	-4.77	-14.37	-0.473	-18.788	1.682
CUBIERTA	C2	DIS1A							
			0.0000	-219.05	0.70	-0.59	-0.061	-10.476	1.411
			2.2500	-209.51	0.70	-0.59	-0.061	-9.149	-0.167
			4.5000	-199.97	0.70	-0.59	-0.061	-7.821	-1.746
CUBIERTA	C2	DIS1B							
			0.0000	-237.80	0.85	-1.48	-0.052	-13.310	1.698
			2.2500	-228.25	0.85	-1.48	-0.052	-9.987	-0.211
			4.5000	-218.71	0.85	-1.48	-0.052	-6.664	-2.120
CUBIERTA	C2	DIS2X MAX							
			0.0000	-204.20	11.39	4.33	0.248	4.169	27.954
			2.2500	-194.66	11.39	4.33	0.248	-5.559	2.328
			4.5000	-185.11	11.39	4.33	0.248	-2.310	20.096
CUBIERTA	C2	DIS2X MIN	0.0000	-215.81	-10.10	-4.46	-0.375	-22.407	-25.352
			2.2500	-206.27	-10.10	-4.46	-0.375	-12.370	-2.628
			4.5000	-196.72	-10.10	-4.46	-0.375	-15.309	-23.299
CUBIERTA	C2	DIS2Y MAX							
			0.0000	-192.86	3.91	14.17	0.318	33.772	9.384
			2.2500	-183.32	3.91	14.17	0.318	1.884	0.594
			4.5000	-173.77	3.91	14.17	0.318	12.386	4.998
CUBIERTA	C2	DIS2Y MIN							
			0.0000	-227.15	-2.62	-14.31	-0.445	-52.011	-6.782
			2.2500	-217.60	-2.62	-14.31	-0.445	-19.813	-0.895
			4.5000	-208.06	-2.62	-14.31	-0.445	-30.005	-8.202
CUBIERTA	C2	DIS3X MAX							
			0.0000	-140.38	11.16	5.00	0.260	8.144	27.491
			2.2500	-133.23	11.16	5.00	0.260	-3.088	2.386
			4.5000	-126.07	11.16	5.00	0.260	-1.343	20.676
CUBIERTA	C2	DIS3X MIN							
			0.0000	-152.00	-10.33	-3.80	-0.363	-18.432	-25.815

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STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-144.84	-10.33	-3.80	-0.363	-9.899	-2.570
			4.5000	-137.68	-10.33	-3.80	-0.363	-14.343	-22.719
CUBIERTA	C2	DIS3Y MAX	0.0000	-129.05	3.68	14.84	0.330	37.748	8.921
			2.2500	-121.89	3.68	14.84	0.330	4.355	0.653
			4.5000	-114.73	3.68	14.84	0.330	13.353	5.578
CUBIERTA	C2	DIS3Y MIN							
			0.0000	-163.33	-2.85	-13.64	-0.433	-48.036	-7.246
			2.2500	-156.18	-2.85	-13.64	-0.433	-17.342	-0.837
			4.5000	-149.02	-2.85	-13.64	-0.433	-29.038	-7.621
CUBIERTA	C3	DIS1A							
			0.0000	-190.02	0.84	-2.52	-0.031	-13.912	1.625
			2.2500	-180.47	0.84	-2.52	-0.031	-8.247	-0.267
			4.5000	-170.93	0.84	-2.52	-0.031	-2.583	-2.159
CUBIERTA	C3	DIS1B							
			0.0000	-224.69	0.85	-7.12	-0.012	-22.621	1.685
			2.2500	-215.14	0.85	-7.12	-0.012	-6.597	-0.227
			4.5000	-205.60	0.85	-7.12	-0.012	9.426	-2.139
CUBIERTA	C3	DIS2X MAX	0.0000	-174.69	10.97	3.03	0.271	1.491	27.261
			2.2500	-165.15	10.97	3.03	0.271	-5.317	2.591
			4.5000						
CUBIERTA	C3	DIS2X MIN		-155.61	10.97	3.03	0.271	-2.081	17.859
			0.0000	-179.15	-9.33	-4.60	-0.345	-22.782	-24.118
			2.2500	-169.61	-9.33	-4.60	-0.345	-12.432	-3.132
			4.5000	-160.07	-9.33	-4.60	-0.345	-12.127	-22.084
CUBIERTA	C3	DIS2Y MAX							
			0.0000	-169.49	3.93	11.91	0.343	29.750	9.403
			2.2500	-159.95	3.93	11.91	0.343	2.960	0.624
			4.5000						
CUBIERTA	C3	DIS2Y MIN		-150.41	3.93	11.91	0.343	9.623	4.099
			0.0000	-184.35	-2.30	-13.48	-0.417	-51.041	-6.261
			2.2500	-174.80	-2.30	-13.48	-0.417	-20.710	-1.165
			4.5000	-165.26	-2.30	-13.48	-0.417	-23.830	-8.325
CUBIERTA	C3	DIS3X MAX							
			0.0000	-114.09	10.73	5.39	0.272	8.235	26.801
			2.2500	-106.93	10.73	5.39	0.272	-3.883	2.654
			4.5000	-99.78	10.73	5.39	0.272	-5.956	18.445
CUBIERTA	C3	DIS3X MIN							
			0.0000	-118.55	-9.56	-2.24	-0.344	-16.038	-24.578
			2.2500	-111.39	-9.56	-2.24	-0.344	-10.998	-3.069
			4.5000	-104.24	-9.56	-2.24	-0.344	-16.002	-21.497
CUBIERTA	C3	DIS3Y MAX	0.0000	-108.89	3.70	14.27	0.344	36.494	8.943
			2.2500	-101.74	3.70	14.27	0.344	4.394	0.687
			4.5000	-94.58	3.70	14.27	0.344	5.747	4.686
CUBIERTA	C3	DIS3Y MIN							
			0.0000	-123.75	-2.53	-11.12	-0.416	-44.297	-6.721
			2.2500	-116.59	-2.53	-11.12	-0.416	-19.275	-1.102
			4.5000	-109.43	-2.53	-11.12	-0.416	-27.706	-7.738
CUBIERTA	C4	DIS1A							
			0.0000	-189.94	-0.05	-2.06	0.003	-13.250	0.175
			2.2500	-180.39	-0.05	-2.06	0.003	-8.621	0.277
			4.5000	-170.85	-0.05	-2.06	0.003	-3.993	0.380
CUBIERTA	C4	DIS1B							
			0.0000	-225.46	-0.06	-6.69	0.022	-21.871	0.199
			2.2500	-215.92	-0.06	-6.69	0.022	-6.815	0.330
			4.5000	-206.37	-0.06	-6.69	0.022	8.241	0.460
CUBIERTA	C4	DIS2X MAX							
			0.0000	-174.13	10.47	3.51	0.356	2.532	26.434
			2.2500	-164.58	10.47	3.51	0.356	-5.356	2.866
			4.5000	-155.04	10.47	3.51	0.356	-3.892	21.391
CUBIERTA	C4	DIS2X MIN							
			0.0000	-179.12	-10.55	-4.15	-0.363	-22.579	-26.098
			2.2500	-169.58	-10.55	-4.15	-0.363	-13.246	-2.354
			4.5000	-160.04	-10.55	-4.15	-0.363	-13.264	-20.703
CUBIERTA	C4	DIS2Y MAX							
			0.0000	-171.81	3.14	11.81	0.401	29.547	8.115
			2.2500	-162.27	3.14	11.81	0.401	2.982	1.046
			4.5000	-152.73	3.14	11.81	0.401	6.427	6.715
CUBIERTA	C4	DIS2Y MIN	0.0000	-181.43	-3.22	-12.45	-0.409	-49.594	-7.779
			2.2500	-171.89	-3.22	-12.45	-0.409	-21.584	-0.534
			4.5000	-162.35	-3.22	-12.45	-0.409	-23.584	-6.027

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CUBIERTA	C4	DIS3X MAX	0.0000	-113.33	10.49	5.76	0.348	9.071	26.384
			2.2500	-106.17	10.49	5.76	0.348	-3.880	2.775
			4.5000	-99.01	10.49	5.76	0.348	-7.480	21.259
CUBIERTA	C4	DIS3X MIN	0.0000	-118.32	-10.53	-1.90	-0.371	-16.040	-26.148
			2.2500	-111.17	-10.53	-1.90	-0.371	-11.771	-2.444
			4.5000	-104.01	-10.53	-1.90	-0.371	-16.852	-20.835
CUBIERTA	C4	DIS3Y MAX	0.0000	-111.01	3.16	14.06	0.394	36.087	8.065
			2.2500	-103.86	3.16	14.06	0.394	4.458	0.955
			4.5000	-96.70	3.16	14.06	0.394	2.840	6.583
CUBIERTA	C4	DIS3Y MIN	0.0000	-120.64	-3.20	-10.20	-0.416	-43.055	-7.829
			2.2500	-113.48	-3.20	-10.20	-0.416	-20.108	-0.625
			4.5000	-106.32	-3.20	-10.20	-0.416	-27.172	-6.159
CUBIERTA	C5	DIS1A	0.0000	-160.80	1.69	-5.02	0.003	-17.894	2.982
			2.2500	-151.25	1.69	-5.02	0.003	-6.593	-0.820
			4.5000	-141.71	1.69	-5.02	0.003	4.709	-4.621
CUBIERTA	C5	DIS1B	0.0000	-183.52	2.14	-8.07	0.015	-23.841	3.750
			2.2500	-173.98	2.14	-8.07	0.015	-5.680	-1.055
			4.5000	-164.44	2.14	-8.07	0.015	12.481	-5.860
CUBIERTA	C5	DIS2X MAX	0.0000	-147.40	9.97	0.90	0.448	-0.401	25.583
			2.2500	-137.86	9.97	0.90	0.448	-2.401	3.144
			4.5000	-128.32	9.97	0.90	0.448	8.042	10.987
CUBIERTA	C5	DIS2X MIN	0.0000	-157.13	-6.93	-8.65	-0.450	-30.923	-20.200
			2.2500	-147.58	-6.93	-8.65	-0.450	-11.474	-4.607
			4.5000	-138.04	-6.93	-8.65	-0.450	-4.468	-19.295
CUBIERTA	C5	DIS2Y MAX	0.0000	-146.89	4.08	8.36	0.446	24.329	9.623
			2.2500	-137.35	4.08	8.36	0.446	5.513	0.437
			4.5000	-127.80	4.08	8.36	0.446	16.883	0.443
CUBIERTA	C5	DIS2Y MIN	0.0000	-157.64	-1.04	-16.12	-0.448	-55.653	-4.240
			2.2500	-148.10	-1.04	-16.12	-0.448	-19.388	-1.900
			4.5000	-138.56	-1.04	-16.12	-0.448	-13.309	-8.752
CUBIERTA	C5	DIS3X MAX	0.0000	-98.67	9.38	3.30	0.443	6.304	24.547
			2.2500	-91.52	9.38	3.30	0.443	-1.097	3.437
			4.5000	-84.36	9.38	3.30	0.443	3.944	12.609
CUBIERTA	C5	DIS3X MIN	0.0000	-108.40	-7.52	-6.25	-0.455	-24.217	-21.236
			2.2500	-101.24	-7.52	-6.25	-0.455	-10.171	-4.314
			4.5000	-94.08	-7.52	-6.25	-0.455	-8.567	-17.673
CUBIERTA	C5	DIS3Y MAX	0.0000	-98.16	3.49	10.76	0.441	31.035	8.587
			2.2500	-91.00	3.49	10.76	0.441	6.817	0.730
			4.5000	-83.84	3.49	10.76	0.441	12.784	2.066
CUBIERTA	C5	DIS3Y MIN	0.0000	-108.91	-1.63	-13.72	-0.453	-48.948	-5.276
			2.2500	-101.75	-1.63	-13.72	-0.453	-18.085	-1.606
			4.5000	-94.60	-1.63	-13.72	-0.453	-17.407	-7.129
CUBIERTA	C6	DIS1A	0.0000	-47.14	-1.90	0.22	-0.016	-2.830	-3.009
			2.2500	-42.05	-1.90	0.22	-0.016	-3.337	1.271
			4.5000	-36.96	-1.90	0.22	-0.016	-3.843	5.551
CUBIERTA	C6	DIS1B	0.0000	-51.27	-2.31	-0.01	-0.014	-3.690	-3.654
			2.2500	-46.18	-2.31	-0.01	-0.014	-3.679	1.532
			4.5000	-41.09	-2.31	-0.01	-0.014	-3.667	6.719
CUBIERTA	C6	BIS2X MAX	0.0000	-40.66	0.97	2.25	0.062	2.832	3.783
			2.2500	-35.57	0.97	2.25	0.062	-2.205	1.607
			4.5000	-30.48	0.97	2.25	0.062	-0.248	10.595
CUBIERTA	C6	DIS2X MIN	0.0000	-48.97	-4.40	-1.73	-0.095	-8.020	-9.204
			2.2500	-43.88	-4.40	-1.73	-0.095	-4.153	0.693
			4.5000	-38.79	-4.40	-1.73	-0.095	-7.280	-0.574
CUBIERTA	C6	DIS2Y MAX	0.0000	-36.49	-0.88	6.53	0.081	14.377	-0.726
			2.2500	-31.40	-0.88	6.53	0.081	-0.305	1.326

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STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			4.5000						
CUBIERTA	C6	DIS2Y MIN		-26.31	-0.88	6.53	0.081	7.461	6.791
			0.0000	-53.14	-2.55	-6.01	-0.114	-19.565	-4.695
			2.2500	-48.05	-2.55	-6.01	-0.114	-6.053	0.975
			4.5000	-42.96	-2.55	-6.01	-0.114	-14.989	3.231
CUBIERTA	C6	DIS3X MAX							
			0.0000	-26.55	1.63	2.22	0.065	3.776	4.835
			2.2500	-22.73	1.63	2.22	0.065	-1.213	1.169
			4.5000	-18.92	1.63	2.22	0.065	0.792	8.668
CUBIERTA	C6	DIS3X MIN	0.0000	-34.86	-3.74	-1.75	-0.091	-7.076	-8.153
			2.2500	-31.04	-3.74	-1.75	-0.091	-3.161	0.255
			4.5000	-27.22	-3.74	-1.75	-0.091	-6.240	-2.501
CUBIERTA	C6	DIS3Y MAX	0.0000	-22.38	-0.22	6.50	0.085	15.321	0.325
			2.2500	-18.56	-0.22	6.50	0.085	0.687	0.888
			4.5000	-14.75	-0.22	6.50	0.085	8.501	4.863
CUBIERTA	C6	DIS3Y MIN							
			0.0000	-39.03	-1.89	-6.03	-0.111	-18.621	-3.643
			2.2500	-35.21	-1.89	-6.03	-0.111	-5.061	0.536
			4.5000	-31.39	-1.89	-6.03	-0.111	-13.949	1.303
CUBIERTA	C7	DIS1A							
			0.0000	-45.50	2.13	-0.39	-0.016	-3.936	3.533
			2.2500	-40.41	2.13	-0.39	-0.016	-3.061	-1.251
			4.5000	-35.32	2.13	-0.39	-0.016	-2.186	-6.036
CUBIERTA	C7	DIS1B							
			0.0000	-49.49	2.56	-0.68	-0.013	-4.883	4.242
			2.2500	-44.40	2.56	-0.68	-0.013	-3.345	-1.511
			4.5000	-39.32	2.56	-0.68	-0.013	-1.808	-7.264
CUBIERTA	C7	DIS2X MAX	0.0000	-39.66	4.56	1.57	0.064	1.465	9.617
			2.2500	-34.57	4.56	1.57	0.064	-2.064	-0.641
			4.5000						
CUBIERTA	C7	DIS2X MIN		-29.48	4.56	1.57	0.064	1.219	-0.039
			0.0000	-46.80	-0.70	-2.22	-0.098	-8.792	-3.200
			2.2500	-41.71	-0.70	-2.22	-0.098	-3.786	-1.621
			4.5000	-36.62	-0.70	-2.22	-0.098	-5.594	-10.905
CUBIERTA	C7	DIS2Y MAX							
			0.0000	-34.95	2.73	5.93	0.082	13.267	5.143
			2.2500	-29.86	2.73	5.93	0.082	-0.086	-0.940
			4.5000	-24.77	2.73	5.93	0.082	9.065	-3.777
CUBIERTA	C7	DIS2Y MIN							
			0.0000	-51.50	1.13	-6.59	-0.116	-20.594	1.275
			2.2500	-46.41	1.13	-6.59	-0.116	-5.764	-1.323
			4.5000	-41.32	1.13	-6.59	-0.116	-13.440	-7.166
CUBIERTA	C7	DIS3X MAX							
			0.0000	-26.01	3.83	1.73	0.067	2.721	8.410
			2.2500	-22.20	3.83	1.73	0.067	-1.163	-0.209
			4.5000	-18.38	3.83	1.73	0.067	1.765	2.035
CUBIERTA	C7	DIS3X MIN							
			0.0000	-33.16	-1.43	-2.07	-0.095	-7.536	-4.407
			2.2500	-29.34	-1.43	-2.07	-0.095	-2.885	-1.189
			4.5000	-25.52	-1.43	-2.07	-0.095	-5.048	-8.831
CUBIERTA	C7	DIS3Y MAX	0.0000	-21.31	2.00	6.09	0.085	14.523	3.935
			2.2500	-17.49	2.00	6.09	0.085	0.815	-0.507
			4.5000						
CUBIERTA	C7	DIS3Y MIN		-13.68	2.00	6.09	0.085	9.611	-1.704
			0.0000	-37.86	0.40	-6.43	-0.113	-19.337	0.067
			2.2500	-34.04	0.40	-6.43	-0.113	-4.863	-0.890
			4.5000	-30.23	0.40	-6.43	-0.113	-12.894	-5.093
CUBIERTA	C8	DIS1A							
			0.0000	-118.75	-0.44	3.07	-0.036	-4.181	-0.401
			2.2500	-109.21	-0.44	3.07	-0.036	-11.083	0.587
			4.5000	-99.67	-0.44	3.07	-0.036	-17.985	1.574
CUBIERTA	C8	DIS1B							
			0.0000	-136.39	-0.79	5.33	-0.033	-2.021	-0.963
			2.2500	-126.85	-0.79	5.33	-0.033	-14.007	0.825
			4.5000	-117.30	-0.79	5.33	-0.033	-25.994	2.613
CUBIERTA	C8	DIS2X MAX							
			0.0000	-106.97	6.33	6.51	0.450	9.070	18.219
			2.2500	-97.43	6.33	6.51	0.450	-5.581	3.983
			4.5000	-87.89	6.33	6.51	0.450	-9.681	12.618
CUBIERTA	C8	DIS2X MIN							
			0.0000	-117.30	-6.94	-2.10	-0.526	-19.110	-18.599
			2.2500	-107.75	-6.94	-2.10	-0.526	-14.396	-2.991

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			4.5000	-98.21	-6.94	-2.10	-0.526	-20.234	-10.252
CUBIERTA	C8	DIS2Y MAX							
			0.0000	-107.00	1.91	14.34	0.423	34.772	5.947
			2.2500	-97.46	1.91	14.34	0.423	2.504	1.643
			4.5000	-87.92	1.91	14.34	0.423	-0.151	5.030
CUBIERTA	C8	DIS2Y MIN							
			0.0000	-117.27	-2.52	-9.92	-0.498	-44.811	-6.328
			2.2500	-107.72	-2.52	-9.92	-0.498	-22.482	-0.650
			4.5000	-98.18	-2.52	-9.92	-0.498	-29.764	-2.665
CUBIERTA	C8	DIS3X MAX							
			0.0000	-70.66	6.57	4.89	0.458	9.277	18.530
			2.2500	-63.51	6.57	4.89	0.458	-1.716	3.746
			4.5000	-56.35	6.57	4.89	0.458	-2.158	11.833
CUBIERTA	C8	DIS3X MIN	0.0000	-80.99	-6.69	-3.72	-0.518	-18.903	-18.288
			2.2500	-73.83	-6.69	-3.72	-0.518	-10.531	-3.228
			4.5000	-66.67	-6.69	-3.72	-0.518	-12.711	-11.037
CUBIERTA	C8	DIS3Y MAX							
			0.0000	-70.69	2.16	12.72	0.430	34.979	6.258
			2.2500	-63.54	2.16	12.72	0.430	6.369	1.405
			4.5000	-56.38	2.16	12.72	0.430	7.372	4.245
CUBIERTA	C8	DIS3Y MIN							
			0.0000	-80.96	-2.28	-11.55	-0.490	-44.604	-6.017
			2.2500	-73.80	-2.28	-11.55	-0.490	-18.617	-0.887
			4.5000	-66.64	-2.28	-11.55	-0.490	-22.241	-3.450
CUBIERTA	C9	DIS1A							
			0.0000	-135.52	0.45	1.59	-0.061	-6.996	1.025
			2.2500	-125.98	0.45	1.59	-0.061	-10.574	0.023
			4.5000	-116.44	0.45	1.59	-0.061	-14.152	-0.980
CUBIERTA	C9	DIS1B							
			0.0000	-161.16	0.51	3.94	-0.057	-4.670	1.141
			2.2500	-151.62	0.51	3.94	-0.057	-13.537	-0.006
			4.5000	-142.08	0.51	3.94	-0.057	-22.405	-1.153
CUBIERTA	C9	DIS2X MAX	0.0000	-124.12	9.10	4.30	0.288	4.109	22.676
			2.2500	-114.58	9.10	4.30	0.288	-5.557	2.202
			4.5000						
CUBIERTA	C9	DIS2X MIN		-105.03	9.10	4.30	0.288	-6.490	16.447
			0.0000	-127.46	-8.26	-3.02	-0.411	-20.091	-20.720
			2.2500	-117.92	-8.26	-3.02	-0.411	-13.291	-2.137
			4.5000	-108.38	-8.26	-3.02	-0.411	-15.222	-18.271
CUBIERTA	C9	DIS2Y MAX							
			0.0000	-121.01	3.30	12.39	0.338	30.895	8.186
			2.2500	-111.47	3.30	12.39	0.338	3.016	0.757
			4.5000						
CUBIERTA	C9	DIS2Y MIN		-101.92	3.30	12.39	0.338	3.150	4.847
			0.0000	-130.57	-2.46	-11.12	-0.461	-46.877	-6.230
			2.2500	-121.03	-2.46	-11.12	-0.461	-21.864	-0.691
			4.5000	-111.49	-2.46	-11.12	-0.461	-24.862	-6.671
CUBIERTA	C9	DIS3X MAX							
			0.0000	-80.51	8.96	2.94	0.302	4.862	22.373
			2.2500	-73.35	8.96	2.94	0.302	-1.763	2.207
			4.5000	-66.19	8.96	2.94	0.302	0.344	16.759
CUBIERTA	C9	DIS3X MIN	0.0000	-83.85	-8.40	-4.37	-0.397	-19.338	-21.022
			2.2500	-76.69	-8.40	-4.37	-0.397	-9.497	-2.132
			4.5000	-69.54	-8.40	-4.37	-0.397	-8.388	-17.958
CUBIERTA	C9	DIS3Y MAX	0.0000	-77.40	3.16	11.04	0.352	31.648	7.883
			2.2500	-70.24	3.16	11.04	0.352	6.810	0.762
			4.5000	-63.08	3.16	11.04	0.352	9.984	5.159
CUBIERTA	C9	DIS3Y MIN							
			0.0000	-86.96	-2.60	-12.47	-0.447	-46.124	-6.533
			2.2500	-79.80	-2.60	-12.47	-0.447	-18.070	-0.687
			4.5000	-72.65	-2.60	-12.47	-0.447	-18.028	-6.359
CUBIERTA	C10	DIS1A							
			0.0000	-139.40	0.30	3.78	-0.035	-3.880	0.789
			2.2500	-129.86	0.30	3.78	-0.035	-12.377	0.118
			4.5000	-120.32	0.30	3.78	-0.035	-20.874	-0.553
CUBIERTA	C10	DIS1B							
			0.0000	-168.54	0.30	8.40	-0.023	2.129	0.807
			2.2500	-158.99	0.30	8.40	-0.023	-16.770	0.128
			4.5000	-149.45	0.30	8.40	-0.023	-35.668	-0.551
CUBIERTA	C10	DIS2X MAX							
			0.0000	-126.96	8.47	5.63	0.288	5.624	21.650

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COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-117.42	8.47	5.63	0.288	-7.036	2.603
			4.5000	-107.88	8.47	5.63	0.288	-10.931	15.346
CUBIERTA	C10	DIS2X MIN							
			0.0000	-129.97	-7.88	-1.55	-0.365	-17.924	-20.094
			2.2500	-120.42	-7.88	-1.55	-0.365	-14.428	-2.374
			4.5000	-110.88	-7.88	-1.55	-0.365	-19.696	-16.445
CUBIERTA	C10	DIS2Y MAX							
			0.0000	-123.47	3.02	13.98	0.352	33.030	7.729
			2.2500	-113.93	3.02	13.98	0.352	1.567	0.938
			4.5000						
CUBIERTA	C10	DIS2Y MIN		-104.39	3.02	13.98	0.352	-0.732	4.754
			0.0000	-133.46	-2.43	-9.91	-0.429	-45.330	-6.173
			2.2500	-123.92	-2.43	-9.91	-0.429	-23.031	-0.710
			4.5000	-114.38	-2.43	-9.91	-0.429	-29.896	-5.853
CUBIERTA	C10	DIS3X MAX							
			0.0000	-81.18	8.39	2.94	0.292	4.324	21.443
			2.2500	-74.02	8.39	2.94	0.292	-2.297	2.569
			4.5000	-66.87	8.39	2.94	0.292	-0.152	15.487
CUBIERTA	C10	DIS3X MIN							
			0.0000	-84.18	-7.95	-4.24	-0.360	-19.224	-20.302
			2.2500	-77.03	-7.95	-4.24	-0.360	-9.688	-2.407
			4.5000	-69.87	-7.95	-4.24	-0.360	-8.917	-16.304
CUBIERTA	C10	DIS3Y MAX	0.0000	-77.69	2.94	11.30	0.356	31.730	7.522
			2.2500	-70.53	2.94	11.30	0.356	6.307	0.905
			4.5000	-63.37	2.94	11.30	0.356	10.048	4.895
CUBIERTA	C10	DIS3Y MIN							
			0.0000	-87.68	-2.51	-12.60	-0.424	-46.630	-6.381
			2.2500	-80.52	-2.51	-12.60	-0.424	-18.291	-0.743
			4.5000	-73.36	-2.51	-12.60	-0.424	-19.117	-5.712
CUBIERTA	C11	DIS1A							
			0.0000	-138.44	0.52	3.73	0.011	-4.023	1.155
			2.2500	-128.89	0.52	3.73	0.011	-12.422	-0.017
			4.5000	-119.35	0.52	3.73	0.011	-20.820	-1.188
CUBIERTA	C11	DIS1B							
			0.0000	-167.79	0.52	8.45	0.036	2.277	1.162
			2.2500	-158.25	0.52	8.45	0.036	-16.743	-0.001
			4.5000	-148.70	0.52	8.45	0.036	-35.763	-1.163
CUBIERTA	C11	DIS2X MAX							
			0.0000	-125.67	9.10	5.80	0.337	6.169	22.684
			2.2500	-116.13	9.10	5.80	0.337	-6.888	2.214
			4.5000	-106.58	9.10	5.80	0.337	-10.483	15.864
CUBIERTA	C11	DIS2X MIN							
			0.0000	-129.18	-8.05	-1.88	-0.332	-18.953	-20.383
			2.2500	-119.63	-8.05	-1.88	-0.332	-14.718	-2.260
			4.5000	-110.09	-8.05	-1.88	-0.332	-19.945	-18.256
CUBIERTA	C11	DIS2Y MAX							
			0.0000	-122.30	3.37	14.02	0.400	33.040	8.312
			2.2500	-112.75	3.37	14.02	0.400	1.492	0.719
			4.5000	-103.21	3.37	14.02	0.400	-0.373	4.481
CUBIERTA	C11	DIS2Y MIN							
			0.0000	-132.55	-2.33	-10.10	-0.395	-45.824	-6.012
			2.2500	-123.01	-2.33	-10.10	-0.395	-23.098	-0.766
			4.5000	-113.46	-2.33	-10.10	-0.395	-30.055	-6.873
CUBIERTA	C11	DIS3X MAX							
			0.0000	-80.05	8.97	3.10	0.325	4.805	22.390
			2.2500	-72.89	8.97	3.10	0.325	-2.164	2.211
			4.5000	-65.73	8.97	3.10	0.325	0.329	16.153
CUBIERTA	C11	DIS3X MIN	0.0000	-83.55	-8.18	-4.59	-0.344	-20.317	-20.677
			2.2500	-76.40	-8.18	-4.59	-0.344	-9.994	-2.262
			4.5000	-69.24	-8.18	-4.59	-0.344	-9.134	-17.967
CUBIERTA	C11	DIS3Y MAX							
			0.0000	-76.67	3.25	11.32	0.388	31.676	8.018
			2.2500	-69.52	3.25	11.32	0.388	6.216	0.717
			4.5000	-62.36	3.25	11.32	0.388	10.439	4.770
CUBIERTA	C11	DIS3Y MIN							
			0.0000	-86.93	-2.46	-12.81	-0.407	-47.188	-6.305
			2.2500	-79.77	-2.46	-12.81	-0.407	-18.374	-0.768
			4.5000	-72.61	-2.46	-12.81	-0.407	-19.244	-6.584
CUBIERTA	C12	DIS1A							
			0.0000	-126.91	-0.76	3.05	0.004	-4.973	-0.913
			2.2500	-117.37	-0.76	3.05	0.004	-11.836	0.787
			4.5000	-107.83	-0.76	3.05	0.004	-18.698	2.487
CUBIERTA	C12	DIS1B							
			0.0000	-145.97	-0.58	5.76	0.029	-1.715	-0.610

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-136.43	-0.58	5.76	0.029	-14.669	0.686
			4.5000	-126.89	-0.58	5.76	0.029	-27.623	1.983
CUBIERTA	C12	DIS2X MAX	0.0000	-114.40	5.84	6.60	0.512	8.714	17.442
			2.2500	-104.85	5.84	6.60	0.512	-6.140	4.299
			4.5000	-95.31	5.84	6.60	0.512	-9.689	14.200
CUBIERTA	C12	DIS2X MIN							
			0.0000	-125.12	-7.49	-2.54	-0.521	-21.118	-19.499
			2.2500	-115.58	-7.49	-2.54	-0.521	-15.404	-2.650
			4.5000	-106.04	-7.49	-2.54	-0.521	-20.995	-8.845
CUBIERTA	C12	DIS2Y MAX	0.0000	-114.45	1.40	14.25	0.470	33.735	5.119
			2.2500	-104.90	1.40	14.25	0.470	1.669	1.969
			4.5000						
CUBIERTA	C12	DIS2Y MIN		-95.36	1.40	14.25	0.470	-0.286	6.538
			0.0000	-125.07	-3.05	-10.19	-0.480	-46.139	-7.176
			2.2500	-115.53	-3.05	-10.19	-0.480	-23.213	-0.320
			4.5000	-105.99	-3.05	-10.19	-0.480	-30.398	-1.183
CUBIERTA	C12	DIS3X MAX							
			0.0000	-75.51	5.96	4.82	0.502	8.729	17.555
			2.2500	-68.36	5.96	4.82	0.502	-2.118	4.139
			4.5000	-61.20	5.96	4.82	0.502	-1.659	13.769
CUBIERTA	C12	DIS3X MIN	0.0000	-86.24	-7.37	-4.32	-0.531	-21.103	-19.387
			2.2500	-79.08	-7.37	-4.32	-0.531	-11.381	-2.809
			4.5000	-71.93	-7.37	-4.32	-0.531	-12.965	-9.276
CUBIERTA	C12	DIS3Y MAX							
			0.0000	-75.56	1.52	12.47	0.460	33.750	5.231
			2.2500	-68.41	1.52	12.47	0.460	5.691	1.809
			4.5000	-61.25	1.52	12.47	0.460	7.744	6.106
CUBIERTA	C12	DIS3Y MIN	0.0000	-86.19	-2.93	-11.97	-0.490	-46.124	-7.063
			2.2500	-79.03	-2.93	-11.97	-0.490	-19.190	-0.479
			4.5000	-71.87	-2.93	-11.97	-0.490	-22.368	-1.614

CONCRETE COLUMN CHECK OUTPUT (ACI 318-08/IBC 2009)

BIAXIAL P-M INTERACTION CAPACITY CHECK AND SHEAR DESIGN OF COLUMN-TYPE ELEMENTS

STORY ID	COLUMN LINE	SECTION ID	STATION ID	INTERACTION RATIO	COMBO ID	SHEAR22 REBAR	COMBO ID	SHEAR33 REBAR	COMBO ID
CUBIERTA	C1	C30X50A	0.000	0.323	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C1	C30X50A	225.000	0.109	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C1	C30X50A	450.000	0.222	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C2	C30X50B	0.000	0.282	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C2	C30X50B	225.000	0.133	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C2	C30X50B	450.000	0.227	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C3	C30X50B	0.000	0.268	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C3	C30X50B	225.000	0.123	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C3	C30X50B	450.000	0.202	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C4	C30X50B	0.000	0.263	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C4	C30X50B	225.000	0.126	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C4	C30X50B	450.000	0.203	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C5	C30X50A	0.000	0.309	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C5	C30X50A	225.000	0.115	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C5	C30X50A	450.000	0.175	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C6	C20X40	0.000	0.277	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C6	C20X40	225.000	0.084	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C6	C20X40	450.000	0.306	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C7	C20X40	0.000	0.293	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C7	C20X40	225.000	0.081	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C7	C20X40	450.000	0.300	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C8	C30X50A	0.000	0.265	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C8	C30X50A	225.000	0.115	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C8	C30X50A	450.000	0.165	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C9	C30X50A	0.000	0.276	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C9	C30X50A	225.000	0.118	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C9	C30X50A	450.000	0.188	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C10	C30X50A	0.000	0.278	DIS3Y	0.000	DIS3Y	0.000	DIS3Y

BIAXIAL P-M INTERACTION CAPACITY CHECK AND SHEAR DESIGN OF COLUMN-TYPE ELEMENTS

STORY ID	COLUMN LINE	SECTION ID	STATION ID	INTERACTION RATIO	COMBO ID	SHEAR22 REBAR	COMBO ID	SHEAR33 REBAR	COMBO ID
CUBIERTA	C10	C30X50A	225.000	0.123	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C10	C30X50A	450.000	0.191	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C11	C30X50A	0.000	0.285	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C11	C30X50A	225.000	0.123	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C11	C30X50A	450.000	0.207	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C12	C30X50A	0.000	0.274	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C12	C30X50A	225.000	0.120	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C12	C30X50A	450.000	0.180	DIS2X	0.000	DIS3Y	0.000	DIS3Y

CONCRETE COLUMN JOINT OUTPUT (ACI 318-08/IBC 2009)

BEAM TO COLUMN CAPACITY RATIOS AND JOINT SHEAR CAPACITY CHECK

STORY ID	COLUMN LINE	SECTION ID	<-(6/5)BEAM-COLUMN CAPACITY RATIOS-> MAJOR	COMBO	MINOR	COMBO	<--JOINT SHEAR CAPACITY RATIOS----> MAJOR	COMBO	MINOR	COMBO
CUBIERTA	C1	C30X50A	0.821	DIS3Y	0.899	DIS3Y	0.326	DIS2X	0.509	DIS2X
CUBIERTA	C2	C30X50B	0.979	DIS3Y	0.888	DIS3Y	0.492	DIS2X	0.642	DIS2X
CUBIERTA	C3	C30X50B	0.861	DIS3Y	0.968	DIS3Y	0.423	DIS2X	0.692	DIS2X
CUBIERTA	C4	C30X50B	0.842	DIS3Y	0.968	DIS3Y	0.414	DIS2X	0.694	DIS2X
CUBIERTA	C5	C30X50A	0.932	DIS3Y	0.949	DIS3Y	0.372	DIS2X	0.544	DIS2X
CUBIERTA	C6	C20X40	0.534	DIS3Y	0.322	DIS3Y	0.178	DIS2X	0.243	DIS2X
CUBIERTA	C7	C20X40	0.532	DIS3Y	0.290	DIS3Y	0.177	DIS2X	0.218	DIS2X
CUBIERTA	C8	C30X50A	0.733	DIS3X	0.477	DIS3X	0.282	DIS2X	0.261	DIS2X
CUBIERTA	C9	C30X50A	0.828	DIS3Y	0.512	DIS3Y	0.320	DIS2X	0.281	DIS2X
CUBIERTA	C10	C30X50A	0.795	DIS3Y	0.581	DIS3Y	0.306	DIS2X	0.322	DIS2X
CUBIERTA	C11	C30X50A	0.789	DIS3Y	0.581	DIS3Y	0.304	DIS2X	0.321	DIS2X
CUBIERTA	C12	C30X50A	0.945	DIS3X	0.475	DIS3X	0.366	DIS2X	0.261	DIS2X

8.1.6.5. Zona intermedia, Suelo Tipo CD

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C O L U M N F O R C E S

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
CUBIERTA	C1	DIS1A							
			0.0000	-151.88	-3.48	-4.87	-0.058	-16.882	-5.356
			2.2500	-142.33	-3.48	-4.87	-0.058	-5.934	2.475
			4.5000	-132.79	-3.48	-4.87	-0.058	5.014	10.306
CUBIERTA	C1	DIS1B							
			0.0000	-172.88	-3.98	-7.83	-0.052	-23.078	-6.123
			2.2500	-163.33	-3.98	-7.83	-0.052	-5.463	2.843
			4.5000	-153.79	-3.98	-7.83	-0.052	12.151	11.809
CUBIERTA	C1	DIS2X MAX							
			0.0000	-136.22	9.38	3.33	0.562	7.611	29.291
			2.2500	-126.68	9.38	3.33	0.562	0.141	8.188
			4.5000	-117.13	9.38	3.33	0.562	12.018	32.274
CUBIERTA	C1	DIS2X MIN							
			0.0000	-151.63	-15.92	-10.83	-0.682	-36.734	-39.351
			2.2500	-142.09	-15.92	-10.83	-0.682	-12.387	-3.546
			4.5000	-132.54	-15.92	-10.83	-0.682	-7.387	-12.931
CUBIERTA	C1	DIS2Y MAX							
			0.0000	-133.22	0.62	15.73	0.580	47.286	5.383
			2.2500	-123.68	0.62	15.73	0.580	11.905	4.202
			4.5000	-114.14	0.62	15.73	0.580	28.111	16.842
CUBIERTA	C1	DIS2Y MIN							
			0.0000	-154.62	-7.15	-23.23	-0.700	-76.409	-15.443
			2.2500	-145.08	-7.15	-23.23	-0.700	-24.151	0.440
			4.5000	-135.54	-7.15	-23.23	-0.700	-23.480	2.501
CUBIERTA	C1	DIS3X MAX	0.0000	-90.30	10.47	5.66	0.574	14.152	30.957
			2.2500	-83.14	10.47	5.66	0.574	1.435	7.415
			4.5000						
CUBIERTA	C1	DIS3X MIN		-75.98	10.47	5.66	0.574	8.066	29.064
			0.0000	-105.71	-14.83	-8.50	-0.669	-30.193	-37.686
			2.2500	-98.55	-14.83	-8.50	-0.669	-11.092	-4.318
			4.5000	-91.40	-14.83	-8.50	-0.669	-11.339	-16.142
CUBIERTA	C1	DIS3Y MAX							
			0.0000	-87.30	1.70	18.06	0.592	53.827	7.048
			2.2500	-80.15	1.70	18.06	0.592	13.199	3.429
			4.5000						
CUBIERTA	C1	DIS3Y MIN		-72.99	1.70	18.06	0.592	24.159	13.632
			0.0000	-108.70	-6.07	-20.89	-0.687	-69.868	-13.777
			2.2500	-101.55	-6.07	-20.89	-0.687	-22.856	-0.333
			4.5000	-94.39	-6.07	-20.89	-0.687	-27.432	-0.710
CUBIERTA	C2	DIS1A							
			0.0000	-219.05	0.70	-0.59	-0.061	-10.476	1.411
			2.2500	-209.51	0.70	-0.59	-0.061	-9.149	-0.167
			4.5000	-199.97	0.70	-0.59	-0.061	-7.821	-1.746
CUBIERTA	C2	DIS1B							
			0.0000	-237.80	0.85	-1.48	-0.052	-13.310	1.698
			2.2500	-228.25	0.85	-1.48	-0.052	-9.987	-0.211
			4.5000	-218.71	0.85	-1.48	-0.052	-6.664	-2.120
CUBIERTA	C2	DIS2X MAX							
			0.0000	-201.28	16.76	6.54	0.404	10.862	41.280
			2.2500	-191.73	16.76	6.54	0.404	-3.844	3.566
			4.5000	-182.19	16.76	6.54	0.404	0.965	30.944
CUBIERTA	C2	DIS2X MIN	0.0000	-218.73	-15.47	-6.68	-0.531	-29.101	-38.678
			2.2500	-209.19	-15.47	-6.68	-0.531	-14.085	-3.867
			4.5000	-199.65	-15.47	-6.68	-0.531	-18.584	-34.148
CUBIERTA	C2	DIS2Y MAX							
			0.0000	-184.22	5.54	21.35	0.510	55.389	13.427
			2.2500	-174.68	5.54	21.35	0.510	7.351	0.967
			4.5000	-165.13	5.54	21.35	0.510	23.068	8.299
CUBIERTA	C2	DIS2Y MIN							
			0.0000	-235.79	-4.25	-21.49	-0.638	-73.628	-10.825
			2.2500	-226.24	-4.25	-21.49	-0.638	-25.281	-1.268
			4.5000	-216.70	-4.25	-21.49	-0.638	-40.687	-11.502
CUBIERTA	C2	DIS3X MAX							
			0.0000	-137.46	16.53	7.21	0.416	14.838	40.817
			2.2500	-130.31	16.53	7.21	0.416	-1.373	3.625
			4.5000	-123.15	16.53	7.21	0.416	1.932	31.525
CUBIERTA	C2	DIS3X MIN							
			0.0000	-154.92	-15.70	-6.01	-0.519	-25.126	-39.141

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-147.76	-15.70	-6.01	-0.519	-11.614	-3.809
			4.5000	-140.60	-15.70	-6.01	-0.519	-17.617	-33.568
CUBIERTA	C2	DIS3Y MAX	0.0000	-120.41	5.31	22.02	0.522	59.365	12.964
			2.2500	-113.25	5.31	22.02	0.522	9.823	1.025
			4.5000	-106.09	5.31	22.02	0.522	24.035	8.879
CUBIERTA	C2	DIS3Y MIN	0.0000	-171.97	-4.48	-20.82	-0.626	-69.653	-11.288
			2.2500	-164.82	-4.48	-20.82	-0.626	-22.809	-1.209
			4.5000	-157.66	-4.48	-20.82	-0.626	-39.721	-10.922
CUBIERTA	C3	DIS1A	0.0000	-190.02	0.84	-2.52	-0.031	-13.912	1.625
			2.2500	-180.47	0.84	-2.52	-0.031	-8.247	-0.267
			4.5000	-170.93	0.84	-2.52	-0.031	-2.583	-2.159
CUBIERTA	C3	DIS1B	0.0000	-224.69	0.85	-7.12	-0.012	-22.621	1.685
			2.2500	-215.14	0.85	-7.12	-0.012	-6.597	-0.227
			4.5000	-205.60	0.85	-7.12	-0.012	9.426	-2.139
CUBIERTA	C3	DIS2X MAX	0.0000	-173.57	16.04	4.95	0.425	7.607	40.105
			2.2500	-164.02	16.04	4.95	0.425	-3.524	4.022
			4.5000						
CUBIERTA	C3	DIS2X MIN		-154.48	16.04	4.95	0.425	0.450	27.844
			0.0000	-180.27	-14.40	-6.52	-0.499	-28.898	-36.963
			2.2500	-170.73	-14.40	-6.52	-0.499	-14.225	-4.563
			4.5000	-161.19	-14.40	-6.52	-0.499	-14.658	-32.069
CUBIERTA	C3	DIS2Y MAX	0.0000	-165.75	5.49	18.30	0.535	50.109	13.320
			2.2500	-156.21	5.49	18.30	0.535	8.925	1.071
			4.5000						
CUBIERTA	C3	DIS2Y MIN		-146.67	5.49	18.30	0.535	18.053	7.207
			0.0000	-188.09	-3.86	-19.88	-0.609	-71.400	-10.178
			2.2500	-178.55	-3.86	-19.88	-0.609	-26.674	-1.612
			4.5000	-169.00	-3.86	-19.88	-0.609	-32.260	-11.432
CUBIERTA	C3	DIS3X MAX	0.0000	-112.97	15.81	7.31	0.426	14.351	39.645
			2.2500	-105.81	15.81	7.31	0.426	-2.090	4.085
			4.5000	-98.65	15.81	7.31	0.426	-3.425	28.430
CUBIERTA	C3	DIS3X MIN	0.0000	-119.67	-14.63	-4.16	-0.498	-22.154	-37.423
			2.2500	-112.52	-14.63	-4.16	-0.498	-12.791	-4.500
			4.5000	-105.36	-14.63	-4.16	-0.498	-18.533	-31.483
CUBIERTA	C3	DIS3Y MAX	0.0000	-105.15	5.26	20.66	0.536	56.853	12.860
			2.2500	-98.00	5.26	20.66	0.536	10.359	1.134
			4.5000	-90.84	5.26	20.66	0.536	14.178	7.793
CUBIERTA	C3	DIS3Y MIN	0.0000	-127.49	-4.09	-17.52	-0.608	-64.656	-10.638
			2.2500	-120.33	-4.09	-17.52	-0.608	-25.240	-1.549
			4.5000	-113.18	-4.09	-17.52	-0.608	-36.136	-10.846
CUBIERTA	C4	DIS1A	0.0000	-189.94	-0.05	-2.06	0.003	-13.250	0.175
			2.2500	-180.39	-0.05	-2.06	0.003	-8.621	0.277
			4.5000	-170.85	-0.05	-2.06	0.003	-3.993	0.380
CUBIERTA	C4	DIS1B	0.0000	-225.46	-0.06	-6.69	0.022	-21.871	0.199
			2.2500	-215.92	-0.06	-6.69	0.022	-6.815	0.330
			4.5000	-206.37	-0.06	-6.69	0.022	8.241	0.460
CUBIERTA	C4	DIS2X MAX	0.0000	-172.87	15.73	5.44	0.536	8.854	39.567
			2.2500	-163.33	15.73	5.44	0.536	-3.369	4.170
			4.5000	-153.79	15.73	5.44	0.536	-1.532	31.915
CUBIERTA	C4	DIS2X MIN	0.0000	-180.37	-15.81	-6.08	-0.543	-28.901	-39.231
			2.2500	-170.83	-15.81	-6.08	-0.543	-15.233	-3.658
			4.5000	-161.29	-15.81	-6.08	-0.543	-15.625	-31.227
CUBIERTA	C4	DIS2Y MAX	0.0000	-169.39	4.73	17.92	0.605	49.491	12.089
			2.2500	-159.85	4.73	17.92	0.605	9.172	1.441
			4.5000	-150.30	4.73	17.92	0.605	13.990	9.901
CUBIERTA	C4	DIS2Y MIN	0.0000	-183.86	-4.81	-18.56	-0.613	-69.538	-11.753
			2.2500	-174.32	-4.81	-18.56	-0.613	-27.774	-0.929
			4.5000	-164.77	-4.81	-18.56	-0.613	-31.147	-9.213

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
CUBIERTA	C4	DIS3X MAX	0.0000	-112.08	15.75	7.69	0.528	15.393	39.517
			2.2500	-104.92	15.75	7.69	0.528	-1.894	4.080
			4.5000	-97.76	15.75	7.69	0.528	-5.120	31.783
CUBIERTA	C4	DIS3X MIN	0.0000	-119.57	-15.79	-3.83	-0.551	-22.362	-39.281
			2.2500	-112.42	-15.79	-3.83	-0.551	-13.757	-3.749
			4.5000	-105.26	-15.79	-3.83	-0.551	-19.212	-31.358
CUBIERTA	C4	DIS3Y MAX	0.0000	-108.59	4.75	20.17	0.598	56.030	12.039
			2.2500	-101.43	4.75	20.17	0.598	10.648	1.351
			4.5000	-94.28	4.75	20.17	0.598	10.403	9.769
CUBIERTA	C4	DIS3Y MIN	0.0000	-123.06	-4.79	-16.31	-0.620	-62.999	-11.803
			2.2500	-115.90	-4.79	-16.31	-0.620	-26.299	-1.020
			4.5000	-108.75	-4.79	-16.31	-0.620	-34.735	-9.345
CUBIERTA	C5	DIS1A	0.0000	-160.80	1.69	-5.02	0.003	-17.894	2.982
			2.2500	-151.25	1.69	-5.02	0.003	-6.593	-0.820
			4.5000	-141.71	1.69	-5.02	0.003	4.709	-4.621
CUBIERTA	C5	DIS1B	0.0000	-183.52	2.14	-8.07	0.015	-23.841	3.750
			2.2500	-173.98	2.14	-8.07	0.015	-5.680	-1.055
			4.5000	-164.44	2.14	-8.07	0.015	12.481	-5.860
CUBIERTA	C5	DIS2X MAX	0.0000	-144.97	14.20	3.30	0.672	7.267	37.029
			2.2500	-135.43	14.20	3.30	0.672	-0.120	5.082
			4.5000	-125.89	14.20	3.30	0.672	11.183	18.557
CUBIERTA	C5	DIS2X MIN	0.0000	-159.56	-11.16	-11.05	-0.674	-38.591	-31.646
			2.2500	-150.02	-11.16	-11.05	-0.674	-13.755	-6.545
			4.5000	-140.47	-11.16	-11.05	-0.674	-7.609	-26.866
CUBIERTA	C5	DIS2Y MAX	0.0000	-144.18	5.36	14.53	0.671	44.484	13.089
			2.2500	-134.64	5.36	14.53	0.671	11.788	1.021
			4.5000	-125.09	5.36	14.53	0.671	24.491	2.743
CUBIERTA	C5	DIS2Y MIN	0.0000	-160.35	-2.32	-22.29	-0.673	-75.808	-7.706
			2.2500	-150.81	-2.32	-22.29	-0.673	-25.663	-2.484
			4.5000	-141.26	-2.32	-22.29	-0.673	-20.917	-11.051
CUBIERTA	C5	DIS3X MAX	0.0000	-96.24	13.61	5.70	0.667	13.972	35.993
			2.2500	-89.08	13.61	5.70	0.667	1.184	5.375
			4.5000	-81.93	13.61	5.70	0.667	7.084	20.180
CUBIERTA	C5	DIS3X MIN	0.0000	-110.83	-11.75	-8.65	-0.679	-31.885	-32.682
			2.2500	-103.67	-11.75	-8.65	-0.679	-12.451	-6.251
			4.5000	-96.52	-11.75	-8.65	-0.679	-11.707	-25.244
CUBIERTA	C5	DIS3Y MAX	0.0000	-95.45	4.77	16.93	0.666	51.190	12.053
			2.2500	-88.29	4.77	16.93	0.666	13.092	1.314
			4.5000	-81.14	4.77	16.93	0.666	20.392	4.365
CUBIERTA	C5	DIS3Y MIN	0.0000	-111.62	-2.91	-19.89	-0.678	-69.102	-8.742
			2.2500	-104.46	-2.91	-19.89	-0.678	-24.360	-2.190
			4.5000	-97.31	-2.91	-19.89	-0.678	-25.015	-9.429
CUBIERTA	C6	DIS1A	0.0000	-47.14	-1.90	0.22	-0.016	-2.830	-3.009
			2.2500	-42.05	-1.90	0.22	-0.016	-3.337	1.271
			4.5000	-36.96	-1.90	0.22	-0.016	-3.843	5.551
CUBIERTA	C6	DIS1B	0.0000	-51.27	-2.31	-0.01	-0.014	-3.690	-3.654
			2.2500	-46.18	-2.31	-0.01	-0.014	-3.679	1.532
			4.5000	-41.09	-2.31	-0.01	-0.014	-3.667	6.719
CUBIERTA	C6	DIS2X MAX	0.0000	-38.58	2.31	3.24	0.101	5.564	7.030
			2.2500	-33.49	2.31	3.24	0.101	-1.715	1.835
			4.5000	-28.40	2.31	3.24	0.101	1.523	13.388
CUBIERTA	C6	DIS2X MIN	0.0000	-51.05	-5.74	-2.73	-0.134	-10.752	-12.451
			2.2500	-45.96	-5.74	-2.73	-0.134	-4.643	0.465
			4.5000	-40.87	-5.74	-2.73	-0.134	-9.050	-3.366
CUBIERTA	C6	DIS2Y MAX	0.0000	-32.30	-0.46	9.68	0.131	22.930	0.266
			2.2500	-27.21	-0.46	9.68	0.131	1.143	1.414

C O L U M N F O R C E S

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			4.5000						
CUBIERTA	C6	DIS2Y MIN		-22.12	-0.46	9.68	0.131	13.118	7.682
			0.0000	-57.33	-2.97	-9.16	-0.164	-28.118	-5.687
			2.2500	-52.24	-2.97	-9.16	-0.164	-7.501	0.886
			4.5000	-47.15	-2.97	-9.16	-0.164	-20.646	2.340
CUBIERTA	C6	DIS3X MAX							
			0.0000	-24.47	2.97	3.22	0.104	6.508	8.081
			2.2500	-20.65	2.97	3.22	0.104	-0.723	1.397
			4.5000	-16.84	2.97	3.22	0.104	2.563	11.460
CUBIERTA	C6	DIS3X MIN	0.0000	-36.94	-5.08	-2.75	-0.131	-9.808	-11.400
			2.2500	-33.12	-5.08	-2.75	-0.131	-3.651	0.027
			4.5000	-29.30	-5.08	-2.75	-0.131	-8.011	-5.293
CUBIERTA	C6	DIS3Y MAX	0.0000	-18.19	0.20	9.66	0.134	23.874	1.318
			2.2500	-14.37	0.20	9.66	0.134	2.135	0.976
			4.5000	-10.55	0.20	9.66	0.134	14.158	5.754
CUBIERTA	C6	DIS3Y MIN							
			0.0000	-43.22	-2.31	-9.18	-0.160	-27.174	-4.636
			2.2500	-39.40	-2.31	-9.18	-0.160	-6.509	0.448
			4.5000	-35.58	-2.31	-9.18	-0.160	-19.606	0.412
CUBIERTA	C7	DIS1A							
			0.0000	-45.50	2.13	-0.39	-0.016	-3.936	3.533
			2.2500	-40.41	2.13	-0.39	-0.016	-3.061	-1.251
			4.5000	-35.32	2.13	-0.39	-0.016	-2.186	-6.036
CUBIERTA	C7	DIS1B							
			0.0000	-49.49	2.56	-0.68	-0.013	-4.883	4.242
			2.2500	-44.40	2.56	-0.68	-0.013	-3.345	-1.511
			4.5000	-39.32	2.56	-0.68	-0.013	-1.808	-7.264
CUBIERTA	C7	DIS2X MAX	0.0000	-37.86	5.88	2.52	0.105	4.049	12.821
			2.2500	-32.78	5.88	2.52	0.105	-1.630	-0.397
			4.5000						
CUBIERTA	C7	DIS2X MIN		-27.69	5.88	2.52	0.105	2.936	2.678
			0.0000	-48.59	-2.02	-3.18	-0.139	-11.376	-6.404
			2.2500	-43.50	-2.02	-3.18	-0.139	-4.220	-1.866
			4.5000	-38.41	-2.02	-3.18	-0.139	-7.311	-13.621
CUBIERTA	C7	DIS2Y MAX							
			0.0000	-30.78	3.13	9.09	0.132	21.800	6.110
			2.2500	-25.69	3.13	9.09	0.132	1.345	-0.844
			4.5000	-20.60	3.13	9.09	0.132	14.736	-2.930
CUBIERTA	C7	DIS2Y MIN							
			0.0000	-55.67	0.72	-9.75	-0.166	-29.126	0.308
			2.2500	-50.58	0.72	-9.75	-0.166	-7.195	-1.419
			4.5000	-45.50	0.72	-9.75	-0.166	-19.111	-8.013
CUBIERTA	C7	DIS3X MAX							
			0.0000	-24.22	5.15	2.68	0.108	5.306	11.614
			2.2500	-20.40	5.15	2.68	0.108	-0.729	0.036
			4.5000	-16.59	5.15	2.68	0.108	3.482	4.751
CUBIERTA	C7	DIS3X MIN							
			0.0000	-34.95	-2.75	-3.02	-0.136	-10.120	-7.612
			2.2500	-31.13	-2.75	-3.02	-0.136	-3.319	-1.433
			4.5000	-27.31	-2.75	-3.02	-0.136	-6.765	-11.548
CUBIERTA	C7	DIS3Y MAX	0.0000	-17.14	2.41	9.25	0.135	23.056	4.902
			2.2500	-13.32	2.41	9.25	0.135	2.246	-0.411
			4.5000						
CUBIERTA	C7	DIS3Y MIN		-9.51	2.41	9.25	0.135	15.282	-0.857
			0.0000	-42.03	-0.01	-9.59	-0.163	-27.870	-0.900
			2.2500	-38.21	-0.01	-9.59	-0.163	-6.294	-0.986
			4.5000	-34.40	-0.01	-9.59	-0.163	-18.565	-5.940
CUBIERTA	C8	DIS1A							
			0.0000	-118.75	-0.44	3.07	-0.036	-4.181	-0.401
			2.2500	-109.21	-0.44	3.07	-0.036	-11.083	0.587
			4.5000	-99.67	-0.44	3.07	-0.036	-17.985	1.574
CUBIERTA	C8	DIS1B							
			0.0000	-136.39	-0.79	5.33	-0.033	-2.021	-0.963
			2.2500	-126.85	-0.79	5.33	-0.033	-14.007	0.825
			4.5000	-117.30	-0.79	5.33	-0.033	-25.994	2.613
CUBIERTA	C8	DIS2X MAX							
			0.0000	-104.39	9.64	8.68	0.695	16.156	27.423
			2.2500	-94.85	9.64	8.68	0.695	-3.365	5.727
			4.5000	-85.30	9.64	8.68	0.695	-7.028	18.335
CUBIERTA	C8	DIS2X MIN							
			0.0000	-119.88	-10.25	-4.26	-0.770	-26.195	-27.804
			2.2500	-110.34	-10.25	-4.26	-0.770	-16.612	-4.734

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COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			4.5000	-100.79	-10.25	-4.26	-0.770	-22.887	-15.970
CUBIERTA	C8	OIS2Y MAX							
			0.0000	-104.42	3.02	20.46	0.654	54.826	9.021
			2.2500	-94.87	3.02	20.46	0.654	8.800	2.216
			4.5000	-85.33	3.02	20.46	0.654	7.311	6.957
CUBIERTA	C8	OIS2Y MIN							
			0.0000	-119.85	-3.63	-16.04	-0.730	-64.866	-9.401
			2.2500	-110.31	-3.63	-16.04	-0.730	-28.778	-1.224
			4.5000	-100.76	-3.63	-16.04	-0.730	-37.227	-4.592
CUBIERTA	C8	DIS3X MAX							
			0.0000	-68.08	9.89	7.05	0.703	16.362	27.734
			2.2500	-60.92	9.89	7.05	0.703	0.500	5.490
			4.5000	-53.77	9.89	7.05	0.703	0.495	17.550
CUBIERTA	C8	OIS3X MIN	0.0000	-83.57	-10.01	-5.89	-0.762	-25.988	-27.493
			2.2500	-76.41	-10.01	-5.89	-0.762	-12.747	-4.971
			4.5000	-69.25	-10.01	-5.89	-0.762	-15.364	-16.755
CUBIERTA	C8	OIS3Y MAX							
			0.0000	-68.11	3.27	18.83	0.662	55.033	9.332
			2.2500	-60.95	3.27	18.83	0.662	12.666	1.979
			4.5000	-53.79	3.27	18.83	0.662	14.835	6.172
CUBIERTA	C8	OIS3Y MIN							
			0.0000	-83.54	-3.39	-17.67	-0.722	-64.659	-9.090
			2.2500	-76.38	-3.39	-17.67	-0.722	-24.913	-1.461
			4.5000	-69.23	-3.39	-17.67	-0.722	-29.703	-5.377
CUBIERTA	C9	DIS1A							
			0.0000	-135.52	0.45	1.59	-0.061	-6.996	1.025
			2.2500	-125.98	0.45	1.59	-0.061	-10.574	0.023
			4.5000	-116.44	0.45	1.59	-0.061	-14.152	-0.980
CUBIERTA	C9	OIS1B							
			0.0000	-161.16	0.51	3.94	-0.057	-4.670	1.141
			2.2500	-151.62	0.51	3.94	-0.057	-13.537	-0.006
			4.5000	-142.08	0.51	3.94	-0.057	-22.405	-1.153
CUBIERTA	C9	DIS2X MAX	0.0000	-123.28	13.44	6.14	0.463	10.204	33.525
			2.2500	-113.74	13.44	6.14	0.463	-3.609	3.287
			4.5000	-104.19	13.44	6.14	0.463	-4.291	25.126
CUBIERTA	C9	OIS2X MIN							
			0.0000	-128.30	-12.60	-4.87	-0.586	-26.186	-31.569
			2.2500	-118.76	-12.60	-4.87	-0.586	-15.239	-3.221
			4.5000	-109.22	-12.60	-4.87	-0.586	-17.421	-26.950
CUBIERTA	C9	DIS2Y MAX							
			0.0000	-118.60	4.74	18.31	0.539	50.493	11.795
			2.2500	-109.06	4.74	18.31	0.539	9.286	1.120
			4.5000	-99.51	4.74	18.31	0.539	10.209	7.731
CUBIERTA	C9	DIS2Y MIN							
			0.0000	-132.98	-3.90	-17.04	-0.662	-66.476	-9.839
			2.2500	-123.44	-3.90	-17.04	-0.662	-28.133	-1.054
			4.5000	-113.90	-3.90	-17.04	-0.662	-31.921	-9.555
CUBIERTA	C9	DIS3X MAX							
			0.0000	-79.67	13.30	4.79	0.477	10.957	33.222
			2.2500	-72.51	13.30	4.79	0.477	0.185	3.292
			4.5000	-65.35	13.30	4.79	0.477	2.543	25.438
CUBIERTA	C9	OIS3X MIN	0.0000	-84.69	-12.74	-6.22	-0.572	-25.433	-31.871
			2.2500	-77.53	-12.74	-6.22	-0.572	-11.445	-3.216
			4.5000	-70.38	-12.74	-6.22	-0.572	-10.587	-26.638
CUBIERTA	C9	OIS3Y MAX	0.0000	-74.99	4.61	16.96	0.553	51.247	11.493
			2.2500	-67.83	4.61	16.96	0.553	13.080	1.125
			4.5000	-60.67	4.61	16.96	0.553	17.043	8.043
CUBIERTA	C9	DIS3Y MIN							
			0.0000	-89.37	-4.04	-18.39	-0.648	-65.722	-10.142
			2.2500	-82.21	-4.04	-18.39	-0.648	-24.340	-1.049
			4.5000	-75.06	-4.04	-18.39	-0.648	-25.087	-9.243
CUBIERTA	C10	OIS1A							
			0.0000	-139.40	0.30	3.78	-0.035	-3.880	0.789
			2.2500	-129.86	0.30	3.78	-0.035	-12.377	0.118
			4.5000	-120.32	0.30	3.78	-0.035	-20.874	-0.553
CUBIERTA	C10	OIS1B							
			0.0000	-168.54	0.30	8.40	-0.023	2.129	0.807
			2.2500	-158.99	0.30	8.40	-0.023	-16.770	0.128
			4.5000	-149.45	0.30	8.40	-0.023	-35.668	-0.551
CUBIERTA	C10	DIS2X MAX							
			0.0000	-126.21	12.55	7.44	0.451	11.558	32.087

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COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-116.66	12.55	7.44	0.451	-5.174	3.847
			4.5000	-107.12	12.55	7.44	0.451	-8.723	23.294
CUBIERTA	C10	DIS2X MIN							
			0.0000	-130.72	-11.96	-3.36	-0.528	-23.858	-30.530
			2.2500	-121.18	-11.96	-3.36	-0.528	-16.290	-3.618
			4.5000	-111.64	-11.96	-3.36	-0.528	-21.905	-24.393
CUBIERTA	C10	DIS2Y MAX							
			0.0000	-120.95	4.38	20.01	0.549	52.777	11.210
			2.2500	-111.41	4.38	20.01	0.549	7.766	1.351
			4.5000						
CUBIERTA	C10	DIS2Y MIN		-101.87	4.38	20.01	0.549	6.618	7.410
			0.0000	-135.98	-3.79	-15.93	-0.626	-65.077	-9.654
			2.2500	-126.44	-3.79	-15.93	-0.626	-29.230	-1.122
			4.5000	-116.89	-3.79	-15.93	-0.626	-37.246	-8.509
CUBIERTA	C10	DIS3X MAX							
			0.0000	-80.42	12.47	4.75	0.455	10.258	31.879
			2.2500	-73.27	12.47	4.75	0.455	-0.434	3.814
			4.5000	-66.11	12.47	4.75	0.455	2.057	23.435
CUBIERTA	C10	DIS3X MIN							
			0.0000	-84.94	-12.04	-6.05	-0.523	-25.158	-30.738
			2.2500	-77.78	-12.04	-6.05	-0.523	-11.551	-3.651
			4.5000	-70.63	-12.04	-6.05	-0.523	-11.126	-24.252
CUBIERTA	C10	DIS3Y MAX	0.0000	-75.17	4.30	17.32	0.553	51.477	11.002
			2.2500	-68.01	4.30	17.32	0.553	12.505	1.318
			4.5000	-60.85	4.30	17.32	0.553	17.397	7.551
CUBIERTA	C10	DIS3Y MIN							
			0.0000	-90.19	-3.87	-18.62	-0.621	-66.377	-9.862
			2.2500	-83.04	-3.87	-18.62	-0.621	-24.490	-1.155
			4.5000	-75.88	-3.87	-18.62	-0.621	-26.466	-8.368
CUBIERTA	C11	DIS1A							
			0.0000	-138.44	0.52	3.73	0.011	-4.023	1.155
			2.2500	-128.89	0.52	3.73	0.011	-12.422	-0.017
			4.5000	-119.35	0.52	3.73	0.011	-20.820	-1.188
CUBIERTA	C11	DIS1B							
			0.0000	-167.79	0.52	8.45	0.036	2.277	1.162
			2.2500	-158.25	0.52	8.45	0.036	-16.743	-0.001
			4.5000	-148.70	0.52	8.45	0.036	-35.763	-1.163
CUBIERTA	C11	DIS2X MAX							
			0.0000	-124.79	13.39	7.74	0.504	12.494	33.451
			2.2500	-115.25	13.39	7.74	0.504	-4.917	3.332
			4.5000	-105.70	13.39	7.74	0.504	-8.100	24.394
CUBIERTA	C11	DIS2X MIN							
			0.0000	-130.06	-12.34	-3.82	-0.500	-25.278	-31.150
			2.2500	-120.51	-12.34	-3.82	-0.500	-16.689	-3.378
			4.5000	-110.97	-12.34	-3.82	-0.500	-22.328	-26.787
CUBIERTA	C11	DIS2Y MAX							
			0.0000	-119.71	4.80	20.10	0.600	52.913	11.899
			2.2500	-110.17	4.80	20.10	0.600	7.689	1.091
			4.5000	-100.63	4.80	20.10	0.600	7.107	7.324
CUBIERTA	C11	DIS2Y MIN							
			0.0000	-135.13	-3.76	-16.18	-0.595	-65.698	-9.598
			2.2500	-125.59	-3.76	-16.18	-0.595	-29.295	-1.137
			4.5000	-116.05	-3.76	-16.18	-0.595	-37.535	-9.716
CUBIERTA	C11	DIS3X MAX							
			0.0000	-79.17	13.26	5.03	0.492	11.130	33.157
			2.2500	-72.01	13.26	5.03	0.492	-0.193	3.330
			4.5000	-64.85	13.26	5.03	0.492	2.711	24.683
CUBIERTA	C11	DIS3X MIN	0.0000	-84.43	-12.47	-6.52	-0.512	-26.642	-31.444
			2.2500	-77.28	-12.47	-6.52	-0.512	-11.965	-3.380
			4.5000	-70.12	-12.47	-6.52	-0.512	-11.516	-26.497
CUBIERTA	C11	DIS3Y MAX							
			0.0000	-74.09	4.67	17.39	0.588	51.549	11.605
			2.2500	-66.93	4.67	17.39	0.588	12.413	1.089
			4.5000	-59.78	4.67	17.39	0.588	17.919	7.613
CUBIERTA	C11	DIS3Y MIN							
			0.0000	-89.51	-3.89	-18.88	-0.607	-67.061	-9.892
			2.2500	-82.35	-3.89	-18.88	-0.607	-24.571	-1.140
			4.5000	-75.20	-3.89	-18.88	-0.607	-26.724	-9.427
CUBIERTA	C12	DIS1A							
			0.0000	-126.91	-0.76	3.05	0.004	-4.973	-0.913
			2.2500	-117.37	-0.76	3.05	0.004	-11.836	0.787
			4.5000	-107.83	-0.76	3.05	0.004	-18.698	2.487
CUBIERTA	C12	DIS1B							
			0.0000	-145.97	-0.58	5.76	0.029	-1.715	-0.610

C O L U M N F O R C E S

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.250D	-136.43	-0.58	5.76	0.029	-14.669	0.686
			4.5000	-126.89	-0.58	5.76	0.029	-27.623	1.983
CUBIERTA	C12	DIS2X MAX	0.0000	-111.71	9.17	8.90	0.770	16.211	26.678
			2.2500	-102.17	9.17	8.90	0.770	-3.812	6.036
			4.5000	-92.63	9.17	8.90	0.770	-6.848	19.961
CUBIERTA	C12	BIS2X MIN							
			0.0000	-127.81	-10.82	-4.84	-0.780	-28.614	-28.734
			2.2500	-118.26	-10.82	-4.84	-0.780	-17.732	-4.387
			4.5000	-108.72	-10.82	-4.84	-0.780	-23.836	-14.606
CUBIERTA	C12	DIS2Y MAX	0.0000	-111.77	2.51	20.41	0.710	53.863	8.197
			2.2500	-102.23	2.51	20.41	0.710	7.939	2.541
			4.5000						
CUBIERTA	C12	DIS2Y MIN		-92.69	2.51	20.41	0.710	7.302	8.471
			0.0000	-127.75	-4.16	-16.35	-0.719	-66.266	-10.254
			2.2500	-118.20	-4.16	-16.35	-0.719	-29.483	-0.892
			4.5000	-108.66	-4.16	-16.35	-0.719	-37.986	-3.116
CUBIERTA	C12	DIS3X MAX							
			0.0000	-72.83	9.29	7.12	0.760	16.226	26.790
			2.2500	-65.67	9.29	7.12	0.760	0.210	5.876
			4.5000	-58.52	9.29	7.12	0.760	1.182	19.530
CUBIERTA	C12	BIS3X MIN	0.0000	-88.92	-10.70	-6.62	-0.790	-28.599	-28.622
			2.2500	-81.77	-10.70	-6.62	-0.790	-13.709	-4.546
			4.5000	-74.61	-10.70	-6.62	-0.790	-15.806	-15.037
CUBIERTA	C12	DIS3Y MAX							
			0.0000	-72.89	2.63	18.63	0.700	53.878	8.310
			2.2500	-65.73	2.63	18.63	0.700	11.961	2.382
			4.5000	-58.58	2.63	18.63	0.700	15.332	8.040
CUBIERTA	C12	DIS3Y MIN	0.0000	-88.86	-4.04	-18.13	-0.729	-66.251	-10.142
			2.2500	-81.71	-4.04	-18.13	-0.729	-25.460	-1.052
			4.5000	-74.55	-4.04	-18.13	-0.729	-29.956	-3.547

C O N C R E T E C O L U M N C H E C K O U T P U T (ACI 318-08/IBC 2009)

BIAXIAL P-M INTERACTION CAPACITY CHECK AND SHEAR DESIGN OF COLUMN-TYPE ELEMENTS

STORY IB	COLUMN LINE	SECTION ID	STATION ID	INTERACTION RATIO	COMBO IB	SHEAR22 REBAR	COMBO ID	SHEAR33 REBAR	COMBO ID
CUBIERTA	C1	C30X50A	0.000	0.466	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C1	C30X50A	225.000	0.137	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C1	C30X50A	450.000	0.322	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C2	C30X50B	0.000	0.399	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C2	C30X50B	225.000	0.154	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C2	C30X50B	450.000	0.309	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C3	C30X50B	0.000	0.388	BIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C3	C30X50B	225.000	0.147	BIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C3	C30X50B	450.000	0.289	DIS3X	0.000	DIS3Y	0.000	BIS3Y
CUBIERTA	C4	C30X50B	0.000	0.383	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C4	C30X50B	225.000	0.150	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C4	C30X50B	450.000	0.294	DIS3X	0.000	BIS3Y	0.000	DIS3Y
CUBIERTA	C5	C30X50A	0.000	0.442	DIS2Y	0.000	BIS3Y	0.000	DIS3Y
CUBIERTA	C5	C30X50A	225.000	0.141	DIS2Y	0.000	BIS3Y	0.000	DIS3Y
CUBIERTA	C5	C30X50A	450.000	0.262	DIS3X	0.000	BIS3Y	0.000	DIS3Y
CUBIERTA	C6	C20X40	0.000	0.381	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C6	C20X40	225.000	0.099	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C6	C20X40	450.000	0.388	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C7	C20X40	0.000	0.394	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C7	C20X40	225.000	0.096	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C7	C20X40	450.000	0.383	BIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C8	C30X50A	0.000	0.424	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C8	C30X50A	225.000	0.136	DIS2Y	0.000	DIS3Y	0.000	BIS3Y
CUBIERTA	C8	C30X50A	450.000	0.224	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C9	C30X50A	0.000	0.435	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C9	C30X50A	225.000	0.139	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C9	C30X50A	450.000	0.297	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C10	C30X50A	0.000	0.437	DIS3Y	0.000	DIS3Y	0.000	BIS3Y

BIAXIAL P-M INTERACTION CAPACITY CHECK AND SHEAR DESIGN OF COLUMN-TYPE ELEMENTS

STORY ID	COLUMN LINE	SECTION ID	STATION ID	INTERACTION RATIO	COMBO ID	SHEAR22 REBAR	COMBO ID	SHEAR33 REBAR	COMBO ID
CUBIERTA	C10	C30X50A	225.000	0.144	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C10	C30X50A	450.000	0.266	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C11	C30X50A	0.000	0.446	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C11	C30X50A	225.000	0.144	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C11	C30X50A	450.000	0.297	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C12	C30X50A	0.000	0.435	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C12	C30X50A	225.000	0.141	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C12	C30X50A	450.000	0.241	DIS2X	0.000	DIS3Y	0.000	DIS3Y

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C O N C R E T E C O L U M N J O I N T O U T P U T (ACI 318-08/IBC 2009)

BEAM TO COLUMN CAPACITY RATIOS AND JOINT SHEAR CAPACITY CHECK

STORY ID	COLUMN LINE	SECTION ID	<-(6/5)BEAM-COLUMN CAPACITY RATIOS-> MAJOR	COMBO	MINOR	COMBO	<--JOINT SHEAR CAPACITY RATIOS----> MAJOR	COMBO	MINOR	COMBO
CUBIERTA	C1	C30X50A	0.845	DIS3Y	0.980	DIS3Y	0.334	DIS2X	0.557	DIS2X
CUBIERTA	C2	C30X50B	0.858							
CUBIERTA	C3	C30X50B	0.905	DIS3Y	0.972	DIS3Y	0.442	DIS2X	0.692	DIS2X
CUBIERTA	C4	C30X50B	0.897	DIS3Y	0.970	DIS3Y	0.440	DIS2X	0.694	DIS2X
CUBIERTA	C5	C30X50A	0.858							
CUBIERTA	C6	C20X40	0.657	DIS3Y	0.424	DIS3Y	0.219	DIS2X	0.321	DIS2X
CUBIERTA	C7	C20X40	0.657	DIS3Y	0.393	DIS3Y	0.219	DIS2X	0.296	DIS2X
CUBIERTA	C8	C30X50A	0.862	DIS3X	0.541	DIS3X	0.333	DIS2X	0.297	DIS2X
CUBIERTA	C9	C30X50A	0.977	DIS3Y	0.576	DIS3Y	0.378	DIS2X	0.318	DIS2X
CUBIERTA	C10	C30X50A	0.934	DIS3Y	0.626	DIS3Y	0.360	DIS2X	0.348	DIS2X
CUBIERTA	C11	C30X50A	0.943	DIS3Y	0.628	DIS3Y	0.364	DIS2X	0.348	DIS2X
CUBIERTA	C12	C30X50A	0.965	DIS3X	0.550	DIS3X	0.373	DIS2X	0.304	DIS2X

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C O N C R E T E C O L U M N C H E C K O U T P U T (ACI 318-08/IBC 2009)

BIAXIAL P-M INTERACTION CAPACITY CHECK AND SHEAR DESIGN OF COLUMN-TYPE ELEMENTS

STORY ID	COLUMN LINE	SECTION ID	STATION ID	INTERACTION RATIO	COMBO ID	SHEAR22 REBAR	COMBO ID	SHEAR33 REBAR	COMBO ID
CUBIERTA	C1	C30X50C	0.000	0.832	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C1	C30X50C	225.000	0.203	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C1	C30X50C	450.000	0.562	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C2	C30X50C	0.000	0.907	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C2	C30X50C	225.000	0.224	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C2	C30X50C	450.000	0.714	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C3	C30X50C	0.000	0.876	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C3	C30X50C	225.000	0.211	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C3	C30X50C	450.000	0.665	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C4	C30X50C	0.000	0.889	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C4	C30X50C	225.000	0.212	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C4	C30X50C	450.000	0.690	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C5	C30X50C	0.000	0.813	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C5	C30X50C	225.000	0.202	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C5	C30X50C	450.000	0.514	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C6	C20X40	0.000	0.803	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C6	C20X40	225.000	0.154	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C6	C20X40	450.000	0.746	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C7	C20X40	0.000	0.805	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C7	C20X40	225.000	0.153	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C7	C20X40	450.000	0.737	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C8	C30X50B	0.000	0.831	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C8	C30X50B	225.000	0.249	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C8	C30X50B	450.000	0.446	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C9	C30X50B	0.000	0.866	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C9	C30X50B	225.000	0.234	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C9	C30X50B	450.000	0.655	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C10	C30X50B	0.000	0.842	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C10	C30X50B	225.000	0.235	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C10	C30X50B	450.000	0.596	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C11	C30X50B	0.000	0.865	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C11	C30X50B	225.000	0.235	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C11	C30X50B	450.000	0.650	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C12	C30X50B	0.000	0.842	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C12	C30X50B	225.000	0.249	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C12	C30X50B	450.000	0.469	DIS3X	0.000	DIS3Y	0.000	DIS3Y

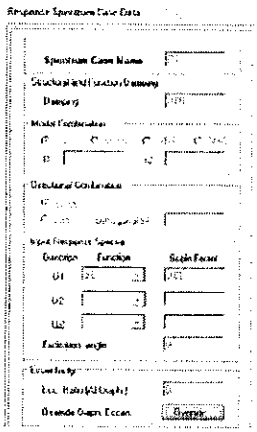
8.1.7. Análisis Sísmico

8.1.8. Zona alta

ETABS v9.7.4 File:CDI-BLOQUE 5-ALTA-AB/CD/E-160-VR.1.0 Units:KN-m julio 17, 2013 15:33

S T A T I C L O A D C A S E S

STATIC CASE	CASE TYPE	AUTO LAT LDAD	SELF WT MULTIPLIER	NOTIONAL FACTOR	NOTIONAL DIRECTION
PP	DEAD	N/A	1.0000		
DL	DEAD	N/A	0.0000		
LR	LIVE	N/A	0.0000		
G	SNOW	N/A	0.0000		



R E S P O N S E S P E C T R U M C A S E S

RESP SPEC CASE : FX

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

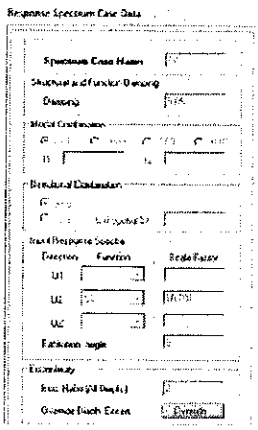
RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SD	9.8000
U2	----	N/A
UZ	----	N/A

RESP SPEC CASE: FY

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000



RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	----	N/A
U2	SD	10.791
UZ	----	N/A

M A S S S O U R C E D A T A

MASS FROM	LATERAL MASS ONLY	LUMP MASS AT STORIES
Masses & Loayes		Yes

M A S S S O U R C E L O A D S

LOAD	MULTIPLIER
DL	1.0000

D I A P H R A G M M A S S D A T A

STORY	DIAPHRAGM	MASS-X	MASS-Y	MMI	X-M	Y-M
CUBIERTA	DFRG	0.000E+00	0.000E+00	0.000E+00	11.677	3.065

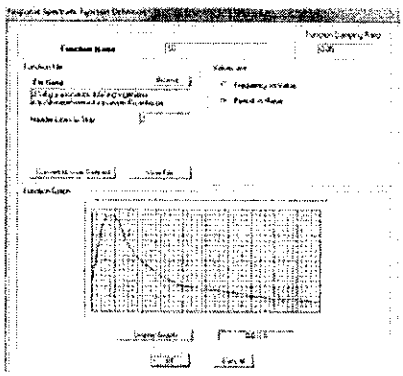
A S S E M B L E D P O I N T M A S S E S

STORY	POINT	UX	UY	UZ	RX	RY	RZ
CUBIERTA	All	1.018E+02	1.018E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	All	9.764E+00	9.764E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Totals	All	1.115E+02	1.115E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00

R E S P O N S E S P E C T R U M F U N C T I O N - F R O M F I L E

FUNCTION NAME: SD

PERIOD	ACCEL
0.00	0.10
0.10	0.18
0.20	0.26
0.30	0.30
0.40	0.30
0.50	0.30
0.60	0.28
0.70	0.24
0.80	0.21
0.90	0.19
1.00	0.17
1.50	0.11
2.00	0.08
2.50	0.07
3.0	0.06
3.50	0.05
4.0	0.04
4.50	0.04
5.0	0.03



M O D E S H A P E S

STORY	DIAPHRAGM	MODE	UX	UY	UZ	RX	RY	RZ
CUBIERTA	DFRG	Mode 1	1.0247E-01	3.0543E-04	0.00000	0.00000	0.00000	1.1150E-03
CUBIERTA	DFRG	Mode 2	-5.0717E-03	4.0145E-02	0.00000	0.00000	0.00000	8.9685E-03
CUBIERTA	DFRG	Mode 3	7.9912E-04	9.1670E-02	0.00000	0.00000	0.00000	-3.8178E-03

M O D A L P E R I O D S A N D F R E Q U E N C I E S

MODE NUMBER	PERIOD (TIME)	FREQUENCY (CYCLES/TIME)	CIRCULAR FREQ (RADIANS/TIME)
Mode 1	0.40115	2.49286	15.66307
Mode 2	0.31275	3.19743	20.09004
Mode 3	0.30029	3.33006	20.92340

M O D A L P A R T I C I P A T I O N F A C T O R S

MODE	UX	UY	UZ	RX	RY	RZ
Mode 1	-9.9850	-0.0444	0.0000	0.2175	-48.9264	-13.0763
Mode 2	1.2991	-4.0214	0.0000	19.7047	6.3658	-83.1781
Mode 3	-0.5203	-9.2507	0.0000	45.3285	-2.5492	35.9662

M O D A L P A R T I C I P A T I N G M A S S R A T I O S

MODE NUMBER	X-TRANS %MASS <SUM>	Y-TRANS %MASS <SUM>	Z-TRANS %MASS <SUM>	RX-ROTN %MASS <SUM>	RY-ROTN %MASS <SUM>	RZ-RDTN %MASS <SUM>
Mode 1	97.97 < 98>	0.00 < 0>	0.00 < 0>	0.00 < 0>	97.97 < 98>	2.02 < 2>
Mode 2	1.66 <100>	15.89 < 16>	0.00 < 0>	15.89 < 16>	1.66 <100>	81.83 < 84>
Mode 3	0.27 <100>	84.09 <100>	0.00 < 0>	84.09 <100>	0.27 <100>	15.30 < 99>

M O D A L L O A D P A R T I C I P A T I O N R A T I O S
(STATIC AND DYNAMIC RATIOS ARE IN PERCENT)

TYPE	LOAD	ACCEL	STORY	LINK	DOF	STATIC	DYNAMIC
Load	PP					0.0000	0.0000
Load	OL					0.0000	0.0000
Load	LR					0.0000	0.0000
Load	G					0.0000	0.0000

MODAL LOAD PARTICIPATION RATIOS
(STATIC AND DYNAMIC RATIOS ARE IN PERCENT)

TYPE	LOAD	ACCEL	STORY	LINK	DOF	STATIC	DYNAMIC
Accel		UX				99.9790	99.8964
Accel		UY				99.9960	99.9856
Accel		UZ				0.0000	0.0000
Accel		RX				99.9960	99.9856
Accel		RY				99.9790	99.8964
Accel		RZ				99.0920	99.1468

RESPONSE SPECTRUM ACCELERATIONS
(IN RESPONSE SPECTRUM LOCAL COORDINATES)

SPEC	MODE	PERIOD	DAMP-RATIO	SPEC-FACTOR	U1	U2	U3
FX	Mode 1	0.401146	0.050000	1.000000	2.943000	0.000000	0.000000
FX	Mode 2	0.312751	0.050000	1.000000	2.943000	0.000000	0.000000
FX	Mode 3	0.300295	0.050000	1.000000	2.943000	0.000000	0.000000
FY	Mode 1	0.401146	0.050000	1.000000	0.000000	3.237300	0.000000
FY	Mode 2	0.312751	0.050000	1.000000	0.000000	3.237300	0.000000
FY	Mode 3	0.300295	0.050000	1.000000	0.000000	3.237300	0.000000

RESPONSE SPECTRUM MODAL AMPLITUDES
(IN RESPONSE SPECTRUM LOCAL COORDINATES)

SPEC	MODE	PERIOD	U1	U2	U3
EX	Mode 1	0.401146	0.071432	0.000139	0.000000
EX	Mode 2	0.312751	-0.005652	0.007669	0.000000
EX	Mode 3	0.300295	0.002087	0.016264	0.000000
EY	Mode 1	0.401146	0.021408	0.000465	0.000000
EY	Mode 2	0.312751	-0.001694	0.025589	0.000000
EY	Mode 3	0.300295	0.000625	0.054269	0.000000

RESPONSE SPECTRUM BASE REACTIONS
(IN RESPONSE SPECTRUM LOCAL COORDINATES)

SPEC	MODE	DIR	F1	F2	F3	M1	M2	M3
EX	Mode 1	U1	174.98	0.78	0.00	-3.812	857.414	-296.179
EX	Mode 2	U1	2.96	-9.17	0.00	44.952	14.522	-305.003
EX	Mode 3	U1	0.48	8.45	0.00	-41.410	2.329	63.524
EX	Mode 1	U2	0.34	0.00	0.00	-0.007	1.671	-0.577
EX	Mode 2	U2	-4.02	12.45	0.00	-60.991	-19.703	413.826
EX	Mode 3	U2	3.70	65.87	0.00	-322.748	18.151	495.106
EX	All	All	175.48	76.96	0.00	377.105	859.869	969.667
EY	Mode 1	U1	52.44	0.23	0.00	-1.143	256.962	-88.763
EY	Mode 2	U1	0.89	-2.75	0.00	13.472	4.352	-91.408
EY	Mode 3	U1	0.14	2.53	0.00	-12.410	0.698	19.038
EY	Mode 1	U2	1.14	0.01	0.00	-0.025	5.576	-1.926
EY	Mode 2	U2	-13.42	41.53	0.00	-203.509	-65.745	1380.829
EY	Mode 3	U2	12.36	219.78	0.00	-1076.924	60.565	1652.036
EY	All	All	53.04	256.31	0.00	1255.921	259.918	2926.544

CENTERS OF CUMULATIVE MASS & CENTERS OF RIGIDITY

STORY LEVEL	DIAPHRAGM NAME	/----------CENTER OF MASS----------//--CENTER OF RIGIDITY--/ MASS	ORDINATE-X	ORDINATE-Y	ORDINATE-X	ORDINATE-Y
CUBIERTA	DFRG	0.000E+00	0.000	0.000	11.933	0.094

STORY FORCES

STORY	LOAD	LOCATION	P	VX	VY	T	MX	MY
CUBIERTA	FX	Top	8.488E-14	2.942E+02	7.960E+00	6.961E+02	5.275E-13	1.795E-12
		Bottom	8.488E-14	2.942E+02	7.960E+00	6.961E+02	3.901E+01	1.442E+03
CUBIERTA	FY	Top	1.577E-13	8.756E+00	3.231E+02	3.686E+03	1.903E-12	4.225E-12
		Bottom	1.577E-13	8.756E+00	3.231E+02	3.686E+03	1.583E+03	4.291E+01
CUBIERTA	EX	Top	6.300E-14	1.755E+02	7.696E+01	9.697E+02	5.510E-13	1.468E-12
		Bottom	6.300E-14	1.755E+02	7.696E+01	9.697E+02	3.771E+02	8.599E+02
CUBIERTA	EY	Top	1.261E-13	5.304E+01	2.563E+02	2.927E+03	1.512E-12	3.367E-12
		Bottom	1.261E-13	5.304E+01	2.563E+02	2.927E+03	1.256E+03	2.599E+02

	Nivel	hx, Piso m	Deriva Max mm	U1 mm	U2 mm	Deriva mm	Verificación con A.6.4 de NSR10
	ANALISIS EN X. Combinacion: DRV2X = 0.6Ldt + Fx						
	Point 13						
	CUBIERTA	4.90	19.60	11.09	1.02	11.13	Cumple, Ok
	BASE			0.0	0.00		
COL EJE A-1	Point 23						
	CUBIERTA	4.90	19.60	11.10	1.44	11.19	Cumple, Ok
	BASE			0.0	0.00		
COL EJE A-5	Point 33						
	CUBIERTA	4.90	19.60	9.78	1.02	9.83	Cumple, Ok
	BASE			0.0	0.00		
COL EJE B-1	Point 41						
	CUBIERTA	4.90	19.60	9.79	1.42	9.89	Cumple, Ok
	BASE			0.0	0.00		
COL EJE B-5	ANALISIS EN Y. Combinacion: DRV2Y = 0.6Ldt + Fy						
	Point 13						
	CUBIERTA	4.90	19.60	0.90	6.63	6.69	Cumple, Ok
	BASE			0.0	0.00		
COL EJE A-1	Point 23						
	CUBIERTA	4.90	19.60	0.88	6.41	6.47	Cumple, Ok
	BASE			0.0	0.00		
COL EJE A-5	Point 33						
	CUBIERTA	4.90	19.60	2.26	6.62	7.00	Cumple, Ok
	BASE			0.0	0.00		
COL EJE B-1	Point 41						
	CUBIERTA	4.90	19.60	2.25	6.41	6.79	Cumple, Ok
	BASE			0.0	0.00		
COL EJE B-5							

8.1.6.6. Zona intermedia, Suelo Tipo E

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C O L U M N F O R C E S

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
CUBIERTA	C1	DIS1A							
			0.0000	-151.88	-3.48	-4.87	-0.058	-16.882	-5.356
			2.2500	-142.33	-3.48	-4.87	-0.058	-5.934	2.475
			4.5000	-132.79	-3.48	-4.87	-0.058	5.014	10.306
CUBIERTA	C1	DIS1B							
			0.0000	-172.88	-3.98	-7.83	-0.052	-23.078	-6.123
			2.2500	-163.33	-3.98	-7.83	-0.052	-5.463	2.843
			4.5000	-153.79	-3.98	-7.83	-0.052	12.151	11.809
CUBIERTA	C1	DIS2X MAX							
			0.0000	-131.92	16.47	7.21	0.909	19.761	48.521
			2.2500	-122.38	16.47	7.21	0.909	3.568	11.475
			4.5000	-112.84	16.47	7.21	0.909	17.346	44.938
CUBIERTA	C1	DIS2X MIN							
			0.0000	-155.92	-23.00	-14.71	-1.029	-48.884	-58.580
			2.2500	-146.38	-23.00	-14.71	-1.029	-15.814	-6.833
			4.5000	-136.84	-23.00	-14.71	-1.029	-12.715	-25.595
CUBIERTA	C1	DIS2Y MAX							
			0.0000	-127.41	2.79	26.29	0.928	80.846	11.213
			2.2500	-117.87	2.79	26.29	0.928	21.686	5.252
			4.5000	-108.33	2.79	26.29	0.928	42.108	20.846
CUBIERTA	C1	DIS2Y MIN							
			0.0000	-160.44	-9.32	-33.79	-1.048	-109.969	-21.272
			2.2500	-150.89	-9.32	-33.79	-1.048	-33.932	-0.610
			4.5000	-141.35	-9.32	-33.79	-1.048	-37.477	-1.503
CUBIERTA	C1	DIS3X MAX	0.0000	-86.00	17.55	9.54	0.921	26.302	50.186
			2.2500	-78.85	17.55	9.54	0.921	4.862	10.702
			4.5000						
CUBIERTA	C1	DIS3X MIN		-71.69	17.55	9.54	0.921	13.394	41.727
			0.0000	-110.00	-21.92	-12.38	-1.017	-42.343	-56.915
			2.2500	-102.85	-21.92	-12.38	-1.017	-14.519	-7.605
			4.5000	-95.69	-21.92	-12.38	-1.017	-16.667	-28.805
CUBIERTA	C1	DIS3Y MAX							
			0.0000	-81.49	3.87	28.63	0.940	87.387	12.878
			2.2500	-74.33	3.87	28.63	0.940	22.981	4.479
			4.5000						
CUBIERTA	C1	DIS3Y MIN		-67.18	3.87	28.63	0.940	38.156	17.636
			0.0000	-114.52	-8.24	-31.46	-1.035	-103.428	-19.607
			2.2500	-107.36	-8.24	-31.46	-1.035	-32.638	-1.383
			4.5000	-100.20	-8.24	-31.46	-1.035	-41.429	-4.714
CUBIERTA	C2	DIS1A							
			0.0000	-219.05	0.70	-0.59	-0.061	-10.476	1.411
			2.2500	-209.51	0.70	-0.59	-0.061	-9.149	-0.167
			4.5000	-199.97	0.70	-0.59	-0.061	-7.821	-1.746
CUBIERTA	C2	DIS1B							
			0.0000	-237.80	0.85	-1.48	-0.052	-13.310	1.698
			2.2500	-228.25	0.85	-1.48	-0.052	-9.987	-0.211
			4.5000	-218.71	0.85	-1.48	-0.052	-6.664	-2.120
CUBIERTA	C2	DIS2X MAX							
			0.0000	-196.51	25.79	10.13	0.664	21.726	63.679
			2.2500	-186.97	25.79	10.13	0.664	-1.058	5.649
			4.5000	-177.42	25.79	10.13	0.664	6.276	49.179
CUBIERTA	C2	DIS2X MIN	0.0000	-223.50	-24.50	-10.27	-0.792	-39.965	-61.077
			2.2500	-213.96	-24.50	-10.27	-0.792	-16.872	-5.950
			4.5000	-204.41	-24.50	-10.27	-0.792	-23.895	-52.383
CUBIERTA	C2	DIS2Y MAX							
			0.0000	-170.23	8.28	32.97	0.822	90.390	20.216
			2.2500	-160.69	8.28	32.97	0.822	16.204	1.593
			4.5000	-151.14	8.28	32.97	0.822	40.364	13.841
CUBIERTA	C2	DIS2Y MIN							
			0.0000	-249.78	-6.99	-33.11	-0.950	-108.628	-17.614
			2.2500	-240.23	-6.99	-33.11	-0.950	-34.133	-1.893
			4.5000	-230.69	-6.99	-33.11	-0.950	-57.983	-17.044
CUBIERTA	C2	DIS3X MAX							
			0.0000	-132.69	25.56	10.80	0.677	25.702	63.216
			2.2500	-125.54	25.56	10.80	0.677	1.414	5.708
			4.5000	-118.38	25.56	10.80	0.677	7.243	49.760
CUBIERTA	C2	DIS3X MIN							
			0.0000	-159.68	-24.73	-9.60	-0.780	-35.990	-61.541

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-152.53	-24.73	-9.60	-0.780	-14.400	-5.891
			4.5000	-145.37	-24.73	-9.60	-0.780	-22.928	-51.803
CUBIERTA	C2	DIS3Y MAX	0.0000	-106.42	8.05	33.64	0.834	94.365	19.753
			2.2500	-99.26	8.05	33.64	0.834	18.675	1.651
			4.5000	-92.10	8.05	33.64	0.834	41.331	14.421
CUBIERTA	C2	DIS3Y MIN	0.0000	-185.96	-7.22	-32.44	-0.938	-104.653	-18.077
			2.2500	-178.81	-7.22	-32.44	-0.938	-31.662	-1.835
			4.5000	-171.65	-7.22	-32.44	-0.938	-57.016	-16.464
CUBIERTA	C3	DIS1A	0.0000	-190.02	0.84	-2.52	-0.031	-13.912	1.625
			2.2500	-180.47	0.84	-2.52	-0.031	-8.247	-0.267
			4.5000	-170.93	0.84	-2.52	-0.031	-2.583	-2.159
CUBIERTA	C3	DIS1B	0.0000	-224.69	0.85	-7.12	-0.012	-22.621	1.685
			2.2500	-215.14	0.85	-7.12	-0.012	-6.597	-0.227
			4.5000	-205.60	0.85	-7.12	-0.012	9.426	-2.139
CUBIERTA	C3	DIS2X MAX	0.0000	-171.75	24.57	8.06	0.683	17.512	61.695
			2.2500	-162.21	24.57	8.06	0.683	-0.620	6.426
			4.5000						
CUBIERTA	C3	DIS2X MIN		-152.66	24.57	8.06	0.683	4.550	44.628
			0.0000	-182.09	-22.93	-9.63	-0.757	-38.803	-58.553
			2.2500	-172.55	-22.93	-9.63	-0.757	-17.129	-6.968
			4.5000	-163.01	-22.93	-9.63	-0.757	-18.757	-48.853
CUBIERTA	C3	DIS2Y MAX	0.0000	-159.69	8.11	28.66	0.845	83.071	19.896
			2.2500	-150.15	8.11	28.66	0.845	18.582	1.821
			4.5000						
CUBIERTA	C3	DIS2Y MIN		-140.61	8.11	28.66	0.845	31.702	12.417
			0.0000	-194.15	-6.47	-30.24	-0.920	-104.363	-16.753
			2.2500	-184.61	-6.47	-30.24	-0.920	-36.332	-2.362
			4.5000	-175.06	-6.47	-30.24	-0.920	-45.909	-16.642
CUBIERTA	C3	DIS3X MAX	0.0000	-111.15	24.33	10.42	0.684	24.256	61.235
			2.2500	-103.99	24.33	10.42	0.684	0.814	6.490
			4.5000	-96.83	24.33	10.42	0.684	0.674	45.214
CUBIERTA	C3	DIS3X MIN	0.0000	-121.49	-23.16	-7.27	-0.756	-32.059	-59.013
			2.2500	-114.34	-23.16	-7.27	-0.756	-15.695	-6.905
			4.5000	-107.18	-23.16	-7.27	-0.756	-22.632	-48.267
CUBIERTA	C3	DIS3Y MAX	0.0000	-99.09	7.88	31.02	0.847	89.815	19.436
			2.2500	-91.94	7.88	31.02	0.847	20.016	1.884
			4.5000	-84.78	7.88	31.02	0.847	27.826	13.003
CUBIERTA	C3	DIS3Y MIN	0.0000	-133.55	-6.70	-27.88	-0.919	-97.619	-17.213
			2.2500	-126.39	-6.70	-27.88	-0.919	-34.897	-2.299
			4.5000	-119.23	-6.70	-27.88	-0.919	-49.785	-16.056
CUBIERTA	C4	DIS1A	0.0000	-189.94	-0.05	-2.06	0.003	-13.250	0.175
			2.2500	-180.39	-0.05	-2.06	0.003	-8.621	0.277
			4.5000	-170.85	-0.05	-2.06	0.003	-3.993	0.380
CUBIERTA	C4	DIS1B	0.0000	-225.46	-0.06	-6.69	0.022	-21.871	0.199
			2.2500	-215.92	-0.06	-6.69	0.022	-6.815	0.330
			4.5000	-206.37	-0.06	-6.69	0.022	8.241	0.460
CUBIERTA	C4	DIS2X MAX	0.0000	-170.80	24.57	8.57	0.837	19.132	61.642
			2.2500	-161.25	24.57	8.57	0.837	-0.137	6.364
			4.5000	-151.71	24.57	8.57	0.837	2.301	49.603
CUBIERTA	C4	DIS2X MIN	0.0000	-182.45	-24.65	-9.21	-0.844	-39.179	-61.306
			2.2500	-172.91	-24.65	-9.21	-0.844	-18.464	-5.852
			4.5000	-163.37	-24.65	-9.21	-0.844	-19.458	-48.915
CUBIERTA	C4	DIS2Y MAX	0.0000	-165.46	7.41	27.82	0.936	81.782	18.764
			2.2500	-155.92	7.41	27.82	0.936	19.196	2.105
			4.5000	-146.38	7.41	27.82	0.936	26.235	15.252
CUBIERTA	C4	DIS2Y MIN	0.0000	-187.78	-7.48	-28.46	-0.944	-101.829	-18.428
			2.2500	-178.24	-7.48	-28.46	-0.944	-37.798	-1.593
			4.5000	-168.70	-7.48	-28.46	-0.944	-43.392	-14.564

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COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
CUBIERTA	C4	DIS3X MAX							
			0.0000	-110.00	24.59	10.82	0.829	25.671	61.592
			2.2500	-102.84	24.59	10.82	0.829	1.338	6.273
			4.5000	-95.68	24.59	10.82	0.829	-1.287	49.471
CUBIERTA	C4	DIS3X MIN							
			0.0000	-121.65	-24.63	-6.96	-0.852	-32.640	-61.356
			2.2500	-114.50	-24.63	-6.96	-0.852	-16.989	-5.942
			4.5000	-107.34	-24.63	-6.96	-0.852	-23.045	-49.047
CUBIERTA	C4	DIS3Y MAX							
			0.0000	-104.66	7.42	30.07	0.929	88.321	18.714
			2.2500	-97.51	7.42	30.07	0.929	20.671	2.014
			4.5000	-90.35	7.42	30.07	0.929	22.648	15.121
CUBIERTA	C4	DIS3Y MIN							
			0.0000	-126.99	-7.47	-26.21	-0.951	-95.290	-18.478
			2.2500	-119.83	-7.47	-26.21	-0.951	-36.322	-1.684
			4.5000	-112.67	-7.47	-26.21	-0.951	-46.980	-14.696
CUBIERTA	C5	DIS1A							
			0.0000	-160.80	1.69	-5.02	0.003	-17.894	2.982
			2.2500	-151.25	1.69	-5.02	0.003	-6.593	-0.820
			4.5000	-141.71	1.69	-5.02	0.003	4.709	-4.621
CUBIERTA	C5	DIS1B							
			0.0000	-183.52	2.14	-8.07	0.015	-23.841	3.750
			2.2500	-173.98	2.14	-8.07	0.015	-5.680	-1.055
			4.5000	-164.44	2.14	-8.07	0.015	12.481	-5.860
CUBIERTA	C5	DIS2X MAX							
			0.0000	-140.90	21.30	7.24	1.048	19.864	56.268
			2.2500	-131.35	21.30	7.24	1.048	3.618	8.339
			4.5000	-121.81	21.30	7.24	1.048	16.361	31.282
CUBIERTA	C5	DIS2X MIN							
			0.0000	-163.63	-18.26	-15.00	-1.051	-51.188	-50.885
			2.2500	-154.09	-18.26	-15.00	-1.051	-17.493	-9.802
			4.5000	-144.55	-18.26	-15.00	-1.051	-12.786	-39.591
CUBIERTA	C5	DIS2Y MAX							
			0.0000	-139.78	7.52	24.52	1.036	77.122	18.911
			2.2500	-130.24	7.52	24.52	1.036	21.949	2.002
			4.5000	-120.70	7.52	24.52	1.036	36.812	6.604
CUBIERTA	C5	DIS2Y MIN							
			0.0000	-164.75	-4.47	-32.28	-1.039	-108.446	-13.528
			2.2500	-155.20	-4.47	-32.28	-1.039	-35.824	-3.465
			4.5000	-145.66	-4.47	-32.28	-1.039	-33.238	-14.912
CUBIERTA	C5	DIS3X MAX							
			0.0000	-92.17	20.71	9.64	1.043	26.569	55.232
			2.2500	-85.01	20.71	9.64	1.043	4.922	8.632
			4.5000	-77.85	20.71	9.64	1.043	12.262	32.905
CUBIERTA	C5	DIS3X MIN							
			0.0000	-114.90	-18.85	-12.59	-1.056	-44.482	-51.921
			2.2500	-107.75	-18.85	-12.59	-1.056	-16.190	-9.508
			4.5000	-100.59	-18.85	-12.59	-1.056	-16.885	-37.968
CUBIERTA	C5	DIS3Y MAX							
			0.0000	-91.05	6.93	26.92	1.031	83.827	17.875
			2.2500	-83.90	6.93	26.92	1.031	23.253	2.296
			4.5000	-76.74	6.93	26.92	1.031	32.713	8.226
CUBIERTA	C5	DIS3Y MIN							
			0.0000	-116.02	-5.06	-29.88	-1.044	-101.740	-14.564
			2.2500	-108.86	-5.06	-29.88	-1.044	-34.521	-3.172
			4.5000	-101.70	-5.06	-29.88	-1.044	-37.336	-13.290
CUBIERTA	C6	DIS1A							
			0.0000	-47.14	-1.90	0.22	-0.016	-2.830	-3.009
			2.2500	-42.05	-1.90	0.22	-0.016	-3.337	1.271
			4.5000	-36.96	-1.90	0.22	-0.016	-3.843	5.551
CUBIERTA	C6	DIS1B							
			0.0000	-51.27	-2.31	-0.01	-0.014	-3.690	-3.654
			2.2500	-46.18	-2.31	-0.01	-0.014	-3.679	1.532
			4.5000	-41.09	-2.31	-0.01	-0.014	-3.667	6.719
CUBIERTA	C6	DIS2X MAX							
			0.0000	-35.13	4.57	4.87	0.167	10.008	12.487
			2.2500	-30.04	4.57	4.87	0.167	-0.915	2.219
			4.5000	-24.95	4.57	4.87	0.167	4.399	18.081
CUBIERTA	C6	DIS2X MIN							
			0.0000	-54.50	-8.00	-4.35	-0.200	-15.196	-17.908
			2.2500	-49.41	-8.00	-4.35	-0.200	-5.443	0.081
			4.5000	-44.32	-8.00	-4.35	-0.200	-11.927	-8.059
CUBIERTA	C6	DIS2Y MAX							
			0.0000	-25.50	0.24	14.80	0.211	36.778	1.932
			2.2500	-20.41	0.24	14.80	0.211	3.488	1.560

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COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			4.5000						
CUBIERTA	C6	DIS2Y MIN		-15.33	0.24	14.80	0.211	22.278	9.173
			0.0000	-64.12	-3.67	-14.28	-0.244	-41.966	-7.353
			2.2500	-59.03	-3.67	-14.28	-0.244	-9.846	0.741
			4.5000	-53.94	-3.67	-14.28	-0.244	-29.806	0.849
CUBIERTA	C6	DIS3X MAX							
			0.0000	-21.02	5.23	4.85	0.170	10.952	13.539
			2.2500	-17.20	5.23	4.85	0.170	0.077	1.781
			4.5000	-13.38	5.23	4.85	0.170	5.439	16.153
CUBIERTA	C6	DIS3X MIN	0.0000	-40.39	-7.34	-4.37	-0.196	-14.252	-16.857
			2.2500	-36.57	-7.34	-4.37	-0.196	-4.451	-0.357
			4.5000	-32.76	-7.34	-4.37	-0.196	-10.887	-9.987
CUBIERTA	C6	DIS3Y MAX	0.0000	-11.39	0.90	14.78	0.214	37.722	2.983
			2.2500	-7.58	0.90	14.78	0.214	4.480	1.122
			4.5000	-3.76	0.90	14.78	0.214	23.318	7.245
CUBIERTA	C6	DIS3Y MIN							
			0.0000	-50.01	-3.00	-14.30	-0.240	-41.022	-6.302
			2.2500	-46.20	-3.00	-14.30	-0.240	-8.854	0.302
			4.5000	-42.38	-3.00	-14.30	-0.240	-28.766	-1.078
CUBIERTA	C7	DIS1A							
			0.0000	-45.50	2.13	-0.39	-0.016	-3.936	3.533
			2.2500	-40.41	2.13	-0.39	-0.016	-3.061	-1.251
			4.5000	-35.32	2.13	-0.39	-0.016	-2.186	-6.036
CUBIERTA	C7	DIS1B							
			0.0000	-49.49	2.56	-0.68	-0.013	-4.883	4.242
			2.2500	-44.40	2.56	-0.68	-0.013	-3.345	-1.511
			4.5000	-39.32	2.56	-0.68	-0.013	-1.808	-7.264
CUBIERTA	C7	DIS2X MAX	0.0000	-34.91	8.09	4.07	0.173	8.237	18.207
			2.2500	-29.82	8.09	4.07	0.173	-0.927	0.015
			4.5000	-24.73	8.09	4.07	0.173	5.717	7.244
CUBIERTA	C7	DIS2X MIN	0.0000	-51.55	-4.23	-4.73	-0.207	-15.564	-11.790
			2.2500	-46.46	-4.23	-4.73	-0.207	-4.924	-2.278
			4.5000	-41.37	-4.23	-4.73	-0.207	-10.092	-18.187
CUBIERTA	C7	DIS2Y MAX							
			0.0000	-24.03	3.81	14.20	0.213	35.615	7.734
			2.2500	-18.94	3.81	14.20	0.213	3.661	-0.685
			4.5000	-13.85	3.81	14.20	0.213	23.918	-1.509
CUBIERTA	C7	DIS2Y MIN							
			0.0000	-62.43	0.05	-14.86	-0.247	-42.941	-1.316
			2.2500	-57.34	0.05	-14.86	-0.247	-9.512	-1.578
			4.5000	-52.25	0.05	-14.86	-0.247	-28.293	-9.434
CUBIERTA	C7	DIS3X MAX							
			0.0000	-21.26	7.36	4.23	0.176	9.493	17.000
			2.2500	-17.44	7.36	4.23	0.176	-0.026	0.448
			4.5000	-13.63	7.36	4.23	0.176	6.263	9.317
CUBIERTA	C7	DIS3X MIN							
			0.0000	-37.91	-4.96	-4.57	-0.204	-14.308	-12.997
			2.2500	-34.09	-4.96	-4.57	-0.204	-4.023	-1.845
			4.5000	-30.27	-4.96	-4.57	-0.204	-9.546	-16.114
CUBIERTA	C7	DIS3Y MAX	0.0000	-10.38	3.08	14.36	0.216	36.871	6.526
			2.2500	-6.57	3.08	14.36	0.216	4.562	-0.252
			4.5000	-2.75	3.08	14.36	0.216	24.464	0.564
CUBIERTA	C7	DIS3Y MIN							
			0.0000	-48.79	-0.68	-14.70	-0.244	-41.685	-2.524
			2.2500	-44.97	-0.68	-14.70	-0.244	-8.611	-1.145
			4.5000	-41.15	-0.68	-14.70	-0.244	-27.747	-7.361
CUBIERTA	C8	DIS1A							
			0.0000	-118.75	-0.44	3.07	-0.036	-4.181	-0.401
			2.2500	-109.21	-0.44	3.07	-0.036	-11.083	0.587
			4.5000	-99.67	-0.44	3.07	-0.036	-17.985	1.574
CUBIERTA	C8	DIS1B							
			0.0000	-136.39	-0.79	5.33	-0.033	-2.021	-0.963
			2.2500	-126.85	-0.79	5.33	-0.033	-14.007	0.825
			4.5000	-117.30	-0.79	5.33	-0.033	-25.994	2.613
CUBIERTA	C8	DIS2X MAX							
			0.0000	-100.06	15.22	12.22	1.104	27.752	42.894
			2.2500	-90.52	15.22	12.22	1.104	0.261	8.657
			4.5000	-80.98	15.22	12.22	1.104	-2.685	27.945
CUBIERTA	C8	DIS2X MIN							
			0.0000	-124.21	-15.83	-7.80	-1.179	-37.791	-43.274
			2.2500	-114.66	-15.83	-7.80	-1.179	-20.239	-7.665

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COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			4.5000	-105.12	-15.83	-7.80	-1.179	-27.231	-25.580
CUBIERTA	C8	DIS2Y MAX							
			0.0000	-100.22	4.88	30.36	1.031	87.299	14.150
			2.2500	-90.68	4.88	30.36	1.031	18.996	3.175
			4.5000	-81.13	4.88	30.36	1.031	19.395	10.171
CUBIERTA	C8	DIS2Y MIN							
			0.0000	-124.05	-5.49	-25.94	-1.106	-97.339	-14.530
			2.2500	-114.51	-5.49	-25.94	-1.106	-38.973	-2.182
			4.5000	-104.96	-5.49	-25.94	-1.106	-49.310	-7.806
CUBIERTA	C8	DIS3X MAX							
			0.0000	-63.75	15.46	10.59	1.112	27.959	43.205
			2.2500	-56.59	15.46	10.59	1.112	4.127	8.420
			4.5000	-49.44	15.46	10.59	1.112	4.839	27.160
CUBIERTA	C8	DIS3X MIN	0.0000	-87.90	-15.58	-9.43	-1.171	-37.584	-42.963
			2.2500	-80.74	-15.58	-9.43	-1.171	-16.374	-7.902
			4.5000	-73.58	-15.58	-9.43	-1.171	-19.707	-26.365
CUBIERTA	C8	DIS3Y MAX							
			0.0000	-63.91	5.12	28.73	1.039	87.506	14.461
			2.2500	-56.75	5.12	28.73	1.039	22.861	2.938
			4.5000	-49.60	5.12	28.73	1.039	26.918	9.386
CUBIERTA	C8	DIS3Y MIN							
			0.0000	-87.74	-5.25	-27.57	-1.098	-97.132	-14.220
			2.2500	-80.58	-5.25	-27.57	-1.098	-35.108	-2.420
			4.5000	-73.42	-5.25	-27.57	-1.098	-41.787	-8.591
CUBIERTA	C9	DIS1A							
			0.0000	-135.52	0.45	1.59	-0.061	-6.996	1.025
			2.2500	-125.98	0.45	1.59	-0.061	-10.574	0.023
			4.5000	-116.44	0.45	1.59	-0.061	-14.152	-0.980
CUBIERTA	C9	DIS1B							
			0.0000	-161.16	0.51	3.94	-0.057	-4.670	1.141
			2.2500	-151.62	0.51	3.94	-0.057	-13.537	-0.006
			4.5000	-142.08	0.51	3.94	-0.057	-22.405	-1.153
CUBIERTA	C9	DIS2X MAX	0.0000	-121.90	20.73	9.13	0.756	20.099	51.759
			2.2500	-112.36	20.73	9.13	0.756	-0.447	5.110
			4.5000						
CUBIERTA	C9	DIS2X MIN		-102.82	20.73	9.13	0.756	-0.720	39.714
			0.0000	-129.68	-19.89	-7.86	-0.879	-36.081	-49.803
			2.2500	-120.13	-19.89	-7.86	-0.879	-18.401	-5.044
			4.5000	-110.59	-19.89	-7.86	-0.879	-20.992	-41.538
CUBIERTA	C9	DIS2Y MAX							
			0.0000	-114.70	7.15	27.91	0.865	82.225	17.820
			2.2500	-105.15	7.15	27.91	0.865	19.437	1.726
			4.5000						
CUBIERTA	C9	DIS2Y MIN		-95.61	7.15	27.91	0.865	21.638	12.545
			0.0000	-136.88	-6.31	-26.63	-0.988	-98.207	-15.864
			2.2500	-127.34	-6.31	-26.63	-0.988	-38.285	-1.660
			4.5000	-117.80	-6.31	-26.63	-0.988	-43.350	-14.369
CUBIERTA	C9	DIS3X MAX							
			0.0000	-78.29	20.60	7.78	0.770	20.852	51.456
			2.2500	-71.13	20.60	7.78	0.770	3.347	5.115
			4.5000	-63.98	20.60	7.78	0.770	6.114	40.026
CUBIERTA	C9	DIS3X MIN	0.0000	-86.07	-20.03	-9.21	-0.865	-35.328	-50.106
			2.2500	-78.91	-20.03	-9.21	-0.865	-14.607	-5.040
			4.5000	-71.75	-20.03	-9.21	-0.865	-14.158	-41.226
CUBIERTA	C9	DIS3Y MAX	0.0000	-71.09	7.02	26.55	0.879	82.978	17.517
			2.2500	-63.93	7.02	26.55	0.879	23.231	1.730
			4.5000	-56.77	7.02	26.55	0.879	28.472	12.857
CUBIERTA	C9	DIS3Y MIN							
			0.0000	-93.27	-6.45	-27.98	-0.974	-97.454	-16.167
			2.2500	-86.11	-6.45	-27.98	-0.974	-34.491	-1.655
			4.5000	-78.96	-6.45	-27.98	-0.974	-36.516	-14.057
CUBIERTA	C10	DIS1A							
			0.0000	-139.40	0.30	3.78	-0.035	-3.880	0.789
			2.2500	-129.86	0.30	3.78	-0.035	-12.377	0.118
			4.5000	-120.32	0.30	3.78	-0.035	-20.874	-0.553
CUBIERTA	C10	DIS1B							
			0.0000	-168.54	0.30	8.40	-0.023	2.129	0.807
			2.2500	-158.99	0.30	8.40	-0.023	-16.770	0.128
			4.5000	-149.45	0.30	8.40	-0.023	-35.668	-0.551
CUBIERTA	C10	DIS2X MAX							
			0.0000	-124.98	19.42	10.37	0.724	21.167	49.627

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-115.44	19.42	10.37	0.724	-2.157	5.938
			4.5000	-105.90	19.42	10.37	0.724	-5.146	36.652
CUBIERTA	C10	DIS2X MIN							
			0.0000	-131.95	-18.83	-6.29	-0.801	-33.467	-48.071
			2.2500	-122.41	-18.83	-6.29	-0.801	-19.306	-5.709
			4.5000	-112.86	-18.83	-6.29	-0.801	-25.482	-37.751
CUBIERTA	C10	DIS2Y MAX							
			0.0000	-116.88	6.66	29.75	0.868	84.748	17.020
			2.2500	-107.33	6.66	29.75	0.868	17.802	2.040
			4.5000						
CUBIERTA	C10	DIS2Y MIN		-97.79	6.66	29.75	0.868	18.517	11.842
			0.0000	-140.05	-6.07	-25.68	-0.945	-97.048	-15.463
			2.2500	-130.51	-6.07	-25.68	-0.945	-39.266	-1.811
			4.5000	-120.97	-6.07	-25.68	-0.945	-49.145	-12.941
CUBIERTA	C10	DIS3X MAX							
			0.0000	-79.20	19.34	7.68	0.728	19.867	49.420
			2.2500	-72.04	19.34	7.68	0.728	2.582	5.905
			4.5000	-64.88	19.34	7.68	0.728	5.633	36.794
CUBIERTA	C10	DIS3X MIN							
			0.0000	-86.16	-18.90	-8.98	-0.796	-34.767	-48.279
			2.2500	-79.01	-18.90	-8.98	-0.796	-14.567	-5.743
			4.5000	-71.85	-18.90	-8.98	-0.796	-14.703	-37.610
CUBIERTA	C10	DIS3Y MAX	0.0000	-71.09	6.58	27.07	0.872	83.448	16.812
			2.2500	-63.94	6.58	27.07	0.872	22.541	2.007
			4.5000	-56.78	6.58	27.07	0.872	29.296	11.983
CUBIERTA	C10	OIS3Y MIN							
			0.0000	-94.27	-6.15	-28.37	-0.940	-98.348	-15.671
			2.2500	-87.11	-6.15	-28.37	-0.940	-34.526	-1.844
			4.5000	-79.96	-6.15	-28.37	-0.940	-38.365	-12.800
CUBIERTA	C11	DIS1A							
			0.0000	-138.44	0.52	3.73	0.011	-4.023	1.155
			2.2500	-128.89	0.52	3.73	0.011	-12.422	-0.017
			4.5000	-119.35	0.52	3.73	0.011	-20.820	-1.188
CUBIERTA	C11	DIS1B							
			0.0000	-167.79	0.52	8.45	0.036	2.277	1.162
			2.2500	-158.25	0.52	8.45	0.036	-16.743	-0.001
			4.5000	-148.70	0.52	8.45	0.036	-35.763	-1.163
CUBIERTA	C11	DIS2X MAX							
			0.0000	-123.35	20.59	10.88	0.784	22.780	51.547
			2.2500	-113.81	20.59	10.88	0.784	-1.711	5.212
			4.5000	-104.26	20.59	10.88	0.784	-4.226	38.731
CUBIERTA	C11	DIS2X MIN							
			0.0000	-131.50	-19.55	-6.96	-0.780	-35.564	-49.247
			2.2500	-121.95	-19.55	-6.96	-0.780	-19.895	-5.258
			4.5000	-112.41	-19.55	-6.96	-0.780	-26.202	-41.124
CUBIERTA	C11	DIS2Y MAX							
			0.0000	-115.53	7.19	29.94	0.925	85.091	17.885
			2.2500	-105.98	7.19	29.94	0.925	17.722	1.712
			4.5000	-96.44	7.19	29.94	0.925	19.218	12.069
CUBIERTA	C11	OIS2Y MIN							
			0.0000	-139.32	-6.15	-26.02	-0.920	-97.875	-15.584
			2.2500	-129.78	-6.15	-26.02	-0.920	-39.328	-1.758
			4.5000	-120.23	-6.15	-26.02	-0.920	-49.646	-14.461
CUBIERTA	C11	DIS3X MAX							
			0.0000	-77.72	20.46	8.18	0.773	21.416	51.253
			2.2500	-70.57	20.46	8.18	0.773	3.013	5.209
			4.5000	-63.41	20.46	8.18	0.773	6.586	39.020
CUBIERTA	C11	DIS3X MIN	0.0000	-85.87	-19.68	-9.67	-0.792	-36.928	-49.540
			2.2500	-78.72	-19.68	-9.67	-0.792	-15.171	-5.260
			4.5000	-71.56	-19.68	-9.67	-0.792	-15.390	-40.834
CUBIERTA	C11	DIS3Y MAX							
			0.0000	-69.90	7.06	27.24	0.913	83.727	17.591
			2.2500	-62.75	7.06	27.24	0.913	22.446	1.710
			4.5000	-55.59	7.06	27.24	0.913	30.030	12.358
CUBIERTA	C11	OIS3Y MIN							
			0.0000	-93.69	-6.27	-28.73	-0.932	-99.239	-15.878
			2.2500	-86.54	-6.27	-28.73	-0.932	-34.604	-1.760
			4.5000	-79.38	-6.27	-28.73	-0.932	-38.835	-14.172
CUBIERTA	C12	DIS1A							
			0.0000	-126.91	-0.76	3.05	0.004	-4.973	-0.913
			2.2500	-117.37	-0.76	3.05	0.004	-11.836	0.787
			4.5000	-107.83	-0.76	3.05	0.004	-18.698	2.487
CUBIERTA	C12	DIS1B							
			0.0000	-145.97	-0.58	5.76	0.029	-1.715	-0.610

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-136.43	-0.58	5.76	0.029	-14.669	0.686
			4.5000	-126.89	-0.58	5.76	0.029	-27.623	1.983
CUBIERTA	C12	DIS2X MAX	0.0000	-107.22	14.78	12.67	1.204	28.513	42.200
			2.2500	-97.67	14.78	12.67	1.204	0.007	8.955
			4.5000	-88.13	14.78	12.67	1.204	-2.185	29.644
CUBIERTA	C12	DIS2X MIN							
			0.0000	-132.30	-16.42	-8.61	-1.213	-40.917	-44.257
			2.2500	-122.76	-16.42	-8.61	-1.213	-21.551	-7.306
			4.5000	-113.22	-16.42	-8.61	-1.213	-28.500	-24.289
CUBIERTA	C12	DIS2Y MAX	0.0000	-107.43	4.37	30.38	1.098	86.456	13.335
			2.2500	-97.88	4.37	30.38	1.098	18.092	3.498
			4.5000	-88.34	4.37	30.38	1.098	19.589	11.696
CUBIERTA	C12	DIS2Y MIN							
			0.0000	-132.09	-6.02	-26.32	-1.108	-98.859	-15.392
			2.2500	-122.55	-6.02	-26.32	-1.108	-39.636	-1.849
			4.5000	-113.01	-6.02	-26.32	-1.108	-50.274	-6.341
CUBIERTA	C12	DIS3X MAX							
			0.0000	-68.33	14.90	10.89	1.194	28.528	42.312
			2.2500	-61.18	14.90	10.89	1.194	4.030	8.796
			4.5000	-54.02	14.90	10.89	1.194	5.845	29.213
CUBIERTA	C12	DIS3X MIN	0.0000	-93.42	-16.30	-10.39	-1.223	-40.902	-44.144
			2.2500	-86.26	-16.30	-10.39	-1.223	-17.529	-7.466
			4.5000	-79.11	-16.30	-10.39	-1.223	-20.470	-24.720
CUBIERTA	C12	DIS3Y MAX							
			0.0000	-68.54	4.49	28.60	1.088	86.471	13.447
			2.2500	-61.39	4.49	28.60	1.088	22.114	3.339
			4.5000	-54.23	4.49	28.60	1.088	27.619	11.265
CUBIERTA	C12	DIS3Y MIN	0.0000	-93.21	-5.90	-28.10	-1.118	-98.844	-15.280
			2.2500	-86.05	-5.90	-28.10	-1.118	-35.613	-2.009
			4.5000	-78.90	-5.90	-28.10	-1.118	-42.244	-6.772

CONCRETE COLUMN CHECK OUTPUT (ACI 318-08/IBC 2009)

BIAXIAL P-M INTERACTION CAPACITY CHECK AND SHEAR DESIGN OF COLUMN-TYPE ELEMENTS

STORY ID	COLUMN LINE	SECTION ID	STATION ID	INTERACTION RATIO	COMBO ID	SHEAR22 REBAR	COMBO ID	SHEAR33 REBAR	COMBO ID
CUBIERTA	C1	C30X50B	0.000	0.625	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C1	C30X50B	225.000	0.170	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C1	C30X50B	450.000	0.424	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C2	C30X50C	0.000	0.568	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C2	C30X50C	225.000	0.183	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C2	C30X50C	450.000	0.440	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C3	C30X50C	0.000	0.550	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C3	C30X50C	225.000	0.175	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C3	C30X50C	450.000	0.418	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C4	C30X50C	0.000	0.555	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C4	C30X50C	225.000	0.177	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C4	C30X50C	450.000	0.432	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C5	C30X50B	0.000	0.598	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C5	C30X50B	225.000	0.171	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C5	C30X50B	450.000	0.372	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C6	C2DX40	0.000	0.556	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C6	C20x40	225.000	0.123	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C6	C20x40	450.000	0.533	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C7	C20x40	0.000	0.565	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C7	C20x40	225.000	0.120	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C7	C2DX40	450.000	0.530	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C8	C3DX50B	0.000	0.574	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C8	C3DX50B	225.000	0.171	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C8	C30X50B	450.000	0.293	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C9	C30X50B	0.000	0.582	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C9	C30X50B	225.000	0.169	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C9	C3DX50B	450.000	0.415	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C10	C30X50B	0.000	0.585	DIS3Y	0.000	DIS3Y	0.000	DIS3Y

BIAXIAL P-M INTERACTION CAPACITY CHECK AND SHEAR DESIGN OF COLUMN-TYPE ELEMENTS

STORY ID	COLUMN LINE	SECTION ID	STATION ID	INTERACTION RATIO	COMBO ID	SHEAR22 REBAR	COMBO ID	SHEAR33 REBAR	COMBO ID
CUBIERTA	C10	C30X50B	225.000	0.173	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C10	C30X50B	450.000	0.375	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C11	C30X50B	0.000	0.594	DIS3Y	0.000	DIS3Y	0.000	OIS3Y
CUBIERTA	C11	C30X50B	225.000	0.173	DIS2Y	0.000	DIS3Y	0.000	OIS3Y
CUBIERTA	C11	C30X50B	450.000	0.413	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C12	C30X50B	0.000	0.584	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C12	C30X50B	225.000	0.176	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C12	C30X50B	450.000	0.310	DIS2X	0.000	DIS3Y	0.000	DIS3Y

CONCRETE COLUMN JOINT OUTPUT (ACI 318-08/IBC 2009)

BEAM TO COLUMN CAPACITY RATIOS AND JOINT SHEAR CAPACITY CHECK

STORY ID	COLUMN LINE	SECTION ID	<-(6/5)BEAM-COLUMN CAPACITY RATIOS-> MAJOR	COMBO	MINOR	COMBO	<--JOINT SHEAR CAPACITY RATIOS----> MAJOR	COMBO	MINOR	COMBO
CUBIERTA	C1	C30X50B	0.788	DIS3Y	0.912	DIS3Y	0.381	OIS2X	0.637	DIS2X
CUBIERTA	C2	C30X50C	0.858							
CUBIERTA	C3	C30X50C	0.903	DIS3Y	0.928	DIS3Y	0.502	DIS2X	0.764	DIS2X
CUBIERTA	C4	C30X50C	0.893	DIS3Y	0.934	DIS3Y	0.500	DIS2X	0.775	OIS2X
CUBIERTA	C5	C30X50B	0.896	DIS3Y	0.956	DIS3Y	0.437	DIS2X	0.677	OIS2X
CUBIERTA	C6	C20X40	0.868	DIS3Y	0.462	DIS3Y	0.288	DIS2X	0.346	DIS2X
CUBIERTA	C7	C20X40	0.870	DIS3Y	0.462	DIS3Y	0.288	DIS2X	0.346	DIS2X
CUBIERTA	C8	C30X50B	0.713	DIS3X	0.551	OIS3X	0.336	OIS2X	0.374	DIS2X
CUBIERTA	C9	C30X50B	0.929	DIS3Y	0.574	OIS3Y	0.439	DIS2X	0.391	DIS2X
CUBIERTA	C10	C30X50B	0.896	DIS3Y	0.619	DIS3Y	0.423	DIS2X	0.424	DIS2X
CUBIERTA	C11	C30X50B	0.916	DIS3Y	0.622	DIS3Y	0.432	DIS2X	0.426	OIS2X
CUBIERTA	C12	C30X50B	0.868	DIS3X	0.559	DIS3X	0.412	OIS2X	0.382	OIS2X

8.1.6.7. Zona baja, Suelo Tipo AB

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C O L U M N F O R C E S

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
CUBIERTA	C1	DIS1A	0.0000	-151.88	-3.48	-4.87	-0.058	-16.882	-5.356
			2.2500	-142.33	-3.48	-4.87	-0.058	-5.934	2.475
			4.5000	-132.79	-3.48	-4.87	-0.058	5.014	10.306
CUBIERTA	C1	DIS1B	0.0000	-172.88	-3.98	-7.83	-0.052	-23.078	-6.123
			2.2500	-163.33	-3.98	-7.83	-0.052	-5.463	2.843
			4.5000	-153.79	-3.98	-7.83	-0.052	12.151	11.809
CUBIERTA	C1	DIS2X MAX	0.0000	-137.19	7.94	2.15	0.487	3.891	25.382
			2.2500	-127.65	7.94	2.15	0.487	-0.933	7.519
			4.5000	-118.11	7.94	2.15	0.487	10.440	29.699
CUBIERTA	C1	DIS2X MIN	0.0000	-150.66	-14.48	-9.65	-0.607	-33.014	-35.442
			2.2500	-141.11	-14.48	-9.65	-0.607	-11.313	-2.877
			4.5000	-131.57	-14.48	-9.65	-0.607	-5.809	-10.355
CUBIERTA	C1	DIS2Y MAX	0.0000	-135.25	0.16	11.98	0.461	35.401	4.178
			2.2500	-125.71	0.16	11.98	0.461	8.439	3.970
			4.5000	-116.16	0.16	11.98	0.461	23.156	15.967
CUBIERTA	C1	DIS2Y MIN	0.0000	-152.60	-6.69	-19.48	-0.581	-64.524	-14.238
			2.2500	-143.06	-6.69	-19.48	-0.581	-20.685	0.672
			4.5000	-133.51	-6.69	-19.48	-0.581	-18.525	3.376
CUBIERTA	C1	DIS3X MAX	0.0000	-91.27	9.02	4.48	0.499	10.432	27.048
			2.2500	-84.12	9.02	4.48	0.499	0.361	6.746
			4.5000	-76.96	9.02	4.48	0.499	6.488	26.488
CUBIERTA	C1	DIS3X MIN	0.0000	-104.73	-13.39	-7.32	-0.594	-26.473	-33.777
			2.2500	-97.58	-13.39	-7.32	-0.594	-10.018	-3.650
			4.5000	-90.42	-13.39	-7.32	-0.594	-9.761	-13.566
CUBIERTA	C1	DIS3Y MAX	0.0000	-89.33	1.24	14.32	0.473	41.942	5.843
			2.2500	-82.17	1.24	14.32	0.473	9.734	3.197
			4.5000	-75.02	1.24	14.32	0.473	19.204	12.756
CUBIERTA	C1	DIS3Y MIN	0.0000	-106.68	-5.61	-17.15	-0.568	-57.983	-12.572
			2.2500	-99.52	-5.61	-17.15	-0.568	-19.391	-0.101
			4.5000	-92.36	-5.61	-17.15	-0.568	-22.477	0.165
CUBIERTA	C2	DIS1A	0.0000	-219.05	0.70	-0.59	-0.061	-10.476	1.411
			2.2500	-209.51	0.70	-0.59	-0.061	-9.149	-0.167
			4.5000	-199.97	0.70	-0.59	-0.061	-7.821	-1.746
CUBIERTA	C2	DIS1B	0.0000	-237.80	0.85	-1.48	-0.052	-13.310	1.698
			2.2500	-228.25	0.85	-1.48	-0.052	-9.987	-0.211
			4.5000	-218.71	0.85	-1.48	-0.052	-6.664	-2.120
CUBIERTA	C2	DIS2X MAX	0.0000	-202.80	14.93	5.30	0.346	7.123	36.726
			2.2500	-193.26	14.93	5.30	0.346	-4.792	3.143
			4.5000	-183.72	14.93	5.30	0.346	-0.880	27.237
CUBIERTA	C2	DIS2X MIN	0.0000	-217.21	-13.64	-5.44	-0.473	-25.361	-34.125
			2.2500	-207.66	-13.64	-5.44	-0.473	-13.137	-3.444
			4.5000	-198.12	-13.64	-5.44	-0.473	-16.739	-30.441
CUBIERTA	C2	DIS2Y MAX	0.0000	-189.18	4.97	17.23	0.402	42.977	12.024
			2.2500	-179.63	4.97	17.23	0.402	4.212	0.839
			4.5000	-170.09	4.97	17.23	0.402	16.934	7.149
CUBIERTA	C2	OIS2Y MIN	0.0000	-230.83	-3.68	-17.37	-0.530	-61.216	-9.422
			2.2500	-221.29	-3.68	-17.37	-0.530	-22.142	-1.140
			4.5000	-211.74	-3.68	-17.37	-0.530	-34.553	-10.353
CUBIERTA	C2	DIS3X MAX	0.0000	-138.99	14.69	5.97	0.358	11.098	36.263
			2.2500	-131.83	14.69	5.97	0.358	-2.321	3.202
			4.5000	-124.67	14.69	5.97	0.358	0.087	27.818
CUBIERTA	C2	BIS3X MIN	0.0000	-153.39	-13.87	-4.77	-0.461	-21.386	-34.588
			2.2500	-146.23	-13.87	-4.77	-0.461	-10.666	-3.385

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COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			4.5000	-139.08	-13.87	-4.77	-0.461	-15.772	-29.861
CUBIERTA	C2	DIS3Y MAX							
			0.0000	-125.36	4.74	17.90	0.414	46.953	11.561
			2.2500	-118.21	4.74	17.90	0.414	6.684	0.898
			4.5000	-111.05	4.74	17.90	0.414	17.901	7.730
CUBIERTA	C2	DIS3Y MIN							
			0.0000	-167.02	-3.91	-16.70	-0.518	-57.241	-9.885
			2.2500	-159.86	-3.91	-16.70	-0.518	-19.670	-1.081
			4.5000	-152.70	-3.91	-16.70	-0.518	-33.586	-9.773
CUBIERTA	C3	DIS1A							
			0.0000	-190.02	0.84	-2.52	-0.031	-13.912	1.625
			2.2500	-180.47	0.84	-2.52	-0.031	-8.247	-0.267
			4.5000	-170.93	0.84	-2.52	-0.031	-2.583	-2.159
CUBIERTA	C3	DIS1B							
			0.0000	-224.69	0.85	-7.12	-0.012	-22.621	1.685
			2.2500	-215.14	0.85	-7.12	-0.012	-6.597	-0.227
			4.5000	-205.60	0.85	-7.12	-0.012	9.426	-2.139
CUBIERTA	C3	DIS2X MAX							
			0.0000	-174.21	14.30	3.85	0.368	4.102	35.716
			2.2500	-164.67	14.30	3.85	0.368	-4.551	3.533
			4.5000	-155.13	14.30	3.85	0.368	-1.001	24.431
CUBIERTA	C3	DIS2X MIN	0.0000	-179.63	-12.67	-5.42	-0.442	-25.393	-32.574
			2.2500	-170.09	-12.67	-5.42	-0.442	-13.198	-4.074
			4.5000	-160.54	-12.67	-5.42	-0.442	-13.207	-28.656
CUBIERTA	C3	DIS2Y MAX							
			0.0000	-167.90	4.94	14.63	0.427	38.417	11.952
			2.2500	-158.36	4.94	14.63	0.427	5.499	0.910
			4.5000	-148.82	4.94	14.63	0.427	13.211	6.095
CUBIERTA	C3	DIS2Y MIN	0.0000	-185.94	-3.31	-16.20	-0.501	-59.708	-8.809
			2.2500	-176.40	-3.31	-16.20	-0.501	-23.249	-1.451
			4.5000	-166.85	-3.31	-16.20	-0.501	-27.419	-10.320
CUBIERTA	C3	DIS3X MAX	0.0000	-113.61	14.07	6.21	0.369	10.846	35.256
			2.2500	-106.45	14.07	6.21	0.369	-3.117	3.596
			4.5000						
CUBIERTA	C3	DIS3X MIN		-99.30	14.07	6.21	0.369	-4.876	25.017
			0.0000	-119.03	-12.90	-3.06	-0.441	-18.649	-33.034
			2.2500	-111.87	-12.90	-3.06	-0.441	-11.764	-4.011
			4.5000	-104.72	-12.90	-3.06	-0.441	-17.082	-28.070
CUBIERTA	C3	DIS3Y MAX							
			0.0000	-107.30	4.71	16.99	0.428	45.161	11.492
			2.2500	-100.14	4.71	16.99	0.428	6.934	0.973
			4.5000						
CUBIERTA	C3	DIS3Y MIN		-92.99	4.71	16.99	0.428	9.336	6.681
			0.0000	-125.34	-3.54	-13.84	-0.500	-52.964	-9.269
			2.2500	-118.18	-3.54	-13.84	-0.500	-21.814	-1.388
			4.5000	-111.03	-3.54	-13.84	-0.500	-31.294	-9.734
CUBIERTA	C4	DIS1A							
			0.0000	-189.94	-0.05	-2.06	0.003	-13.250	0.175
			2.2500	-180.39	-0.05	-2.06	0.003	-8.621	0.277
			4.5000	-170.85	-0.05	-2.06	0.003	-3.993	0.380
CUBIERTA	C4	DIS1B							
			0.0000	-225.46	-0.06	-6.69	0.022	-21.871	0.199
			2.2500	-215.92	-0.06	-6.69	0.022	-6.815	0.330
			4.5000	-206.37	-0.06	-6.69	0.022	8.241	0.460
CUBIERTA	C4	DIS2X MAX							
			0.0000	-173.39	13.94	4.38	0.470	5.389	35.080
			2.2500	-163.85	13.94	4.38	0.470	-4.448	3.725
			4.5000	-154.31	13.94	4.38	0.470	-2.842	28.319
CUBIERTA	C4	DIS2X MIN							
			0.0000	-179.85	-14.01	-5.02	-0.477	-25.436	-34.744
			2.2500	-170.31	-14.01	-5.02	-0.477	-14.154	-3.213
			4.5000	-160.77	-14.01	-5.02	-0.477	-14.315	-27.631
CUBIERTA	C4	DIS2Y MAX	0.0000	-170.77	4.18	14.41	0.491	38.042	10.714
			2.2500	-161.23	4.18	14.41	0.491	5.619	1.305
			4.5000	-151.69	4.18	14.41	0.491	9.648	8.798
CUBIERTA	C4	DIS2Y MIN							
			0.0000	-182.47	-4.26	-15.05	-0.499	-58.089	-10.378
			2.2500	-172.93	-4.26	-15.05	-0.499	-24.221	-0.792
			4.5000	-163.39	-4.26	-15.05	-0.499	-26.805	-8.110
CUBIERTA	C4	DIS3X MAX							
			0.0000	-112.60	13.95	6.63	0.462	11.928	35.030

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-105.44	13.95	6.63	0.462	-2.972	3.634
			4.5000	-98.28	13.95	6.63	0.462	-6.430	28.187
CUBIERTA	C4	DIS3X MIN							
			0.0000	-119.05	-14.00	-2.77	-0.485	-18.896	-34.794
			2.2500	-111.90	-14.00	-2.77	-0.485	-12.678	-3.303
			4.5000	-104.74	-14.00	-2.77	-0.485	-17.902	-27.763
CUBIERTA	C4	DIS3Y MAX							
			0.0000	-109.97	4.20	16.66	0.484	44.581	10.664
			2.2500	-102.82	4.20	16.66	0.484	7.095	1.214
			4.5000						
CUBIERTA	C4	DIS3Y MIN		-95.66	4.20	16.66	0.484	6.060	8.667
			0.0000	-121.68	-4.24	-12.80	-0.506	-51.550	-10.428
			2.2500	-114.52	-4.24	-12.80	-0.506	-22.745	-0.883
			4.5000	-107.36	-4.24	-12.80	-0.506	-30.393	-8.242
CUBIERTA	C5	DIS1A							
			0.0000	-160.80	1.69	-5.02	0.003	-17.894	2.982
			2.2500	-151.25	1.69	-5.02	0.003	-6.593	-0.820
			4.5000	-141.71	1.69	-5.02	0.003	4.709	-4.621
CUBIERTA	C5	DIS1B							
			0.0000	-183.52	2.14	-8.07	0.015	-23.841	3.750
			2.2500	-173.98	2.14	-8.07	0.015	-5.680	-1.055
			4.5000	-164.44	2.14	-8.07	0.015	12.481	-5.860
CUBIERTA	C5	DIS2X MAX							
			0.0000	-145.86	12.75	2.15	0.591	3.569	33.118
			2.2500	-136.32	12.75	2.15	0.591	-1.252	4.420
			4.5000	-126.77	12.75	2.15	0.591	9.737	15.971
CUBIERTA	C5	DIS2X MIN							
			0.0000	-158.67	-9.71	-9.91	-0.594	-34.893	-27.735
			2.2500	-149.13	-9.71	-9.91	-0.594	-12.623	-5.883
			4.5000	-139.59	-9.71	-9.91	-0.594	-6.163	-24.279
CUBIERTA	C5	DIS2Y MAX							
			0.0000	-145.69	4.92	11.00	0.546	32.933	11.889
			2.2500	-136.15	4.92	11.00	0.546	8.190	0.820
			4.5000	-126.61	4.92	11.00	0.546	20.135	1.944
CUBIERTA	C5	DIS2Y MIN	0.0000	-158.84	-1.88	-18.75	-0.548	-64.257	-6.506
			2.2500	-149.29	-1.88	-18.75	-0.548	-22.065	-2.283
			4.5000	-139.75	-1.88	-18.75	-0.548	-16.561	-10.252
CUBIERTA	C5	DIS3X MAX							
			0.0000	-97.13	12.16	4.56	0.586	10.274	32.082
			2.2500	-89.97	12.16	4.56	0.586	0.051	4.713
			4.5000	-82.81	12.16	4.56	0.586	5.639	17.593
CUBIERTA	C5	DIS3X MIN							
			0.0000	-109.94	-10.30	-7.51	-0.599	-28.187	-28.771
			2.2500	-102.78	-10.30	-7.51	-0.599	-11.319	-5.589
			4.5000	-95.63	-10.30	-7.51	-0.599	-10.262	-22.657
CUBIERTA	C5	DIS3Y MAX							
			0.0000	-96.96	4.33	13.40	0.541	39.639	10.853
			2.2500	-89.81	4.33	13.40	0.541	9.494	1.113
			4.5000	-82.65	4.33	13.40	0.541	16.037	3.566
CUBIERTA	C5	DIS3Y MIN							
			0.0000	-110.11	-2.47	-16.35	-0.553	-57.552	-7.542
			2.2500	-102.95	-2.47	-16.35	-0.553	-20.762	-1.989
			4.5000	-95.79	-2.47	-16.35	-0.553	-20.660	-8.630
CUBIERTA	C6	DIS1A							
			0.0000	-47.14	-1.90	0.22	-0.016	-2.830	-3.009
			2.2500	-42.05	-1.90	0.22	-0.016	-3.337	1.271
			4.5000	-36.96	-1.90	0.22	-0.016	-3.843	5.551
CUBIERTA	C6	DIS1B							
			0.0000	-51.27	-2.31	-0.01	-0.014	-3.690	-3.654
			2.2500	-46.18	-2.31	-0.01	-0.014	-3.679	1.532
			4.5000	-41.09	-2.31	-0.01	-0.014	-3.667	6.719
CUBIERTA	C6	DIS2X MAX							
			0.0000	-39.46	1.85	2.70	0.087	4.076	5.921
			2.2500	-34.37	1.85	2.70	0.087	-1.970	1.757
			4.5000	-29.28	1.85	2.70	0.087	0.542	12.433
CUBIERTA	C6	DIS2X MIN	0.0000	-50.17	-5.28	-2.18	-0.119	-9.264	-11.341
			2.2500	-45.08	-5.28	-2.18	-0.119	-4.388	0.543
			4.5000	-39.99	-5.28	-2.18	-0.119	-8.070	-2.411
CUBIERTA	C6	DIS2Y MAX	0.0000	-34.69	-0.61	7.87	0.103	18.020	-0.081
			2.2500	-29.60	-0.61	7.87	0.103	0.312	1.376
			4.5000	-24.51	-0.61	7.87	0.103	9.870	7.354
CUBIERTA	C6	DIS2Y MIN							
			0.0000	-54.94	-2.82	-7.35	-0.136	-23.208	-5.339

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COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-49.85	-2.82	-7.35	-0.136	-6.670	0.924
			4.5000	-44.76	-2.82	-7.35	-0.136	-17.398	2.668
CUBIERTA	C6	DIS3X MAX	0.0000	-25.35	2.51	2.68	0.090	5.020	6.972
			2.2500	-21.53	2.51	2.68	0.090	-0.978	1.319
			4.5000	-17.71	2.51	2.68	0.090	1.582	10.505
CUBIERTA	C6	DIS3X MIN	0.0000	-36.06	-4.62	-2.20	-0.116	-8.320	-10.290
			2.2500	-32.24	-4.62	-2.20	-0.116	-3.396	0.105
			4.5000	-28.42	-4.62	-2.20	-0.116	-7.030	-4.339
CUBIERTA	C6	DIS3Y MAX	0.0000	-20.58	0.05	7.85	0.106	18.964	0.970
			2.2500	-16.76	0.05	7.85	0.106	1.304	0.938
			4.5000	-12.95	0.05	7.85	0.106	10.910	5.426
CUBIERTA	C6	DIS3Y MIN	0.0000	-40.82	-2.16	-7.37	-0.133	-22.264	-4.288
			2.2500	-37.01	-2.16	-7.37	-0.133	-5.678	0.486
			4.5000	-33.19	-2.16	-7.37	-0.133	-16.358	0.740
CUBIERTA	C7	DIS1A	0.0000	-45.50	2.13	-0.39	-0.016	-3.936	3.533
			2.2500	-40.41	2.13	-0.39	-0.016	-3.061	-1.251
			4.5000	-35.32	2.13	-0.39	-0.016	-2.186	-6.036
CUBIERTA	C7	DIS1B	0.0000	-49.49	2.56	-0.68	-0.013	-4.883	4.242
			2.2500	-44.40	2.56	-0.68	-0.013	-3.345	-1.511
			4.5000	-39.32	2.56	-0.68	-0.013	-1.808	-7.264
CUBIERTA	C7	DIS2X MAX	0.0000	-38.67	5.43	1.98	0.090	2.579	11.727
			2.2500	-33.58	5.43	1.98	0.090	-1.877	-0.481
			4.5000	-28.49	5.43	1.98	0.090	1.958	1.750
CUBIERTA	C7	DIS2X MIN	0.0000	-47.78	-1.57	-2.64	-0.124	-9.905	-5.309
			2.2500	-42.69	-1.57	-2.64	-0.124	-3.974	-1.782
			4.5000	-37.61	-1.57	-2.64	-0.124	-6.333	-12.693
CUBIERTA	C7	DIS2Y MAX	0.0000	-33.17	2.99	7.28	0.104	16.899	5.776
			2.2500	-28.08	2.99	7.28	0.104	0.523	-0.886
			4.5000	-22.99	2.99	7.28	0.104	11.479	-3.234
CUBIERTA	C7	DIS2Y MIN	0.0000	-53.29	0.86	-7.93	-0.138	-24.226	0.641
			2.2500	-48.20	0.86	-7.93	-0.138	-6.374	-1.377
CUBIERTA	C7	DIS3X MAX	0.0000	-25.03	4.70	2.14	0.093	3.835	10.519
			2.2500	-21.21	4.70	2.14	0.093	-0.976	-0.048
			4.5000	-17.40	4.70	2.14	0.093	2.504	3.823
CUBIERTA	C7	DIS3X MIN	0.0000	-34.14	-2.30	-2.48	-0.121	-8.649	-6.517
			2.2500	-30.32	-2.30	-2.48	-0.121	-3.073	-1.349
			4.5000	-26.51	-2.30	-2.48	-0.121	-5.787	-10.619
CUBIERTA	C7	DIS3Y MAX	0.0000	-19.53	2.26	7.44	0.107	18.156	4.569
			2.2500	-15.71	2.26	7.44	0.107	1.424	-0.453
			4.5000	-11.89	2.26	7.44	0.107	12.025	-1.161
CUBIERTA	C7	DIS3Y MIN	0.0000	-39.64	0.14	-7.78	-0.135	-22.970	-0.566
			2.2500	-35.83	0.14	-7.78	-0.135	-5.473	-0.944
			4.5000	-32.01	0.14	-7.78	-0.135	-15.308	-5.636
CUBIERTA	C8	DIS1A	0.0000	-118.75	-0.44	3.07	-0.036	-4.181	-0.401
			2.2500	-109.21	-0.44	3.07	-0.036	-11.083	0.587
			4.5000	-99.67	-0.44	3.07	-0.036	-17.985	1.574
CUBIERTA	C8	DIS1B	0.0000	-136.39	-0.79	5.33	-0.033	-2.021	-0.963
			2.2500	-126.85	-0.79	5.33	-0.033	-14.007	0.825
			4.5000	-117.30	-0.79	5.33	-0.033	-25.994	2.613
CUBIERTA	C8	DIS2X MAX	0.0000	-105.32	8.51	7.58	0.607	12.571	24.275
			2.2500	-95.78	8.51	7.58	0.607	-4.489	5.131
			4.5000	-86.23	8.51	7.58	0.607	-8.365	16.379
CUBIERTA	C8	DIS2X MIN	0.0000	-118.95	-9.12	-3.17	-0.683	-22.610	-24.655
			2.2500	-109.41	-9.12	-3.17	-0.683	-15.488	-4.138
			4.5000	-99.86	-9.12	-3.17	-0.683	-21.551	-14.014

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
CUBIERTA	C8	DIS2Y MAX							
			0.0000	-105.85	2.60	16.95	0.526	43.324	7.837
			2.2500	-96.31	2.60	16.95	0.526	5.189	1.998
			4.5000	-86.76	2.60	16.95	0.526	3.032	6.208
CUBIERTA	C8	DIS2Y MIN							
			0.0000	-118.42	-3.21	-12.53	-0.602	-53.364	-8.217
			2.2500	-108.87	-3.21	-12.53	-0.602	-25.167	-1.006
			4.5000	-99.33	-3.21	-12.53	-0.602	-32.947	-3.843
CUBIERTA	C8	DIS3X MAX	0.0000	-69.01	8.75	5.96	0.615	12.778	24.586
			2.2500	-61.85	8.75	5.96	0.615	-0.624	4.894
			4.5000	-54.70	8.75	5.96	0.615	-0.841	15.594
CUBIERTA	C8	DIS3X MIN							
			0.0000	-82.64	-8.88	-4.79	-0.675	-22.404	-24.344
			2.2500	-75.48	-8.88	-4.79	-0.675	-11.623	-4.375
			4.5000	-68.32	-8.88	-4.79	-0.675	-14.027	-14.799
CUBIERTA	C8	DIS3Y MAX							
			0.0000	-69.54	2.84	15.32	0.534	43.531	8.147
			2.2500	-62.38	2.84	15.32	0.534	9.054	1.761
			4.5000	-55.23	2.84	15.32	0.534	10.555	5.423
CUBIERTA	C8	DIS3Y MIN							
			0.0000	-82.11	-2.96	-14.16	-0.594	-53.157	-7.906
			2.2500	-74.95	-2.96	-14.16	-0.594	-21.302	-1.243
			4.5000	-67.79	-2.96	-14.16	-0.594	-25.424	-4.628
CUBIERTA	C9	DIS1A							
			0.0000	-135.52	0.45	1.59	-0.061	-6.996	1.025
			2.2500	-125.98	0.45	1.59	-0.061	-10.574	0.023
			4.5000	-116.44	0.45	1.59	-0.061	-14.152	-0.980
CUBIERTA	C9	DIS1B							
			0.0000	-161.16	0.51	3.94	-0.057	-4.670	1.141
			2.2500	-151.62	0.51	3.94	-0.057	-13.537	-0.006
			4.5000	-142.08	0.51	3.94	-0.057	-22.405	-1.153
CUBIERTA	C9	DIS2X MAX							
			0.0000	-123.71	11.95	5.11	0.399	6.811	29.814
			2.2500	-114.16	11.95	5.11	0.399	-4.694	2.916
			4.5000	-104.62	11.95	5.11	0.399	-5.513	22.157
CUBIERTA	C9	DIS2X MIN	0.0000	-127.87	-11.11	-3.84	-0.522	-22.793	-27.858
			2.2500	-118.33	-11.11	-3.84	-0.522	-14.153	-2.850
			4.5000	-108.79	-11.11	-3.84	-0.522	-16.199	-23.982
CUBIERTA	C9	DIS2Y MAX							
			0.0000	-119.98	4.19	14.91	0.426	39.241	10.409
			2.2500	-110.44	4.19	14.91	0.426	5.686	0.980
			4.5000	-100.90	4.19	14.91	0.426	6.156	6.625
CUBIERTA	C9	DIS2Y MIN	0.0000	-131.60	-3.35	-13.64	-0.549	-55.223	-8.453
			2.2500	-122.06	-3.35	-13.64	-0.549	-24.534	-0.914
			4.5000	-112.51	-3.35	-13.64	-0.549	-27.868	-8.449
CUBIERTA	C9	DIS3X MAX							
			0.0000	-80.10	11.82	3.76	0.413	7.564	29.511
			2.2500	-72.94	11.82	3.76	0.413	-0.900	2.921
			4.5000	-65.78	11.82	3.76	0.413	1.321	22.470
CUBIERTA	C9	DIS3X MIN							
			0.0000	-84.26	-11.25	-5.19	-0.508	-22.040	-28.160
			2.2500	-77.10	-11.25	-5.19	-0.508	-10.360	-2.845
			4.5000	-69.95	-11.25	-5.19	-0.508	-9.365	-23.669
CUBIERTA	C9	DIS3Y MAX							
			0.0000	-76.37	4.05	13.56	0.440	39.994	10.106
			2.2500	-69.21	4.05	13.56	0.440	9.480	0.985
			4.5000	-62.06	4.05	13.56	0.440	12.990	6.937
CUBIERTA	C9	DIS3Y MIN							
			0.0000	-87.99	-3.49	-14.99	-0.535	-54.470	-8.756
			2.2500	-80.83	-3.49	-14.99	-0.535	-20.740	-0.909
			4.5000	-73.67	-3.49	-14.99	-0.535	-21.034	-8.137
CUBIERTA	C10	DIS1A							
			0.0000	-139.40	0.30	3.78	-0.035	-3.880	0.789
			2.2500	-129.86	0.30	3.78	-0.035	-12.377	0.118
			4.5000	-120.32	0.30	3.78	-0.035	-20.874	-0.553
CUBIERTA	C10	DIS1B							
			0.0000	-168.54	0.30	8.40	-0.023	2.129	0.807
			2.2500	-158.99	0.30	8.40	-0.023	-16.770	0.128
			4.5000	-149.45	0.30	8.40	-0.023	-35.668	-0.551
CUBIERTA	C10	DIS2X MAX							
			0.0000	-126.64	11.15	6.40	0.391	8.158	28.517
			2.2500	-117.10	11.15	6.40	0.391	-6.241	3.421

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
CUBIERTA	C10	DIS2X MIN	4.5000						
			0.0000	-107.56	11.15	6.40	0.391	-9.988	20.575
			2.2500	-130.29	-10.56	-2.33	-0.468	-20.458	-26.961
			4.5000	-120.75	-10.56	-2.33	-0.468	-15.223	-3.193
CUBIERTA	C10	DIS2Y MAX		-111.21	-10.56	-2.33	-0.468	-20.640	-21.674
			0.0000	-122.40	3.86	16.55	0.438	41.436	9.870
			2.2500	-112.86	3.86	16.55	0.438	4.206	1.193
			4.5000	-103.31	3.86	16.55	0.438	2.397	6.386
CUBIERTA	C10	DIS2Y MIN	0.0000	-134.53	-3.27	-12.47	-0.515	-53.737	-8.314
			2.2500	-124.99	-3.27	-12.47	-0.515	-25.670	-0.964
			4.5000	-115.45	-3.27	-12.47	-0.515	-33.025	-7.485
CUBIERTA	C10	DIS3X MAX	0.0000	-80.86	11.08	3.72	0.395	6.858	28.309
			2.2500	-73.70	11.08	3.72	0.395	-1.501	3.388
CUBIERTA	C10	DIS3X MIN	4.5000	-66.54	11.08	3.72	0.395	0.791	20.717
			0.0000	-84.51	-10.64	-5.01	-0.463	-21.758	-27.168
			2.2500	-77.35	-10.64	-5.01	-0.463	-10.483	-3.226
			4.5000	-70.19	-10.64	-5.01	-0.463	-9.861	-21.533
CUBIERTA	C10	DIS3Y MAX							
			0.0000	-76.61	3.78	13.86	0.443	40.137	9.662
			2.2500	-69.46	3.78	13.86	0.443	8.945	1.160
CUBIERTA	C10	DIS3Y MIN	4.5000	-62.30	3.78	13.86	0.443	13.176	6.527
			0.0000	-88.75	-3.34	-15.16	-0.511	-55.036	-8.522
			2.2500	-81.59	-3.34	-15.16	-0.511	-20.930	-0.997
			4.5000	-74.43	-3.34	-15.16	-0.511	-22.246	-7.343
CUBIERTA	C11	DIS1A							
			0.0000	-138.44	0.52	3.73	0.011	-4.023	1.155
			2.2500	-128.89	0.52	3.73	0.011	-12.422	-0.017
			4.5000	-119.35	0.52	3.73	0.011	-20.820	-1.188
CUBIERTA	C11	DIS1B							
			0.0000	-167.79	0.52	8.45	0.036	2.277	1.162
			2.2500	-158.25	0.52	8.45	0.036	-16.743	-0.001
			4.5000	-148.70	0.52	8.45	0.036	-35.763	-1.163
CUBIERTA	C11	DIS2X MAX							
			0.0000	-125.25	11.92	6.68	0.443	9.038	29.768
			2.2500	-115.70	11.92	6.68	0.443	-5.994	2.949
CUBIERTA	C11	DIS2X MIN	4.5000	-106.16	11.92	6.68	0.443	-9.401	21.476
			0.0000	-129.60	-10.88	-2.76	-0.438	-21.822	-27.468
			2.2500	-120.06	-10.88	-2.76	-0.438	-15.612	-2.996
			4.5000	-110.52	-10.88	-2.76	-0.438	-21.027	-23.869
CUBIERTA	C11	DIS2Y MAX							
			0.0000	-121.19	4.25	16.61	0.488	41.505	10.520
			2.2500	-111.65	4.25	16.61	0.488	4.132	0.949
CUBIERTA	C11	DIS2Y MIN	4.5000	-102.11	4.25	16.61	0.488	2.813	6.230
			0.0000	-133.65	-3.21	-12.69	-0.483	-54.289	-8.219
			2.2500	-124.11	-3.21	-12.69	-0.483	-25.738	-0.995
			4.5000	-114.57	-3.21	-12.69	-0.483	-33.241	-8.623
CUBIERTA	C11	DIS3X MAX	0.0000	-79.62	11.79	3.98	0.431	7.674	29.474
			2.2500	-72.47	11.79	3.98	0.431	-1.270	2.947
CUBIERTA	C11	DIS3X MIN	4.5000	-65.31	11.79	3.98	0.431	1.410	21.766
			0.0000	-83.98	-11.01	-5.47	-0.450	-23.186	-27.761
			2.2500	-76.82	-11.01	-5.47	-0.450	-10.888	-2.998
			4.5000	-69.66	-11.01	-5.47	-0.450	-10.215	-23.580
CUBIERTA	C11	DIS3Y MAX							
			0.0000	-75.57	4.12	13.90	0.476	40.141	10.226
			2.2500	-68.41	4.12	13.90	0.476	8.856	0.946
CUBIERTA	C11	DIS3Y MIN	4.5000	-61.26	4.12	13.90	0.476	13.625	6.519
			0.0000	-88.03	-3.34	-15.40	-0.495	-55.653	-8.513
			2.2500	-80.87	-3.34	-15.40	-0.495	-21.014	-0.997
			4.5000	-73.71	-3.34	-15.40	-0.495	-22.430	-8.333
CUBIERTA	C12	DIS1A							
			0.0000	-126.91	-0.76	3.05	0.004	-4.973	-0.913
			2.2500	-117.37	-0.76	3.05	0.004	-11.836	0.787
			4.5000	-107.83	-0.76	3.05	0.004	-18.698	2.487
CUBIERTA	C12	DIS1B							
			0.0000	-145.97	-0.58	5.76	0.029	-1.715	-0.610
			2.2500	-136.43	-0.58	5.76	0.029	-14.669	0.686

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			4.5000	-126.89	-0.58	5.76	0.029	-27.623	1.983
CUBIERTA	C12	DIS2X MAX							
			0.0000	-112.68	8.03	7.78	0.678	12.548	23.519
			2.2500	-103.14	8.03	7.78	0.678	-4.952	5.442
			4.5000	-93.59	8.03	7.78	0.678	-8.232	17.990
CUBIERTA	C12	DIS2X MIN							
			0.0000	-126.84	-9.68	-3.72	-0.687	-24.951	-25.575
			2.2500	-117.30	-9.68	-3.72	-0.687	-16.592	-3.793
			4.5000	-107.76	-9.68	-3.72	-0.687	-22.453	-12.635
CUBIERTA	C12	DIS2Y MAX							
			0.0000	-113.25	2.08	16.88	0.578	42.325	7.013
			2.2500	-103.71	2.08	16.88	0.578	4.345	2.323
			4.5000	-94.17	2.08	16.88	0.578	2.952	7.722
CUBIERTA	C12	DIS2Y MIN	0.0000	-126.26	-3.73	-12.82	-0.587	-54.729	-9.070
			2.2500	-116.72	-3.73	-12.82	-0.587	-25.889	-0.674
			4.5000	-107.18	-3.73	-12.82	-0.587	-33.637	-2.367
CUBIERTA	C12	DIS3X MAX							
			0.0000	-73.80	8.15	6.00	0.668	12.563	23.631
			2.2500	-66.64	8.15	6.00	0.668	-0.930	5.282
			4.5000	-59.48	8.15	6.00	0.668	-0.202	17.559
CUBIERTA	C12	DIS3X MIN							
			0.0000	-87.96	-9.56	-5.50	-0.697	-24.936	-25.463
			2.2500	-80.80	-9.56	-5.50	-0.697	-12.569	-3.952
			4.5000	-73.64	-9.56	-5.50	-0.697	-14.423	-13.067
CUBIERTA	C12	DIS3Y MAX							
			0.0000	-74.37	2.21	15.10	0.568	42.340	7.125
			2.2500	-67.21	2.21	15.10	0.568	8.367	2.164
			4.5000	-60.06	2.21	15.10	0.568	10.982	7.291
CUBIERTA	C12	DIS3Y MIN							
			0.0000	-87.38	-3.61	-14.60	-0.597	-54.714	-8.957
			2.2500	-80.22	-3.61	-14.60	-0.597	-21.866	-0.834
			4.5000	-73.07	-3.61	-14.60	-0.597	-25.607	-2.799

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C O N C R E T E C O L U M N C H E C K O U T P U T (ACI 318-08/IBC 2009)

BIAXIAL P-M INTERACTION CAPACITY CHECK AND SHEAR DESIGN OF COLUMN-TYPE ELEMENTS

STORY ID	COLUMN LINE	SECTION ID	STATION ID	INTERACTION RATIO	COMBO ID	SHEAR22 REBAR	COMBO ID	SHEAR33 REBAR	COMBO ID
CUBIERTA	C1	C30X50A	0.000	0.401	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C1	C30X50A	225.000	0.121	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C1	C30X50A	450.000	0.283	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C2	C30X50A	0.000	0.380	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C2	C30X50A	225.000	0.146	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C2	C30X50A	450.000	0.296	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C3	C30X50A	0.000	0.379	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C3	C30X50A	225.000	0.138	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C3	C30X50A	450.000	0.290	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C4	C30X50A	0.000	0.377	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C4	C30X50A	225.000	0.141	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C4	C30X50A	450.000	0.294	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C5	C30X50A	0.000	0.390	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C5	C30X50A	225.000	0.126	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C5	C30X50A	450.000	0.223	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C6	C20X40	0.000	0.341	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C6	C20X40	225.000	0.091	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C6	C20X40	450.000	0.357	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C7	C20X40	0.000	0.356	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C7	C20X40	225.000	0.088	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C7	C20X40	450.000	0.351	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C8	C30X50A	0.000	0.336	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C8	C30X50A	225.000	0.124	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C8	C30X50A	450.000	0.203	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C9	C30X50A	0.000	0.346	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C9	C30X50A	225.000	0.127	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C9	C30X50A	450.000	0.254	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C10	C30X50A	0.000	0.348	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C10	C30X50A	225.000	0.132	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C10	C30X50A	450.000	0.238	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C11	C30X50A	0.000	0.356	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C11	C30X50A	225.000	0.132	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C11	C30X50A	450.000	0.258	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C12	C30X50A	0.000	0.345	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C12	C30X50A	225.000	0.129	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C12	C30X50A	450.000	0.218	DIS2X	0.000	DIS3Y	0.000	DIS3Y

8.1.6.8. Zona baja, Suelo Tipo CD

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C O L U M N F O R C E S

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
CUBIERTA	C1	DIS1A	0.0000	-151.88	-3.48	-4.87	-0.058	-16.882	-5.356
			2.2500	-142.33	-3.48	-4.87	-0.058	-5.934	2.475
			4.5000	-132.79	-3.48	-4.87	-0.058	5.014	10.306
CUBIERTA	C1	DIS1B	0.0000	-172.88	-3.98	-7.83	-0.052	-23.078	-6.123
			2.2500	-163.33	-3.98	-7.83	-0.052	-5.463	2.843
			4.5000	-153.79	-3.98	-7.83	-0.052	12.151	11.809
CUBIERTA	C1	DIS2X MAX	0.0000	-133.53	14.05	5.37	0.785	13.944	41.948
			2.2500	-123.98	14.05	5.37	0.785	1.894	10.350
			4.5000	-114.44	14.05	5.37	0.785	14.866	40.607
CUBIERTA	C1	DIS2X MIN	0.0000	-154.32	-20.58	-12.87	-0.905	-43.066	-52.008
			2.2500	-144.78	-20.58	-12.87	-0.905	-14.140	-5.709
			4.5000	-135.24	-20.58	-12.87	-0.905	-10.235	-21.264
CUBIERTA	C1	DIS2Y MAX	0.0000	-130.52	2.03	20.56	0.744	62.626	9.194
			2.2500	-120.98	2.03	20.56	0.744	16.374	4.868
			4.5000	-111.44	2.03	20.56	0.744	34.513	19.396
CUBIERTA	C1	DIS2Y MIN	0.0000	-157.33	-8.56	-28.06	-0.865	-91.749	-19.253
			2.2500	-147.78	-8.56	-28.06	-0.865	-28.620	-0.226
			4.5000	-138.24	-8.56	-28.06	-0.865	-29.882	-0.053
CUBIERTA	C1	DIS3X MAX	0.0000	-87.61	15.13	7.70	0.797	20.484	43.613
			2.2500	-80.45	15.13	7.70	0.797	3.189	9.578
			4.5000						
CUBIERTA	C1	DIS3X MIN		-73.29	15.13	7.70	0.797	10.914	37.397
			0.0000	-108.40	-19.50	-10.54	-0.892	-36.526	-50.342
			2.2500	-101.24	-19.50	-10.54	-0.892	-12.846	-6.481
			4.5000	-94.09	-19.50	-10.54	-0.892	-14.187	-24.475
CUBIERTA	C1	DIS3Y MAX	0.0000	-84.60	3.11	22.89	0.757	69.167	10.859
			2.2500	-77.45	3.11	22.89	0.757	17.669	4.095
			4.5000						
CUBIERTA	C1	DIS3Y MIN		-70.29	3.11	22.89	0.757	30.561	16.186
			0.0000	-111.40	-7.48	-25.73	-0.852	-85.208	-17.588
			2.2500	-104.25	-7.48	-25.73	-0.852	-27.326	-0.999
			4.5000	-97.09	-7.48	-25.73	-0.852	-33.834	-3.264
CUBIERTA	C2	DIS1A	0.0000	-219.05	0.70	-0.59	-0.061	-10.476	1.411
			2.2500	-209.51	0.70	-0.59	-0.061	-9.149	-0.167
			4.5000	-199.97	0.70	-0.59	-0.061	-7.821	-1.746
CUBIERTA	C2	DIS1B	0.0000	-237.80	0.85	-1.48	-0.052	-13.310	1.698
			2.2500	-228.25	0.85	-1.48	-0.052	-9.987	-0.211
			4.5000	-218.71	0.85	-1.48	-0.052	-6.664	-2.120
CUBIERTA	C2	DIS2X MAX	0.0000	-198.88	22.71	8.23	0.569	15.972	56.023
			2.2500	-189.34	22.71	8.23	0.569	-2.519	4.937
			4.5000	-179.79	22.71	8.23	0.569	3.441	42.946
CUBIERTA	C2	DIS2X MIN	0.0000	-221.13	-21.41	-8.36	-0.696	-34.211	-53.421
			2.2500	-211.59	-21.41	-8.36	-0.696	-15.411	-5.238
			4.5000	-202.04	-21.41	-8.36	-0.696	-21.060	-46.150
CUBIERTA	C2	DIS2Y MAX	0.0000	-177.83	7.33	26.65	0.656	71.365	17.865
			2.2500	-168.29	7.33	26.65	0.656	11.393	1.378
			4.5000	-158.74	7.33	26.65	0.656	30.962	11.916
CUBIERTA	C2	DIS2Y MIN	0.0000	-242.18	-6.04	-26.79	-0.784	-89.604	-15.263
			2.2500	-232.64	-6.04	-26.79	-0.784	-29.322	-1.679
			4.5000	-223.09	-6.04	-26.79	-0.784	-48.581	-15.120
CUBIERTA	C2	BIS3X MAX	0.0000	-135.06	22.47	8.89	0.581	19.948	55.560
			2.2500	-127.91	22.47	8.89	0.581	-0.047	4.996
			4.5000	-120.75	22.47	8.89	0.581	4.407	43.527
CUBIERTA	C2	DIS3X MIN	0.0000	-157.32	-21.65	-7.69	-0.684	-30.236	-53.884

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-150.16	-21.65	-7.69	-0.684	-12.939	-5.179
			4.5000	-143.00	-21.65	-7.69	-0.684	-20.093	-45.570
CUBIERTA	C2	DIS3Y MAX	0.0000	-114.01	7.10	27.32	0.668	75.341	17.402
			2.2500	-106.86	7.10	27.32	0.668	13.864	1.437
			4.5000	-99.70	7.10	27.32	0.668	31.929	12.497
CUBIERTA	C2	DIS3Y MIN							
			0.0000	-178.36	-6.27	-26.12	-0.771	-85.629	-15.726
			2.2500	-171.21	-6.27	-26.12	-0.771	-26.851	-1.620
			4.5000	-164.05	-6.27	-26.12	-0.771	-47.614	-14.539
CUBIERTA	C3	DIS1A							
			0.0000	-190.02	0.84	-2.52	-0.031	-13.912	1.625
			2.2500	-180.47	0.84	-2.52	-0.031	-8.247	-0.267
			4.5000	-170.93	0.84	-2.52	-0.031	-2.583	-2.159
CUBIERTA	C3	DIS1B							
			0.0000	-224.69	0.85	-7.12	-0.012	-22.621	1.685
			2.2500	-215.14	0.85	-7.12	-0.012	-6.597	-0.227
			4.5000	-205.60	0.85	-7.12	-0.012	9.426	-2.139
CUBIERTA	C3	DIS2X MAX	0.0000	-172.74	21.65	6.37	0.588	12.138	54.315
			2.2500	-163.19	21.65	6.37	0.588	-2.195	5.604
			4.5000						
CUBIERTA	C3	DIS2X MIN		-153.65	21.65	6.37	0.588	2.325	38.890
			0.0000	-181.11	-20.01	-7.94	-0.663	-33.429	-51.173
			2.2500	-171.56	-20.01	-7.94	-0.663	-15.554	-6.146
			4.5000	-162.02	-20.01	-7.94	-0.663	-16.532	-43.115
CUBIERTA	C3	DIS2Y MAX							
			0.0000	-162.99	7.19	23.03	0.680	65.151	17.607
			2.2500	-153.44	7.19	23.03	0.680	13.332	1.553
			4.5000						
CUBIERTA	C3	DIS2Y MIN		-143.90	7.19	23.03	0.680	24.281	10.566
			0.0000	-190.85	-5.55	-24.61	-0.754	-86.442	-14.464
			2.2500	-181.31	-5.55	-24.61	-0.754	-31.081	-2.094
			4.5000	-171.77	-5.55	-24.61	-0.754	-38.489	-14.791
CUBIERTA	C3	DIS3X MAX							
			0.0000	-112.14	21.42	8.73	0.590	18.882	53.855
			2.2500	-104.98	21.42	8.73	0.590	-0.761	5.667
			4.5000	-97.82	21.42	8.73	0.590	-1.551	39.476
CUBIERTA	C3	DIS3X MIN							
			0.0000	-120.51	-20.25	-5.58	-0.662	-26.685	-51.633
			2.2500	-113.35	-20.25	-5.58	-0.662	-14.120	-6.082
			4.5000	-106.19	-20.25	-5.58	-0.662	-20.407	-42.529
CUBIERTA	C3	DIS3Y MAX	0.0000	-102.39	6.96	25.39	0.681	71.895	17.147
			2.2500	-95.23	6.96	25.39	0.681	14.766	1.616
			4.5000	-88.07	6.96	25.39	0.681	20.406	11.152
CUBIERTA	C3	DIS3Y MIN							
			0.0000	-130.25	-5.79	-22.25	-0.753	-79.698	-14.924
			2.2500	-123.10	-5.79	-22.25	-0.753	-29.647	-2.031
			4.5000	-115.94	-5.79	-22.25	-0.753	-42.364	-14.205
CUBIERTA	C4	DIS1A							
			0.0000	-189.94	-0.05	-2.06	0.003	-13.250	0.175
			2.2500	-180.39	-0.05	-2.06	0.003	-8.621	0.277
			4.5000	-170.85	-0.05	-2.06	0.003	-3.993	0.380
CUBIERTA	C4	DIS1B							
			0.0000	-225.46	-0.06	-6.69	0.022	-21.871	0.199
			2.2500	-215.92	-0.06	-6.69	0.022	-6.815	0.330
			4.5000	-206.37	-0.06	-6.69	0.022	8.241	0.460
CUBIERTA	C4	DIS2X MAX							
			0.0000	-171.64	21.55	6.93	0.728	13.786	54.097
			2.2500	-162.09	21.55	6.93	0.728	-1.804	5.614
			4.5000	-152.55	21.55	6.93	0.728	0.283	43.557
CUBIERTA	C4	DIS2X MIN							
			0.0000	-181.61	-21.63	-7.58	-0.735	-33.833	-53.761
			2.2500	-172.07	-21.63	-7.58	-0.735	-16.798	-5.102
			4.5000	-162.52	-21.63	-7.58	-0.735	-17.440	-42.869
CUBIERTA	C4	DIS2Y MAX							
			0.0000	-167.58	6.48	22.44	0.761	64.233	16.459
			2.2500	-158.04	6.48	22.44	0.761	13.749	1.876
			4.5000	-148.50	6.48	22.44	0.761	19.580	13.403
CUBIERTA	C4	DIS2Y MIN	0.0000	-185.66	-6.56	-23.08	-0.768	-84.280	-16.123
			2.2500	-176.12	-6.56	-23.08	-0.768	-32.351	-1.364
			4.5000	-166.58	-6.56	-23.08	-0.768	-36.737	-12.715

INGENIERIA ESTRUCTURAL S.A.S
Evaluamos el Pasado - Analizamos el Presente - Diseñamos el Futuro
Nit.900482474-1

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
CUBIERTA	C4	DIS3X MAX	0.0000	-110.84	21.57	9.18	0.720	20.325	54.047
			2.2500	-103.68	21.57	9.18	0.720	-0.328	5.523
			4.5000	-96.52	21.57	9.18	0.720	-3.305	43.425
CUBIERTA	C4	DIS3X MIN	0.0000	-120.81	-21.61	-5.33	-0.743	-27.294	-53.811
			2.2500	-113.65	-21.61	-5.33	-0.743	-15.323	-5.193
			4.5000	-106.50	-21.61	-5.33	-0.743	-21.028	-43.001
CUBIERTA	C4	DIS3Y MAX	0.0000	-106.78	6.50	24.69	0.753	70.772	16.409
			2.2500	-99.63	6.50	24.69	0.753	15.225	1.785
			4.5000	-92.47	6.50	24.69	0.753	15.992	13.272
CUBIERTA	C4	DIS3Y MIN	0.0000	-124.87	-6.54	-20.83	-0.776	-77.741	-16.173
			2.2500	-117.71	-6.54	-20.83	-0.776	-30.875	-1.454
			4.5000	-110.55	-6.54	-20.83	-0.776	-40.325	-12.847
CUBIERTA	C5	DIS1A	0.0000	-160.80	1.69	-5.02	0.003	-17.894	2.982
			2.2500	-151.25	1.69	-5.02	0.003	-6.593	-0.820
			4.5000	-141.71	1.69	-5.02	0.003	4.709	-4.621
CUBIERTA	C5	DIS1B	0.0000	-183.52	2.14	-8.07	0.015	-23.841	3.750
			2.2500	-173.98	2.14	-8.07	0.015	-5.680	-1.055
			4.5000	-164.44	2.14	-8.07	0.015	12.481	-5.860
CUBIERTA	C5	DIS2X MAX	0.0000	-142.37	18.87	5.44	0.914	14.044	49.692
			2.2500	-132.83	18.87	5.44	0.914	1.845	7.225
			4.5000	-123.28	18.87	5.44	0.914	14.068	26.933
CUBIERTA	C5	DIS2X MIN	0.0000	-162.16	-15.83	-13.20	-0.916	-45.369	-44.309
			2.2500	-152.62	-15.83	-13.20	-0.916	-15.720	-8.688
			4.5000	-143.08	-15.83	-13.20	-0.916	-10.494	-35.241
CUBIERTA	C5	DIS2Y MAX	0.0000	-142.11	6.77	19.10	0.844	59.413	16.899
			2.2500	-132.57	6.77	19.10	0.844	16.434	1.665
			4.5000	-123.03	6.77	19.10	0.844	30.133	5.265
CUBIERTA	C5	DIS2Y MIN	0.0000	-162.42	-3.73	-26.86	-0.846	-90.737	-11.516
			2.2500	-152.88	-3.73	-26.86	-0.846	-30.309	-3.128
			4.5000	-143.33	-3.73	-26.86	-0.846	-26.559	-13.574
CUBIERTA	C5	DIS3X MAX	0.0000	-93.64	18.28	7.84	0.909	20.750	48.656
			2.2500	-86.48	18.28	7.84	0.909	3.148	7.519
			4.5000	-79.32	18.28	7.84	0.909	9.970	28.555
CUBIERTA	C5	DIS3X MIN	0.0000	-113.43	-16.42	-10.79	-0.921	-38.663	-45.345
			2.2500	-106.27	-16.42	-10.79	-0.921	-14.416	-8.395
			4.5000	-99.12	-16.42	-10.79	-0.921	-14.593	-33.619
CUBIERTA	C5	DIS3Y MAX	0.0000	-93.38	6.18	21.50	0.839	66.119	15.863
			2.2500	-86.22	6.18	21.50	0.839	17.737	1.958
			4.5000	-79.07	6.18	21.50	0.839	26.035	6.888
CUBIERTA	C5	DIS3Y MIN	0.0000	-113.69	-4.32	-24.46	-0.851	-84.032	-12.552
			2.2500	-106.53	-4.32	-24.46	-0.851	-29.005	-2.834
			4.5000	-99.37	-4.32	-24.46	-0.851	-30.658	-11.951
CUBIERTA	C6	DIS1A	0.0000	-47.14	-1.90	0.22	-0.016	-2.830	-3.009
			2.2500	-42.05	-1.90	0.22	-0.016	-3.337	1.271
			4.5000	-36.96	-1.90	0.22	-0.016	-3.843	5.551
CUBIERTA	C6	DIS1B	0.0000	-51.27	-2.31	-0.01	-0.014	-3.690	-3.654
			2.2500	-46.18	-2.31	-0.01	-0.014	-3.679	1.532
			4.5000	-41.09	-2.31	-0.01	-0.014	-3.667	6.719
CUBIERTA	C6	DIS2X MAX	0.0000	-36.54	3.79	4.02	0.143	7.710	10.622
			2.2500	-31.45	3.79	4.02	0.143	-1.312	2.088
			4.5000	-26.36	3.79	4.02	0.143	2.888	16.476
CUBIERTA	C6	DIS2X MIN	0.0000	-53.08	-7.23	-3.50	-0.175	-12.898	-16.043
			2.2500	-48.00	-7.23	-3.50	-0.175	-5.046	0.213
			4.5000	-42.91	-7.23	-3.50	-0.175	-10.416	-6.454
CUBIERTA	C6	DIS2Y MAX	0.0000	-29.18	-0.01	12.02	0.168	29.253	1.351
			2.2500	-24.09	-0.01	12.02	0.168	2.214	1.499

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
CUBIERTA	C6	DIS2Y MIN	4.5000	-19.00	-0.01	12.02	0.168	17.300	8.630
			0.0000	-60.45	-3.42	-11.50	-0.201	-34.441	-6.772
			2.2500	-55.36	-3.42	-11.50	-0.201	-8.572	0.802
			4.5000	-50.27	-3.42	-11.50	-0.201	-24.827	1.391
CUBIERTA	C6	DIS3X MAX							
			0.0000	-22.43	4.46	4.00	0.146	8.654	11.673
			2.2500	-18.61	4.46	4.00	0.146	-0.320	1.650
			4.5000	-14.80	4.46	4.00	0.146	3.928	14.548
CUBIERTA	C6	DIS3X MIN	0.0000	-38.97	-6.56	-3.53	-0.172	-11.954	-14.991
			2.2500	-35.16	-6.56	-3.53	-0.172	-4.054	-0.225
			4.5000	-31.34	-6.56	-3.53	-0.172	-9.376	-8.382
CUBIERTA	C6	DIS3Y MAX	0.0000	-15.07	0.65	12.00	0.172	30.197	2.402
			2.2500	-11.25	0.65	12.00	0.172	3.206	1.061
			4.5000	-7.43	0.65	12.00	0.172	18.339	6.703
CUBIERTA	C6	DIS3Y MIN							
			0.0000	-46.34	-2.76	-11.52	-0.198	-33.497	-5.720
			2.2500	-42.52	-2.76	-11.52	-0.198	-7.580	0.363
			4.5000	-38.71	-2.76	-11.52	-0.198	-23.788	-0.536
CUBIERTA	C7	DIS1A							
			0.0000	-45.50	2.13	-0.39	-0.016	-3.936	3.533
			2.2500	-40.41	2.13	-0.39	-0.016	-3.061	-1.251
			4.5000	-35.32	2.13	-0.39	-0.016	-2.186	-6.036
CUBIERTA	C7	DIS1B							
			0.0000	-49.49	2.56	-0.68	-0.013	-4.883	4.242
			2.2500	-44.40	2.56	-0.68	-0.013	-3.345	-1.511
			4.5000	-39.32	2.56	-0.68	-0.013	-1.808	-7.264
CUBIERTA	C7	DIS2X MAX	0.0000	-36.19	7.33	3.24	0.148	5.980	16.366
			2.2500	-31.10	7.33	3.24	0.148	-1.306	-0.126
CUBIERTA	C7	DIS2X MIN	4.5000	-26.01	7.33	3.24	0.148	4.217	5.683
			0.0000	-50.27	-3.47	-3.89	-0.182	-13.307	-9.949
			2.2500	-45.18	-3.47	-3.89	-0.182	-4.545	-2.137
			4.5000	-40.09	-3.47	-3.89	-0.182	-8.592	-16.626
CUBIERTA	C7	DIS2Y MAX							
			0.0000	-27.69	3.57	11.42	0.170	28.104	7.175
			2.2500	-22.60	3.57	11.42	0.170	2.402	-0.752
			4.5000	-17.51	3.57	11.42	0.170	18.926	-2.015
CUBIERTA	C7	DIS2Y MIN							
			0.0000	-58.77	0.28	-12.08	-0.204	-35.431	-0.757
			2.2500	-53.68	0.28	-12.08	-0.204	-8.252	-1.511
			4.5000	-48.59	0.28	-12.08	-0.204	-23.301	-8.928
CUBIERTA	C7	DIS3X MAX							
			0.0000	-22.55	6.60	3.40	0.151	7.236	15.159
			2.2500	-18.73	6.60	3.40	0.151	-0.405	0.307
			4.5000	-14.91	6.60	3.40	0.151	4.763	7.756
CUBIERTA	C7	DIS3X MIN							
			0.0000	-36.62	-4.20	-3.74	-0.179	-12.050	-11.156
			2.2500	-32.81	-4.20	-3.74	-0.179	-3.644	-1.704
			4.5000	-28.99	-4.20	-3.74	-0.179	-8.046	-14.553
CUBIERTA	C7	DIS3Y MAX	0.0000	-14.04	2.84	11.58	0.173	29.361	5.967
			2.2500	-10.23	2.84	11.58	0.173	3.303	-0.319
CUBIERTA	C7	DIS3Y MIN	4.5000	-6.41	2.84	11.58	0.173	19.472	0.058
			0.0000	-45.13	-0.44	-11.92	-0.201	-34.175	-1.965
			2.2500	-41.31	-0.44	-11.92	-0.201	-7.351	-1.078
			4.5000	-37.49	-0.44	-11.92	-0.201	-22.755	-6.855
CUBIERTA	C8	DIS1A							
			0.0000	-118.75	-0.44	3.07	-0.036	-4.181	-0.401
			2.2500	-109.21	-0.44	3.07	-0.036	-11.083	0.587
			4.5000	-99.67	-0.44	3.07	-0.036	-17.985	1.574
CUBIERTA	C8	DIS1B							
			0.0000	-136.39	-0.79	5.33	-0.033	-2.021	-0.963
			2.2500	-126.85	-0.79	5.33	-0.033	-14.007	0.825
			4.5000	-117.30	-0.79	5.33	-0.033	-25.994	2.613
CUBIERTA	C8	DIS2X MAX							
			0.0000	-101.61	13.31	10.51	0.958	22.154	37.601
			2.2500	-92.06	13.31	10.51	0.958	-1.493	7.655
			4.5000	-82.52	13.31	10.51	0.958	-4.773	24.657
CUBIERTA	C8	DIS2X MIN							
			0.0000	-122.66	-13.92	-6.09	-1.034	-32.194	-37.981
			2.2500	-113.12	-13.92	-6.09	-1.034	-18.484	-6.662

C O L U M N F O R C E S

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			4.5000	-103.58	-13.92	-6.09	-1.034	-25.142	-22.292
CUBIERTA	C8	DIS2Y MAX							
			0.0000	-102.43	4.18	24.98	0.834	69.667	12.209
			2.2500	-92.88	4.18	24.98	0.834	13.460	2.817
			4.5000	-83.34	4.18	24.98	0.834	12.834	8.946
CUBIERTA	C8	DIS2Y MIN							
			0.0000	-121.84	-4.79	-20.56	-0.909	-79.707	-12.589
			2.2500	-112.30	-4.79	-20.56	-0.909	-33.437	-1.824
			4.5000	-102.76	-4.79	-20.56	-0.909	-42.750	-6.581
CUBIERTA	C8	DIS3X MAX							
			0.0000	-65.30	13.55	8.88	0.966	22.361	37.912
			2.2500	-58.14	13.55	8.88	0.966	2.372	7.418
			4.5000	-50.98	13.55	8.88	0.966	2.750	23.872
CUBIERTA	C8	DIS3X MIN	0.0000	-86.35	-13.68	-7.72	-1.026	-31.987	-37.670
			2.2500	-79.19	-13.68	-7.72	-1.026	-14.619	-6.900
			4.5000	-72.04	-13.68	-7.72	-1.026	-17.619	-23.076
CUBIERTA	C8	DIS3Y MAX							
			0.0000	-66.12	4.42	23.36	0.842	69.874	12.520
			2.2500	-58.96	4.42	23.36	0.842	17.325	2.579
			4.5000	-51.80	4.42	23.36	0.842	20.358	8.161
CUBIERTA	C8	DIS3Y MIN							
			0.0000	-85.53	-4.54	-22.19	-0.901	-79.500	-12.278
			2.2500	-78.37	-4.54	-22.19	-0.901	-29.572	-2.061
			4.5000	-71.22	-4.54	-22.19	-0.901	-35.226	-7.365
CUBIERTA	C9	DIS1A							
			0.0000	-135.52	0.45	1.59	-0.061	-6.996	1.025
			2.2500	-125.98	0.45	1.59	-0.061	-10.574	0.023
			4.5000	-116.44	0.45	1.59	-0.061	-14.152	-0.980
CUBIERTA	C9	DIS1B							
			0.0000	-161.16	0.51	3.94	-0.057	-4.670	1.141
			2.2500	-151.62	0.51	3.94	-0.057	-13.537	-0.006
			4.5000	-142.08	0.51	3.94	-0.057	-22.405	-1.153
CUBIERTA	C9	DIS2X MAX	0.0000	-122.57	18.24	7.55	0.650	14.876	45.521
			2.2500	-113.03	18.24	7.55	0.650	-2.117	4.487
			4.5000						
CUBIERTA	C9	DIS2X MIN		-103.49	18.24	7.55	0.650	-2.602	34.723
			0.0000	-129.01	-17.40	-6.28	-0.773	-30.858	-43.565
			2.2500	-119.47	-17.40	-6.28	-0.773	-16.730	-4.421
			4.5000	-109.92	-17.40	-6.28	-0.773	-19.110	-36.548
CUBIERTA	C9	DIS2Y MAX							
			0.0000	-116.82	6.24	22.69	0.692	64.978	15.547
			2.2500	-107.27	6.24	22.69	0.692	13.920	1.496
			4.5000						
CUBIERTA	C9	DIS2Y MIN		-97.73	6.24	22.69	0.692	15.426	10.730
			0.0000	-134.76	-5.40	-21.42	-0.815	-80.960	-13.590
			2.2500	-125.22	-5.40	-21.42	-0.815	-32.767	-1.430
			4.5000	-115.68	-5.40	-21.42	-0.815	-37.138	-12.555
CUBIERTA	C9	DIS3X MAX							
			0.0000	-78.96	18.10	6.20	0.664	15.629	45.218
			2.2500	-71.80	18.10	6.20	0.664	1.677	4.491
			4.5000	-64.65	18.10	6.20	0.664	4.232	35.036
CUBIERTA	C9	DIS3X MIN	0.0000	-85.40	-17.53	-7.63	-0.759	-30.105	-43.867
			2.2500	-78.24	-17.53	-7.63	-0.759	-12.937	-4.416
			4.5000	-71.08	-17.53	-7.63	-0.759	-12.276	-36.235
CUBIERTA	C9	DIS3Y MAX	0.0000	-73.20	6.11	21.34	0.706	65.731	15.244
			2.2500	-66.05	6.11	21.34	0.706	17.714	1.501
			4.5000	-58.89	6.11	21.34	0.706	22.260	11.043
CUBIERTA	C9	DIS3Y MIN							
			0.0000	-91.15	-5.54	-22.77	-0.801	-80.207	-13.893
			2.2500	-84.00	-5.54	-22.77	-0.801	-28.974	-1.425
			4.5000	-76.84	-5.54	-22.77	-0.801	-30.304	-12.242
CUBIERTA	C10	DIS1A							
			0.0000	-139.40	0.30	3.78	-0.035	-3.880	0.789
			2.2500	-129.86	0.30	3.78	-0.035	-12.377	0.118
			4.5000	-120.32	0.30	3.78	-0.035	-20.874	-0.553
CUBIERTA	C10	DIS1B							
			0.0000	-168.54	0.30	8.40	-0.023	2.129	0.807
			2.2500	-158.99	0.30	8.40	-0.023	-16.770	0.128
			4.5000	-149.45	0.30	8.40	-0.023	-35.668	-0.551
CUBIERTA	C10	DIS2X MAX							
			0.0000	-125.65	17.07	8.78	0.624	15.954	43.626

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-116.10	17.07	8.78	0.624	-3.794	5.223
			4.5000	-106.56	17.07	8.78	0.624	-7.086	32.082
CUBIERTA	C10	DIS2X MIN							
			0.0000	-131.28	-16.48	-4.70	-0.701	-28.254	-42.070
			2.2500	-121.74	-16.48	-4.70	-0.701	-17.670	-4.994
			4.5000	-112.20	-16.48	-4.70	-0.701	-23.542	-33.181
CUBIERTA	C10	DIS2Y MAX							
			0.0000	-119.09	5.80	24.45	0.698	67.367	14.823
			2.2500	-109.55	5.80	24.45	0.698	12.346	1.780
			4.5000						
CUBIERTA	C10	DIS2Y MIN		-100.01	5.80	24.45	0.698	12.048	10.163
			0.0000	-137.84	-5.21	-20.38	-0.775	-79.667	-13.266
			2.2500	-128.30	-5.21	-20.38	-0.775	-33.810	-1.552
			4.5000	-118.75	-5.21	-20.38	-0.775	-42.676	-11.262
CUBIERTA	C10	DIS3X MAX							
			0.0000	-79.86	16.99	6.09	0.629	14.654	43.418
			2.2500	-72.70	16.99	6.09	0.629	0.946	5.189
			4.5000	-65.55	16.99	6.09	0.629	3.693	32.223
CUBIERTA	C10	DIS3X MIN							
			0.0000	-85.50	-16.56	-7.39	-0.697	-29.554	-42.278
			2.2500	-78.34	-16.56	-7.39	-0.697	-12.931	-5.027
			4.5000	-71.19	-16.56	-7.39	-0.697	-12.763	-33.040
CUBIERTA	C10	DIS3Y MAX	0.0000	-73.31	5.72	21.77	0.703	66.067	14.615
			2.2500	-66.15	5.72	21.77	0.703	17.085	1.747
			4.5000	-58.99	5.72	21.77	0.703	22.827	10.305
CUBIERTA	C10	DIS3Y MIN							
			0.0000	-92.05	-5.28	-23.07	-0.770	-80.967	-13.474
			2.2500	-84.90	-5.28	-23.07	-0.770	-29.070	-1.585
			4.5000	-77.74	-5.28	-23.07	-0.770	-31.896	-11.121
CUBIERTA	C11	DIS1A							
			0.0000	-138.44	0.52	3.73	0.011	-4.023	1.155
			2.2500	-128.89	0.52	3.73	0.011	-12.422	-0.017
			4.5000	-119.35	0.52	3.73	0.011	-20.820	-1.188
CUBIERTA	C11	DIS1B							
			0.0000	-167.79	0.52	8.45	0.036	2.277	1.162
			2.2500	-158.25	0.52	8.45	0.036	-16.743	-0.001
			4.5000	-148.70	0.52	8.45	0.036	-35.763	-1.163
CUBIERTA	C11	DIS2X MAX							
			0.0000	-124.06	18.13	9.25	0.682	17.445	45.356
			2.2500	-114.52	18.13	9.25	0.682	-3.374	4.569
			4.5000	-104.97	18.13	9.25	0.682	-6.234	33.826
CUBIERTA	C11	DIS2X MIN							
			0.0000	-130.79	-17.08	-5.33	-0.678	-30.230	-43.056
			2.2500	-121.24	-17.08	-5.33	-0.678	-18.232	-4.615
			4.5000	-111.70	-17.08	-5.33	-0.678	-24.194	-36.218
CUBIERTA	C11	DIS2Y MAX							
			0.0000	-117.80	6.29	24.59	0.752	67.604	15.623
			2.2500	-108.26	6.29	24.59	0.752	12.270	1.478
			4.5000	-98.72	6.29	24.59	0.752	12.637	10.276
CUBIERTA	C11	DIS2Y MIN							
			0.0000	-137.05	-5.24	-20.67	-0.748	-80.388	-13.323
			2.2500	-127.50	-5.24	-20.67	-0.748	-33.876	-1.524
			4.5000	-117.96	-5.24	-20.67	-0.748	-43.065	-12.668
CUBIERTA	C11	DIS3X MAX							
			0.0000	-78.44	18.00	6.55	0.670	16.081	45.062
			2.2500	-71.28	18.00	6.55	0.670	1.350	4.566
			4.5000	-64.12	18.00	6.55	0.670	4.577	34.115
CUBIERTA	C11	DIS3X MIN	0.0000	-85.16	-17.21	-8.04	-0.690	-31.593	-43.349
			2.2500	-78.01	-17.21	-8.04	-0.690	-13.508	-4.617
			4.5000	-70.85	-17.21	-8.04	-0.690	-13.382	-35.929
CUBIERTA	C11	DIS3Y MAX							
			0.0000	-72.18	6.16	21.89	0.740	66.240	15.330
			2.2500	-65.02	6.16	21.89	0.740	16.994	1.476
			4.5000	-57.86	6.16	21.89	0.740	23.448	10.565
CUBIERTA	C11	DIS3Y MIN							
			0.0000	-91.42	-5.37	-23.38	-0.759	-81.752	-13.617
			2.2500	-84.27	-5.37	-23.38	-0.759	-29.152	-1.526
			4.5000	-77.11	-5.37	-23.38	-0.759	-32.253	-12.379
CUBIERTA	C12	DIS1A							
			0.0000	-126.91	-0.76	3.05	0.004	-4.973	-0.913
			2.2500	-117.37	-0.76	3.05	0.004	-11.836	0.787
			4.5000	-107.83	-0.76	3.05	0.004	-18.698	2.487
CUBIERTA	C12	DIS1B							
			0.0000	-145.97	-0.58	5.76	0.029	-1.715	-0.610

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COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-136.43	-0.58	5.76	0.029	-14.669	0.686
			4.5000	-126.89	-0.58	5.76	0.029	-27.623	1.983
CUBIERTA	C12	DIS2X MAX	0.0000	-108.82	12.86	10.91	1.050	22.761	36.889
			2.2500	-99.28	12.86	10.91	1.050	-1.782	7.957
			4.5000	-89.74	12.86	10.91	1.050	-4.359	26.331
CUBIERTA	C12	DIS2X MIN							
			0.0000	-130.70	-14.51	-6.85	-1.059	-35.164	-38.946
			2.2500	-121.16	-14.51	-6.85	-1.059	-19.762	-6.308
			4.5000	-111.61	-14.51	-6.85	-1.059	-26.326	-20.976
CUBIERTA	C12	DIS2Y MAX	0.0000	-109.71	3.67	24.97	0.895	68.768	11.393
			2.2500	-100.17	3.67	24.97	0.895	12.582	3.140
			4.5000						
CUBIERTA	C12	DIS2Y MIN		-90.62	3.67	24.97	0.895	12.921	10.470
			0.0000	-129.81	-5.32	-20.91	-0.905	-81.171	-13.450
			2.2500	-120.27	-5.32	-20.91	-0.905	-34.126	-1.491
			4.5000	-110.72	-5.32	-20.91	-0.905	-43.606	-5.115
CUBIERTA	C12	DIS3X MAX							
			0.0000	-69.94	12.98	9.13	1.040	22.776	37.002
			2.2500	-62.78	12.98	9.13	1.040	2.241	7.797
			4.5000	-55.62	12.98	9.13	1.040	3.671	25.900
CUBIERTA	C12	DIS3X MIN	0.0000	-91.82	-14.39	-8.63	-1.069	-35.149	-38.834
			2.2500	-84.66	-14.39	-8.63	-1.069	-15.740	-6.467
			4.5000	-77.50	-14.39	-8.63	-1.069	-18.296	-21.407
CUBIERTA	C12	DIS3Y MAX							
			0.0000	-70.83	3.79	23.19	0.885	68.783	11.506
			2.2500	-63.67	3.79	23.19	0.885	16.604	2.980
			4.5000	-56.51	3.79	23.19	0.885	20.951	10.039
CUBIERTA	C12	DIS3Y MIN	0.0000	-90.93	-5.19	-22.69	-0.915	-81.156	-13.338
			2.2500	-83.77	-5.19	-22.69	-0.915	-30.103	-1.650
			4.5000	-76.61	-5.19	-22.69	-0.915	-35.576	-5.547

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C D N C R E T E C D L U M N C H E C K D U T P U T (ACI 318-08/IBC 2009)

BIAXIAL P-M INTERACTION CAPACITY CHECK AND SHEAR DESIGN OF COLUMN-TYPE ELEMENTS

STORY ID	COLUMN LINE	SECTION ID	STATION ID	INTERACTION RATIO	COMBO ID	SHEAR22 REBAR	COMBO ID	SHEAR33 REBAR	COMBO ID
CUBIERTA	C1	C30X50A	0.000	0.644	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C1	C30X50A	225.000	0.157	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C1	C30X50A	450.000	0.446	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C2	C30X50A	0.000	0.664	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C2	C30X50A	225.000	0.179	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C2	C30X50A	450.000	0.519	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C3	C30X50A	0.000	0.654	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C3	C30X50A	225.000	0.172	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C3	C30X50A	450.000	0.499	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C4	C30X50A	0.000	0.659	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C4	C30X50A	225.000	0.175	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C4	C30X50A	450.000	0.513	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C5	C30X50A	0.000	0.618	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C5	C30X50A	225.000	0.159	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C5	C30X50A	450.000	0.384	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C6	C20X40	0.000	0.490	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C6	C20X40	225.000	0.111	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C6	C20X40	450.000	0.479	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C7	C20X40	0.000	0.501	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C7	C20X40	225.000	0.108	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C7	C20X40	450.000	0.478	DIS2X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C8	C30X50A	0.000	0.547	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C8	C30X50A	225.000	0.157	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C8	C30X50A	450.000	0.287	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C9	C30X50A	0.000	0.571	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C9	C30X50A	225.000	0.155	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C9	C30X50A	450.000	0.430	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C10	C30X50A	0.000	0.560	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C10	C30X50A	225.000	0.160	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C10	C30X50A	450.000	0.387	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C11	C30X50A	0.000	0.572	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C11	C30X50A	225.000	0.160	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C11	C30X50A	450.000	0.429	DIS3X	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C12	C30X50A	0.000	0.558	DIS3Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C12	C30X50A	225.000	0.161	DIS2Y	0.000	DIS3Y	0.000	DIS3Y
CUBIERTA	C12	C30X50A	450.000	0.311	DIS3X	0.000	DIS3Y	0.000	DIS3Y

8.1.6.9. Zona baja, Suelo Tipo E

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C O L U M N F O R C E S

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
CUBIERTA	C1	DIS1A	0.0000	-151.88	-3.48	-4.87	-0.058	-16.882	-5.356
			2.2500	-142.33	-3.48	-4.87	-0.058	-5.934	2.475
			4.5000	-132.79	-3.48	-4.87	-0.058	5.014	10.306
CUBIERTA	C1	DIS1B	0.0000	-172.88	-3.98	-7.83	-0.052	-23.078	-6.123
			2.2500	-163.33	-3.98	-7.83	-0.052	-5.463	2.843
			4.5000	-153.79	-3.98	-7.83	-0.052	12.151	11.809
CUBIERTA	C1	DIS2X MAX	0.0000	-125.91	26.70	12.11	1.402	35.023	76.269
			2.2500	-116.37	26.70	12.11	1.402	7.828	16.217
			4.5000	-106.83	26.70	12.11	1.402	24.136	63.209
CUBIERTA	C1	DIS2X MIN	0.0000	-161.94	-33.23	-19.61	-1.522	-64.146	-86.328
			2.2500	-152.40	-33.23	-19.61	-1.522	-20.074	-11.575
			4.5000	-142.85	-33.23	-19.61	-1.522	-19.505	-43.866
CUBIERTA	C1	DIS2Y MAX	0.0000	-120.56	5.90	38.64	1.342	120.064	19.589
			2.2500	-111.02	5.90	38.64	1.342	33.116	6.732
			4.5000	-101.47	5.90	38.64	1.342	58.471	26.513
CUBIERTA	C1	DIS2Y MIN	0.0000	-167.29	-12.43	-46.15	-1.462	-149.187	-29.649
			2.2500	-157.75	-12.43	-46.15	-1.462	-45.361	-2.090
			4.5000	-148.21	-12.43	-46.15	-1.462	-53.840	-7.170
CUBIERTA	C1	DIS3X MAX	0.0000	-79.99	27.78	14.44	1.415	41.564	77.934
			2.2500	-72.83	27.78	14.44	1.415	9.123	15.444
			4.5000	-65.68	27.78	14.44	1.415	20.184	59.998
CUBIERTA	C1	DIS3X MIN	0.0000	-116.02	-32.15	-17.27	-1.510	-57.605	-84.663
			2.2500	-108.86	-32.15	-17.27	-1.510	-18.780	-12.348
			4.5000	-101.70	-32.15	-17.27	-1.510	-23.457	-47.076
CUBIERTA	C1	DIS3Y MAX	0.0000	-74.64	6.98	40.98	1.355	126.605	21.255
			2.2500	-67.48	6.98	40.98	1.355	34.410	5.960
			4.5000	-60.32	6.98	40.98	1.355	54.519	23.303
CUBIERTA	C1	DIS3Y MIN	0.0000	-121.37	-11.35	-43.81	-1.450	-142.646	-27.983
			2.2500	-114.21	-11.35	-43.81	-1.450	-44.067	-2.863
			4.5000	-107.06	-11.35	-43.81	-1.450	-57.792	-10.381
CUBIERTA	C2	DIS1A	0.0000	-219.05	0.70	-0.59	-0.061	-10.476	1.411
			2.2500	-209.51	0.70	-0.59	-0.061	-9.149	-0.167
			4.5000	-199.97	0.70	-0.59	-0.061	-7.821	-1.746
CUBIERTA	C2	DIS1B	0.0000	-237.80	0.85	-1.48	-0.052	-13.310	1.698
			2.2500	-228.25	0.85	-1.48	-0.052	-9.987	-0.211
			4.5000	-218.71	0.85	-1.48	-0.052	-6.664	-2.120
CUBIERTA	C2	DIS2X MAX	0.0000	-190.64	38.82	14.39	1.032	34.619	96.001
			2.2500	-181.09	38.82	14.39	1.032	2.269	8.654
			4.5000	-171.55	38.82	14.39	1.032	12.548	75.492
CUBIERTA	C2	DIS2X MIN	0.0000	-229.37	-37.53	-14.53	-1.160	-52.858	-93.400
			2.2500	-219.83	-37.53	-14.53	-1.160	-20.198	-8.955
			4.5000	-210.29	-37.53	-14.53	-1.160	-30.168	-78.695
CUBIERTA	C2	DIS2Y MAX	0.0000	-153.89	12.22	46.54	1.191	131.260	29.971
			2.2500	-144.34	12.22	46.54	1.191	26.542	2.495
			4.5000	-134.80	12.22	46.54	1.191	60.559	21.797
CUBIERTA	C2	DIS2Y MIN	0.0000	-266.12	-10.93	-46.68	-1.319	-149.499	-27.369
			2.2500	-256.58	-10.93	-46.68	-1.319	-44.471	-2.795
			4.5000	-247.04	-10.93	-46.68	-1.319	-78.179	-25.000
CUBIERTA	C2	DIS3X MAX	0.0000	-126.82	38.59	15.06	1.044	38.595	95.538
			2.2500	-119.67	38.59	15.06	1.044	4.740	8.713
			4.5000	-112.51	38.59	15.06	1.044	13.515	76.072
CUBIERTA	C2	DIS3X MIN	0.0000	-165.56	-37.76	-13.86	-1.147	-48.883	-93.863

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COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-158.40	-37.76	-13.86	-1.147	-17.727	-8.896
			4.5000	-151.24	-37.76	-13.86	-1.147	-29.201	-78.115
CUBIERTA	C2	DIS3Y MAX	0.0000	-90.07	11.98	47.21	1.203	135.235	29.508
			2.2500	-82.91	11.98	47.21	1.203	29.013	2.553
			4.5000	-75.76	11.98	47.21	1.203	61.526	22.377
CUBIERTA	C2	DIS3Y MIN	0.0000	-202.31	-11.16	-46.01	-1.307	-145.523	-27.832
			2.2500	-195.15	-11.16	-46.01	-1.307	-42.000	-2.737
			4.5000	-187.99	-11.16	-46.01	-1.307	-77.212	-24.420
CUBIERTA	C3	DIS1A	0.0000	-190.02	0.84	-2.52	-0.031	-13.912	1.625
			2.2500	-180.47	0.84	-2.52	-0.031	-8.247	-0.267
			4.5000	-170.93	0.84	-2.52	-0.031	-2.583	-2.159
CUBIERTA	C3	DIS1B	0.0000	-224.69	0.85	-7.12	-0.012	-22.621	1.685
			2.2500	-215.14	0.85	-7.12	-0.012	-6.597	-0.227
			4.5000	-205.60	0.85	-7.12	-0.012	9.426	-2.139
CUBIERTA	C3	DIS2X MAX	0.0000	-169.62	36.87	11.70	1.046	29.091	92.849
			2.2500	-160.08	36.87	11.70	1.046	2.775	9.896
			4.5000	-150.54	36.87	11.70	1.046	9.340	68.845
CUBIERTA	C3	DIS2X MIN	0.0000	-184.22	-35.23	-13.27	-1.121	-50.382	-89.706
			2.2500	-174.68	-35.23	-13.27	-1.121	-20.525	-10.438
			4.5000	-165.13	-35.23	-13.27	-1.121	-23.548	-73.070
CUBIERTA	C3	DIS2Y MAX	0.0000	-152.62	11.85	40.76	1.213	121.558	29.328
			2.2500	-143.08	11.85	40.76	1.213	29.858	2.887
			4.5000	-133.53	11.85	40.76	1.213	47.638	19.839
CUBIERTA	C3	DIS2Y MIN	0.0000	-201.22	-10.21	-42.33	-1.287	-142.849	-26.185
			2.2500	-191.68	-10.21	-42.33	-1.287	-47.607	-3.428
			4.5000	-182.14	-10.21	-42.33	-1.287	-61.845	-24.064
CUBIERTA	C3	DIS3X MAX	0.0000	-109.02	36.64	14.06	1.048	35.835	92.389
			2.2500	-101.86	36.64	14.06	1.048	4.210	9.959
			4.5000	-94.71	36.64	14.06	1.048	5.465	69.432
CUBIERTA	C3	DIS3X MIN	0.0000	-123.62	-35.47	-10.91	-1.120	-43.638	-90.166
			2.2500	-116.46	-35.47	-10.91	-1.120	-19.090	-10.374
			4.5000	-109.31	-35.47	-10.91	-1.120	-27.423	-72.484
CUBIERTA	C3	DIS3Y MAX	0.0000	-92.02	11.62	43.12	1.214	128.302	28.868
			2.2500	-84.86	11.62	43.12	1.214	31.292	2.950
			4.5000	-77.70	11.62	43.12	1.214	43.762	20.425
CUBIERTA	C3	DIS3Y MIN	0.0000	-140.62	-10.45	-39.97	-1.286	-136.105	-26.645
			2.2500	-133.47	-10.45	-39.97	-1.286	-46.173	-3.365
			4.5000	-126.31	-10.45	-39.97	-1.286	-65.721	-23.477
CUBIERTA	C4	DIS1A	0.0000	-189.94	-0.05	-2.06	0.003	-13.250	0.175
			2.2500	-180.39	-0.05	-2.06	0.003	-8.621	0.277
			4.5000	-170.85	-0.05	-2.06	0.003	-3.993	0.380
CUBIERTA	C4	DIS1B	0.0000	-225.46	-0.06	-6.69	0.022	-21.871	0.199
			2.2500	-215.92	-0.06	-6.69	0.022	-6.815	0.330
			4.5000	-206.37	-0.06	-6.69	0.022	8.241	0.460
CUBIERTA	C4	DIS2X MAX	0.0000	-167.97	37.32	12.32	1.263	31.463	93.496
			2.2500	-158.43	37.32	12.32	1.263	3.760	9.528
			4.5000	-148.89	37.32	12.32	1.263	6.866	75.127
CUBIERTA	C4	DIS2X MIN	0.0000	-185.27	-37.40	-12.96	-1.270	-51.510	-93.160
			2.2500	-175.73	-37.40	-12.96	-1.270	-22.362	-9.016
			4.5000	-166.19	-37.40	-12.96	-1.270	-24.023	-74.439
CUBIERTA	C4	DIS2Y MAX	0.0000	-160.86	11.25	39.37	1.329	119.493	28.365
			2.2500	-151.31	11.25	39.37	1.329	30.902	3.059
			4.5000	-141.77	11.25	39.37	1.329	40.535	22.947
CUBIERTA	C4	DIS2Y MIN	0.0000	-192.39	-11.33	-40.02	-1.336	-139.540	-28.028
			2.2500	-182.85	-11.33	-40.02	-1.336	-49.504	-2.547
			4.5000	-173.30	-11.33	-40.02	-1.336	-57.691	-22.259

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COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
CUBIERTA	C4	DIS3X MAX	0.0000	-107.18	37.34	14.57	1.255	38.002	93.446
			2.2500	-100.02	37.34	14.57	1.255	5.236	9.438
			4.5000	-92.86	37.34	14.57	1.255	3.279	74.996
CUBIERTA	C4	DIS3X MIN	0.0000	-124.47	-37.38	-10.71	-1.278	-44.971	-93.210
			2.2500	-117.32	-37.38	-10.71	-1.278	-20.887	-9.107
			4.5000	-110.16	-37.38	-10.71	-1.278	-27.611	-74.571
CUBIERTA	C4	DIS3Y MAX	0.0000	-100.06	11.27	41.62	1.321	126.032	28.315
			2.2500	-92.90	11.27	41.62	1.321	32.378	2.969
			4.5000	-85.74	11.27	41.62	1.321	36.947	22.816
CUBIERTA	C4	DIS3Y MIN	0.0000	-131.59	-11.31	-37.77	-1.344	-133.000	-28.078
			2.2500	-124.43	-11.31	-37.77	-1.344	-48.028	-2.638
			4.5000	-117.28	-11.31	-37.77	-1.344	-61.279	-22.391
CUBIERTA	C5	DIS1A	0.0000	-160.80	1.69	-5.02	0.003	-17.894	2.982
			2.2500	-151.25	1.69	-5.02	0.003	-6.593	-0.820
			4.5000	-141.71	1.69	-5.02	0.003	4.709	-4.621
CUBIERTA	C5	DIS1B	0.0000	-183.52	2.14	-8.07	0.015	-23.841	3.750
			2.2500	-173.98	2.14	-8.07	0.015	-5.680	-1.055
			4.5000	-164.44	2.14	-8.07	0.015	12.481	-5.860
CUBIERTA	C5	DIS2X MAX	0.0000	-135.13	31.55	12.32	1.583	35.978	84.029
			2.2500	-125.58	31.55	12.32	1.583	8.337	13.039
			4.5000	-116.04	31.55	12.32	1.583	23.120	49.644
CUBIERTA	C5	DIS2X MIN	0.0000	-169.40	-28.51	-20.07	-1.586	-67.302	-78.646
			2.2500	-159.86	-28.51	-20.07	-1.586	-22.212	-14.501
			4.5000	-150.32	-28.51	-20.07	-1.586	-19.546	-57.953
CUBIERTA	C5	DIS2Y MAX	0.0000	-134.57	10.61	36.20	1.472	115.277	27.282
			2.2500	-125.02	10.61	36.20	1.472	33.825	3.416
			4.5000	-115.48	10.61	36.20	1.472	51.225	12.150
CUBIERTA	C5	DIS2Y MIN	0.0000	-169.96	-7.57	-43.96	-1.474	-146.601	-21.899
			2.2500	-160.42	-7.57	-43.96	-1.474	-47.700	-4.879
			4.5000	-150.88	-7.57	-43.96	-1.474	-47.651	-20.458
CUBIERTA	C5	DIS3X MAX	0.0000	-86.40	30.96	14.72	1.578	42.684	82.993
			2.2500	-79.24	30.96	14.72	1.578	9.640	13.332
			4.5000	-72.08	30.96	14.72	1.578	19.021	51.266
CUBIERTA	C5	DIS3X MIN	0.0000	-120.67	-29.10	-17.67	-1.591	-60.597	-79.682
			2.2500	-113.52	-29.10	-17.67	-1.591	-20.908	-14.208
			4.5000	-106.36	-29.10	-17.67	-1.591	-23.644	-56.330
CUBIERTA	C5	DIS3Y MAX	0.0000	-85.84	10.02	38.60	1.467	121.983	26.246
			2.2500	-78.68	10.02	38.60	1.467	35.128	3.709
			4.5000	-71.52	10.02	38.60	1.467	47.126	13.772
CUBIERTA	C5	DIS3Y MIN	0.0000	-121.23	-8.16	-41.56	-1.479	-139.896	-22.935
			2.2500	-114.08	-8.16	-41.56	-1.479	-46.396	-4.585
			4.5000	-106.92	-8.16	-41.56	-1.479	-51.749	-18.836
CUBIERTA	C6	DIS1A	0.0000	-47.14	-1.90	0.22	-0.016	-2.830	-3.009
			2.2500	-42.05	-1.90	0.22	-0.016	-3.337	1.271
			4.5000	-36.96	-1.90	0.22	-0.016	-3.843	5.551
CUBIERTA	C6	DIS1B	0.0000	-51.27	-2.31	-0.01	-0.014	-3.690	-3.654
			2.2500	-46.18	-2.31	-0.01	-0.014	-3.679	1.532
			4.5000	-41.09	-2.31	-0.01	-0.014	-3.667	6.719
CUBIERTA	C6	DIS2X MAX	0.0000	-30.46	7.82	6.82	0.259	15.357	20.362
			2.2500	-25.37	7.82	6.82	0.259	0.071	2.773
			4.5000	-20.29	7.82	6.82	0.259	7.830	24.852
CUBIERTA	C6	DIS2X MIN	0.0000	-59.16	-11.25	-6.30	-0.292	-20.545	-25.783
			2.2500	-54.07	-11.25	-6.30	-0.292	-6.429	-0.472
			4.5000	-48.98	-11.25	-6.30	-0.292	-15.357	-14.830
CUBIERTA	C6	DIS2Y MAX	0.0000	-17.54	1.23	20.77	0.305	52.952	4.320
			2.2500	-12.45	1.23	20.77	0.305	6.227	1.755

COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			4.5000						
CUBIERTA	C6	DIS2Y MIN		-7.36	1.23	20.77	0.305	32.975	11.279
			0.0000	-72.08	-4.66	-20.25	-0.338	-58.140	-9.740
			2.2500	-66.99	-4.66	-20.25	-0.338	-12.585	0.545
			4.5000	-61.91	-4.66	-20.25	-0.338	-40.502	-1.258
CUBIERTA	C6	DIS3X MAX							
			0.0000	-16.35	8.48	6.80	0.262	16.301	21.413
			2.2500	-12.54	8.48	6.80	0.262	1.063	2.335
			4.5000	-8.72	8.48	6.80	0.262	8.869	22.924
CUBIERTA	C6	DIS3X MIN	0.0000	-45.05	-10.59	-6.32	-0.288	-19.601	-24.732
			2.2500	-41.24	-10.59	-6.32	-0.288	-5.437	-0.910
			4.5000	-37.42	-10.59	-6.32	-0.288	-14.317	-16.758
CUBIERTA	C6	OIS3Y MAX	0.0000	-3.43	1.89	20.75	0.309	53.896	5.371
			2.2500	0.38	1.89	20.75	0.309	7.219	1.317
			4.5000	4.20	1.89	20.75	0.309	34.014	9.352
CUBIERTA	C6	OIS3Y MIN							
			0.0000	-57.97	-4.00	-20.27	-0.335	-57.196	-8.689
			2.2500	-54.16	-4.00	-20.27	-0.335	-11.593	0.107
			4.5000	-50.34	-4.00	-20.27	-0.335	-39.462	-3.185
CUBIERTA	C7	DIS1A							
			0.0000	-45.50	2.13	-0.39	-0.016	-3.936	3.533
			2.2500	-40.41	2.13	-0.39	-0.016	-3.061	-1.251
			4.5000	-35.32	2.13	-0.39	-0.016	-2.186	-6.036
CUBIERTA	C7	DIS1B							
			0.0000	-49.49	2.56	-0.68	-0.013	-4.883	4.242
			2.2500	-44.40	2.56	-0.68	-0.013	-3.345	-1.511
			4.5000	-39.32	2.56	-0.68	-0.013	-1.808	-7.264
CUBIERTA	C7	OIS2X MAX	0.0000	-31.01	11.28	5.89	0.269	13.153	25.979
			2.2500	-25.92	11.28	5.89	0.269	-0.101	0.609
			4.5000	-20.83	11.28	5.89	0.269	8.982	13.832
CUBIERTA	C7	DIS2X MIN							
			0.0000	-55.45	-7.42	-6.55	-0.303	-20.480	-19.561
			2.2500	-50.36	-7.42	-6.55	-0.303	-5.750	-2.871
			4.5000	-45.27	-7.42	-6.55	-0.303	-13.356	-24.775
CUBIERTA	C7	DIS2Y MAX							
			0.0000	-16.12	4.78	20.17	0.309	51.745	10.073
			2.2500	-11.03	4.78	20.17	0.309	6.366	-0.473
			4.5000	-5.95	4.78	20.17	0.309	34.639	0.513
CUBIERTA	C7	OIS2Y MIN							
			0.0000	-70.33	-0.92	-20.82	-0.343	-59.072	-3.655
			2.2500	-65.24	-0.92	-20.82	-0.343	-12.217	-1.790
			4.5000	-60.15	-0.92	-20.82	-0.343	-39.013	-11.456
CUBIERTA	C7	DIS3X MAX							
			0.0000	-17.36	10.55	6.05	0.272	14.409	24.771
			2.2500	-13.55	10.55	6.05	0.272	0.800	1.041
			4.5000	-9.73	10.55	6.05	0.272	9.528	15.905
CUBIERTA	C7	DIS3X MIN							
			0.0000	-41.81	-8.15	-6.39	-0.300	-19.223	-20.769
			2.2500	-37.99	-8.15	-6.39	-0.300	-4.849	-2.439
			4.5000	-34.17	-8.15	-6.39	-0.300	-12.811	-22.702
CUBIERTA	C7	DIS3Y MAX	0.0000	-2.48	4.05	20.33	0.312	53.002	8.865
			2.2500	1.34	4.05	20.33	0.312	7.267	-0.040
			4.5000	5.15	4.05	20.33	0.312	35.185	2.586
CUBIERTA	C7	DIS3Y MIN							
			0.0000	-56.69	-1.65	-20.67	-0.340	-57.816	-4.863
			2.2500	-52.87	-1.65	-20.67	-0.340	-11.316	-1.357
			4.5000	-49.06	-1.65	-20.67	-0.340	-38.468	-9.383
CUBIERTA	C8	DIS1A							
			0.0000	-118.75	-0.44	3.07	-0.036	-4.181	-0.401
			2.2500	-109.21	-0.44	3.07	-0.036	-11.083	0.587
			4.5000	-99.67	-0.44	3.07	-0.036	-17.985	1.574
CUBIERTA	C8	DIS1B							
			0.0000	-136.39	-0.79	5.33	-0.033	-2.021	-0.963
			2.2500	-126.85	-0.79	5.33	-0.033	-14.007	0.825
			4.5000	-117.30	-0.79	5.33	-0.033	-25.994	2.613
CUBIERTA	C8	OIS2X MAX							
			0.0000	-93.91	23.26	16.65	1.687	42.257	65.211
			2.2500	-84.36	23.26	16.65	1.687	4.792	12.885
			4.5000	-74.82	23.26	16.65	1.687	2.760	41.807
CUBIERTA	C8	DIS2X MIN							
			0.0000	-130.36	-23.87	-12.23	-1.762	-52.296	-65.591
			2.2500	-120.82	-23.87	-12.23	-1.762	-24.770	-11.892

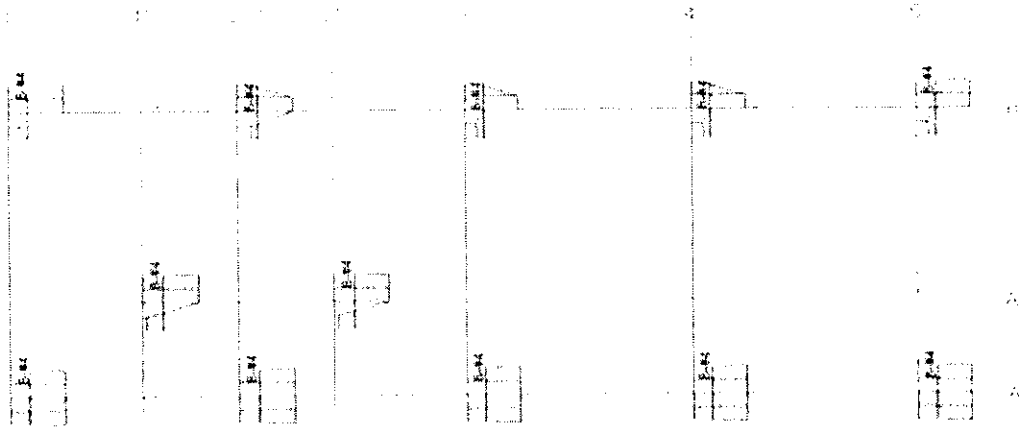
COLUMN FORCES

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			4.5000	-111.28	-23.87	-12.23	-1.762	-32.675	-39.442
CUBIERTA	C8	DIS2Y MAX							
			0.0000	-95.21	7.46	41.93	1.481	125.245	21.295
			2.2500	-85.67	7.46	41.93	1.481	30.909	4.516
			4.5000	-76.13	7.46	41.93	1.481	33.515	14.636
CUBIERTA	C8	DIS2Y MIN							
			0.0000	-129.05	-8.07	-37.51	-1.556	-135.284	-21.675
			2.2500	-119.51	-8.07	-37.51	-1.556	-50.886	-3.524
			4.5000	-109.97	-8.07	-37.51	-1.556	-63.430	-12.271
CUBIERTA	C8	DIS3X MAX							
			0.0000	-57.60	23.50	15.03	1.695	42.464	65.522
			2.2500	-50.44	23.50	15.03	1.695	8.657	12.648
			4.5000	-43.28	23.50	15.03	1.695	10.283	41.022
CUBIERTA	C8	DIS3X MIN	0.0000	-94.05	-23.62	-13.86	-1.754	-52.090	-65.280
			2.2500	-86.89	-23.62	-13.86	-1.754	-20.905	-12.130
			4.5000	-79.74	-23.62	-13.86	-1.754	-25.152	-40.226
CUBIERTA	C8	DIS3Y MAX							
			0.0000	-58.90	7.70	40.30	1.489	125.451	21.606
			2.2500	-51.75	7.70	40.30	1.489	34.774	4.279
			4.5000	-44.59	7.70	40.30	1.489	41.038	13.851
CUBIERTA	C8	DIS3Y MIN							
			0.0000	-92.74	-7.83	-39.14	-1.548	-135.077	-21.365
			2.2500	-85.59	-7.83	-39.14	-1.548	-47.021	-3.761
			4.5000	-78.43	-7.83	-39.14	-1.548	-55.907	-13.056
CUBIERTA	C9	DIS1A							
			0.0000	-135.52	0.45	1.59	-0.061	-6.996	1.025
			2.2500	-125.98	0.45	1.59	-0.061	-10.574	0.023
			4.5000	-116.44	0.45	1.59	-0.061	-14.152	-0.980
CUBIERTA	C9	DIS1B							
			0.0000	-161.16	0.51	3.94	-0.057	-4.670	1.141
			2.2500	-151.62	0.51	3.94	-0.057	-13.537	-0.006
			4.5000	-142.08	0.51	3.94	-0.057	-22.405	-1.153
CUBIERTA	C9	DIS2X MAX	0.0000	-120.19	31.25	12.69	1.171	31.866	78.063
			2.2500	-110.65	31.25	12.69	1.171	3.312	7.740
			4.5000						
CUBIERTA	C9	DIS2X MIN		-101.11	31.25	12.69	1.171	3.530	60.758
			0.0000	-131.39	-30.41	-11.42	-1.294	-47.848	-76.107
			2.2500	-121.85	-30.41	-11.42	-1.294	-22.159	-7.674
			4.5000	-112.30	-30.41	-11.42	-1.294	-25.242	-62.582
CUBIERTA	C9	DIS2Y MAX							
			0.0000	-110.14	10.51	39.11	1.252	119.279	26.222
			2.2500	-100.60	10.51	39.11	1.252	31.292	2.568
			4.5000						
CUBIERTA	C9	DIS2Y MIN		-91.05	10.51	39.11	1.252	34.984	19.261
			0.0000	-141.44	-9.67	-37.83	-1.375	-135.262	-24.266
			2.2500	-131.90	-9.67	-37.83	-1.375	-50.139	-2.503
			4.5000	-122.36	-9.67	-37.83	-1.375	-56.696	-21.086
CUBIERTA	C9	DIS3X MAX							
			0.0000	-76.58	31.12	11.34	1.185	32.619	77.760
			2.2500	-69.42	31.12	11.34	1.185	7.106	7.745
			4.5000	-62.27	31.12	11.34	1.185	10.364	61.070
CUBIERTA	C9	DIS3X MIN	0.0000	-87.78	-30.55	-12.77	-1.280	-47.095	-76.410
			2.2500	-80.62	-30.55	-12.77	-1.280	-18.366	-7.670
			4.5000	-73.46	-30.55	-12.77	-1.280	-18.409	-62.270
CUBIERTA	C9	DIS3Y MAX	0.0000	-66.53	10.38	37.75	1.266	120.033	25.919
			2.2500	-59.37	10.38	37.75	1.266	35.085	2.573
			4.5000	-52.21	10.38	37.75	1.266	41.818	19.574
CUBIERTA	C9	DIS3Y MIN							
			0.0000	-97.83	-9.81	-39.18	-1.361	-134.508	-24.569
			2.2500	-90.67	-9.81	-39.18	-1.361	-46.345	-2.498
			4.5000	-83.52	-9.81	-39.18	-1.361	-49.862	-20.773
CUBIERTA	C10	DIS1A							
			0.0000	-139.40	0.30	3.78	-0.035	-3.880	0.789
			2.2500	-129.86	0.30	3.78	-0.035	-12.377	0.118
			4.5000	-120.32	0.30	3.78	-0.035	-20.874	-0.553
CUBIERTA	C10	DIS1B							
			0.0000	-168.54	0.30	8.40	-0.023	2.129	0.807
			2.2500	-158.99	0.30	8.40	-0.023	-16.770	0.128
			4.5000	-149.45	0.30	8.40	-0.023	-35.668	-0.551
CUBIERTA	C10	DIS2X MAX							
			0.0000	-123.55	29.32	13.79	1.109	32.402	74.931

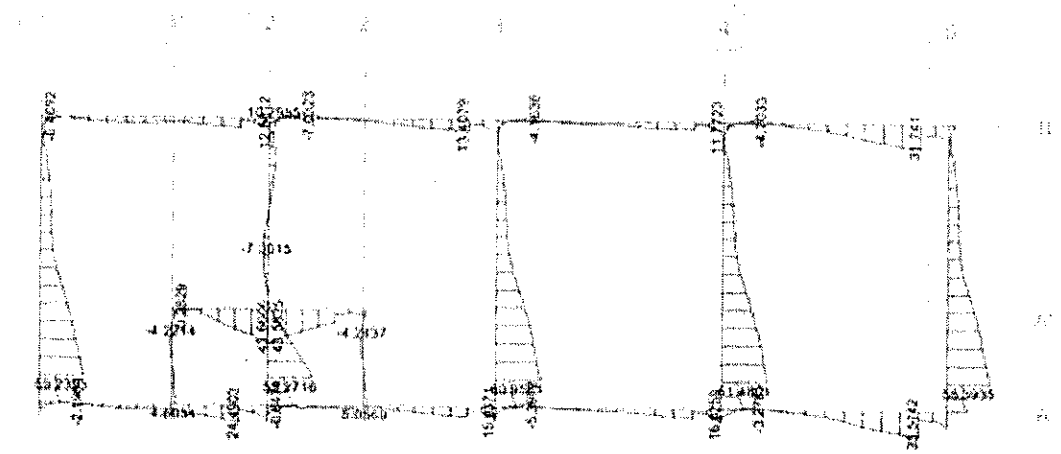
C O L U M N F O R C E S

STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-114.01	29.32	13.79	1.109	1.369	8.955
			4.5000	-104.46	29.32	13.79	1.109	-0.964	55.922
CUBIERTA	C10	DIS2X MIN							
			0.0000	-133.38	-28.73	-9.72	-1.186	-44.702	-73.374
			2.2500	-123.84	-28.73	-9.72	-1.186	-22.833	-8.726
			4.5000	-114.30	-28.73	-9.72	-1.186	-29.664	-57.021
CUBIERTA	C10	DIS2Y MAX							
			0.0000	-112.12	9.83	41.14	1.245	122.077	25.115
			2.2500	-102.58	9.83	41.14	1.245	29.520	3.001
			4.5000						
CUBIERTA	C10	DIS2Y MIN		-93.03	9.83	41.14	1.245	32.410	18.014
			0.0000	-144.81	-9.24	-37.06	-1.322	-134.377	-23.559
			2.2500	-135.27	-9.24	-37.06	-1.322	-50.984	-2.773
			4.5000	-125.73	-9.24	-37.06	-1.322	-63.038	-19.114
CUBIERTA	C10	DIS3X MAX							
			0.0000	-77.76	29.25	11.11	1.114	31.102	74.723
			2.2500	-70.61	29.25	11.11	1.114	6.109	8.921
			4.5000	-63.45	29.25	11.11	1.114	9.816	56.064
CUBIERTA	C10	DIS3X MIN							
			0.0000	-87.60	-28.81	-12.40	-1.182	-46.002	-73.582
			2.2500	-80.44	-28.81	-12.40	-1.182	-18.093	-8.759
			4.5000	-73.28	-28.81	-12.40	-1.182	-18.885	-56.880
CUBIERTA	C10	DIS3Y MAX	0.0000	-66.33	9.75	38.45	1.250	120.777	24.907
			2.2500	-59.18	9.75	38.45	1.250	34.259	2.968
			4.5000	-52.02	9.75	38.45	1.250	43.189	18.156
CUBIERTA	C10	DIS3Y MIN							
			0.0000	-99.03	-9.32	-39.75	-1.318	-135.677	-23.767
			2.2500	-91.87	-9.32	-39.75	-1.318	-46.244	-2.806
			4.5000	-84.71	-9.32	-39.75	-1.318	-52.259	-18.972
CUBIERTA	C11	DIS1A							
			0.0000	-138.44	0.52	3.73	0.011	-4.023	1.155
			2.2500	-128.89	0.52	3.73	0.011	-12.422	-0.017
			4.5000	-119.35	0.52	3.73	0.011	-20.820	-1.188
CUBIERTA	C11	DIS1B							
			0.0000	-167.79	0.52	8.45	0.036	2.277	1.162
			2.2500	-158.25	0.52	8.45	0.036	-16.743	-0.001
			4.5000	-148.70	0.52	8.45	0.036	-35.763	-1.163
CUBIERTA	C11	DIS2X MAX							
			0.0000	-121.57	30.99	14.67	1.180	35.141	77.652
			2.2500	-112.03	30.99	14.67	1.180	2.141	7.923
			4.5000	-102.48	30.99	14.67	1.180	0.432	59.413
CUBIERTA	C11	DIS2X MIN							
			0.0000	-133.28	-29.95	-10.75	-1.176	-47.925	-75.352
			2.2500	-123.73	-29.95	-10.75	-1.176	-23.747	-7.969
			4.5000	-114.19	-29.95	-10.75	-1.176	-30.859	-61.806
CUBIERTA	C11	DIS2Y MAX							
			0.0000	-110.64	10.51	41.44	1.310	122.670	26.230
			2.2500	-101.10	10.51	41.44	1.310	29.440	2.578
			4.5000	-91.55	10.51	41.44	1.310	33.362	18.682
CUBIERTA	C11	DIS2Y MIN							
			0.0000	-144.21	-9.47	-37.51	-1.305	-135.454	-23.929
			2.2500	-134.66	-9.47	-37.51	-1.305	-51.046	-2.624
			4.5000	-125.12	-9.47	-37.51	-1.305	-63.790	-21.075
CUBIERTA	C11	DIS3X MAX							
			0.0000	-75.95	30.86	11.96	1.168	33.777	77.358
			2.2500	-68.79	30.86	11.96	1.168	6.865	7.921
			4.5000	-61.63	30.86	11.96	1.168	11.243	59.702
CUBIERTA	C11	DIS3X MIN	0.0000	-87.65	-30.08	-13.45	-1.187	-49.289	-75.645
			2.2500	-80.50	-30.08	-13.45	-1.187	-19.023	-7.972
			4.5000	-73.34	-30.08	-13.45	-1.187	-20.048	-61.516
CUBIERTA	C11	DIS3Y MAX							
			0.0000	-65.02	10.38	38.73	1.298	121.306	25.936
			2.2500	-57.86	10.38	38.73	1.298	34.164	2.575
			4.5000	-50.70	10.38	38.73	1.298	44.174	18.971
CUBIERTA	C11	DIS3Y MIN							
			0.0000	-98.58	-9.60	-40.22	-1.317	-136.818	-24.223
			2.2500	-91.43	-9.60	-40.22	-1.317	-46.322	-2.626
			4.5000	-84.27	-9.60	-40.22	-1.317	-52.979	-20.785
CUBIERTA	C12	DIS1A							
			0.0000	-126.91	-0.76	3.05	0.004	-4.973	-0.913
			2.2500	-117.37	-0.76	3.05	0.004	-11.836	0.787
			4.5000	-107.83	-0.76	3.05	0.004	-18.698	2.487
CUBIERTA	C12	DIS1B							
			0.0000	-145.97	-0.58	5.76	0.029	-1.715	-0.610

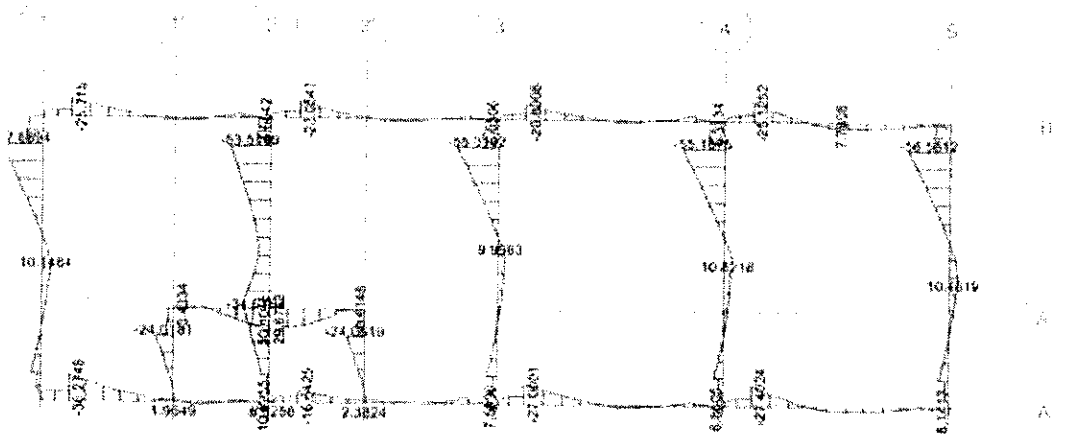
STORY	COLUMN	LOAD	LOC	P	V2	V3	T	M2	M3
			2.2500	-136.43	-0.58	5.76	0.029	-14.669	0.686
			4.5000	-126.89	-0.58	5.76	0.029	-27.623	1.983
CUBIERTA	C12	DIS2X MAX	0.0000	-100.82	22.86	17.47	1.821	44.157	64.592
			2.2500	-91.28	22.86	17.47	1.821	4.860	13.167
			4.5000	-81.73	22.86	17.47	1.821	3.754	43.612
CUBIERTA	C12	DIS2X MIN	0.0000	-138.70	-24.50	-13.40	-1.831	-56.560	-66.648
			2.2500	-129.16	-24.50	-13.40	-1.831	-26.404	-11.518
			4.5000	-119.61	-24.50	-13.40	-1.831	-34.439	-38.257
CUBIERTA	C12	DIS2Y MAX	0.0000	-102.24	6.96	42.04	1.564	124.554	20.496
			2.2500	-92.70	6.96	42.04	1.564	29.960	4.836
			4.5000						
CUBIERTA	C12	DIS2Y MIN		-83.16	6.96	42.04	1.564	33.952	16.182
			0.0000	-137.27	-8.61	-37.98	-1.573	-136.957	-22.553
			2.2500	-127.73	-8.61	-37.98	-1.573	-51.504	-3.187
			4.5000	-118.19	-8.61	-37.98	-1.573	-64.637	-10.827
CUBIERTA	C12	DIS3X MAX	0.0000	-61.94	22.98	15.68	1.811	44.172	64.704
			2.2500	-54.78	22.98	15.68	1.811	8.882	13.008
			4.5000	-47.62	22.98	15.68	1.811	11.784	43.181
CUBIERTA	C12	DIS3X MIN	0.0000	-99.82	-24.38	-15.18	-1.841	-56.545	-66.536
			2.2500	-92.66	-24.38	-15.18	-1.841	-22.381	-11.678
			4.5000	-85.50	-24.38	-15.18	-1.841	-26.409	-38.689
CUBIERTA	C12	DIS3Y MAX	0.0000	-63.36	7.08	40.26	1.554	124.569	20.608
			2.2500	-56.20	7.08	40.26	1.554	33.982	4.677
			4.5000	-49.05	7.08	40.26	1.554	41.982	15.751
CUBIERTA	C12	DIS3Y MIN	0.0000	-98.39	-8.49	-39.76	-1.583	-136.942	-22.441
			2.2500	-91.23	-8.49	-39.76	-1.583	-47.481	-3.346
			4.5000	-84.08	-8.49	-39.76	-1.583	-56.607	-11.258



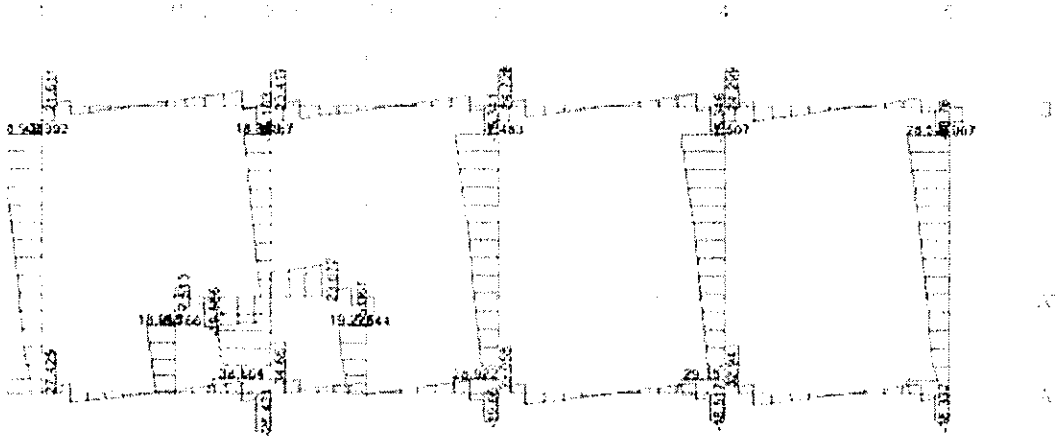
Zapatas SUELO AB - Strip B, Acero de Refuerzo



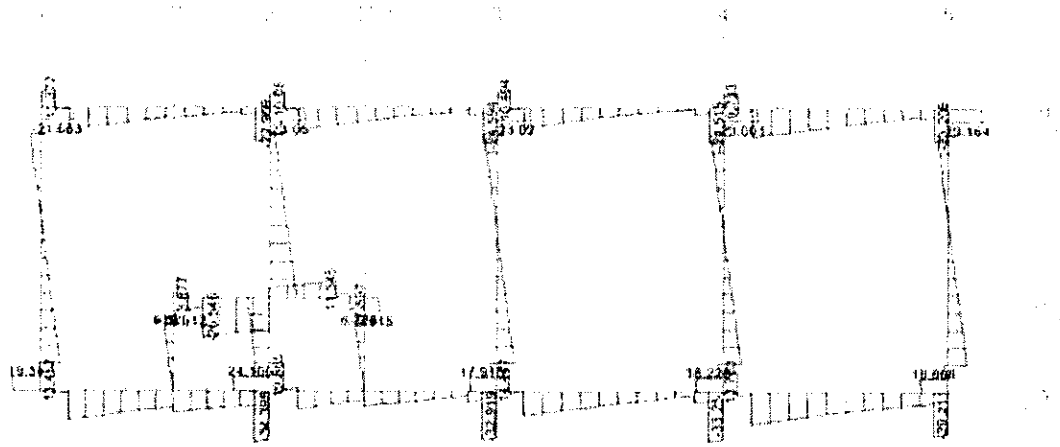
Vigas, Mmax (kN-m)



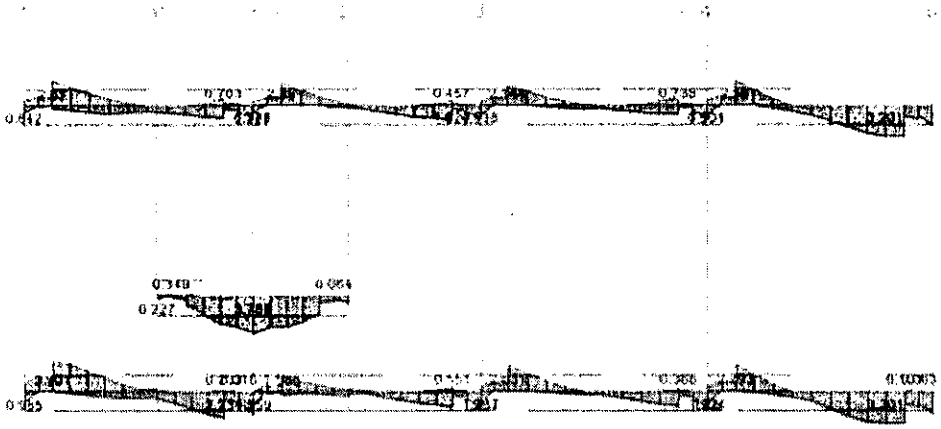
Vigas, Mmin (kN-m)



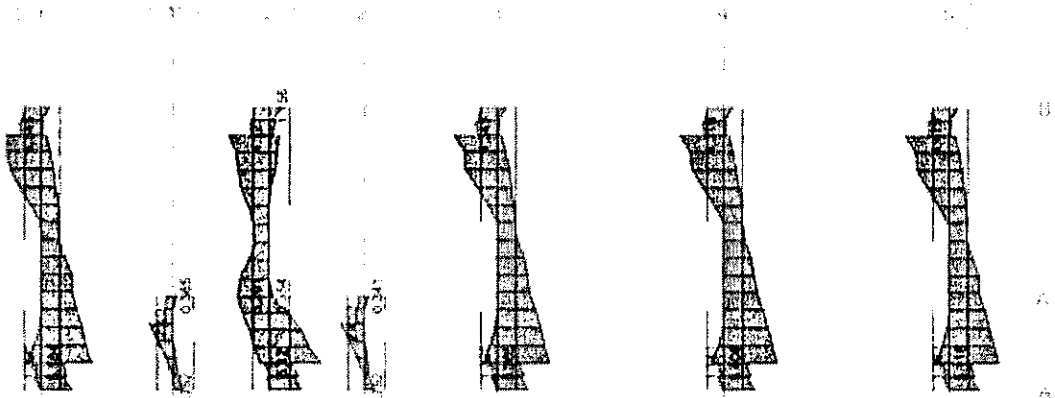
Vigas, Vmax (kN)



Vigas, Vmin (kN)



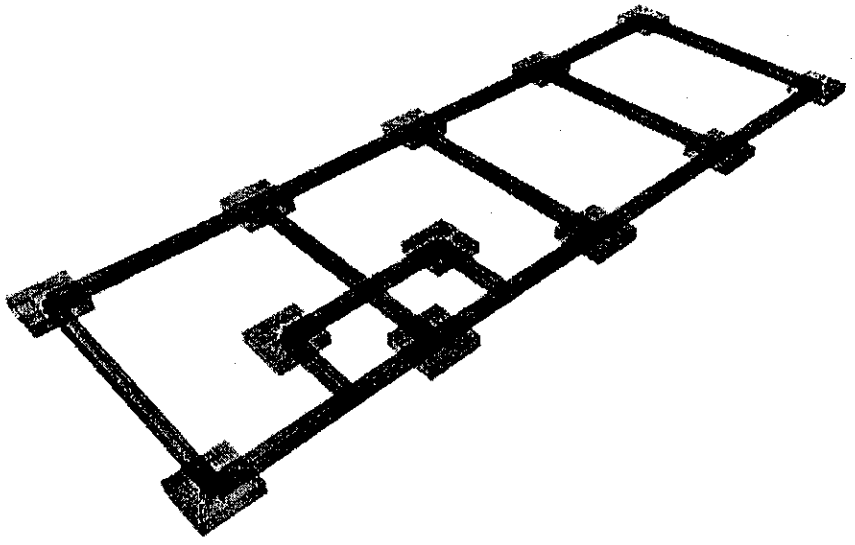
Vigas Long. Suelo AB, Acero de refuerzo a flexion (cm2)



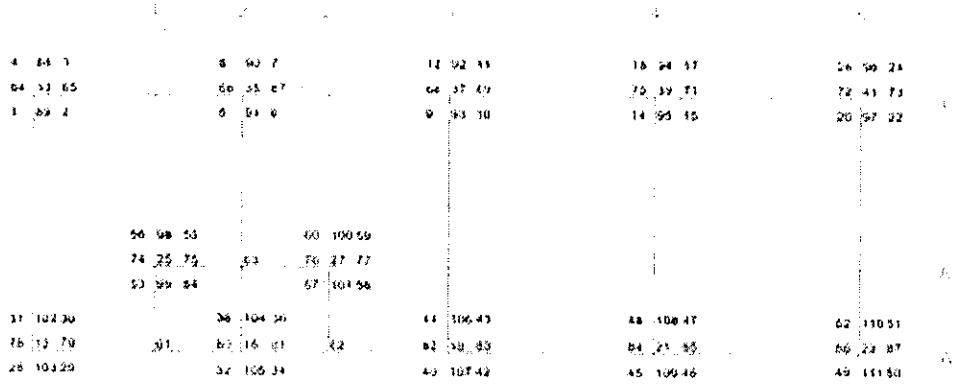
Vigas Transv. Suelo AB, Acero de refuerzo a flexion (cm2)

9.1.2. Suelo Tipo E

9.1.2.1. Modelo Matemático



MODELO 3D_SAFE V12.3.2 - Planta Cimentación E

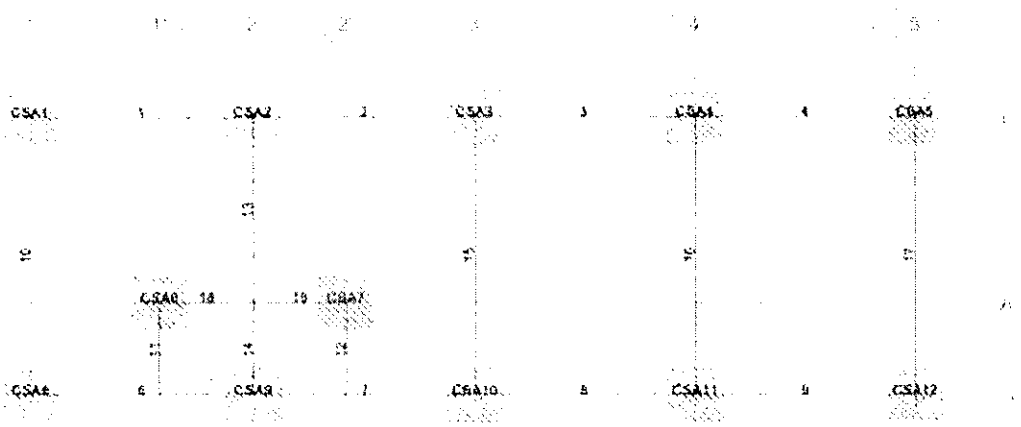


Numeración Nudos

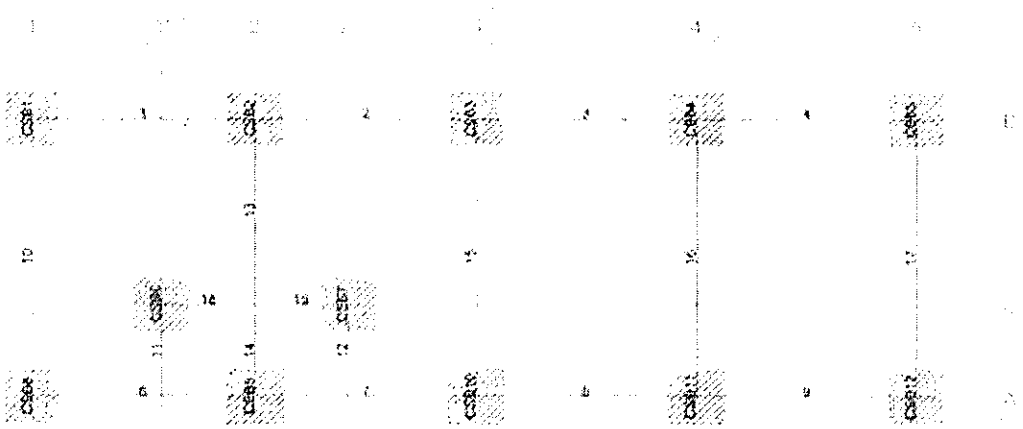
INGENIERIA ESTRUCTURAL S.A.S
Evaluamos el Pasado - Analizamos el Presente - Diseñamos el Futuro
Nit.900482474-1



Numeración Elementos



Identificación Strip A



Identificación Strip B

9.1.2.2. Coordenadas, asignaciones

Table: Object Geometry - Areas 01 - General, Part 1 of 2

Area	NumPoints	Point1	Point2	Point3	Point4	Auto	TotalArea mm2	AreaType
1	4	1	2	3	4	No	2250000.00	Slab
2	4	5	6	7	8	No	2250000.00	Slab
3	4	9	10	11	12	No	2250000.00	Slab
4	4	14	15	17	18	No	2250000.00	Slab
5	4	20	22	24	26	No	2250000.00	Slab
6	4	28	29	30	31	No	2250000.00	Slab
7	4	32	34	36	38	No	2560000.00	Slab
8	4	40	42	43	44	No	2560000.00	Slab
9	4	45	46	47	48	No	2560000.00	Slab
10	4	49	50	51	52	No	2250000.00	Slab
11	4	53	54	55	56	No	2250000.00	Slab
12	4	57	58	59	60	No	2250000.00	Slab

Table: Object Geometry - Design Strips

Strip	Point	GlobalX m	GlobalY m	WBLeft m	WBRight m	WALeft m	WARight m
CSA1	64	-0.75000	7.70000			0.75000	0.75000
CSA1	65	0.75000	7.70000	0.75000	0.75000		
CSA2	66	5.25000	7.70000			0.75000	0.75000
CSA2	67	6.75000	7.70000	0.75000	0.75000		
CSA3	68	11.25000	7.70000			0.75000	0.75000
CSA3	69	12.75000	7.70000	0.75000	0.75000		
CSA4	70	17.25000	7.70000			0.75000	0.75000
CSA4	71	18.75000	7.70000	0.75000	0.75000		

Table: Object Geometry - Design Strips

Strip	Point	GlobalX m	GlobalY m	WBLeft m	WBRight m	WALeft m	WARight m
CSA5	72	23.25000	7.70000			0.75000	0.75000
CSA5	73	24.75000	7.70000	0.75000	0.75000		
CSA6	74	2.75000	2.55000			0.75000	0.75000
CSA6	75	4.25000	2.55000	0.75000	0.75000		
CSA7	76	7.75000	2.55000			0.75000	0.75000
CSA7	77	9.25000	2.55000	0.75000	0.75000		
CSA8	78	-0.75000	0.00000			0.75000	0.75000
CSA8	79	0.75000	0.00000	0.75000	0.75000		
CSA9	80	5.20000	0.00000			0.80000	0.80000
CSA9	81	6.80000	0.00000	0.80000	0.80000		
CSB1	88	0.00000	8.45000			0.75000	0.75000
CSB1	89	0.00000	6.95000	0.75000	0.75000		
CSB2	90	6.00000	8.45000			0.75000	0.75000
CSB2	91	6.00000	6.95000	0.75000	0.75000		
CSB3	92	12.00000	8.45000			0.75000	0.75000
CSB3	93	12.00000	6.95000	0.75000	0.75000		
CSB4	94	18.00000	8.45000			0.75000	0.75000
CSB4	95	18.00000	6.95000	0.75000	0.75000		
CSB5	96	24.00000	8.45000			0.75000	0.75000
CSB5	97	24.00000	6.95000	0.75000	0.75000		
CSB6	98	3.50000	3.30000			0.75000	0.75000
CSB6	99	3.50000	1.80000	0.75000	0.75000		
CSB7	100	8.50000	3.30000			0.75000	0.75000
CSB7	101	8.50000	1.80000	0.75000	0.75000		
CSB8	102	0.00000	0.75000			0.75000	0.75000
CSB8	103	0.00000	-0.75000	0.75000	0.75000		
CSB9	104	6.00000	0.80000			0.80000	0.80000
CSB9	105	6.00000	-0.80000	0.80000	0.80000		
CSA10	82	11.20000	0.00000			0.80000	0.80000
CSA10	83	12.80000	0.00000	0.80000	0.80000		
CSA11	84	17.20000	0.00000			0.80000	0.80000
CSA11	85	18.80000	0.00000	0.80000	0.80000		
CSA12	86	23.25000	0.00000			0.75000	0.75000
CSA12	87	24.75000	0.00000	0.75000	0.75000		
CSB10	106	12.00000	0.80000			0.80000	0.80000
CSB10	107	12.00000	-0.80000	0.80000	0.80000		
CSB11	108	18.00000	0.80000			0.80000	0.80000
CSB11	109	18.00000	-0.80000	0.80000	0.80000		
CSB12	110	24.00000	0.75000			0.75000	0.75000
CSB12	111	24.00000	-0.75000	0.75000	0.75000		

Table: Slab Property Assignments

Area	SlabProp
1	Zapata 35 cm
2	Zapata 35 cm
3	Zapata 35 cm
4	Zapata 35 cm
5	Zapata 35 cm
6	Zapata 35 cm
7	Zapata 35 cm
8	Zapata 35 cm
9	Zapata 35 cm
10	Zapata 35 cm
11	Zapata 35 cm
12	Zapata 35 cm

Table: Beam Property Assignments

Line	BeamProp
1	VC30X40
2	VC30X40
3	VC30X40
4	VC30X40
6	VC30X40
7	VC30X40
8	VC30X40
9	VC30X40
10	VC30X40
11	VC30X40
12	VC30X40
13	VC30X40
14	VC30X40
15	VC30X40
16	VC30X40
17	VC30X40
18	VC30X40
19	VC30X40

Table: Soil Property Assignments

Area	SoilProp
1	Ks E
2	Ks E
3	Ks E
4	Ks E
5	Ks E
6	Ks E
7	Ks E
8	Ks E
9	Ks E
10	Ks E
11	Ks E
12	Ks E

9.1.2.3. Cargas, asignación de cargas SUELO E

Table: Load Assignments - Point Loads, Part 1 of 2

Point	LoadPat	Fx kN	Fy kN	Fgrav kN	Mx kN-m	My kN-m	Mz kN-m	XDim mm
13	PP	-1.880	0.820	85.980	4.0530	-2.9010	-0.0610	300.000
13	DL	-0.550	-2.400	22.910	4.8590	-0.8370	0.0080	300.000
13	LR	-0.360	-1.860	13.250	3.8670	-0.5440	0.0030	300.000
13	G	-0.670	-3.710	26.380	7.7400	-1.0230	0.0070	300.000
13	EX	-16.150	-9.550	9.980	-29.9680	-43.8150	-0.8000	300.000
13	EY	-4.980	-26.930	14.750	-85.5120	-13.3210	-0.8800	300.000
16	PP	0.330	3.600	121.000	0.0540	0.6660	-0.0680	300.000
16	DL	0.130	-2.930	41.440	5.6620	0.2660	0.0110	300.000
16	LR	0.090	-0.870	15.080	2.2610	0.1840	0.0050	300.000
16	G	0.190	-1.420	26.800	4.0320	0.3630	0.0110	300.000
16	EX	-20.570	-9.100	11.870	-27.5020	-51.0380	-0.6030	300.000
16	EY	-6.260	-29.620	35.650	-89.2110	-15.5120	-0.7910	300.000
19	PP	0.450	5.870	95.720	-3.1580	0.8580	-0.0550	300.000
19	DL	0.200	-4.120	33.530	7.4930	0.3770	0.0150	300.000
19	LR	0.040	-2.880	21.830	5.4430	0.0900	0.0110	300.000
19	G	0.040	-5.760	43.490	10.8870	0.1270	0.0220	300.000
19	EX	-19.430	-7.930	4.640	-25.2340	-49.1940	-0.5970	300.000
19	EY	-5.990	-26.400	15.450	-84.0220	-15.0430	-0.7880	300.000
21	PP	-0.020	6.250	95.670	-3.5020	0.0850	-0.0250	300.000
21	DL	0.000	-4.110	33.020	7.3740	0.0470	0.0130	300.000
21	LR	-0.010	-2.890	22.190	5.3780	0.0110	0.0110	300.000
21	G	-0.020	-5.790	44.390	10.7650	0.0260	0.0230	300.000
21	EX	-20.130	-7.900	4.920	-25.8970	-50.2980	-0.6950	300.000
21	EY	-6.100	-25.220	9.990	-82.3010	-15.2440	-0.8380	300.000
23	PP	0.780	0.630	92.340	5.6050	1.3790	-0.0130	300.000
23	DL	0.250	-2.270	22.700	4.3460	0.4600	0.0070	300.000
23	LR	0.280	-1.910	14.220	3.7200	0.4840	0.0070	300.000
23	G	0.560	-3.810	28.420	7.4370	0.9640	0.0150	300.000
23	EX	-16.180	-9.610	9.390	-30.7940	-43.8360	-0.8650	300.000
23	EY	-4.920	-25.450	11.130	-83.1500	-13.2970	-0.9240	300.000
25	PP	-0.390	-0.170	21.560	2.2020	-0.5900	-0.0170	200.000
25	DL	-0.780	0.440	12.560	-0.3690	-1.2530	0.0020	200.000
25	LR	-0.310	-0.060	3.880	0.3940	-0.4980	0.0010	200.000
25	G	-0.560	-0.200	6.460	0.9310	-0.9010	0.0020	200.000
25	EX	-5.140	-4.100	8.200	-11.1800	-12.4350	-0.1520	200.000
25	EY	-1.610	-13.030	17.290	-35.2960	-3.8130	-0.2030	200.000
27	PP	0.520	-0.590	20.390	2.9980	0.9010	-0.0190	200.000
27	DL	0.810	0.400	12.480	-0.3240	1.3230	0.0030	200.000
27	LR	0.330	-0.100	3.780	0.4540	0.5410	0.0020	200.000
27	G	0.600	-0.290	6.280	1.0460	0.9830	0.0030	200.000
27	EX	-5.040	-3.940	7.130	-10.6500	-12.2720	-0.1570	200.000
27	EY	-1.540	-13.030	17.200	-35.2140	-3.7070	-0.2050	200.000
33	PP	-0.240	-1.330	65.800	7.4870	-0.1640	-0.0360	300.000
33	DL	0.170	1.980	18.450	-2.1400	0.2980	0.0030	300.000
33	LR	-0.220	1.430	11.040	-1.3980	-0.3510	0.0020	300.000
33	G	-0.450	2.840	22.060	-2.7480	-0.7030	0.0040	300.000
33	EX	-12.700	-8.750	9.960	-28.6610	-35.2570	-0.9410	300.000
33	EY	-4.320	-25.230	10.610	-82.7460	-11.9560	-0.9500	300.000
35	PP	0.320	-3.550	67.520	11.4590	0.7400	-0.0590	300.000
35	DL	-0.010	2.750	23.790	-3.4170	0.0100	0.0060	300.000
35	LR	0.040	1.590	16.220	-1.6590	0.0780	0.0020	300.000
35	G	0.080	3.060	32.250	-3.1130	0.1510	0.0040	300.000
35	EX	-16.620	-7.570	3.410	-25.0280	-41.5560	-0.6760	300.000
35	EY	-5.610	-24.450	9.940	-80.8790	-14.0330	-0.8260	300.000
37	PP	0.220	-4.750	65.720	13.7930	0.5790	-0.0480	300.000
37	DL	0.020	4.030	26.150	-5.5150	0.0550	0.0100	300.000
37	LR	0.010	2.900	18.220	-3.7830	0.0180	0.0070	300.000
37	G	0.010	5.790	36.430	-7.5390	0.0290	0.0140	300.000
37	EX	-15.650	-7.460	3.120	-24.4800	-39.9750	-0.6310	300.000
37	EY	-5.300	-24.850	10.390	-81.4950	-13.5380	-0.8090	300.000
39	PP	0.350	-4.900	65.060	14.2960	0.7850	-0.0270	300.000
39	DL	0.090	4.070	25.830	-5.6780	0.1670	0.0170	300.000
39	LR	0.000	2.950	18.360	-3.9490	0.0080	0.0150	300.000
39	G	0.000	5.900	36.700	-7.8860	0.0120	0.0310	300.000
39	EX	-16.430	-7.920	3.580	-25.8960	-41.2410	-0.6470	300.000
39	EY	-5.560	-25.080	10.660	-82.0120	-13.9460	-0.8230	300.000
41	PP	-0.440	-1.890	70.960	9.6200	-0.4850	-0.0360	300.000
41	DL	-0.340	2.160	18.910	-2.7460	-0.5320	0.0190	300.000
41	LR	0.110	1.700	11.920	-2.0470	0.1930	0.0150	300.000
41	G	0.230	3.390	23.840	-4.0840	0.3820	0.0300	300.000
41	EX	-12.770	-9.240	10.340	-30.1640	-35.3750	-0.9950	300.000
41	EY	-4.330	-25.410	10.980	-83.0400	-11.9720	-0.9810	300.000

9.1.2.4. Esfuerzos sobre el suelo E

Table: Soil Pressures - Enveloping Summary

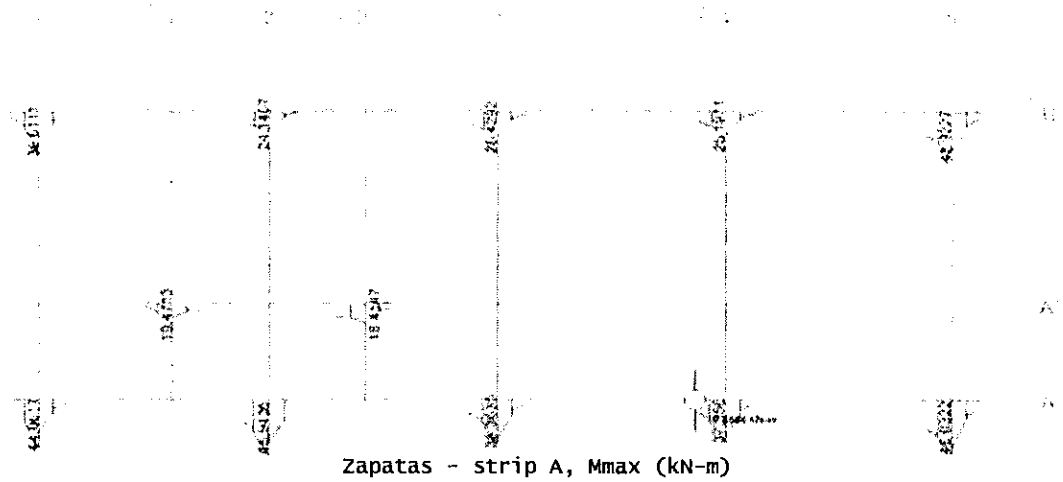
Panel	OutputItem	SurfPress kN/m2	OutputCase	CaseType	GlobalX m	GlobalY m
1	MaxPress	-27.35	Envol.-SRv	Combination	2.75000	2.55000
1	MinPress	-81.78	Envol.-SRv	Combination	0.37500	0.75000
2	MaxPress	-18.76	Envol.-SRv	Combination	2.75000	3.30000
2	MinPress	-70.70	Envol.-SRv	Combination	0.37500	7.32500
3	MaxPress	-31.53	Envol.-SRv	Combination	3.50000	2.55000
3	MinPress	-86.19	Envol.-SRv	Combination	5.60000	0.40000
4	MaxPress	-25.67	Envol.-SRv	Combination	3.50000	3.30000
4	MinPress	-74.51	Envol.-SRv	Combination	5.62500	7.70000
5	MaxPress	-30.40	Envol.-SRv	Combination	8.12500	2.55000
5	MinPress	-86.25	Envol.-SRv	Combination	6.40000	0.40000
6	MaxPress	-24.69	Envol.-SRv	Combination	8.12500	3.30000
6	MinPress	-74.51	Envol.-SRv	Combination	6.37500	7.70000
7	MaxPress	-25.58	Envol.-SRv	Combination	8.87500	2.55000
7	MinPress	-89.70	Envol.-SRv	Combination	11.20000	0.80000
8	MaxPress	-17.66	Envol.-SRv	Combination	8.87500	3.30000
8	MinPress	-81.44	Envol.-SRv	Combination	11.62500	7.32500
9	MaxPress	-40.12	Envol.-SRv	Combination	12.40000	0.40000
9	MinPress	-90.88	Envol.-SRv	Combination	17.20000	0.80000
10	MaxPress	-42.23	Envol.-SRv	Combination	12.37500	7.32500
10	MinPress	-82.81	Envol.-SRv	Combination	17.62500	7.32500
11	MaxPress	-37.38	Envol.-SRv	Combination	23.62500	0.37500
11	MinPress	-90.71	Envol.-SRv	Combination	18.00000	0.80000
12	MaxPress	-38.69	Envol.-SRv	Combination	23.62500	7.32500
12	MinPress	-82.81	Envol.-SRv	Combination	18.00000	7.32500

Table: Soil Pressures - Summary

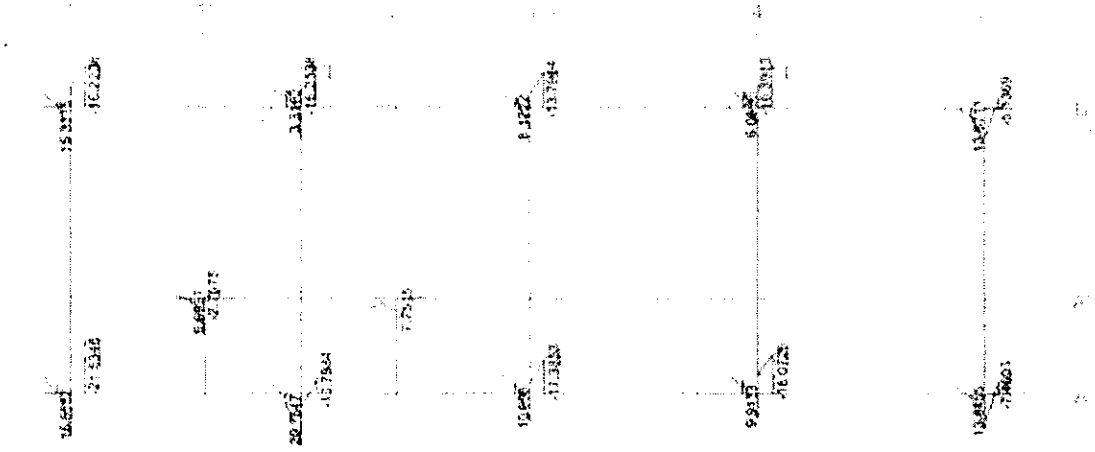
Panel	OutputCase	CaseType	MaxPress kN/m2	MinPress kN/m2	GlobalXMax m	GlobalYMax m	GlobalXMin m	GlobalYMin m
1	Envol.-SRV	Combination	-27.35	-81.78	2.75000	2.55000	0.37500	0.75000
2	Envol.-SRV	Combination	-18.76	-70.70	2.75000	3.30000	0.37500	7.32500
3	Envol.-SRV	Combination	-31.53	-86.19	3.50000	2.55000	5.60000	0.40000
4	Envol.-SRV	Combination	-25.67	-74.51	3.50000	3.30000	5.62500	7.70000
5	Envol.-SRV	Combination	-30.40	-86.25	8.12500	2.55000	6.40000	0.40000
6	Envol.-SRV	Combination	-24.69	-74.51	8.12500	3.30000	6.37500	7.70000
7	Envol.-SRV	Combination	-25.58	-89.70	8.87500	2.55000	11.20000	0.80000
8	Envol.-SRV	Combination	-17.66	-81.44	8.87500	3.30000	11.62500	7.32500
9	Envol.-SRV	Combination	-40.12	-90.88	12.40000	0.40000	17.20000	0.80000
10	Envol.-SRV	Combination	-42.23	-82.81	12.37500	7.32500	17.62500	7.32500
11	Envol.-SRV	Combination	-37.38	-90.71	23.62500	0.37500	18.00000	0.80000
12	Envol.-SRV	Combination	-38.69	-82.81	23.62500	7.32500	18.00000	7.32500

Capacidad admisible de suelo AB, $\square_{adm}$ = 100 kN/m² > Soil Pressures Max/Min => Ok

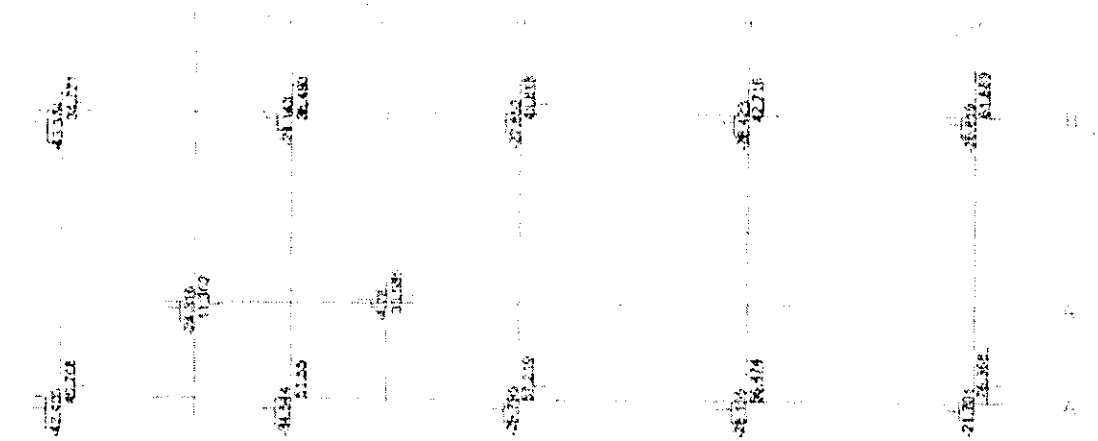
9.1.2.5. Resultados, diseño elementos



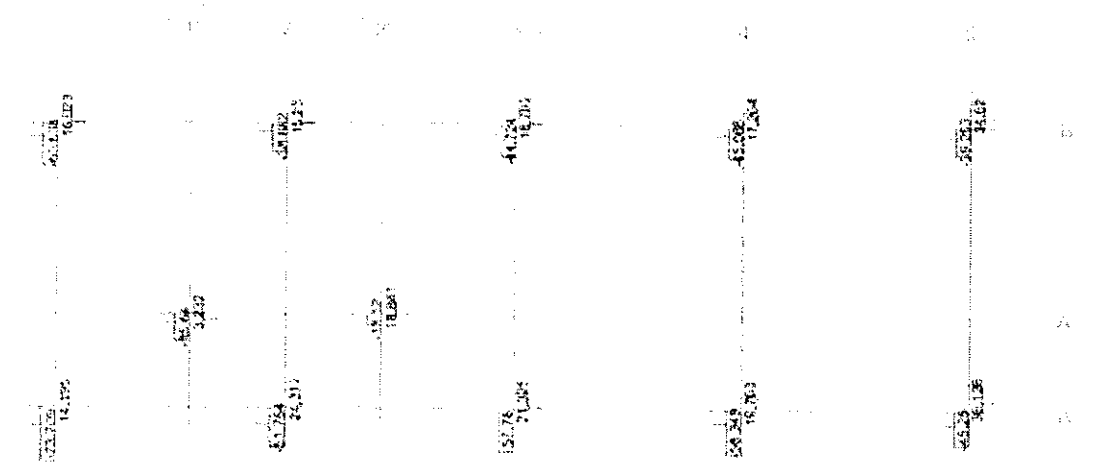
Zapatas - strip A, Mmax (kN-m)



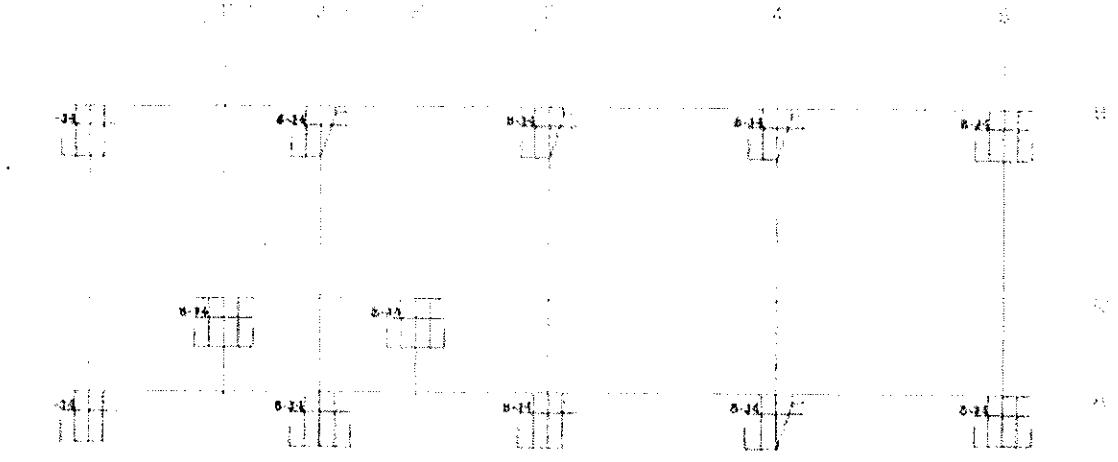
Zapatas - Strip A, Mmin (kN-m)



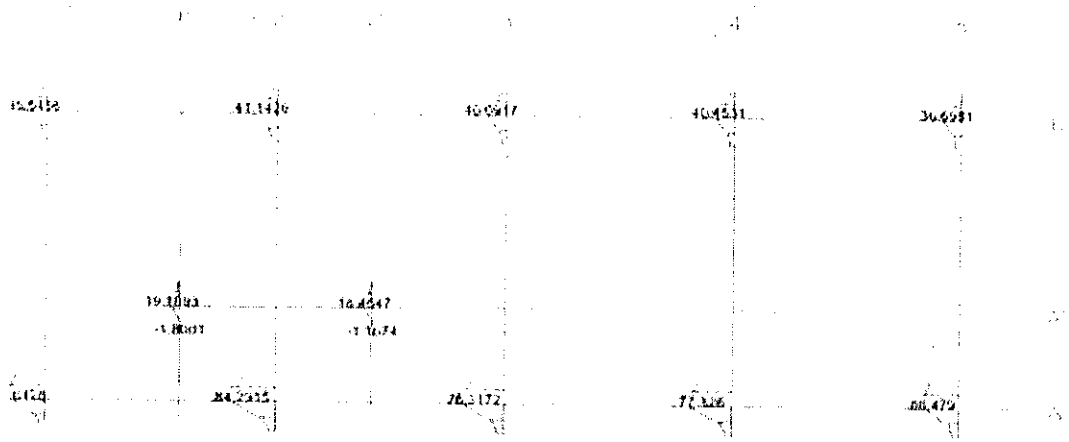
Zapatas - Strip A, Vmax (kN)



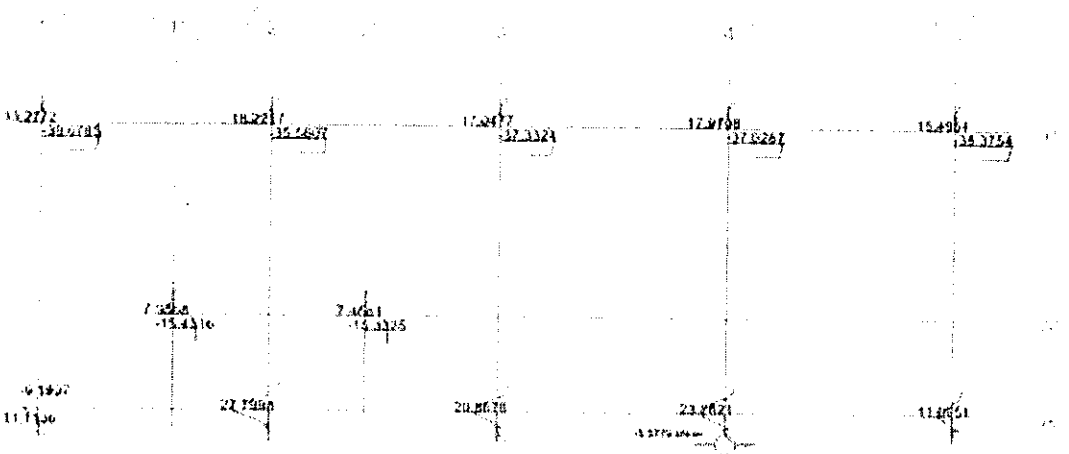
Zapatas - Strip A, Vmin (kN)



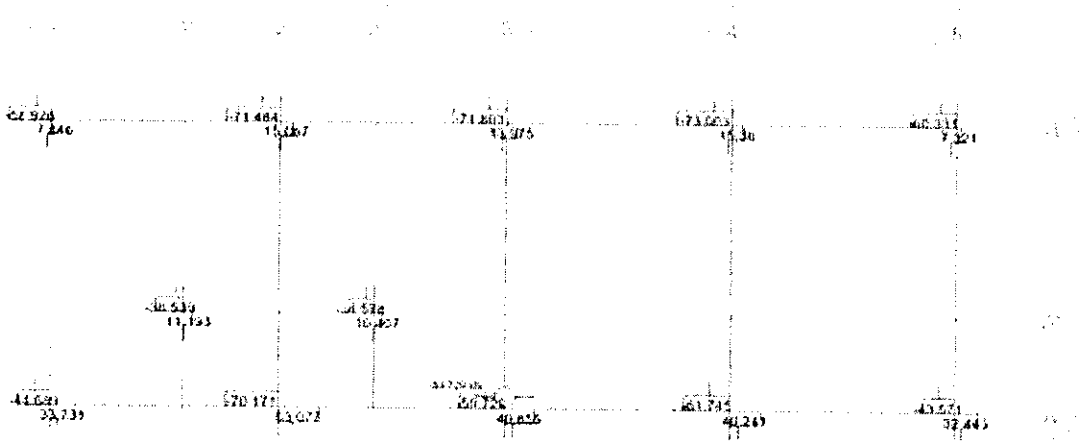
Zapatas SUELO E - Strip A, Acero de Refuerzo



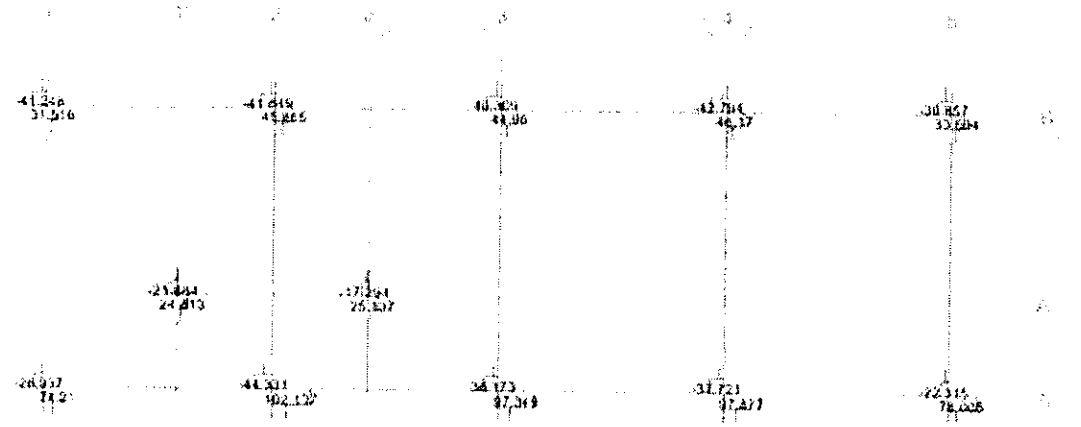
Zapatas - Strip B, Mmax (kN-m)



Zapatas - Strip B, Mmin (kN-m)

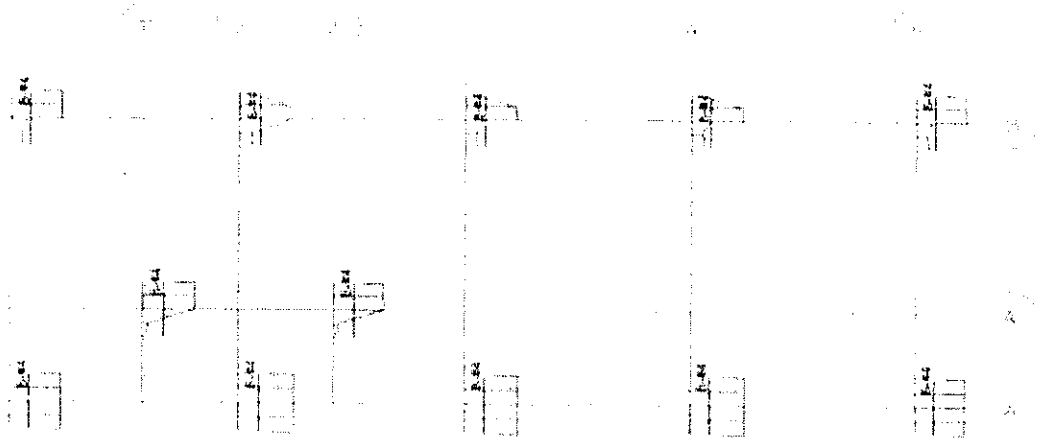


Zapatas - Strip B, Vmax (kN)

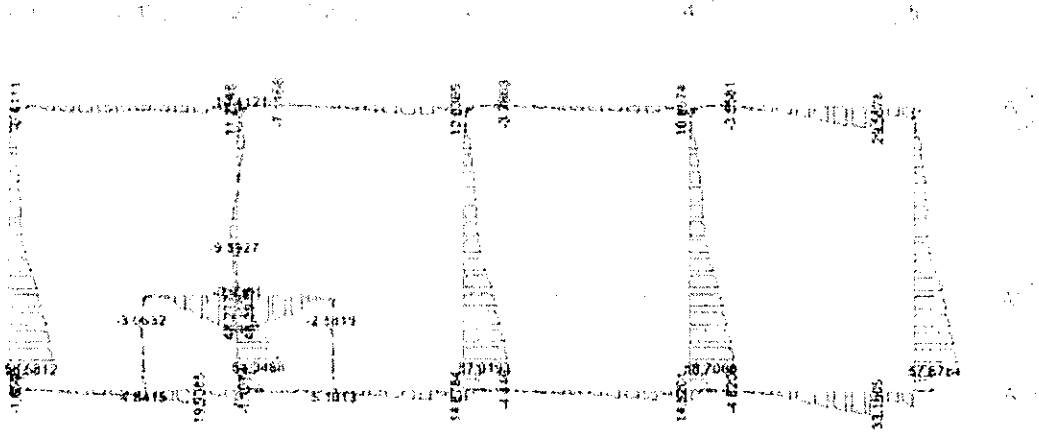


Zapatas - Strip B, Vmin (kN)

INGENIERIA ESTRUCTURAL S.A.S
Evaluamos el Pasado - Analizamos el Presente - Diseñamos el Futuro
Nit.900482474-1



Zapatas SUELO E - Strip B, Acero de Refuerzo



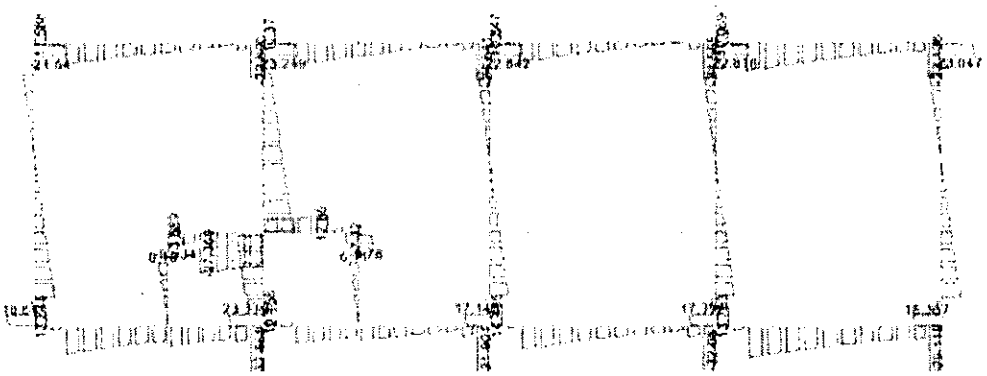
Vigas, Mmax (kN-m)



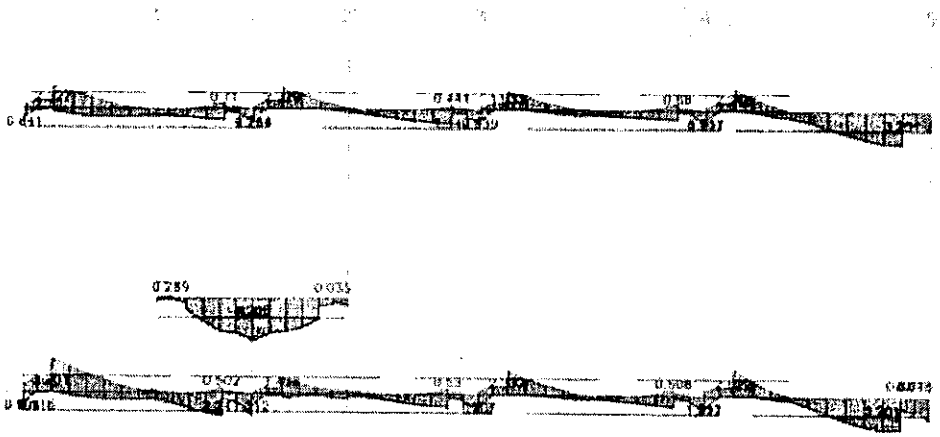
Vigas, Mmin (kN-m)



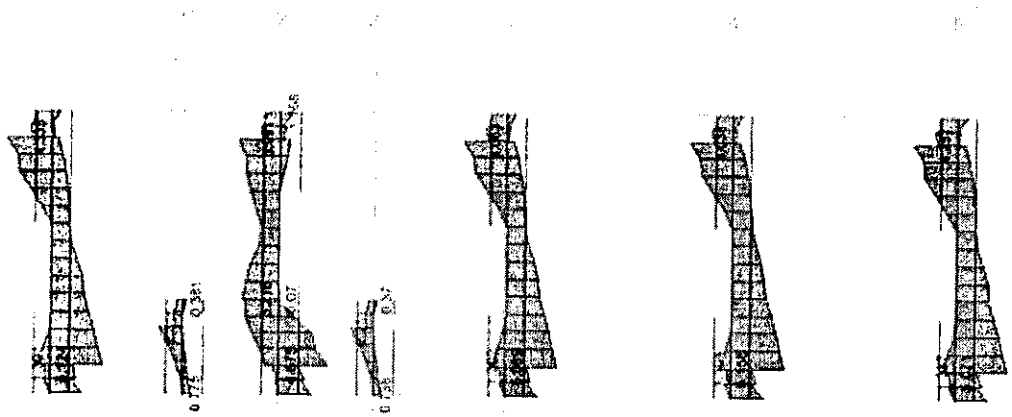
Vigas, Vmax (kN)



Vigas, Vmin (kN)



Vigas Long. Suelo E, Acero de refuerzo a flexion (cm2)

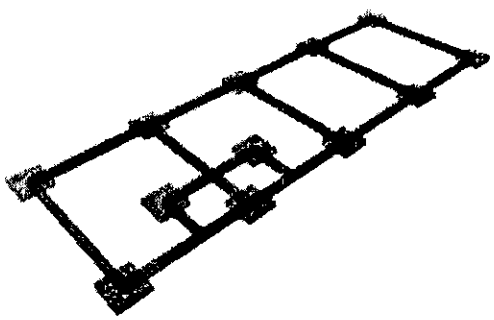


Vigas Transv. Suelo E, Acero de refuerzo a flexion (cm2)

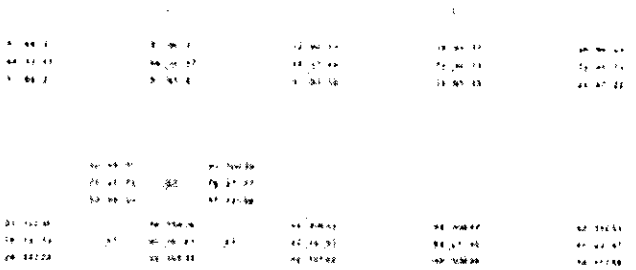
9.2. Zona Intermedia

9.2.1. Suelo Tipo AB

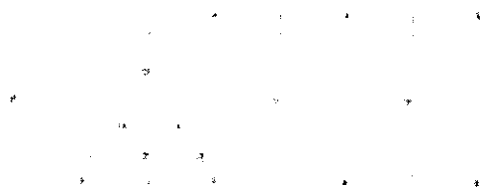
9.2.1.1. Modelo Matemático



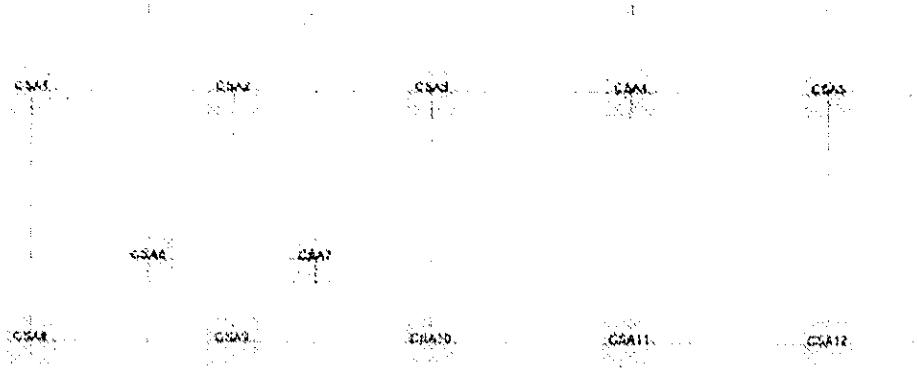
MODELO 3D_SAFE V12.3.2 - Planta Cimentación AB



Numeración Nudos



Numeración Elementos



Identificación Strip A



Identificación Strip B

9.2.1.2. Coordenadas, asignaciones

SAFE v12.3.2 7/15/13 13:46:37

Table: Coordinate Systems

CoordSys	Type	OriginGx m	originGy m	RotAngle Degrees
GLOBAL	Cartesian	0.00	0.00	0.00

Table: Object Geometry - Areas 01 - General, Part 1 of 2

Area	NumPoints	Point1	Point2	Point3	Point4	Auto	TotalArea mm2	AreaType
1	4	1	2	3	4	No	2250000.00	Slab
2	4	5	6	7	8	No	2250000.00	Slab
3	4	9	10	11	12	No	2250000.00	Slab
4	4	14	15	17	18	No	2250000.00	Slab
5	4	20	22	24	26	No	2250000.00	Slab
6	4	28	29	30	31	No	2250000.00	Slab
7	4	32	34	36	38	No	2250000.00	Slab
8	4	40	42	43	44	No	2250000.00	Slab
9	4	45	46	47	48	No	2250000.00	Slab
10	4	49	50	51	52	No	2250000.00	Slab
11	4	53	54	55	56	No	2250000.00	Slab
12	4	57	58	59	60	No	2250000.00	Slab

Table: Object Geometry - Design Strips

Strip	Point	GlobalX m	GlobalY m	WBLeft m	WBRight m	WALeft m	WARight m
CSA1	64	-0.75000	7.70000			0.75000	0.75000
CSA1	65	0.75000	7.70000	0.75000	0.75000		
CSA2	66	5.25000	7.70000			0.75000	0.75000
CSA2	67	6.75000	7.70000	0.75000	0.75000		
CSA3	68	11.25000	7.70000			0.75000	0.75000
CSA3	69	12.75000	7.70000	0.75000	0.75000		
CSA4	70	17.25000	7.70000			0.75000	0.75000
CSA4	71	18.75000	7.70000	0.75000	0.75000		
CSA5	72	23.25000	7.70000			0.75000	0.75000
CSA5	73	24.75000	7.70000	0.75000	0.75000		
CSA6	74	2.75000	2.55000			0.75000	0.75000
CSA6	75	4.25000	2.55000	0.75000	0.75000		
CSA7	76	7.75000	2.55000			0.75000	0.75000
CSA7	77	9.25000	2.55000	0.75000	0.75000		
CSA8	78	-0.75000	0.00000			0.75000	0.75000
CSA8	79	0.75000	0.00000	0.75000	0.75000		
CSA9	80	5.25000	0.00000			0.75000	0.75000
CSA9	81	6.75000	0.00000	0.75000	0.75000		
CSB1	88	0.00000	8.45000			0.75000	0.75000
CSB1	89	0.00000	6.95000	0.75000	0.75000		
CSB2	90	6.00000	8.45000			0.75000	0.75000
CSB2	91	6.00000	6.95000	0.75000	0.75000		
CSB3	92	12.00000	8.45000			0.75000	0.75000
CSB3	93	12.00000	6.95000	0.75000	0.75000		
CSB4	94	18.00000	8.45000			0.75000	0.75000
CSB4	95	18.00000	6.95000	0.75000	0.75000		
CSB5	96	24.00000	8.45000			0.75000	0.75000
CSB5	97	24.00000	6.95000	0.75000	0.75000		
CSB6	98	3.50000	3.30000			0.75000	0.75000
CSB6	99	3.50000	1.80000	0.75000	0.75000		
CSB7	100	8.50000	3.30000			0.75000	0.75000
CSB7	101	8.50000	1.80000	0.75000	0.75000		
CSB8	102	0.00000	0.75000			0.75000	0.75000
CSB8	103	0.00000	-0.75000	0.75000	0.75000		
CSB9	104	6.00000	0.75000			0.75000	0.75000
CSB9	105	6.00000	-0.75000	0.75000	0.75000		
CSA10	82	11.25000	0.00000			0.75000	0.75000
CSA10	83	12.75000	0.00000	0.75000	0.75000		
CSA11	84	17.25000	0.00000			0.75000	0.75000
CSA11	85	18.75000	0.00000	0.75000	0.75000		
CSA12	86	23.25000	0.00000			0.75000	0.75000
CSA12	87	24.75000	0.00000	0.75000	0.75000		
CSB10	106	12.00000	0.75000			0.75000	0.75000
CSB10	107	12.00000	-0.75000	0.75000	0.75000		
CSB11	108	18.00000	0.75000			0.75000	0.75000
CSB11	109	18.00000	-0.75000	0.75000	0.75000		
CSB12	110	24.00000	0.75000			0.75000	0.75000
CSB12	111	24.00000	-0.75000	0.75000	0.75000		

Table: Beam Property Assignments

Line	BeamProp
1	VC30X40
2	VC30X40
3	VC30X40
4	VC30X40
6	VC30X40
7	VC30X40
8	VC30X40
9	VC30X40
10	VC30X40
11	VC30X40
12	VC30X40
13	VC30X40
14	VC30X40
15	VC30X40
16	VC30X40
17	VC30X40
18	VC30X40
19	VC30X40

Table: Slab Property Assignments

Area	SlabProp
1	Zapata 35 cm
2	Zapata 35 cm
3	Zapata 35 cm
4	Zapata 35 cm
5	Zapata 35 cm
6	Zapata 35 cm
7	Zapata 35 cm
8	Zapata 35 cm
9	Zapata 35 cm
10	Zapata 35 cm
11	Zapata 35 cm
12	Zapata 35 cm

Table: Soil Property Assignments

Area	SoilProp
1	Ks AB
2	Ks AB
3	Ks AB
4	Ks AB
5	Ks AB
6	Ks AB
7	Ks AB
8	Ks AB
9	Ks AB
10	Ks AB
11	Ks AB
12	Ks AB

9.2.1.3. Cargas, asignación de cargas SUELO AB

Table: Load Assignments - Point Loads, Part 1 of 2

Point	LoadPat	Fx kN	Fy kN	Fgrav kN	Mx kN-m	My kN-m	Mz kN-m	Xoim mm
13	PP	-1.880	0.820	85.980	4.0530	-2.9010	-0.0610	300.000
13	OL	-0.550	-2.400	22.910	4.8590	-0.8370	0.0080	300.000
13	LR	-0.360	-1.860	13.250	3.8670	-0.5440	0.0030	300.000
13	G	-0.670	-3.710	26.380	7.7400	-1.0230	0.0070	300.000
13	EX	-8.430	-4.710	5.130	-14.7540	-22.8810	-0.4140	300.000
13	EY	-2.590	-12.950	7.110	-41.1230	-6.9420	-0.4260	300.000
16	PP	0.330	3.600	121.000	0.0540	0.6660	-0.0680	300.000
16	DL	0.130	-2.930	41.440	5.6620	0.2660	0.0110	300.000
16	LR	0.090	-0.870	15.080	2.2610	0.1840	0.0050	300.000
16	G	0.190	-1.420	26.800	4.0320	0.3630	0.0110	300.000
16	EX	-10.740	-4.400	5.810	-13.2880	-26.6530	-0.3110	300.000
16	EY	-3.260	-14.240	17.140	-42.8920	-8.0830	-0.3820	300.000
19	PP	0.450	5.870	95.720	-3.1580	0.8580	-0.0550	300.000
19	OL	0.200	-4.120	33.530	7.4930	0.3770	0.0150	300.000
19	LR	0.040	-2.880	21.830	5.4430	0.0900	0.0110	300.000
19	G	0.040	-5.760	43.490	10.8870	0.1270	0.0220	300.000
19	EX	-10.150	-3.810	2.230	-12.1360	-25.6890	-0.3080	300.000
19	EY	-3.120	-12.690	7.430	-40.3950	-7.8320	-0.3800	300.000
21	PP	-0.020	6.250	95.670	-3.5020	0.0850	-0.0250	300.000
21	OL	0.000	-4.110	33.020	7.3740	0.0470	0.0130	300.000
21	LR	-0.010	-2.890	22.190	5.3780	0.0110	0.0110	300.000
21	G	-0.020	-5.790	44.390	10.7650	0.0260	0.0230	300.000
21	EX	-10.510	-3.830	2.500	-12.5550	-26.2660	-0.3590	300.000
21	EY	-3.180	-12.130	4.810	-39.5710	-7.9470	-0.4050	300.000
23	PP	0.780	0.630	92.340	5.6050	1.3790	-0.0130	300.000
23	DL	0.250	-2.270	22.700	4.3460	0.4600	0.0070	300.000
23	LR	0.280	-1.910	14.220	3.7200	0.4840	0.0070	300.000
23	G	0.560	-3.810	28.420	7.4370	0.9640	0.0150	300.000
23	EX	-8.450	-4.770	4.860	-15.2610	-22.8920	-0.4490	300.000
23	EY	-2.560	-12.240	5.380	-39.9910	-6.9310	-0.4470	300.000
25	PP	-0.390	-0.170	21.560	2.2020	-0.5900	-0.0170	200.000
25	OL	-0.780	0.440	12.560	-0.3690	-1.2530	0.0020	200.000
25	LR	-0.310	-0.060	3.880	0.3940	-0.4980	0.0010	200.000
25	G	-0.560	-0.200	6.460	0.9310	-0.9010	0.0020	200.000
25	EX	-2.680	-1.990	4.150	-5.4260	-6.4940	-0.0780	200.000
25	EY	-0.830	-6.270	8.320	-16.9710	-1.9840	-0.0980	200.000
27	PP	0.520	-0.590	20.390	2.9980	0.9010	-0.0190	200.000
27	DL	0.810	0.400	12.480	-0.3240	1.3230	0.0030	200.000
27	LR	0.330	-0.100	3.780	0.4540	0.5410	0.0020	200.000
27	G	0.600	-0.290	6.280	1.0460	0.9830	0.0030	200.000
27	EX	-2.630	-1.900	3.570	-5.1290	-6.4080	-0.0810	200.000
27	EY	-0.800	-6.260	8.280	-16.9300	-1.9340	-0.0990	200.000
33	PP	-0.240	-1.330	65.800	7.4870	-0.1640	-0.0360	300.000
33	DL	0.170	1.980	18.450	-2.1400	0.2980	0.0030	300.000
33	LR	-0.220	1.430	11.040	-1.3980	-0.3510	0.0020	300.000
33	G	-0.450	2.840	22.060	-2.7480	-0.7030	0.0040	300.000
33	EX	-6.630	-4.300	5.160	-14.0900	-18.4090	-0.4880	300.000
33	EY	-2.220	-12.130	5.130	-39.7910	-6.1380	-0.4600	300.000
35	PP	0.320	-3.550	67.520	11.4590	0.7400	-0.0590	300.000
35	OL	-0.010	2.750	23.790	-3.4170	0.0100	0.0060	300.000
35	LR	0.040	1.590	16.220	-1.6590	0.0780	0.0020	300.000
35	G	0.080	3.060	32.250	-3.1130	0.1510	0.0040	300.000
35	EX	-8.680	-3.660	1.670	-12.1000	-21.6980	-0.3500	300.000

Table: Load Assignments - Point Loads, Part 1 of 2

Point	LoadPat	Fx kN	Fy kN	Fgrav kN	Mx kN-m	My kN-m	Mz kN-m	XDim mm
35	EY	-2.880	-11.750	4.780	-38.8860	-7.2080	-0.3990	300.000
37	PP	0.220	-4.750	65.720	13.7930	0.5790	-0.0480	300.000
37	DL	0.020	4.030	26.150	-5.5150	0.0550	0.0100	300.000
37	LR	0.010	2.900	18.220	-3.7830	0.0180	0.0070	300.000
37	G	0.010	5.790	36.430	-7.5390	0.0290	0.0140	300.000
37	EX	-8.170	-3.590	1.500	-11.7740	-20.8720	-0.3260	300.000
37	EY	-2.720	-11.950	4.990	-39.1800	-6.9510	-0.3900	300.000
39	PP	0.350	-4.900	65.060	14.2960	0.7850	-0.0270	300.000
39	DL	0.090	4.070	25.830	-5.6780	0.1670	0.0170	300.000
39	LR	0.000	2.950	18.360	-3.9490	0.0080	0.0150	300.000
39	G	0.000	5.900	36.700	-7.8860	0.0120	0.0310	300.000
39	EX	-8.580	-3.840	1.750	-12.5610	-21.5340	-0.3350	300.000
39	EY	-2.850	-12.060	5.130	-39.4320	-7.1620	-0.3970	300.000
41	PP	-0.440	-1.890	70.960	9.6200	-0.4850	-0.0360	300.000
41	DL	-0.340	2.160	18.910	-2.7460	-0.5320	0.0190	300.000
41	LR	0.110	1.700	11.920	-2.0470	0.1930	0.0150	300.000
41	G	0.230	3.390	23.840	-4.0840	0.3820	0.0300	300.000
41	EX	-6.670	-4.570	5.360	-14.9160	-18.4710	-0.5170	300.000
41	EY	-2.220	-12.220	5.310	-39.9370	-6.1470	-0.4750	300.000

9.2.1.4. Esfuerzos sobre el suelo AB

Table: Soil Pressures - Enveloping Summary

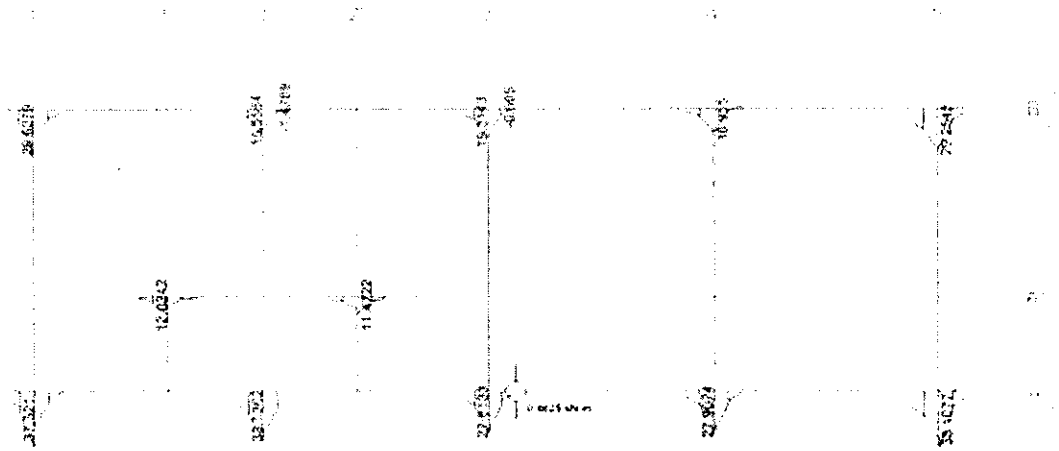
Panel	OutputItem	SurfPress kN/m2	OutputCase	CaseType	GlobalX m	GlobalY m
1	MaxPress	-16.48	Envol.-SRV	Combination	2.75000	2.55000
1	MinPress	-90.38	Envol.-SRV	Combination	0.37500	0.75000
2	MaxPress	-6.78	Envol.-SRV	Combination	2.75000	3.30000
2	MinPress	-80.86	Envol.-SRV	Combination	0.37500	7.32500
3	MaxPress	-25.25	Envol.-SRV	Combination	3.50000	2.55000
3	MinPress	-101.01	Envol.-SRV	Combination	5.62500	0.37500
4	MaxPress	-19.10	Envol.-SRV	Combination	3.50000	3.30000
4	MinPress	-77.14	Envol.-SRV	Combination	5.25000	7.32500
5	MaxPress	-24.54	Envol.-SRV	Combination	8.12500	2.55000
5	MinPress	-101.01	Envol.-SRV	Combination	6.00000	0.37500
6	MaxPress	-17.42	Envol.-SRV	Combination	8.12500	3.30000
6	MinPress	-77.10	Envol.-SRV	Combination	6.00000	7.32500
7	MaxPress	-15.04	Envol.-SRV	Combination	8.87500	2.55000
7	MinPress	-106.52	Envol.-SRV	Combination	11.62500	0.75000
8	MaxPress	-5.25	Envol.-SRV	Combination	8.87500	3.30000
8	MinPress	-89.13	Envol.-SRV	Combination	11.62500	7.32500
9	MaxPress	-46.30	Envol.-SRV	Combination	12.37500	0.37500
9	MinPress	-107.42	Envol.-SRV	Combination	17.62500	0.75000
10	MaxPress	-39.50	Envol.-SRV	Combination	12.37500	7.70000
10	MinPress	-90.34	Envol.-SRV	Combination	17.62500	7.32500
11	MaxPress	-40.38	Envol.-SRV	Combination	23.62500	0.37500
11	MinPress	-107.42	Envol.-SRV	Combination	18.00000	0.75000
12	MaxPress	-36.53	Envol.-SRV	Combination	23.62500	7.32500
12	MinPress	-90.94	Envol.-SRV	Combination	18.37500	7.32500

Table: Soil Pressures - Summary

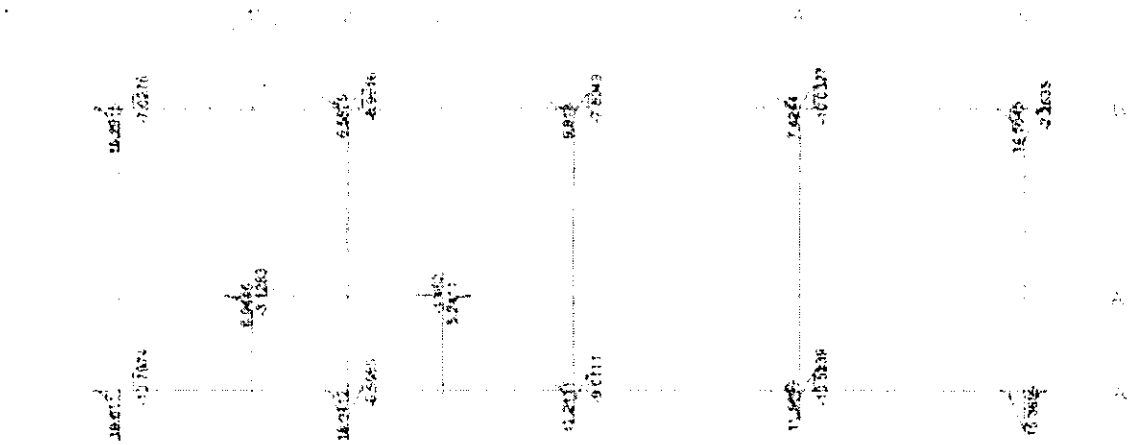
Panel	OutputCase	CaseType	MaxPress kN/m2	MinPress kN/m2	GlobalXMax m	GlobalYMax m	GlobalXMin m	GlobalYMin m
1	Envol.-SRV	Combination	-16.48	-90.38	2.75000	2.55000	0.37500	0.75000
2	Envol.-SRV	Combination	-6.78	-80.86	2.75000	3.30000	0.37500	7.32500
3	Envol.-SRV	Combination	-25.25	-101.01	3.50000	2.55000	5.62500	0.37500
4	Envol.-SRV	Combination	-19.10	-77.14	3.50000	3.30000	5.25000	7.32500
5	Envol.-SRV	Combination	-24.54	-101.01	8.12500	2.55000	6.00000	0.37500
6	Envol.-SRV	Combination	-17.42	-77.10	8.12500	3.30000	6.00000	7.32500
7	Envol.-SRV	Combination	-15.04	-106.52	8.87500	2.55000	11.62500	0.75000
8	Envol.-SRV	Combination	-5.25	-89.13	8.87500	3.30000	11.62500	7.32500
9	Envol.-SRV	Combination	-46.30	-107.42	12.37500	0.37500	17.62500	0.75000
10	Envol.-SRV	Combination	-39.50	-90.34	12.37500	7.70000	17.62500	7.32500
11	Envol.-SRV	Combination	-40.38	-107.42	23.62500	0.37500	18.00000	0.75000
12	Envol.-SRV	Combination	-36.53	-90.94	23.62500	7.32500	18.37500	7.32500

Capacidad admisible de suelo AB, $\square_{adm}$ = 400 kN/m² > Soil Pressures Max/Min => Ok

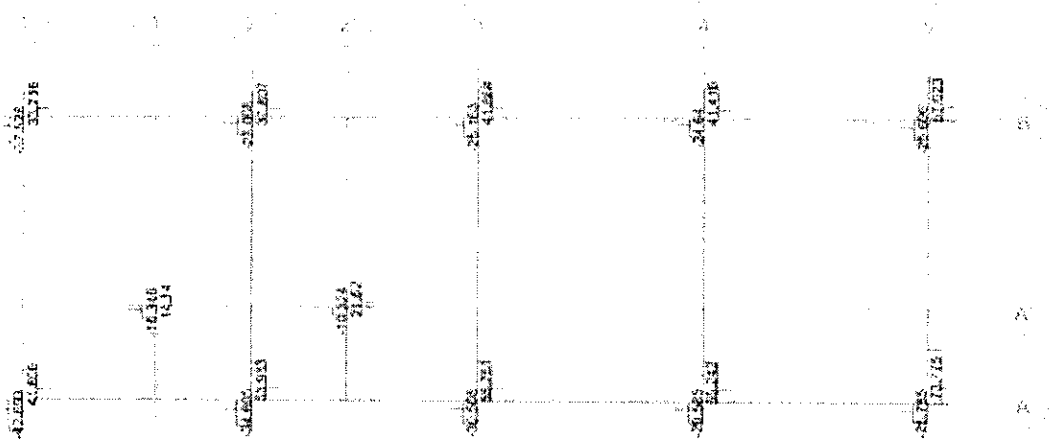
9.2.1.5. Resultados, diseño elementos



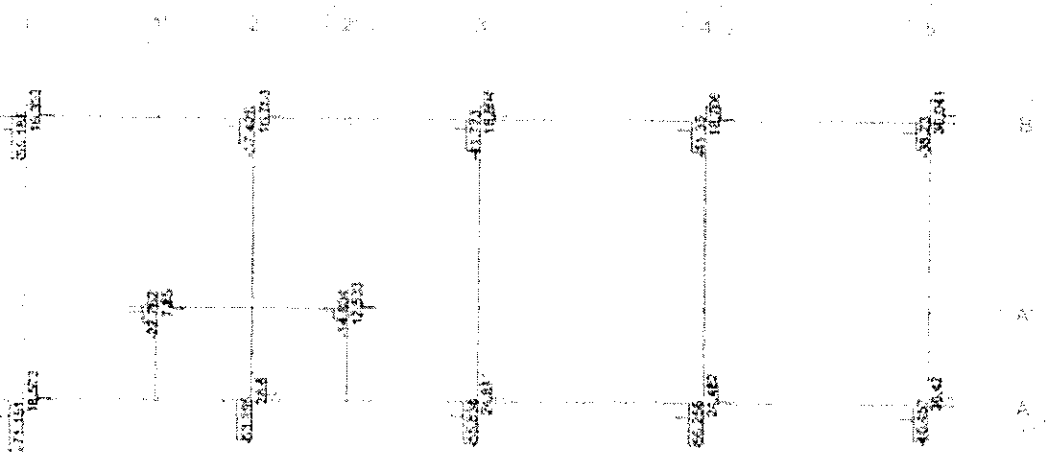
Zapatas - Strip A, Mmax (kN-m)



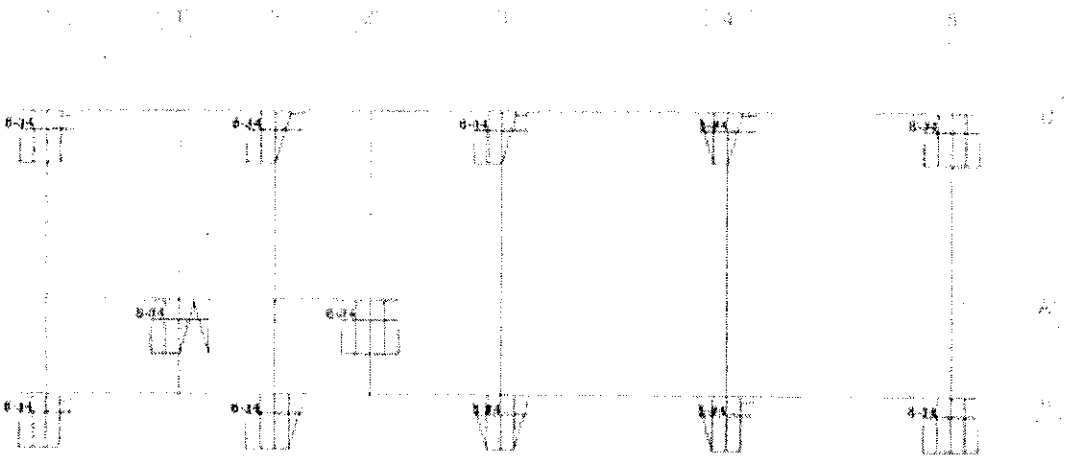
Zapatas - Strip A, Mmin (kN-m)



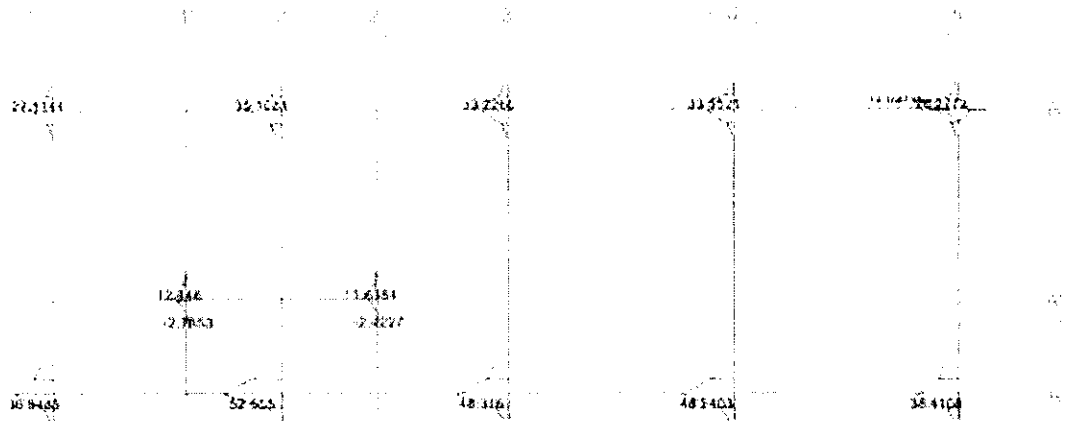
Zapatas - Strip A, Vmax (kN)



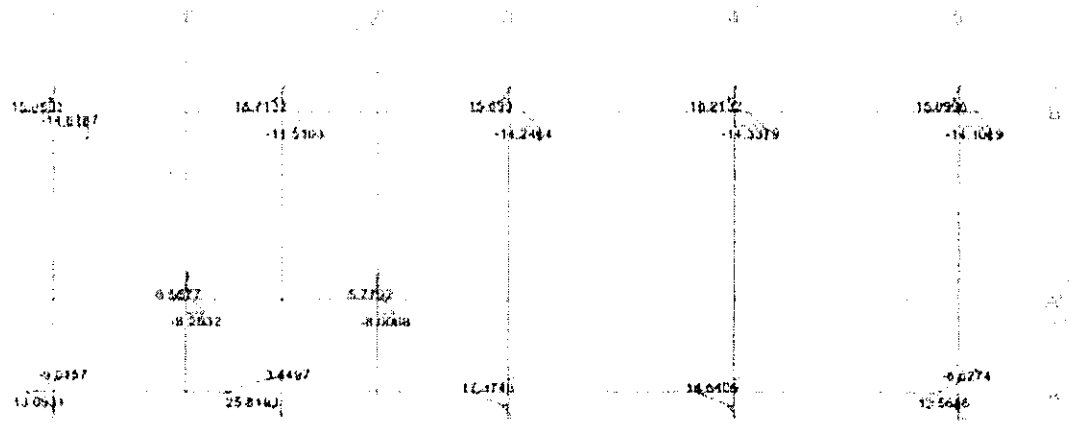
Zapatas - Strip A, Vmin (kN)



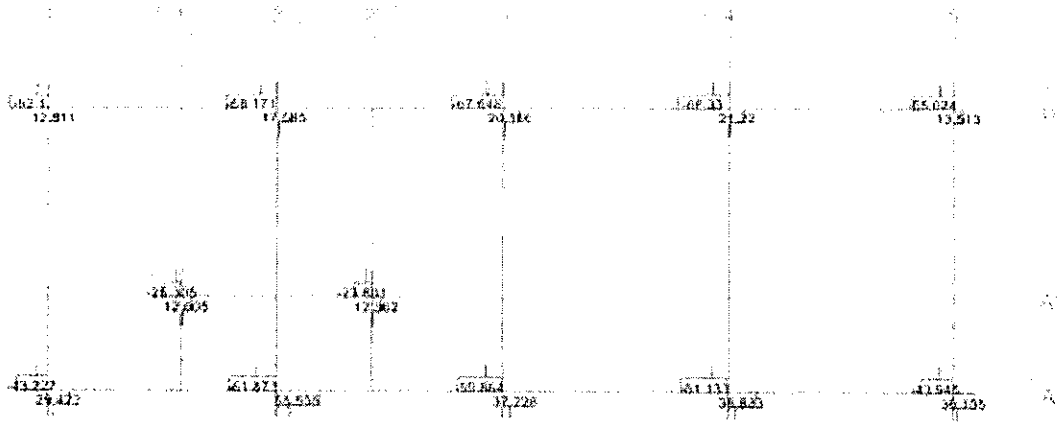
Zapatas SUELO AB - Strip A, Acero de Refuerzo



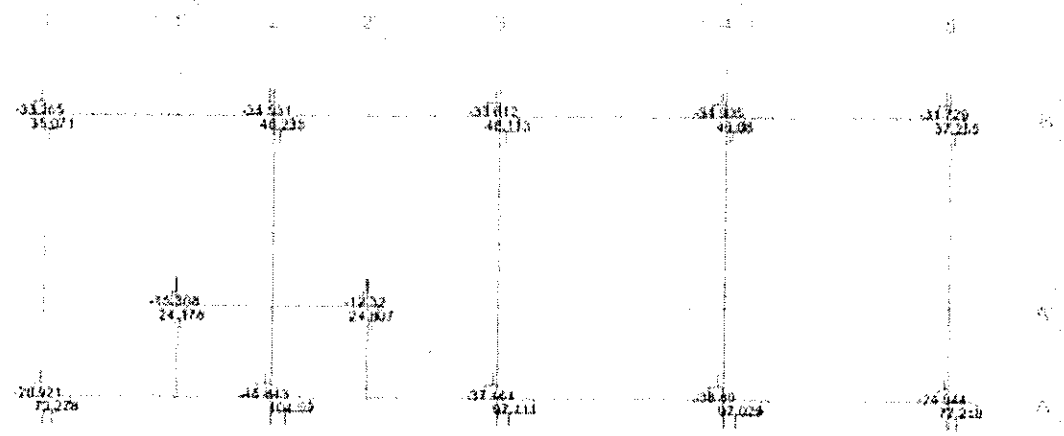
Zapatas - Strip B, Mmax (kN-m)



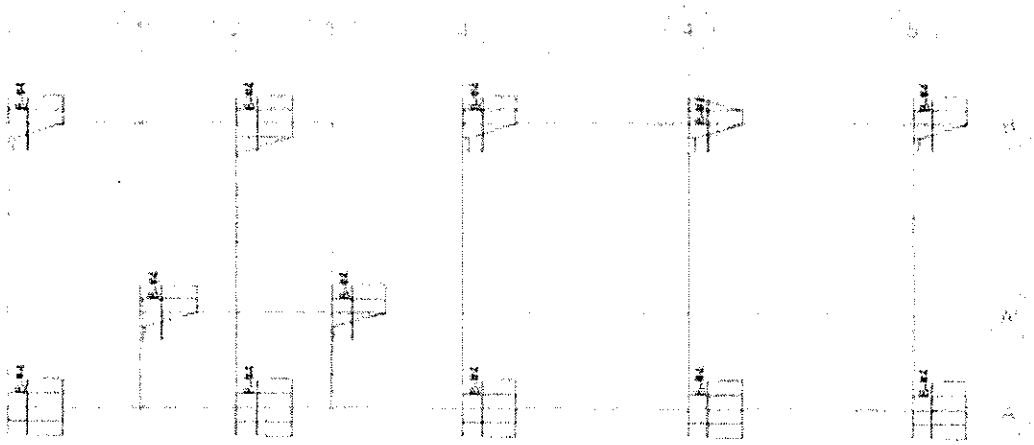
Zapatas - Strip B, Mmin (kN-m)



Zapatas - Strip B, Vmax (kN)



Zapatas - Strip B, Vmin (kN)

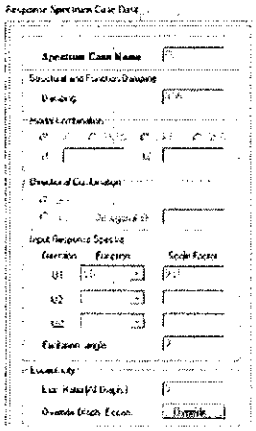


Zapatas SUELO AB - Strip B, Acero de Refuerzo

8.1.9. Zona Intermedia

S T A T I C L O A D C A S E S

STATIC CASE	CASE TYPE	AUTO LAT LOAD	SELF WT MULTIPLIER	NOTIONAL FACTOR	NOTIONAL DIRECTION
PP	DEAD	N/A	1.0000		
DL	DEAD	N/A	0.0000		
LR	LIVE	N/A	0.0000		
G	SNOW	N/A	0.0000		



R E S P O N S E S P E C T R U M C A S E S

RESP SPEC CASE: FX

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

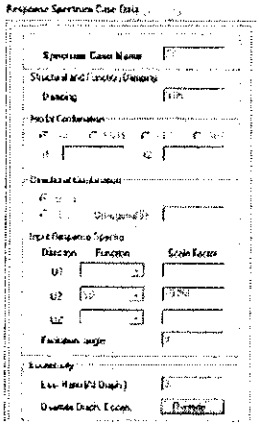
RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SD	9.8000
U2	----	N/A
UZ	----	N/A

RESP SPEC CASE: FY

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000



RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	----	N/A
U2	SD	10.791
UZ	----	N/A

M A S S S O U R C E D A T A

MASS FROM	LATERAL MASS ONLY	LUMP MASS AT STORIES
Masses & Loads	Yes	Yes

M A S S S O U R C E L O A D S

LOAD	MULTIPLIER
DL	1.0000

D I A P H R A G M M A S S D A T A

STORY	DIAPHRAGM	MASS-X	MASS-Y	MMI	X-M	Y-M
CUBIERTA	DIAF	0.000E+00	0.000E+00	0.000E+00	11.677	3.065

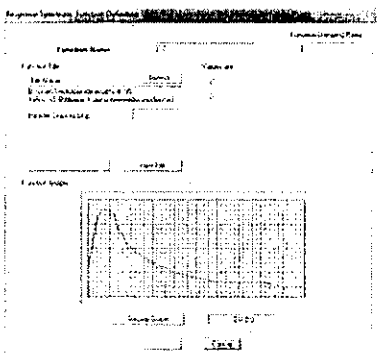
A S S E M B L E D P O I N T M A S S E S

STORY	POINT	UX	UY	UZ	RX	RY	RZ
CUBIERTA	All	1.018E+02	1.018E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	All	9.764E+00	9.764E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Totals	All	1.115E+02	1.115E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00

RESPONSE SPECTRUM FUNCTION - FROM FILE

FUNCTION NAME: SD

PERIOD	ACCEL
0.00	0.06
0.10	0.11
0.20	0.16
0.30	0.18
0.40	0.18
0.50	0.18
0.60	0.17
0.70	0.14
0.80	0.13
0.90	0.11
1.00	0.10
1.50	0.07
2.00	0.05
2.50	0.04
3.0	0.03
3.50	0.03
4.0	0.03
4.50	0.02
5.0	0.02



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MODE SHAPES

STORY	DIAPHRAGM	MODE	UX	UY	UZ	RX	RY	RZ
CUBIERTA	DFRG	Mode 1	1.0247E-01	3.0543E-04	0.00000	0.00000	0.00000	1.1150E-03
CUBIERTA	DFRG	Mode 2	-5.0717E-03	4.0145E-02	0.00000	0.00000	0.00000	8.9685E-03
CUBIERTA	DFRG	Mode 3	7.9912E-04	9.1670E-02	0.00000	0.00000	0.00000	-3.8178E-03

MODAL PERIODS AND FREQUENCIES

MODE NUMBER	PERIOD (TIME)	FREQUENCY (CYCLES/TIME)	CIRCULAR FREQ (RADIANS/TIME)
Mode 1	0.40115	2.49286	15.66307
Mode 2	0.31275	3.19743	20.09004
Mode 3	0.30029	3.33006	20.92340

MODAL PARTICIPATION FACTORS

MODE	UX	UY	UZ	RX	RY	RZ
Mode 1	-9.9850	-0.0444	0.0000	0.2175	-48.9264	-13.0763
Mode 2	1.2991	-4.0214	0.0000	19.7047	6.3658	-83.1781
Mode 3	-0.5203	-9.2507	0.0000	45.3285	-2.5492	35.9662

MODAL PARTICIPATING MASS RATIOS

MODE NUMBER	X-TRANS %MASS <SUM>	Y-TRANS %MASS <SUM>	Z-TRANS %MASS <SUM>	RX-ROTN %MASS <SUM>	RY-ROTN %MASS <SUM>	RZ-ROTN %MASS <SUM>
Mode 1	97.97 < 98>	0.00 < 0>	0.00 < 0>	0.00 < 0>	97.97 < 98>	2.02 < 2>
Mode 2	1.66 <100>	15.89 < 16>	0.00 < 0>	15.89 < 16>	1.66 <100>	81.83 < 84>
Mode 3	0.27 <100>	84.09 <100>	0.00 < 0>	84.09 <100>	0.27 <100>	15.30 < 99>

MODAL LOAD PARTICIPATION RATIOS
(STATIC AND DYNAMIC RATIOS ARE IN PERCENT)

TYPE	LOAD	ACCEL	STORY	LINK	PDF	STATIC	DYNAMIC
Load	PP					0.0000	0.0000
Load	OL					0.0000	0.0000
Load	LR					0.0000	0.0000
Load	G					0.0000	0.0000
Accel		UX				99.9790	99.8964
Accel		UY				99.9960	99.9856
Accel		UZ				0.0000	0.0000
Accel		RX				99.9960	99.9856
Accel		RY				99.9790	99.8964
Accel		RZ				99.0920	99.1468

R E S P O N S E S P E C T R U M A C C E L E R A T I O N S
(IN RESPONSE SPECTRUM LOCAL COORDINATES)

SPEC	MODE	PERIOD	DAMP-RATIO	SPEC-FACTOR	U1	U2	U3
FX	Mode 1	0.401146	0.050000	1.000000	1.765800	0.000000	0.000000
FX	Mode 2	0.312751	0.050000	1.000000	1.765800	0.000000	0.000000
FX	Mode 3	0.300295	0.050000	1.000000	1.765800	0.000000	0.000000
FY	Mode 1	0.401146	0.050000	1.000000	0.000000	1.942380	0.000000
FY	Mode 2	0.312751	0.050000	1.000000	0.000000	1.942380	0.000000
FY	Mode 3	0.300295	0.050000	1.000000	0.000000	1.942380	0.000000

R E S P O N S E S P E C T R U M M O D A L A M P L I T U D E S
(IN RESPONSE SPECTRUM LOCAL COORDINATES)

SPEC	MODE	PERIOD	U1	U2	U3
FX	Mode 1	0.401146	0.071868	0.000000	0.000000
FX	Mode 2	0.312751	-0.005684	0.000000	0.000000
FX	Mode 3	0.300295	0.002098	0.000000	0.000000
FY	Mode 1	0.401146	0.000000	0.000351	0.000000
FY	Mode 2	0.312751	0.000000	0.019353	0.000000
FY	Mode 3	0.300295	0.000000	0.041044	0.000000

R E S P O N S E S P E C T R U M B A S E R E A C T I O N S
(IN RESPONSE SPECTRUM LOCAL COORDINATES)

SPEC	MODE	DIR	F1	F2	F3	M1	M2	M3
EX	Mode 1	U1	91.94	0.41	0.00	-2.003	450.493	-155.615
EX	Mode 2	U1	1.56	-4.82	0.00	23.606	7.626	-160.169
EX	Mode 3	U1	0.25	4.44	0.00	-21.746	1.223	33.359
EX	Mode 1	U2	0.18	0.00	0.00	-0.004	0.878	-0.303
EX	Mode 2	U2	-2.11	6.54	0.00	-32.033	-10.348	217.346
EX	Mode 3	U2	1.95	34.59	0.00	-169.510	9.533	260.034
EX	All	All	92.20	40.42	0.00	198.059	451.782	509.293
EY	Mode 1	U1	27.55	0.12	0.00	-0.600	135.010	-46.637
EY	Mode 2	U1	0.47	-1.44	0.00	7.075	2.286	-48.002
EY	Mode 3	U1	0.07	1.33	0.00	-6.517	0.367	9.998
EY	Mode 1	U2	0.60	0.00	0.00	-0.013	2.930	-1.012
EY	Mode 2	U2	-7.05	21.81	0.00	-106.885	-34.530	725.225
EY	Mode 3	U2	6.49	115.43	0.00	-565.611	31.809	867.666
EY	All	All	27.87	134.62	0.00	659.622	136.562	1537.051

C E N T E R S O F C U M U L A T I V E M A S S & C E N T E R S O F R I G I D I T Y

STORY LEVEL	DIAPHRAGM NAME	CENTER OF MASS MASS	CENTER OF MASS ORDINATE-X	CENTER OF MASS ORDINATE-Y	CENTER OF RIGIDITY ORDINATE-X	CENTER OF RIGIDITY ORDINATE-Y
CUBIERTA	DFRG	0.000E+00	0.000	0.000	11.933	0.094

S T O R Y F O R C E S

STORY	LOAD	LOCATION	P	VX	VY	T	MX	MY
CUBIERTA	FX	Top	5.093E-14	1.765E+02	4.776E+00	4.176E+02	3.165E-13	1.077E-12
		Bottom	5.093E-14	1.765E+02	4.776E+00	4.176E+02	2.340E+01	8.651E+02
CUBIERTA	FY	Top	9.464E-14	5.254E+00	1.938E+02	2.211E+03	1.142E-12	2.535E-12
		Bottom	9.464E-14	5.254E+00	1.938E+02	2.211E+03	9.498E+02	2.574E+01
CUBIERTA	EX	Top	3.310E-14	9.220E+01	4.042E+01	5.093E+02	2.894E-13	7.712E-13
		Bottom	3.310E-14	9.220E+01	4.042E+01	5.093E+02	1.981E+02	4.518E+02
CUBIERTA	EY	Top	6.620E-14	2.787E+01	1.346E+02	1.537E+03	7.943E-13	1.768E-12
		Bottom	6.620E-14	2.787E+01	1.346E+02	1.537E+03	6.596E+02	1.366E+02

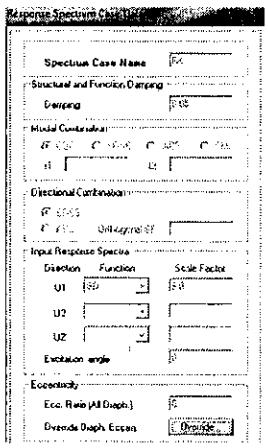
	Nivel	hx. Piso m	Deriva Max mm	U1 mm	U2 mm	Deriva mm	Verificación con A.6.4 de NSR10
	ANALISIS EN X. Combinacion: DRV2X = 0.6Ldt + Fx						
	Point 13						
	CUBIERTA	4.90	19.60	7.61	0.55	7.63	Cumple, Ok
	BASE			0.0	0.00		
COL EJE A-1	Point 23						
	CUBIERTA	4.90	19.60	7.59	0.67	7.62	Cumple, Ok
	BASE			0.0	0.00		
COL EJE A-5	Point 33						
	CUBIERTA	4.90	19.60	6.35	0.54	6.37	Cumple, Ok
	BASE			0.0	0.00		
COL EJE B-1	Point 41						
	CUBIERTA	4.90	19.60	6.35	0.66	6.39	Cumple, Ok
COL EJE B-5	BASE			0.0	0.00		
	ANALISIS EN Y. Combinacion: DRV2Y = 0.6Ldt + Fy						
	Point 13						
	CUBIERTA	4.90	19.60	0.28	3.92	3.93	Cumple, Ok
	BASE			0.0	0.00		
COL EJE A-1	Point 23						
	CUBIERTA	4.90	19.60	0.27	3.83	3.84	Cumple, Ok
	BASE			0.0	0.00		
COL EJE A-5	Point 33						
	CUBIERTA	4.90	19.60	0.74	3.92	3.98	Cumple, Ok
	BASE			0.0	0.00		
COL EJE B-1	Point 41						
	CUBIERTA	4.90	19.60	0.74	3.83	3.90	Cumple, Ok
COL EJE B-5	BASE			0.0	0.00		

8.1.10. Zona Baja

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S T A T I C L O A D C A S E S

STATIC CASE	CASE TYPE	AUTO LAT LOAD	SELF WT MULTIPLIER	NOTIONAL FACTOR	NOTIONAL DIRECTION
PP	DEAD	N/A	1.0000		
DL	DEAD	N/A	0.0000		
LR	LIVE	N/A	0.0000		
G	SNOW	N/A	0.0000		



R E S P O N S E S P E C T R U M C A S E S

RESP SPEC CASE: FX

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	SD	9.3100
U2	----	N/A
UZ	----	N/A

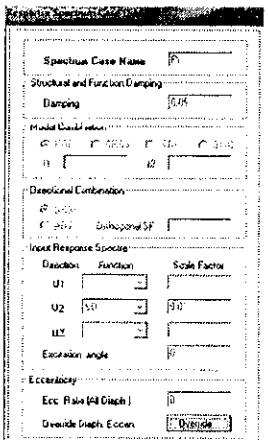
RESP SPEC CASE: FY

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
CQC	SRSS	0.0500	0.0000	0.0000

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	----	N/A
U2	SD	10.192
UZ	----	N/A



M A S S S O U R C E D A T A

MASS FROM	LATERAL MASS ONLY	LUMP MASS AT STORIES
Masses & Loaves	Yes	

M A S S S O U R C E L O A D S

LOAD	MULTIPLIER
DL	1.0000

D I A P H R A G M M A S S D A T A

STORY	DIAPHRAGM	MASS-X	MASS-Y	MMI	X-M	Y-M
CUBIERTA	OFRG	0.000E+00	0.000E+00	0.000E+00	11.677	3.065

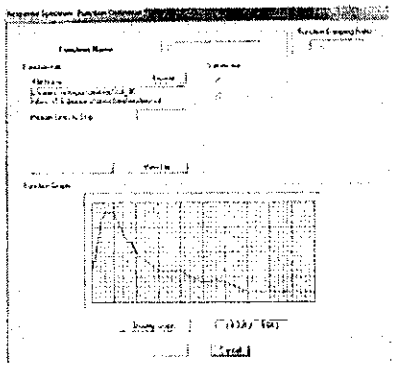
A S S E M B L E D P O I N T M A S S E S

STORY	POINT	UX	UY	UZ	RX	RY	RZ
CUBIERTA	All	1.018E+02	1.018E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	All	9.764E+00	9.764E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Totals	All	1.115E+02	1.115E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00

RESPONSE SPECTRUM FUNCTION - FROM FILE

FUNCTION NAME: SD

PERIOD	ACCEL
0.0000	0.0300
0.1000	0.0500
0.2000	0.0800
0.3000	0.0900
0.4000	0.0900
0.5000	0.0900
0.6000	0.0800
0.7000	0.0700
0.8000	0.0600
0.9000	0.0600
1.0000	0.0500
1.5000	0.0300
2.0000	0.0300
2.5000	0.0200
3.0000	0.0200
3.5000	0.0100
4.0000	0.0100
4.5000	0.0100
5.0000	0.0100



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MODE SHAPES

STORY	DIAPHRAGM	MODE	UX	UY	UZ	RX	RY	RZ
CUBIERTA	DFRG	Mode 1	1.0247E-01	3.0543E-04	0.00000	0.00000	0.00000	1.1150E-03
CUBIERTA	DFRG	Mode 2	-5.0717E-03	4.0145E-02	0.00000	0.00000	0.00000	8.9685E-03
CUBIERTA	DFRG	Mode 3	7.9912E-04	9.1670E-02	0.00000	0.00000	0.00000	-3.8178E-03

MODAL PERIODS AND FREQUENCIES

MODE NUMBER	PERIOD (TIME)	FREQUENCY (CYCLES/TIME)	CIRCULAR FREQ (RADIANS/TIME)
Mode 1	0.40115	2.49286	15.66307
Mode 2	0.31275	3.19743	20.09004
Mode 3	0.30029	3.33006	20.92340

MODAL PARTICIPATION FACTORS

MODE	UX	UY	UZ	RX	RY	RZ
Mode 1	-9.9850	-0.0444	0.0000	0.2175	-48.9264	-13.0763
Mode 2	1.2991	-4.0214	0.0000	19.7047	6.3658	-83.1781
Mode 3	-0.5203	-9.2507	0.0000	45.3285	-2.5492	35.9662

MODAL PARTICIPATING MASS RATIOS

MODE NUMBER	X-TRANS %MASS <SUM>	Y-TRANS %MASS <SUM>	Z-TRANS %MASS <SUM>	RX-RDTN %MASS <SUM>	RY-RDTN %MASS <SUM>	RZ-RDTN %MASS <SUM>
Mode 1	97.97 < 98>	0.00 < 0>	0.00 < 0>	0.00 < 0>	97.97 < 98>	2.02< 2>
Mode 2	1.66 <100>	15.89 < 16>	0.00 < 0>	15.89 < 16>	1.66 <100>	81.83< 84>
Mode 3	0.27 <100>	84.09 <100>	0.00 < 0>	84.09 <100>	0.27 <100>	15.30< 99>

MODAL LOAD PARTICIPATION RATIOS
(STATIC AND DYNAMIC RATIOS ARE IN PERCENT)

TYPE	LOAD	ACCEL	STORY	LINK	DOF	STATIC	DYNAMIC
Load	PP					0.0000	0.0000
Load	DL					0.0000	0.0000
Load	LR					0.0000	0.0000
Load	G					0.0000	0.0000
Accel		UX				99.9790	99.8964
Accel		UY				99.9960	99.9856
Accel		UZ				0.0000	0.0000
Accel		RX				99.9960	99.9856
Accel		RY				99.9790	99.8964
Accel		RZ				99.0920	99.1468

RESPONSE SPECTRUM ACCELERATIONS
(IN RESPONSE SPECTRUM LOCAL COORDINATES)

SPEC	MODE	PERIOD	DAMP-RATIO	SPEC-FACTOR	U1	U2	U3
FX	Mode 1	0.401146	0.050000	1.000000	0.882900	0.000000	0.000000
FX	Mode 2	0.312751	0.050000	1.000000	0.882900	0.000000	0.000000
FX	Mode 3	0.300295	0.050000	1.000000	0.882900	0.000000	0.000000
FY	Mode 1	0.401146	0.050000	1.000000	0.000000	0.882900	0.000000
FY	Mode 2	0.312751	0.050000	1.000000	0.000000	0.882900	0.000000
FY	Mode 3	0.300295	0.050000	1.000000	0.000000	0.882900	0.000000

RESPONSE SPECTRUM MODAL AMPLITUDES
(IN RESPONSE SPECTRUM LOCAL COORDINATES)

SPEC	MODE	PERIOD	U1	U2	U3
FX	Mode 1	0.401146	0.035934	0.000000	0.000000
FX	Mode 2	0.312751	-0.002842	0.000000	0.000000
FX	Mode 3	0.300295	0.001049	0.000000	0.000000
FY	Mode 1	0.401146	0.000000	0.000160	0.000000
FY	Mode 2	0.312751	0.000000	0.008797	0.000000
FY	Mode 3	0.300295	0.000000	0.018656	0.000000

RESPONSE SPECTRUM BASE REACTIONS
(IN RESPONSE SPECTRUM LOCAL COORDINATES)

SPEC	MODE	DIR	F1	F2	F3	M1	M2	M3
FX	Mode 1	U1	88.03	0.39	0.00	-1.918	431.323	-148.993
FX	Mode 2	U1	1.49	-4.61	0.00	22.602	7.302	-153.353
FX	Mode 3	U1	0.24	4.25	0.00	-20.821	1.171	31.940
FX	All	All	88.27	2.39	0.00	11.702	432.527	208.823
FY	Mode 1	U2	0.39	0.00	0.00	-0.009	1.918	-0.662
FY	Mode 2	U2	-4.61	14.28	0.00	-69.961	-22.602	474.693
FY	Mode 3	U2	4.25	75.55	0.00	-370.218	20.821	567.927
FY	All	All	2.39	88.11	0.00	431.746	11.702	1005.159

CENTERS OF CUMULATIVE MASS & CENTERS OF RIGIDITY

STORY LEVEL	DIAPHRAGM NAME	MASS	CENTER OF MASS ORDINATE-X	CENTER OF MASS ORDINATE-Y	CENTER OF RIGIDITY ORDINATE-X	CENTER OF RIGIDITY ORDINATE-Y
CUBIERTA	DIAFRAGMA	0.000E+00	0.000	0.000	11.933	0.094

STORY FORCES

STORY	LOAD	LOCATION	P	VX	VY	T	MX	MY
CUBIERTA	FX	Top	2.546E-14	8.827E+01	2.388E+00	2.088E+02	1.582E-13	5.386E-13
		Bottom	2.546E-14	8.827E+01	2.388E+00	2.088E+02	1.170E+01	4.325E+02
CUBIERTA	FY	Top	4.302E-14	2.388E+00	8.811E+01	1.005E+03	5.189E-13	1.152E-12
		Bottom	4.302E-14	2.388E+00	8.811E+01	1.005E+03	4.317E+02	1.170E+01
CUBIERTA	EX	Top	4.269E-14	1.225E+02	4.911E+01	6.297E+02	3.627E-13	9.847E-13
		Bottom	4.269E-14	1.225E+02	4.911E+01	6.297E+02	2.406E+02	6.005E+02
CUBIERTA	EY	Top	8.052E-14	3.699E+01	1.635E+02	1.867E+03	9.651E-13	2.150E-12
		Bottom	8.052E-14	3.699E+01	1.635E+02	1.867E+03	8.011E+02	1.813E+02

	Nivel	hx, Piso m	Deriva Max mm	U1 mm	U2 mm	Deriva mm	Verificación con A.6.4 de NSR10
	ANALISIS EN X. Combinacion: DRV2X = 0.6Ldt + Fx						
	Point	13					
COL EJE A-1	CUBIERTA	4.90	19.60	3.83	-0.02	3.83	Cumple, Ok
	BASE			0.00	0.00		
	Point	23					
COL EJE A-5	CUBIERTA	4.90	19.60	3.82	0.00	3.82	Cumple, Ok
	BASE			0.00	0.00		
	Point	33					
COL EJE B-1	CUBIERTA	4.90	19.60	3.20	-0.03	3.20	Cumple, Ok
	BASE			0.00	0.00		
	Point	41					
COL EJE B-5	CUBIERTA	4.90	19.60	3.21	-0.01	3.21	Cumple, Ok
	BASE			0.00	0.00		
	ANALISIS EN Y. Combinacion: DRV2Y = 0.6Ldt + Fy						
	Point	13					
COL EJE A-1	CUBIERTA	4.90	19.60	0.16	1.46	1.47	Cumple, Ok
	BASE			0.00	0.00		
	Point	23					
COL EJE A-5	CUBIERTA	4.90	19.60	0.15	1.37	1.38	Cumple, Ok
	BASE			0.00	0.00		
	Point	33					
COL EJE B-1	CUBIERTA	4.90	19.60	0.37	1.46	1.50	Cumple, Ok
	BASE			0.00	0.00		
	Point	41					
COL EJE B-5	CUBIERTA	4.90	19.60	0.37	1.37	1.42	Cumple, Ok
	BASE			0.00	0.00		

9. ANALISIS y DISEÑO CIMENTACION

Table: Automatic Slab Mesh Options

MeshOpt	Localize	Merge	MaxSize (mm)
Rectangular	Yes	Yes	500.000

Table: Beam Properties 02 - Rectangular Beam

Beam	MatProp	Depth (mm)	WidthTop (mm)	WidthBot (mm)
VC 35X45	f'c 24.5Mpa	450.000	350.000	350.000
VC30X40	f'c 24.5Mpa	400.000	300.000	300.000

Table: Beam Properties 06 - Design Data

Beam	MatRebarL	MatRebarS	FlngWOpt	CoverTop (mm)	CoverBot (mm)	NoDesign
VC 35X45	f'y 420 Mpa	f'y 420 Mpa	Analysis Property	50.000	75.000	No
VC30X40	f'y 420 Mpa	f'y 420 Mpa	Analysis Property	50.000	75.000	No

Table: Column Properties 02 - Rectangular

Column	MatProp	secDim2 (mm)	SecDim3 (mm)	AutoRigid	AutoDrop	IncludeCap
COL1	f'c 24.5Mpa	600.000	300.000	No	No	No

Table: Coordinate Systems

CoordSys	Type	OriginGx (m)	OriginGy (m)	RotAngle Degrees
GLOBAL	Cartesian	0.00000	0.00000	0.000

Table: Cracking Analysis Reinforcement

ReinfOpt	MinReinfT	MinReinfC	UserModRup
FE Design	0.001800	0.000000	No

Table: Design Preferences 01 - Resistance Factors

PhiTen	PhiComp	PhiShear
0.900000	0.650000	0.750000

Table: Design Preferences 02 - Rebar Cover - Slabs

CoverTop (mm)	CoverBot (mm)	BarSize	InnerLayer	PTCGSTop (mm)	PTCGSBotExt (mm)	PTCGSBotInt (mm)	SlabType
15.000	15.000	#4	B	25.000	40.000	25.000	Two Way

Table: Design Preferences 03 - Rebar Cover - Beams

CoverTop (mm)	CoverBot (mm)	BarSizeF	BarSizeS	PTCGSTop (mm)	PTCGSBot (mm)
40.000	40.000	#5	#3	50.000	50.000

Table: Grid Lines

CoordSys	AxisDir	GridID	Ordinate m	Visible	BubbleLoc	GridColor	BubbleSize mm	HideAll
GLOBAL	X	1	0.00000	Yes	End	10461087	1250.000	No
GLOBAL	X	1'	3.50000	Yes	End			
GLOBAL	X	2	6.00000	Yes	End			
GLOBAL	X	2'	8.50000	Yes	End			
GLOBAL	X	3	12.00000	Yes	End			
GLOBAL	X	4	18.00000	Yes	End			
GLOBAL	X	5	24.00000	Yes	End			
GLOBAL	Y	A	0.00000	Yes	End			
GLOBAL	Y	A'	2.55000	Yes	End			
GLOBAL	Y	B	7.70000	Yes	End			

Table: Mass Source

LoadPat	Multiplier
DL	1
PP	1

A416MGr186	Tendon	Magenta ASTM A416 Metric Grade 186 added 20/05/2013 04:27:24 p.m.
f'c 24.5Mpa	Concrete	Blue Normalweight C30 added 20/05/2013 04:27:24 p.m.
f'y 420 Mpa	Rebar	Cyan CSA-G30.18 Grade 400 added 20/05/2013 04:27:24 p.m.

Table: Material Properties 03 - Concrete

Material	E N/mm2	U	A 1/c	UnitWt kN/m3	FC N/mm2	LtWtConc
f'c 24.5Mpa	23264.00000	0.200000	9.9000E-06	2.3563E+01	24.50000	No

Table: Material Properties 04 - Rebar

Material	E N/mm2	UnitWt kN/m3	Fy N/mm2	Fu N/mm2
f'y 420 Mpa	200000	7.6973E+01	420.00000	525.00000

Table: Object Geometry - Design Strips

Strip	Point	GlobalX m	GlobalY m	WBLeft m	WBRight m	WALeft m	WARight m
CSA1	64	-0.75000	7.70000			0.75000	0.75000
CSA1	65	0.75000	7.70000	0.75000	0.75000		
CSA2	66	5.25000	7.70000			0.75000	0.75000
CSA2	67	6.75000	7.70000	0.75000	0.75000		
CSA3	68	11.25000	7.70000			0.75000	0.75000
CSA3	69	12.75000	7.70000	0.75000	0.75000		
CSA4	70	17.25000	7.70000			0.75000	0.75000
CSA4	71	18.75000	7.70000	0.75000	0.75000		
CSA5	72	23.25000	7.70000			0.75000	0.75000
CSA5	73	24.75000	7.70000	0.75000	0.75000		
CSA6	74	2.75000	2.55000			0.75000	0.75000
CSA6	75	4.25000	2.55000	0.75000	0.75000		
CSA7	76	7.75000	2.55000			0.75000	0.75000
CSA7	77	9.25000	2.55000	0.75000	0.75000		
CSA8	78	-0.75000	0.00000			0.75000	0.75000
CSA8	79	0.75000	0.00000	0.75000	0.75000		
CSA9	80	5.25000	0.00000			0.75000	0.75000
CSA9	81	6.75000	0.00000	0.75000	0.75000		
CSB1	88	0.00000	8.45000			0.75000	0.75000
CSB1	89	0.00000	6.95000	0.75000	0.75000		
CSB2	90	6.00000	8.45000			0.75000	0.75000
CSB2	91	6.00000	6.95000	0.75000	0.75000		
CSB3	92	12.00000	8.45000			0.75000	0.75000
CSB3	93	12.00000	6.95000	0.75000	0.75000		
CSB4	94	18.00000	8.45000			0.75000	0.75000
CSB4	95	18.00000	6.95000	0.75000	0.75000		
CSB5	96	24.00000	8.45000			0.75000	0.75000
CSB5	97	24.00000	6.95000	0.75000	0.75000		
CSB6	98	3.50000	3.30000			0.75000	0.75000
CSB6	99	3.50000	1.80000	0.75000	0.75000		
CSB7	100	8.50000	3.30000			0.75000	0.75000
CSB7	101	8.50000	1.80000	0.75000	0.75000		
CSB8	102	0.00000	0.75000			0.75000	0.75000

Table: Object Geometry - Design Strips

Strip	Point	GlobalX m	GlobalY m	WBLeft m	WBRight m	WALeft m	WARight m
CSB8	103	0.00000	-0.75000	0.75000	0.75000		
CSB9	104	6.00000	0.75000			0.75000	0.75000
CSB9	105	6.00000	-0.75000	0.75000	0.75000		
CSA10	82	11.25000	0.00000			0.75000	0.75000
CSA10	83	12.75000	0.00000	0.75000	0.75000		
CSA11	84	17.25000	0.00000			0.75000	0.75000
CSA11	85	18.75000	0.00000	0.75000	0.75000		
CSA12	86	23.25000	0.00000			0.75000	0.75000
CSA12	87	24.75000	0.00000	0.75000	0.75000		
CSB10	106	12.00000	0.75000			0.75000	0.75000
CSB10	107	12.00000	-0.75000	0.75000	0.75000		
CSB11	108	18.00000	0.75000			0.75000	0.75000
CSB11	109	18.00000	-0.75000	0.75000	0.75000		
CSB12	110	24.00000	0.75000			0.75000	0.75000
CSB12	111	24.00000	-0.75000	0.75000	0.75000		

Table: Object Geometry - Lines 01 - General

Line	PointI	PointJ	LineType	CurveType	Length m
1	33	35	Beam	Straight	6.00000
2	35	37	Beam	Straight	6.00000
3	37	39	Beam	Straight	6.00000
4	39	41	Beam	Straight	6.00000
6	13	16	Beam	Straight	6.00000
7	16	19	Beam	Straight	6.00000
8	19	21	Beam	Straight	6.00000
9	21	23	Beam	Straight	6.00000
10	13	33	Beam	Straight	7.70000
11	61	25	Beam	Straight	2.55000
12	62	27	Beam	Straight	2.55000
13	63	35	Beam	Straight	5.15000
14	16	63	Beam	Straight	2.55000
15	19	37	Beam	Straight	7.70000
16	21	39	Beam	Straight	7.70000
17	23	41	Beam	Straight	7.70000
18	25	63	Beam	Straight	2.50000
19	63	27	Beam	Straight	2.50000

Table: Object Geometry - Point Coordinates

Point	GlobalX m	GlobalY m	GlobalZ m	SpecialPt
1	-0.75000	6.95000	0.00000	No
2	0.75000	6.95000	0.00000	No
3	0.75000	8.45000	0.00000	No
4	-0.75000	8.45000	0.00000	No
5	5.25000	6.95000	0.00000	No
6	6.75000	6.95000	0.00000	No
7	6.75000	8.45000	0.00000	No
8	5.25000	8.45000	0.00000	No
9	11.25000	6.95000	0.00000	No
10	12.75000	6.95000	0.00000	No
11	12.75000	8.45000	0.00000	No
12	11.25000	8.45000	0.00000	No
13	0.00000	0.00000	0.00000	Yes
14	17.25000	6.95000	0.00000	No
15	18.75000	6.95000	0.00000	No
16	6.00000	0.00000	0.00000	Yes
17	18.75000	8.45000	0.00000	No
18	17.25000	8.45000	0.00000	No
19	12.00000	0.00000	0.00000	Yes
20	23.25000	6.95000	0.00000	No
21	18.00000	0.00000	0.00000	Yes
22	24.75000	6.95000	0.00000	No
23	24.00000	0.00000	0.00000	Yes
24	24.75000	8.45000	0.00000	No
25	3.50000	2.55000	0.00000	Yes
26	23.25000	8.45000	0.00000	No
27	8.50000	2.55000	0.00000	Yes
28	-0.75000	-0.75000	0.00000	No
29	0.75000	-0.75000	0.00000	No
30	0.75000	0.75000	0.00000	No
31	-0.75000	0.75000	0.00000	No
32	5.25000	-0.75000	0.00000	No

Table: Object Geometry - Point Coordinates

Point	GlobalX m	GlobalY m	GlobalZ m	SpecialPt
33	0.00000	7.70000	0.00000	Yes
34	6.75000	-0.75000	0.00000	No
35	6.00000	7.70000	0.00000	Yes
36	6.75000	0.75000	0.00000	No
37	12.00000	7.70000	0.00000	Yes
38	5.25000	0.75000	0.00000	No
39	18.00000	7.70000	0.00000	Yes
40	11.25000	-0.75000	0.00000	No
41	24.00000	7.70000	0.00000	Yes
42	12.75000	-0.75000	0.00000	No
43	12.75000	0.75000	0.00000	No
44	11.25000	0.75000	0.00000	No
45	17.25000	-0.75000	0.00000	No
46	18.75000	-0.75000	0.00000	No
47	18.75000	0.75000	0.00000	No
48	17.25000	0.75000	0.00000	No
49	23.25000	-0.75000	0.00000	No
50	24.75000	-0.75000	0.00000	No
51	24.75000	0.75000	0.00000	No
52	23.25000	0.75000	0.00000	No
53	2.75000	1.80000	0.00000	No
54	4.25000	1.80000	0.00000	No
55	4.25000	3.30000	0.00000	No
56	2.75000	3.30000	0.00000	No
57	7.75000	1.80000	0.00000	No
58	9.25000	1.80000	0.00000	No
59	9.25000	3.30000	0.00000	No
60	7.75000	3.30000	0.00000	No
61	3.50000	0.00000	0.00000	No
62	8.50000	0.00000	0.00000	No
63	6.00000	2.55000	0.00000	No
64	-0.75000	7.70000	0.00000	No
65	0.75000	7.70000	0.00000	No
66	5.25000	7.70000	0.00000	No
67	6.75000	7.70000	0.00000	No
68	11.25000	7.70000	0.00000	No
69	12.75000	7.70000	0.00000	No
70	17.25000	7.70000	0.00000	No
71	18.75000	7.70000	0.00000	No
72	23.25000	7.70000	0.00000	No
73	24.75000	7.70000	0.00000	No
74	2.75000	2.55000	0.00000	No
75	4.25000	2.55000	0.00000	No
76	7.75000	2.55000	0.00000	No
77	9.25000	2.55000	0.00000	No
78	-0.75000	0.00000	0.00000	No
79	0.75000	0.00000	0.00000	No
80	5.25000	0.00000	0.00000	No
81	6.75000	0.00000	0.00000	No
82	11.25000	0.00000	0.00000	No
83	12.75000	0.00000	0.00000	No
84	17.25000	0.00000	0.00000	No
85	18.75000	0.00000	0.00000	No
86	23.25000	0.00000	0.00000	No
87	24.75000	0.00000	0.00000	No
88	0.00000	8.45000	0.00000	No
89	0.00000	6.95000	0.00000	No
90	6.00000	8.45000	0.00000	No
91	6.00000	6.95000	0.00000	No
92	12.00000	8.45000	0.00000	No
93	12.00000	6.95000	0.00000	No
94	18.00000	8.45000	0.00000	No
95	18.00000	6.95000	0.00000	No
96	24.00000	8.45000	0.00000	No
97	24.00000	6.95000	0.00000	No
98	3.50000	3.30000	0.00000	No
99	3.50000	1.80000	0.00000	No
100	8.50000	3.30000	0.00000	No
101	8.50000	1.80000	0.00000	No
102	0.00000	0.75000	0.00000	No
103	0.00000	-0.75000	0.00000	No
104	6.00000	0.75000	0.00000	No
105	6.00000	-0.75000	0.00000	No
106	12.00000	0.75000	0.00000	No
107	12.00000	-0.75000	0.00000	No
108	18.00000	0.75000	0.00000	No
109	18.00000	-0.75000	0.00000	No
110	24.00000	0.75000	0.00000	No
111	24.00000	-0.75000	0.00000	No

Table: Program Control, Part 1 of 2

ProgramName	Version	ProgLevel	LicenseNum	CurrUnits	MergeTol mm	Modeloatum m	StHtAbove m
SAFE	12.3.2 Post Tensioning	Trial		KN, m, C	1.000	0.00000	0.00000

Table: Program Control, Part 2 of 2

StHtBelow m	ConcCode
0.00000	ACI 318-08

Table: Reinforcing Bar Sizes

RebarID	Area cm2	Diameter mm
#2	0.323	6.350
#3	0.710	9.525
#4	1.290	13.000
#5	2.000	16.000
#6	2.839	19.000
#7	3.871	22.000
#8	5.097	25.000
#9	6.452	29.000
#10	8.194	32.000
#11	10.060	36.000
#14	14.520	43.000
#18	25.810	57.000

Table: Slab Design Overwrites 01 - Strip Based

Strip	Layer	DesignType	RLLF	Design	IgnorePT	RebarMat	CoverType
CSA1	A	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSA2	A	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSA3	A	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSA4	A	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSA5	A	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSA6	A	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSA7	A	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSA8	A	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSA9	A	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSB1	B	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSB2	B	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSB3	B	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSB4	B	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSB5	B	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSB6	B	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSB7	B	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSB8	B	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSB9	B	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSA10	A	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSA11	A	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSA12	A	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSB10	B	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSB11	B	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences
CSB12	B	Column	1.000000	Yes	No	f'y 420 Mpa	Preferences

Table: SlabProperties 02 - Solid Slabs

Slab	Type	MatProp	Thickness mm	Ortho
Zapata 35 cm	Footing	f'c 24.5Mpa	350.000	No

Table: SoilProperties

Soil	Subgrade kN/m3	Color
Ks AB	3.2000E+04	Cyan
Ks CD	1.2000E+04	Cyan
Ks E	8.0000E+03	Cyan

Table: Load Cases 01 - General

LoadCase	Type	DesignOpt	DesignType
PP	LinStatic	Auto	DEAD
DL	LinStatic	Auto	DEAD
LR	LinStatic	Auto	LIVE
G	LinStatic	Auto	SNOW
Ex	LinStatic	Auto	QUAKE
Ey	LinStatic	Auto	QUAKE

Table: Load Cases 02 - Static

LoadCase	InitialCond	AType
PP	Zero	Linear
DL	Zero	Linear
LR	Zero	Linear
G	Zero	Linear
Ex	Zero	Linear
Ey	Zero	Linear

Table: Load Cases 06 - Loads Applied

Loadcase	LoadPat	SF
PP	PP	1.000000
DL	DL	1.000000
LR	LR	1.000000
G	G	1.000000
Ex	Ex	1.000000
Ey	Ey	1.000000

Table: Load Patterns

LoadPat	Type	SelfWtMult
PP	DEAD	1.000000
DL	DEAD	0.000000
LR	LIVE	0.000000
G	SNOW	0.000000
Ex	QUAKE	0.000000
Ey	QUAKE	0.000000

Table: Load Combinations, Part 1 of 2

Combo	Load	SF	Type	DSStrength	DSServInit	DSServNorm	DSServLong	AutoDesign
D	PP	1.000000	Linear Add	No	No	No	No	No
D	DL	1.000000						
srv1a	D	1.000000	Linear Add	No	No	No	No	No
srv1a	LR	1.000000						
srv1b	D	1.000000	Linear Add	No	No	No	No	No
srv1b	G	1.000000						
srv2x	D	1.000000	Linear Add	No	No	No	No	No
srv2x	Ex	0.700000						
srv2y	D	1.000000	Linear Add	No	No	No	No	No
srv2y	Ey	0.700000						
srv3Xa	D	1.000000	Linear Add	No	No	No	No	No
srv3Xa	Ex	0.525000						
srv3Xa	LR	0.750000						
srv3Xb	D	1.000000	Linear Add	No	No	No	No	No
srv3Xb	Ex	0.525000						
srv3Xb	G	0.750000						
srv4Ya	D	1.000000	Linear Add	No	No	No	No	No
srv4Ya	Ey	0.525000						
srv4Ya	LR	0.750000						
srv4Yb	D	1.000000	Linear Add	No	No	No	No	No
srv4Yb	Ey	0.525000						
srv4Yb	G	0.750000						
srv5X	D	0.600000	Linear Add	No	No	No	No	No
srv5X	Ex	0.700000						
srv5Y	D	0.600000	Linear Add	No	No	No	No	No
srv5Y	Ey	0.700000						
Envol.-SRV	srv1a	1.000000	Envelope	No	No	Yes	No	No
Envol.-SRV	srv1b	1.000000						
Envol.-SRV	srv2x	1.000000						
Envol.-SRV	srv2y	1.000000						

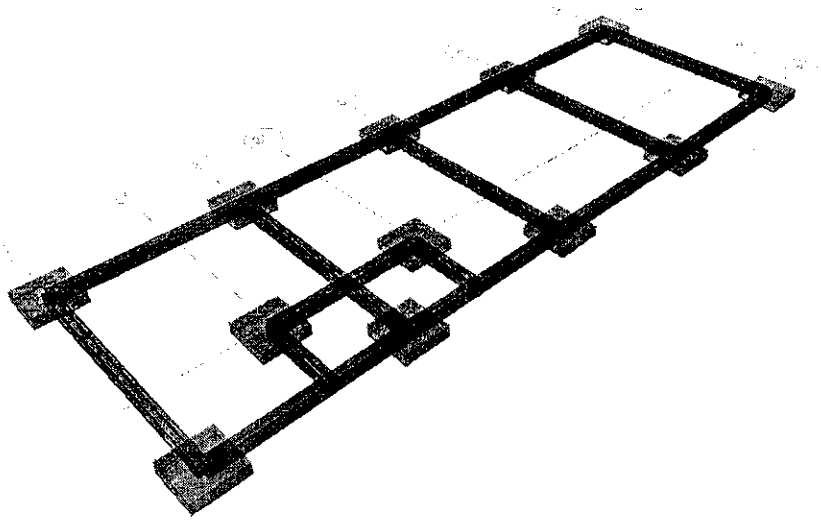
Table: Load Combinations, Part 1 of 2

Combo	Load	SF	Type	DSStrength	DSServInit	DSServNorm	DSServLong	AutoDesign
Envol.-SRV	srv3Xa	1.000000						
Envol.-SRV	srv3Xb	1.000000						
Envol.-SRV	srv4Ya	1.000000						
Envol.-SRV	srv4Yb	1.000000						
Envol.-SRV	srv5Y	1.000000						
dis1a	D	1.200000	Linear Add	No	No	No	No	No
dis1a	LR	1.600000						
dis1b	D	1.200000	Linear Add	No	No	No	No	No
dis1b	G	1.600000						
dis2X	D	1.200000	Linear Add	No	No	No	No	No
dis2X	Ex	1.000000						
dis2Y	D	1.200000	Linear Add	No	No	No	No	No
dis2Y	Ey	1.000000						
dis3X	D	0.900000	Linear Add	No	No	No	No	No
dis3X	Ex	1.000000						
dis3Y	D	0.900000	Linear Add	No	No	No	No	No
dis3Y	Ey	1.000000						
Envol.-DIS	dis1a	1.000000	Envelope	Yes	No	No	No	No
Envol.-DIS	dis1b	1.000000						
Envol.-DIS	dis2x	1.000000						
Envol.-DIS	dis2Y	1.000000						
Envol.-DIS	dis3x	1.000000						
Envol.-DIS	dis3Y	1.000000						

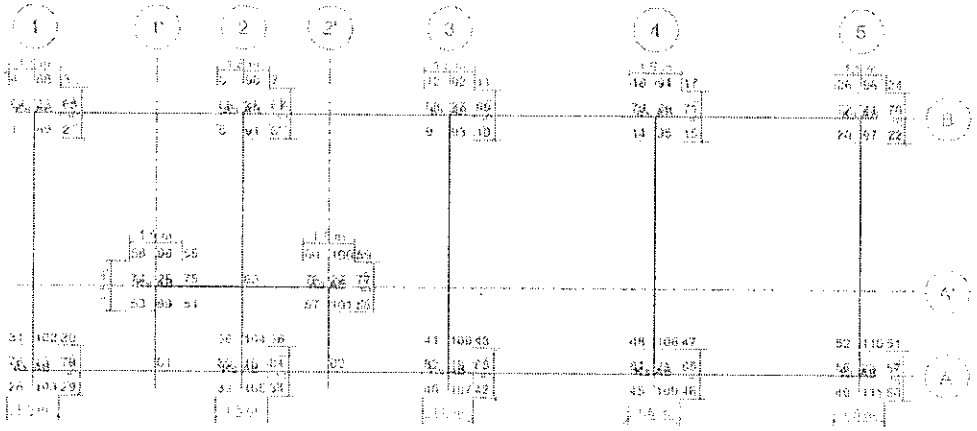
9.1. Zona alta

9.1.1. Suelo Tipo AB-CD

9.1.1.1. Modelo Matemático

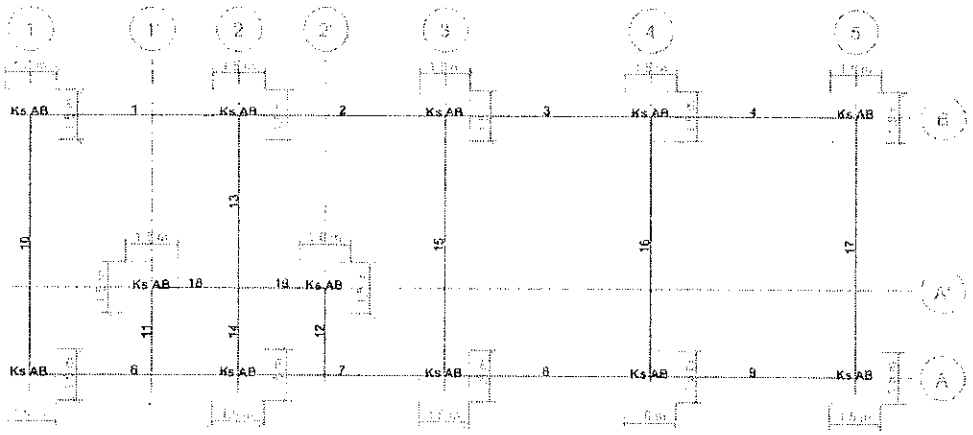


MODELO 3D_SAFE V12.3.2 - Planta Cimentación AB-CD

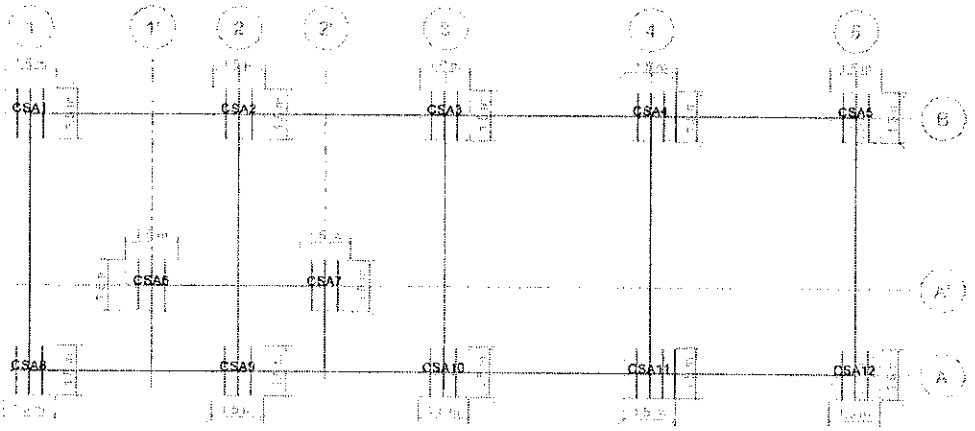


Numeración Nudos

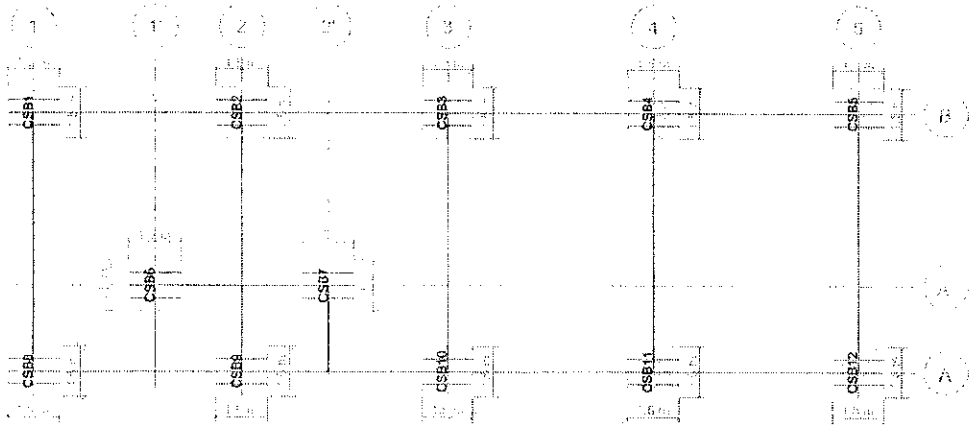
INGENIERIA ESTRUCTURAL S.A.S
Evaluamos el Pasado - Analizamos el Presente - Diseñamos el Futuro
Nit.900482474-1



Numeración Elementos



Identificación Strip A



Identificación Strip B

9.1.1.2. Coordenadas, asignaciones

Table: Object Geometry - Areas 01 - General, Part 1 of 2

Area	NumPoints	Point1	Point2	Point3	Point4	Auto	TotalArea mm2	AreaType
1	4	1	2	3	4	No	2250000.00	Slab
2	4	5	6	7	8	No	2250000.00	Slab
3	4	9	10	11	12	No	2250000.00	Slab
4	4	14	15	17	18	No	2250000.00	Slab
5	4	20	22	24	26	No	2250000.00	Slab
6	4	28	29	30	31	No	2250000.00	Slab
7	4	32	34	36	38	No	2250000.00	Slab
8	4	40	42	43	44	No	2250000.00	Slab
9	4	45	46	47	48	No	2250000.00	Slab
10	4	49	50	51	52	No	2250000.00	Slab
11	4	53	54	55	56	No	2250000.00	Slab
12	4	57	58	59	60	No	2250000.00	Slab

Table: Object Geometry - Design Strips

Strip	Point	GlobalX m	GlobalY m	WBLeft m	WBRight m	WALeft m	WARight m
CSA1	64	-0.75000	7.70000			0.75000	0.75000
CSA1	65	0.75000	7.70000	0.75000	0.75000		
CSA2	66	5.25000	7.70000			0.75000	0.75000
CSA2	67	6.75000	7.70000	0.75000	0.75000		
CSA3	68	11.25000	7.70000			0.75000	0.75000
CSA3	69	12.75000	7.70000	0.75000	0.75000		
CSA4	70	17.25000	7.70000			0.75000	0.75000
CSA4	71	18.75000	7.70000	0.75000	0.75000		
CSA5	72	23.25000	7.70000			0.75000	0.75000

Table: Object Geometry - Design Strips

Strip	Point	GlobalX m	GlobalY m	WBLeft m	WBRight m	WALeft m	WARight m
CSA5	73	24.75000	7.70000	0.75000	0.75000		
CSA6	74	2.75000	2.55000			0.75000	0.75000
CSA6	75	4.25000	2.55000	0.75000	0.75000		
CSA7	76	7.75000	2.55000			0.75000	0.75000
CSA7	77	9.25000	2.55000	0.75000	0.75000		
CSA8	78	-0.75000	0.00000			0.75000	0.75000
CSA8	79	0.75000	0.00000	0.75000	0.75000		
CSA9	80	5.25000	0.00000			0.75000	0.75000
CSA9	81	6.75000	0.00000	0.75000	0.75000		
CSB1	88	0.00000	8.45000			0.75000	0.75000
CSB1	89	0.00000	6.95000	0.75000	0.75000		
CSB2	90	6.00000	8.45000			0.75000	0.75000
CSB2	91	6.00000	6.95000	0.75000	0.75000		
CSB3	92	12.00000	8.45000			0.75000	0.75000
CSB3	93	12.00000	6.95000	0.75000	0.75000		
CSB4	94	18.00000	8.45000			0.75000	0.75000
CSB4	95	18.00000	6.95000	0.75000	0.75000		
CSB5	96	24.00000	8.45000			0.75000	0.75000
CSB5	97	24.00000	6.95000	0.75000	0.75000		
CSB6	98	3.50000	3.30000			0.75000	0.75000
CSB6	99	3.50000	1.80000	0.75000	0.75000		
CSB7	100	8.50000	3.30000			0.75000	0.75000
CSB7	101	8.50000	1.80000	0.75000	0.75000		
CSB8	102	0.00000	0.75000			0.75000	0.75000
CSB8	103	0.00000	-0.75000	0.75000	0.75000		
CSB9	104	6.00000	0.75000			0.75000	0.75000
CSB9	105	6.00000	-0.75000	0.75000	0.75000		
CSA10	82	11.25000	0.00000			0.75000	0.75000
CSA10	83	12.75000	0.00000	0.75000	0.75000		
CSA11	84	17.25000	0.00000			0.75000	0.75000
CSA11	85	18.75000	0.00000	0.75000	0.75000		
CSA12	86	23.25000	0.00000			0.75000	0.75000
CSA12	87	24.75000	0.00000	0.75000	0.75000		
CSB10	106	12.00000	0.75000			0.75000	0.75000
CSB10	107	12.00000	-0.75000	0.75000	0.75000		
CSB11	108	18.00000	0.75000			0.75000	0.75000
CSB11	109	18.00000	-0.75000	0.75000	0.75000		
CSB12	110	24.00000	0.75000			0.75000	0.75000
CSB12	111	24.00000	-0.75000	0.75000	0.75000		

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Table: Beam Property Assignments

Line	BeamProp
1	VC30X40
2	VC30X40
3	VC30X40
4	VC30X40
6	VC30X40
7	VC30X40
8	VC30X40
9	VC30X40
10	VC30X40
11	VC30X40
12	VC30X40
13	VC30X40
14	VC30X40
15	VC30X40
16	VC30X40
17	VC30X40
18	VC30X40
19	VC30X40

Table: Slab Property Assignments

Area	SlabProp
1	Zapata 35 cm
2	Zapata 35 cm
3	Zapata 35 cm
4	Zapata 35 cm
5	Zapata 35 cm
6	Zapata 35 cm
7	Zapata 35 cm
8	Zapata 35 cm
9	Zapata 35 cm
10	Zapata 35 cm
11	Zapata 35 cm
12	Zapata 35 cm

Table: Soil Property Assignments

Area	SoilProp
1	Ks CD
2	Ks CD
3	Ks CD
4	Ks CD
5	Ks CD
6	Ks CD
7	Ks CD
8	Ks CD
9	Ks CD
10	Ks CD
11	Ks CD
12	Ks CD

9.1.1.3. Cargas, asignación de cargas SUELO AB

Table: Load Assignments - Point Loads, Part 1 of 2

Point	LoadPat	Fx kN	Fy kN	Fgrav kN	Mx kN-m	My kN-m	Mz kN-m	XDim mm
13	PP	-1.880	0.820	85.980	4.0530	-2.9010	-0.0610	300.000
13	DL	-0.550	-2.400	22.910	4.8590	-0.8370	0.0080	300.000
13	LR	-0.360	-1.860	13.250	3.8670	-0.5440	0.0030	300.000
13	G	-0.670	-3.710	26.380	7.7400	-1.0230	0.0070	300.000
13	EX	-16.050	-8.970	9.770	-28.0900	-43.5490	-0.7890	300.000
13	EY	-4.930	-24.660	13.550	-78.2970	-13.2120	-0.8100	300.000
16	PP	0.330	3.600	121.000	0.0540	0.6660	-0.0680	300.000
16	DL	0.130	-2.930	41.440	5.6620	0.2660	0.0110	300.000
16	LR	0.090	-0.870	15.080	2.2610	0.1840	0.0050	300.000
16	G	0.190	-1.420	26.800	4.0320	0.3630	0.0110	300.000
16	EX	-20.450	-8.370	11.050	-25.3000	-50.7270	-0.5930	300.000
16	EY	-6.210	-27.120	32.640	-81.6660	-15.3850	-0.7270	300.000
19	PP	0.450	5.870	95.720	-3.1580	0.8580	-0.0550	300.000
19	DL	0.200	-4.120	33.530	7.4930	0.3770	0.0150	300.000
19	LR	0.040	-2.880	21.830	5.4430	0.0900	0.0110	300.000
19	G	0.040	-5.760	43.490	10.8870	0.1270	0.0220	300.000
19	EX	-19.310	-7.260	4.250	-23.1070	-48.8940	-0.5860	300.000
19	EY	-5.930	-24.170	14.140	-76.9130	-14.9060	-0.7240	300.000
21	PP	-0.020	6.250	95.670	-3.5020	0.0850	-0.0250	300.000
21	DL	0.000	-4.110	33.020	7.3740	0.0470	0.0130	300.000
21	LR	-0.010	-2.890	22.190	5.3780	0.0110	0.0110	300.000
21	G	-0.020	-5.790	44.390	10.7650	0.0260	0.0230	300.000
21	EX	-20.010	-7.290	4.750	-23.9050	-49.9920	-0.6840	300.000
21	EY	-6.060	-23.090	9.160	-75.3430	-15.1250	-0.7710	300.000
23	PP	0.780	0.630	92.340	5.6050	1.3790	-0.0130	300.000
23	DL	0.250	-2.270	22.700	4.3460	0.4600	0.0070	300.000
23	LR	0.280	-1.910	14.220	3.7200	0.4840	0.0070	300.000
23	G	0.560	-3.810	28.420	7.4370	0.9640	0.0150	300.000
23	EX	-16.090	-9.090	9.250	-29.0540	-43.5690	-0.8540	300.000
23	EY	-4.880	-23.310	10.240	-76.1430	-13.1930	-0.8510	300.000
25	PP	-0.390	-0.170	21.560	2.2020	-0.5900	-0.0170	200.000
25	DL	-0.780	0.440	12.560	-0.3690	-1.2530	0.0020	200.000
25	LR	-0.310	-0.060	3.880	0.3940	-0.4980	0.0010	200.000
25	G	-0.560	-0.200	6.460	0.9310	-0.9010	0.0020	200.000
25	EX	-5.110	-3.780	7.900	-10.3310	-12.3590	-0.1490	200.000
25	EY	-1.590	-11.930	15.840	-32.3120	-3.7770	-0.1860	200.000
27	PP	0.520	-0.590	20.390	2.9980	0.9010	-0.0190	200.000
27	DL	0.810	0.400	12.480	-0.3240	1.3230	0.0030	200.000
27	LR	0.330	-0.100	3.780	0.4540	0.5410	0.0020	200.000
27	G	0.600	-0.290	6.280	1.0460	0.9830	0.0030	200.000
27	EX	-5.010	-3.610	6.800	-9.7650	-12.1970	-0.1550	200.000
27	EY	-1.530	-11.920	15.760	-32.2350	-3.6800	-0.1890	200.000
33	PP	-0.240	-1.330	65.800	7.4870	-0.1640	-0.0360	300.000
33	DL	0.170	1.980	18.450	-2.1400	0.2980	0.0030	300.000
33	LR	-0.220	1.430	11.040	-1.3980	-0.3510	0.0020	300.000
33	G	-0.450	2.840	22.060	-2.7480	-0.7030	0.0040	300.000
33	EX	-12.620	-8.190	9.820	-26.8260	-35.0380	-0.9290	300.000
33	EY	-4.220	-23.100	9.770	-75.7630	-11.6820	-0.8760	300.000
35	PP	0.320	-3.550	67.520	11.4590	0.7400	-0.0590	300.000
35	DL	-0.010	2.750	23.790	-3.4170	0.0100	0.0060	300.000
35	LR	0.040	1.590	16.220	-1.6590	0.0780	0.0020	300.000
35	G	0.080	3.060	32.250	-3.1130	0.1510	0.0040	300.000
35	EX	-16.520	-6.970	3.180	-23.0380	-41.2970	-0.6660	300.000
35	EY	-5.480	-22.380	9.100	-74.0390	-13.7200	-0.7600	300.000
37	PP	0.220	-4.750	65.720	13.7930	0.5790	-0.0480	300.000
37	DL	0.020	4.030	26.150	-5.5150	0.0550	0.0100	300.000
37	LR	0.010	2.900	18.220	-3.7830	0.0180	0.0070	300.000
37	G	0.010	5.790	36.430	-7.5390	0.0290	0.0140	300.000
37	EX	-15.550	-6.840	2.860	-22.4180	-39.7260	-0.6210	300.000
37	EY	-5.180	-22.750	9.510	-74.5990	-13.2310	-0.7430	300.000
39	PP	0.350	-4.900	65.060	14.2960	0.7850	-0.0270	300.000
39	DL	0.090	4.070	25.830	-5.6780	0.1670	0.0170	300.000
39	LR	0.000	2.950	18.360	-3.9490	0.0080	0.0150	300.000
39	G	0.000	5.900	36.700	-7.8860	0.0120	0.0310	300.000
39	EX	-16.320	-7.320	3.340	-23.9160	-40.9850	-0.6370	300.000
39	EY	-5.430	-22.960	9.760	-75.0780	-13.6320	-0.7570	300.000
41	PP	-0.440	-1.890	70.960	9.6200	-0.4850	-0.0360	300.000
41	DL	-0.340	2.160	18.910	-2.7460	-0.5320	0.0190	300.000
41	LR	0.110	1.700	11.920	-2.0470	0.1930	0.0150	300.000
41	G	0.230	3.390	23.840	-4.0840	0.3820	0.0300	300.000
41	EX	-12.690	-8.700	10.210	-28.3980	-35.1550	-0.9830	300.000
41	EY	-4.230	-23.270	10.110	-76.0400	-11.7010	-0.9040	300.000

9.1.1.3. Cargas, asignación de cargas SUELO AB

Table: Load Assignments - Point Loads, Part 1 of 2

Point	LoadPat	Fx kN	Fy kN	Fgrav kN	Mx kN-m	My kN-m	Mz kN-m	XDim mm
13	PP	-1.880	0.820	85.980	4.0530	-2.9010	-0.0610	300.000
13	DL	-0.550	-2.400	22.910	4.8590	-0.8370	0.0080	300.000
13	LR	-0.360	-1.860	13.250	3.8670	-0.5440	0.0030	300.000
13	G	-0.670	-3.710	26.380	7.7400	-1.0230	0.0070	300.000
13	EX	-16.050	-8.970	9.770	-28.0900	-43.5490	-0.7890	300.000
13	EY	-4.930	-24.660	13.550	-78.2970	-13.2120	-0.8100	300.000
16	PP	0.330	3.600	121.000	0.0540	0.6660	-0.0680	300.000
16	DL	0.130	-2.930	41.440	5.6620	0.2660	0.0110	300.000
16	LR	0.090	-0.870	15.080	2.2610	0.1840	0.0050	300.000
16	G	0.190	-1.420	26.800	4.0320	0.3630	0.0110	300.000
16	EX	-20.450	-8.370	11.050	-25.3000	-50.7270	-0.5930	300.000
16	EY	-6.210	-27.120	32.640	-81.6660	-15.3850	-0.7270	300.000
19	PP	0.450	5.870	95.720	-3.1580	0.8580	-0.0550	300.000
19	DL	0.200	-4.120	33.530	7.4930	0.3770	0.0150	300.000
19	LR	0.040	-2.880	21.830	5.4430	0.0900	0.0110	300.000
19	G	0.040	-5.760	43.490	10.8870	0.1270	0.0220	300.000
19	EX	-19.310	-7.260	4.250	-23.1070	-48.8940	-0.5860	300.000
19	EY	-5.930	-24.170	14.140	-76.9130	-14.9060	-0.7240	300.000
21	PP	-0.020	6.250	95.670	-3.5020	0.0850	-0.0250	300.000
21	DL	0.000	-4.110	33.020	7.3740	0.0470	0.0130	300.000
21	LR	-0.010	-2.890	22.190	5.3780	0.0110	0.0110	300.000
21	G	-0.020	-5.790	44.390	10.7650	0.0260	0.0230	300.000
21	EX	-20.010	-7.290	4.750	-23.9050	-49.9920	-0.6840	300.000
21	EY	-6.060	-23.090	9.160	-75.3430	-15.1250	-0.7710	300.000
23	PP	0.780	0.630	92.340	5.6050	1.3790	-0.0130	300.000
23	DL	0.250	-2.270	22.700	4.3460	0.4600	0.0070	300.000
23	LR	0.280	-1.910	14.220	3.7200	0.4840	0.0070	300.000
23	G	0.560	-3.810	28.420	7.4370	0.9640	0.0150	300.000
23	EX	-16.090	-9.090	9.250	-29.0540	-43.5690	-0.8540	300.000
23	EY	-4.880	-23.310	10.240	-76.1430	-13.1930	-0.8510	300.000
25	PP	-0.390	-0.170	21.560	2.2020	-0.5900	-0.0170	200.000
25	DL	-0.780	0.440	12.560	-0.3690	-1.2530	0.0020	200.000
25	LR	-0.310	-0.060	3.880	0.3940	-0.4980	0.0010	200.000
25	G	-0.560	-0.200	6.460	0.9310	-0.9010	0.0020	200.000
25	EX	-5.110	-3.780	7.900	-10.3310	-12.3590	-0.1490	200.000
25	EY	-1.590	-11.930	15.840	-32.3120	-3.7770	-0.1860	200.000
27	PP	0.520	-0.590	20.390	2.9980	0.9010	-0.0190	200.000
27	DL	0.810	0.400	12.480	-0.3240	1.3230	0.0030	200.000
27	LR	0.330	-0.100	3.780	0.4540	0.5410	0.0020	200.000
27	G	0.600	-0.290	6.280	1.0460	0.9830	0.0030	200.000
27	EX	-5.010	-3.610	6.800	-9.7650	-12.1970	-0.1550	200.000
27	EY	-1.530	-11.920	15.760	-32.2350	-3.6800	-0.1890	200.000
33	PP	-0.240	-1.330	65.800	7.4870	-0.1640	-0.0360	300.000
33	DL	0.170	1.980	18.450	-2.1400	0.2980	0.0030	300.000
33	LR	-0.220	1.430	11.040	-1.3980	-0.3510	0.0020	300.000
33	G	-0.450	2.840	22.060	-2.7480	-0.7030	0.0040	300.000
33	EX	-12.620	-8.190	9.820	-26.8260	-35.0380	-0.9290	300.000
33	EY	-4.220	-23.100	9.770	-75.7630	-11.6820	-0.8760	300.000
35	PP	0.320	-3.550	67.520	11.4590	0.7400	-0.0590	300.000
35	DL	-0.010	2.750	23.790	-3.4170	0.0100	0.0060	300.000
35	LR	0.040	1.590	16.220	-1.6590	0.0780	0.0020	300.000
35	G	0.080	3.060	32.250	-3.1130	0.1510	0.0040	300.000
35	EX	-16.520	-6.970	3.180	-23.0380	-41.2970	-0.6660	300.000
35	EY	-5.480	-22.380	9.100	-74.0390	-13.7200	-0.7600	300.000
37	PP	0.220	-4.750	65.720	13.7930	0.5790	-0.0480	300.000
37	DL	0.020	4.030	26.150	-5.5150	0.0550	0.0100	300.000
37	LR	0.010	2.900	18.220	-3.7830	0.0180	0.0070	300.000
37	G	0.010	5.790	36.430	-7.5390	0.0290	0.0140	300.000
37	EX	-15.550	-6.840	2.860	-22.4180	-39.7260	-0.6210	300.000
37	EY	-5.180	-22.750	9.510	-74.5990	-13.2310	-0.7430	300.000
39	PP	0.350	-4.900	65.060	14.2960	0.7850	-0.0270	300.000
39	DL	0.090	4.070	25.830	-5.6780	0.1670	0.0170	300.000
39	LR	0.000	2.950	18.360	-3.9490	0.0080	0.0150	300.000
39	G	0.000	5.900	36.700	-7.8860	0.0120	0.0310	300.000
39	EX	-16.320	-7.320	3.340	-23.9160	-40.9850	-0.6370	300.000
39	EY	-5.430	-22.960	9.760	-75.0780	-13.6320	-0.7570	300.000
41	PP	-0.440	-1.890	70.960	9.6200	-0.4850	-0.0360	300.000
41	DL	-0.340	2.160	18.910	-2.7460	-0.5320	0.0190	300.000
41	LR	0.110	1.700	11.920	-2.0470	0.1930	0.0150	300.000
41	G	0.230	3.390	23.840	-4.0840	0.3820	0.0300	300.000
41	EX	-12.690	-8.700	10.210	-28.3980	-35.1550	-0.9830	300.000
41	EY	-4.230	-23.270	10.110	-76.0400	-11.7010	-0.9040	300.000

9.1.1.4. Esfuerzos sobre el suelo AB

Table: Soil Pressures - Enveloping Summary

Panel	OutputItem	SurfPress kN/m2	OutputCase	CaseType	GlobalX m	GlobalY m
1	MaxPress	-19.98	Envol.-SRV	Combination	2.75000	2.55000
1	MinPress	-96.15	Envol.-SRV	Combination	0.37500	0.75000
2	MaxPress	-6.78	Envol.-SRV	Combination	2.75000	3.30000
2	MinPress	-80.86	Envol.-SRV	Combination	0.37500	7.32500
3	MaxPress	-29.63	Envol.-SRV	Combination	3.50000	2.17500
3	MinPress	-101.01	Envol.-SRV	Combination	5.62500	0.37500
4	MaxPress	-19.10	Envol.-SRV	Combination	3.50000	3.30000
4	MinPress	-77.14	Envol.-SRV	Combination	5.25000	7.32500
5	MaxPress	-28.68	Envol.-SRV	Combination	8.12500	2.55000
5	MinPress	-101.01	Envol.-SRV	Combination	6.00000	0.37500
6	MaxPress	-17.42	Envol.-SRV	Combination	8.12500	3.30000
6	MinPress	-77.10	Envol.-SRV	Combination	6.00000	7.32500
7	MaxPress	-17.55	Envol.-SRV	Combination	8.87500	2.55000
7	MinPress	-113.62	Envol.-SRV	Combination	11.25000	0.75000
8	MaxPress	-5.25	Envol.-SRV	Combination	8.87500	3.30000
8	MinPress	-89.13	Envol.-SRV	Combination	11.62500	7.32500
9	MaxPress	-45.65	Envol.-SRV	Combination	12.37500	0.37500
9	MinPress	-114.91	Envol.-SRV	Combination	17.25000	0.75000
10	MaxPress	-33.39	Envol.-SRV	Combination	12.37500	7.32500
10	MinPress	-90.34	Envol.-SRV	Combination	17.62500	7.32500
11	MaxPress	-39.41	Envol.-SRV	Combination	23.62500	0.37500
11	MinPress	-114.28	Envol.-SRV	Combination	18.00000	0.75000
12	MaxPress	-30.11	Envol.-SRV	Combination	23.62500	7.32500
12	MinPress	-90.94	Envol.-SRV	Combination	18.37500	7.32500

Table: Soil Pressures - Summary

Panel	OutputCase	CaseType	MaxPress kN/m2	MinPress kN/m2	GlobalXMax m	GlobalYMax m	GlobalXMin m	GlobalYMin m
1	Envol.-SRV	Combination	-19.98	-96.15	2.75000	2.55000	0.37500	0.75000
2	Envol.-SRV	Combination	-6.78	-80.86	2.75000	3.30000	0.37500	7.32500
3	Envol.-SRV	Combination	-29.63	-101.01	3.50000	2.17500	5.62500	0.37500
4	Envol.-SRV	Combination	-19.10	-77.14	3.50000	3.30000	5.25000	7.32500
5	Envol.-SRV	Combination	-28.68	-101.01	8.12500	2.55000	6.00000	0.37500
6	Envol.-SRV	Combination	-17.42	-77.10	8.12500	3.30000	6.00000	7.32500
7	Envol.-SRV	Combination	-17.55	-113.62	8.87500	2.55000	11.25000	0.75000
8	Envol.-SRV	Combination	-5.25	-89.13	8.87500	3.30000	11.62500	7.32500
9	Envol.-SRV	Combination	-45.65	-114.91	12.37500	0.37500	17.25000	0.75000
10	Envol.-SRV	Combination	-33.39	-90.34	12.37500	7.32500	17.62500	7.32500
11	Envol.-SRV	Combination	-39.41	-114.28	23.62500	0.37500	18.00000	0.75000
12	Envol.-SRV	Combination	-30.11	-90.94	23.62500	7.32500	18.37500	7.32500

Capacidad admisible de suelo AB, σ_{adm} = 400 kN/m² > Soil Pressures Max/Min => Ok

9.1.1.5. Cargas, asignación de cargas SUELO CD

Table: Load Assignments - Point Loads, Part 1 of 2

Point	LoadPat	Fx kN	Fy kN	Fgrav kN	Mx kN-m	My kN-m	Mz kN-m	XDim mm
13	PP	-1.880	0.820	85.980	4.0530	-2.9010	-0.0610	300.000
13	OL	-0.550	-2.400	22.910	4.8590	-0.8370	0.0080	300.000
13	LR	-0.360	-1.860	13.250	3.8670	-0.5440	0.0030	300.000
13	G	-0.670	-3.710	26.380	7.7400	-1.0230	0.0070	300.000
13	EX	-18.570	-10.390	11.310	-32.5510	-50.3860	-0.9130	300.000
13	EY	-5.700	-28.590	15.710	-90.7980	-15.2870	-0.9390	300.000
16	PP	0.330	3.600	121.000	0.0540	0.6660	-0.0680	300.000
16	DL	0.130	-2.930	41.440	5.6620	0.2660	0.0110	300.000
16	LR	0.090	-0.870	15.080	2.2610	0.1840	0.0050	300.000
16	G	0.190	-1.420	26.800	4.0320	0.3630	0.0110	300.000
16	EX	-23.660	-9.700	12.810	-29.3350	-58.6930	-0.6860	300.000
16	EY	-7.190	-31.450	37.850	-94.7040	-17.8020	-0.8430	300.000
19	PP	0.450	5.870	95.720	-3.1580	0.8580	-0.0550	300.000
19	OL	0.200	-4.120	33.530	7.4930	0.3770	0.0150	300.000
19	LR	0.040	-2.880	21.830	5.4430	0.0900	0.0110	300.000
19	G	0.040	-5.760	43.490	10.8870	0.1270	0.0220	300.000
19	EX	-22.340	-8.420	4.920	-26.7960	-56.5710	-0.6790	300.000
19	EY	-6.860	-28.030	16.400	-89.1930	-17.2480	-0.8390	300.000
21	PP	-0.020	6.250	95.670	-3.5020	0.0850	-0.0250	300.000
21	DL	0.000	-4.110	33.020	7.3740	0.0470	0.0330	300.000
21	LR	-0.010	-2.890	22.190	5.3780	0.0110	0.0110	300.000
21	G	-0.020	-5.790	44.390	10.7650	0.0260	0.0230	300.000
21	EX	-23.150	-8.450	5.500	-27.7140	-57.8420	-0.7920	300.000
21	EY	-7.010	-26.780	10.620	-87.3720	-17.5010	-0.8940	300.000
23	PP	0.780	0.630	92.340	5.6050	1.3790	-0.0130	300.000
23	DL	0.250	-2.270	22.700	4.3460	0.4600	0.0070	300.000
23	LR	0.280	-1.910	14.220	3.7200	0.4840	0.0070	300.000
23	G	0.560	-3.810	28.420	7.4370	0.9640	0.0150	300.000
23	EX	-18.610	-10.530	10.710	-33.6610	-50.4100	-0.9880	300.000
23	EY	-5.640	-27.030	11.870	-88.2990	-15.2650	-0.9860	300.000
25	PP	-0.390	-0.170	21.560	2.2020	-0.5900	-0.0170	200.000
25	DL	-0.780	0.440	12.560	-0.3690	-1.2530	0.0020	200.000
25	LR	-0.310	-0.060	3.880	0.3940	-0.4980	0.0010	200.000
25	G	-0.560	-0.200	6.460	0.9310	-0.9010	0.0020	200.000
25	EX	-5.910	-4.380	9.150	-11.9770	-14.3000	-0.1730	200.000
25	EY	-1.840	-13.830	18.370	-37.4710	-4.3700	-0.2160	200.000
27	PP	0.520	-0.590	20.390	2.9980	0.9010	-0.0190	200.000
27	DL	0.810	0.400	12.480	-0.3240	1.3230	0.0030	200.000
27	LR	0.330	-0.100	3.780	0.4540	0.5410	0.0020	200.000
27	G	0.600	-0.290	6.280	1.0460	0.9830	0.0030	200.000
27	EX	-5.790	-4.190	7.870	-11.3230	-14.1120	-0.1790	200.000
27	EY	-1.770	-13.830	18.270	-37.3820	-4.2590	-0.2190	200.000
33	PP	-0.240	-1.330	65.800	7.4870	-0.1640	-0.0360	300.000
33	DL	0.170	1.980	18.450	-2.1400	0.2980	0.0030	300.000
33	LR	-0.220	1.430	11.040	-1.3980	-0.3510	0.0020	300.000
33	G	-0.450	2.840	22.060	-2.7480	-0.7030	0.0040	300.000
33	EX	-14.600	-9.490	11.370	-31.0870	-40.5390	-1.0750	300.000
33	EY	-4.890	-26.790	11.330	-87.8590	-13.5230	-1.0160	300.000
35	PP	0.320	-3.550	67.520	11.4590	0.7400	-0.0590	300.000
35	DL	-0.010	2.750	23.790	-3.4170	0.0100	0.0060	300.000
35	LR	0.040	1.590	16.220	-1.6590	0.0780	0.0020	300.000
35	G	0.080	3.060	32.250	-3.1130	0.1510	0.0040	300.000
35	EX	-19.110	-8.080	3.690	-26.7120	-47.7810	-0.7700	300.000
35	EY	-6.350	-25.950	10.560	-85.8600	-15.8810	-0.8810	300.000
37	PP	0.220	-4.750	65.720	13.7930	0.5790	-0.0480	300.000
37	DL	0.020	4.030	26.150	-5.5150	0.0550	0.0100	300.000
37	LR	0.010	2.900	18.220	-3.7830	0.0180	0.0070	300.000
37	G	0.010	5.790	36.430	-7.5390	0.0290	0.0140	300.000
37	EX	-17.990	-7.930	3.320	-25.9970	-45.9640	-0.7180	300.000
37	EY	-6.000	-26.380	11.030	-86.5100	-15.3150	-0.8620	300.000
39	PP	0.350	-4.900	65.060	14.2960	0.7850	-0.0270	300.000
39	DL	0.090	4.070	25.830	-5.6780	0.1670	0.0170	300.000
39	LR	0.000	2.950	18.360	-3.9490	0.0080	0.0150	300.000
39	G	0.000	5.900	36.700	-7.8860	0.0120	0.0310	300.000
39	EX	-18.890	-8.480	3.870	-27.7270	-47.4200	-0.7370	300.000
39	EY	-6.290	-26.630	11.320	-87.0650	-15.7800	-0.8770	300.000
41	PP	-0.440	-1.890	70.960	9.6200	-0.4850	-0.0360	300.000
41	DL	-0.340	2.160	18.910	-2.7460	-0.5320	0.0190	300.000
41	LR	0.110	1.700	11.920	-2.0470	0.1930	0.0150	300.000
41	G	0.230	3.390	23.840	-4.0840	0.3820	0.0300	300.000
41	EX	-14.680	-10.080	11.810	-32.9030	-40.6750	-1.1380	300.000
41	EY	-4.900	-26.980	11.730	-88.1800	-13.5440	-1.0490	300.000

9.1.1.6. Esfuerzos sobre el suelo CD

Table: Soil Pressures - Enveloping Summary

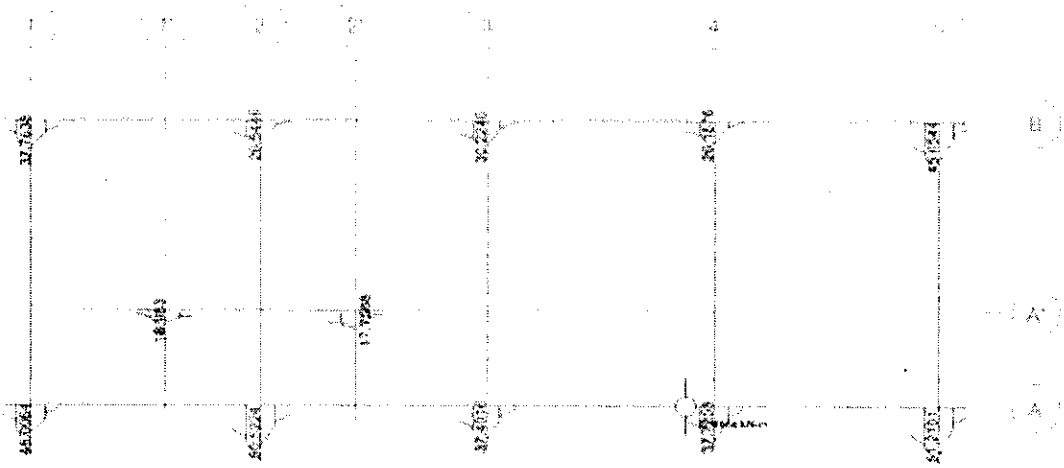
Panel	OutputItem	SurfPress kN/m2	OutputCase	CaseType	GlobalX m	GlobalY m
1	MaxPress	-26.32	Envol.-SRV	Combination	2.75000	2.55000
1	MinPress	-86.75	Envol.-SRV	Combination	0.37500	0.75000
2	MaxPress	-13.88	Envol.-SRV	Combination	2.75000	3.30000
2	MinPress	-73.09	Envol.-SRV	Combination	0.37500	7.32500
3	MaxPress	-32.14	Envol.-SRV	Combination	3.50000	2.55000
3	MinPress	-97.29	Envol.-SRV	Combination	5.62500	0.37500
4	MaxPress	-22.63	Envol.-SRV	Combination	3.50000	3.30000
4	MinPress	-75.24	Envol.-SRV	Combination	5.62500	7.70000
5	MaxPress	-30.98	Envol.-SRV	Combination	8.12500	2.55000
5	MinPress	-97.66	Envol.-SRV	Combination	6.37500	0.37500
6	MaxPress	-20.90	Envol.-SRV	Combination	8.12500	3.30000
6	MinPress	-75.24	Envol.-SRV	Combination	6.00000	7.70000
7	MaxPress	-24.29	Envol.-SRV	Combination	8.87500	2.55000
7	MinPress	-102.87	Envol.-SRV	Combination	11.25000	0.75000
8	MaxPress	-11.99	Envol.-SRV	Combination	8.87500	3.30000
8	MinPress	-84.09	Envol.-SRV	Combination	11.62500	7.32500
9	MaxPress	-44.92	Envol.-SRV	Combination	12.37500	0.37500
9	MinPress	-104.24	Envol.-SRV	Combination	17.25000	0.75000
10	MaxPress	-41.04	Envol.-SRV	Combination	12.37500	7.32500
10	MinPress	-85.51	Envol.-SRV	Combination	17.62500	7.32500
11	MaxPress	-37.56	Envol.-SRV	Combination	23.62500	0.37500
11	MinPress	-103.44	Envol.-SRV	Combination	18.00000	0.75000
12	MaxPress	-36.86	Envol.-SRV	Combination	23.62500	7.32500
12	MinPress	-85.58	Envol.-SRV	Combination	18.37500	7.32500

Table: Soil Pressures - Summary

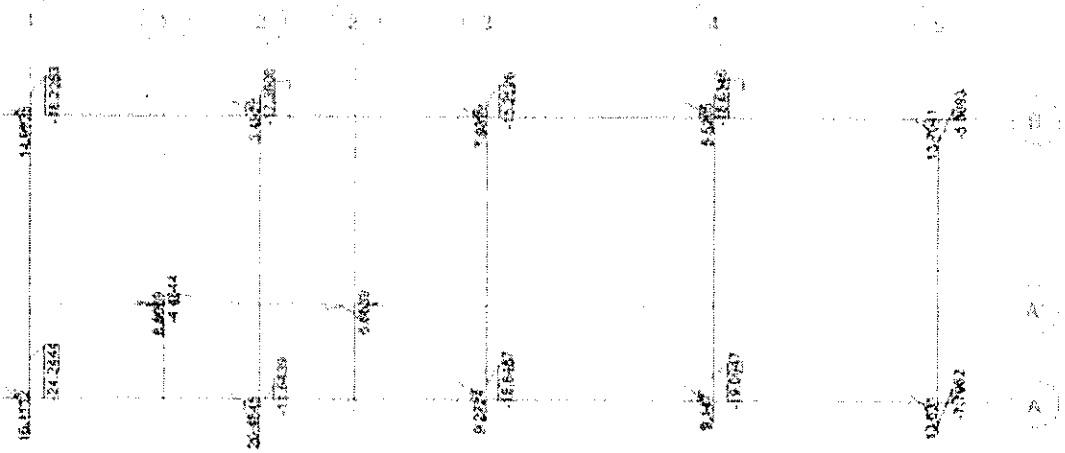
Panel	OutputCase	CaseType	MaxPress kN/m2	MinPress kN/m2	GlobalXMax m	GlobalYMax m	GlobalXMin m	GlobalYMin m
1	Envol.-SRV	Combination	-26.32	-86.75	2.75000	2.55000	0.37500	0.75000
2	Envol.-SRV	Combination	-13.88	-73.09	2.75000	3.30000	0.37500	7.32500
3	Envol.-SRV	Combination	-32.14	-97.29	3.50000	2.55000	5.62500	0.37500
4	Envol.-SRV	Combination	-22.63	-75.24	3.50000	3.30000	5.62500	7.70000
5	Envol.-SRV	Combination	-30.98	-97.66	8.12500	2.55000	6.37500	0.37500
6	Envol.-SRV	Combination	-20.90	-75.24	8.12500	3.30000	6.00000	7.70000
7	Envol.-SRV	Combination	-24.29	-102.87	8.87500	2.55000	11.25000	0.75000
8	Envol.-SRV	Combination	-11.99	-84.09	8.87500	3.30000	11.62500	7.32500
9	Envol.-SRV	Combination	-44.92	-104.24	12.37500	0.37500	17.25000	0.75000
10	Envol.-SRV	Combination	-41.04	-85.51	12.37500	7.32500	17.62500	7.32500
11	Envol.-SRV	Combination	-37.56	-103.44	23.62500	0.37500	18.00000	0.75000
12	Envol.-SRV	Combination	-36.86	-85.58	23.62500	7.32500	18.37500	7.32500

Capacidad admisible de suelo CD, $\square_{adm}$ = 150 kN/m² > Soil Pressures Max/Min => Ok

9.1.1.7. Resultados, diseño elementos

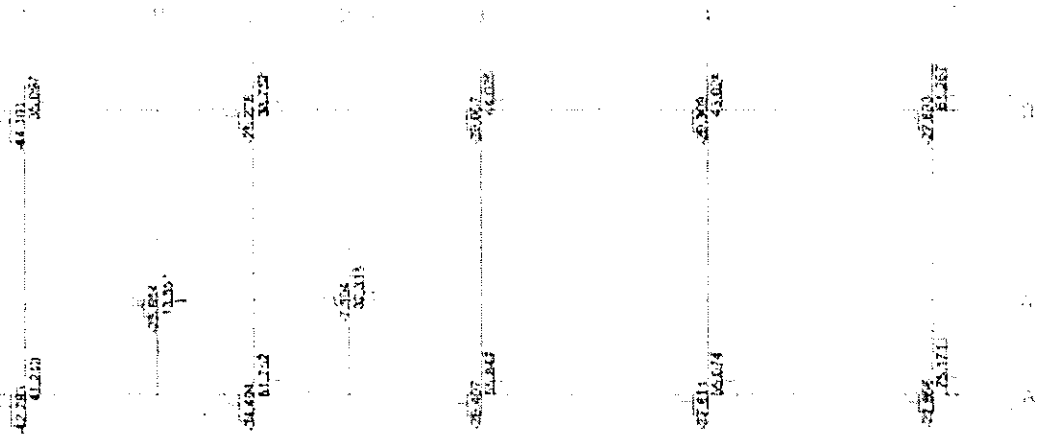


Zapatas - Strip A, Mmax (kN-m)

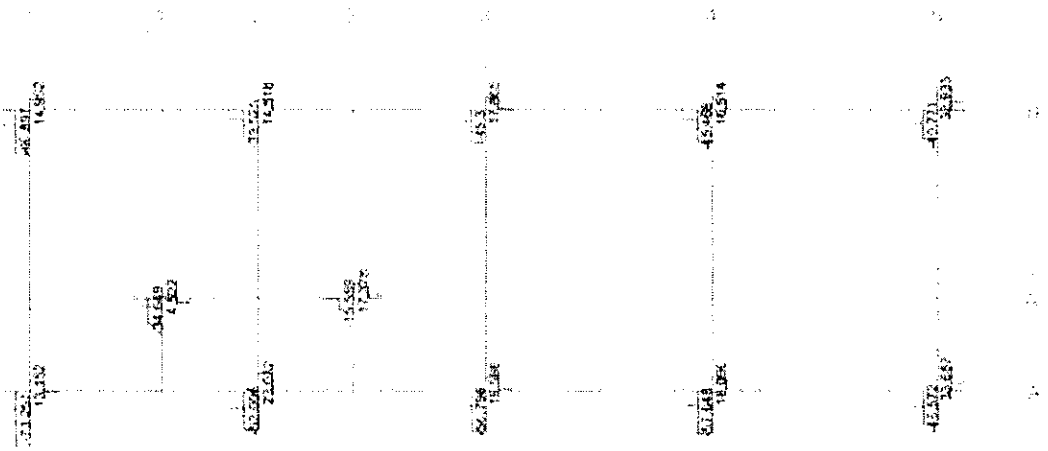


Zapatas - Strip A, Mmin (kN-m)

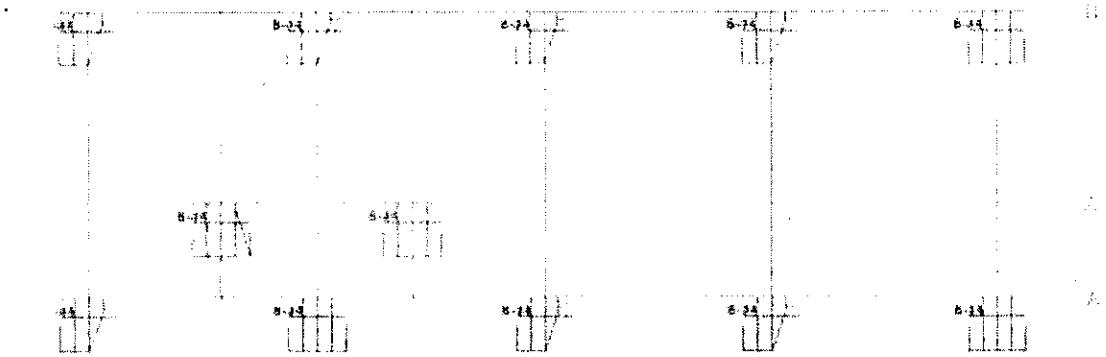
INGENIERIA ESTRUCTURAL S.A.S
Evaluamos el Pasado - Analizamos el Presente - Diseñamos el Futuro
Nit.900482474-1



Zapatas - Strip A, Vmax (kN)

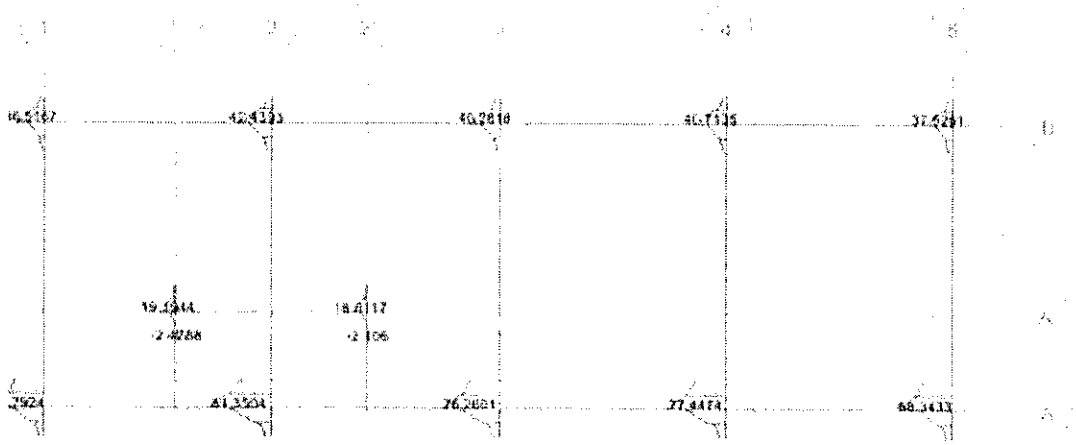


Zapatas - Strip A, Vmin (kN)

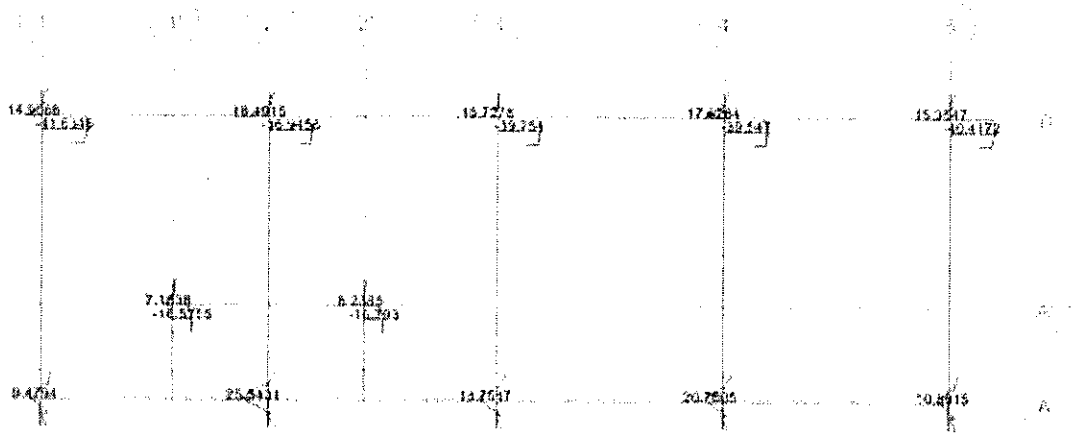


Zapatas SUELO AB - Strip A, Acero de Refuerzo

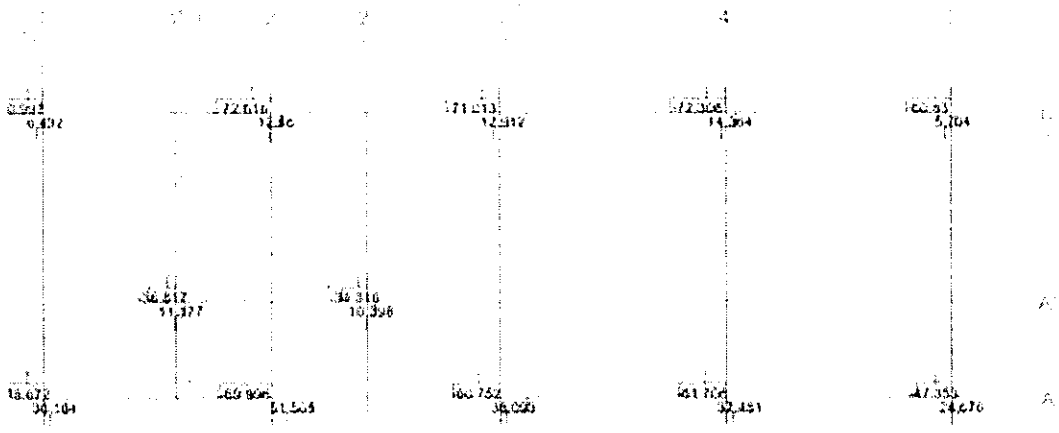
496



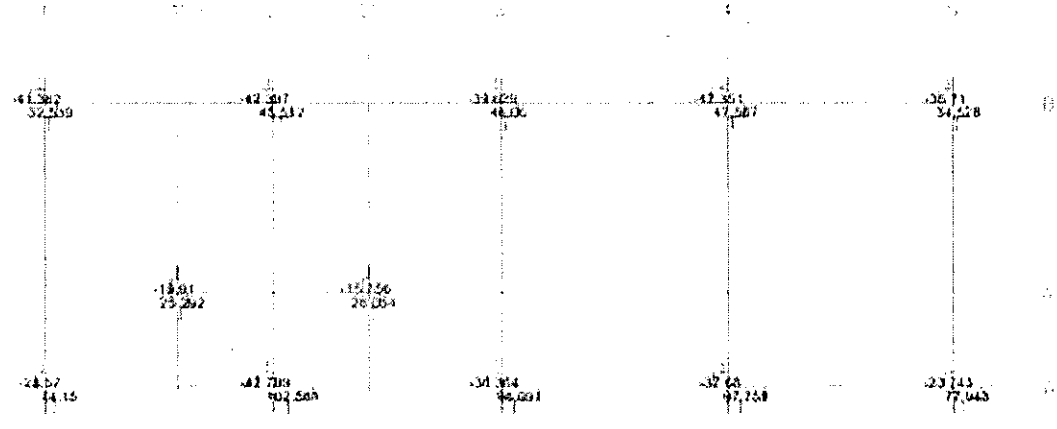
Zapatas - Strip B, Mmax (kN-m)



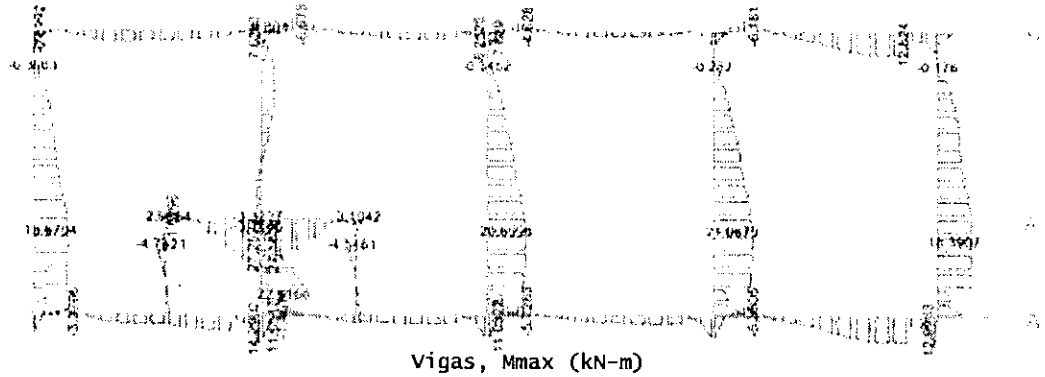
Zapatas - Strip B, Mmin (kN-m)



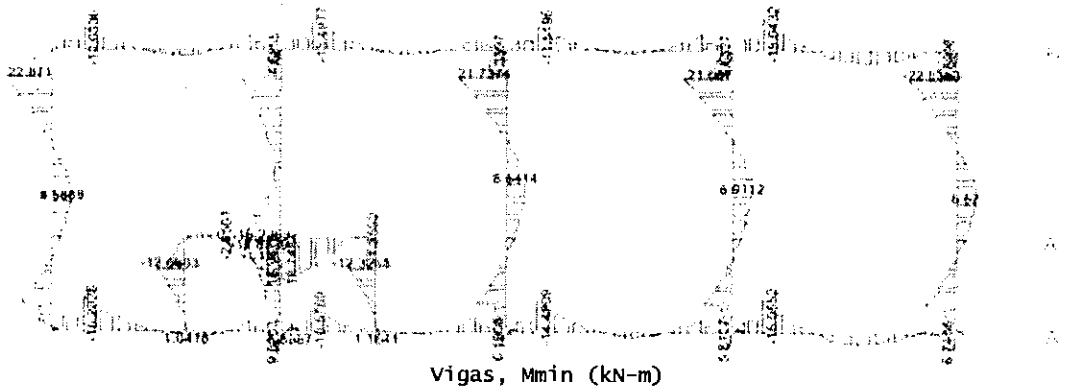
Zapatas - Strip B, Vmax (kN)



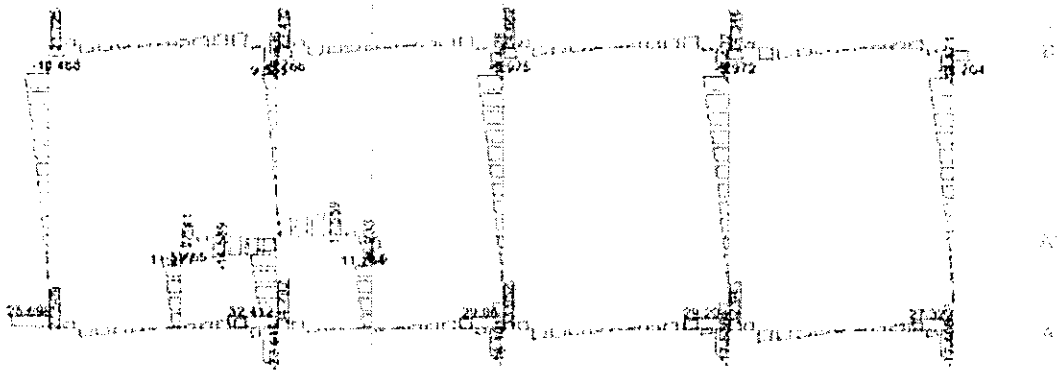
Zapatas - Strip B, Vmin (kN)



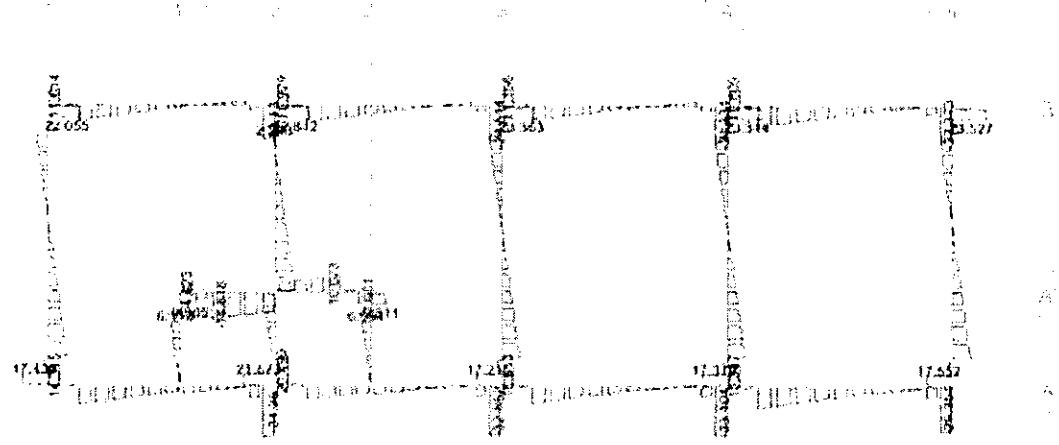
Vigas, Mmax (kN-m)



Vigas, Mmin (kN-m)

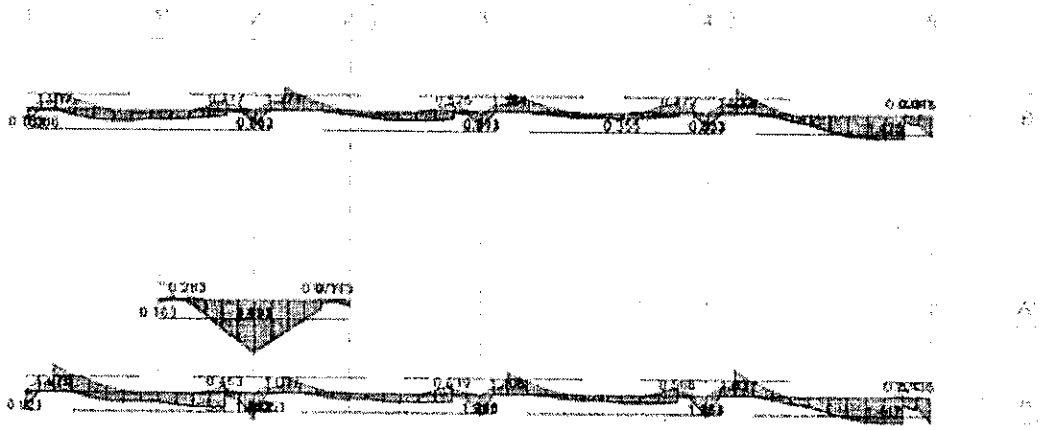


Vigas, Vmax (kN)

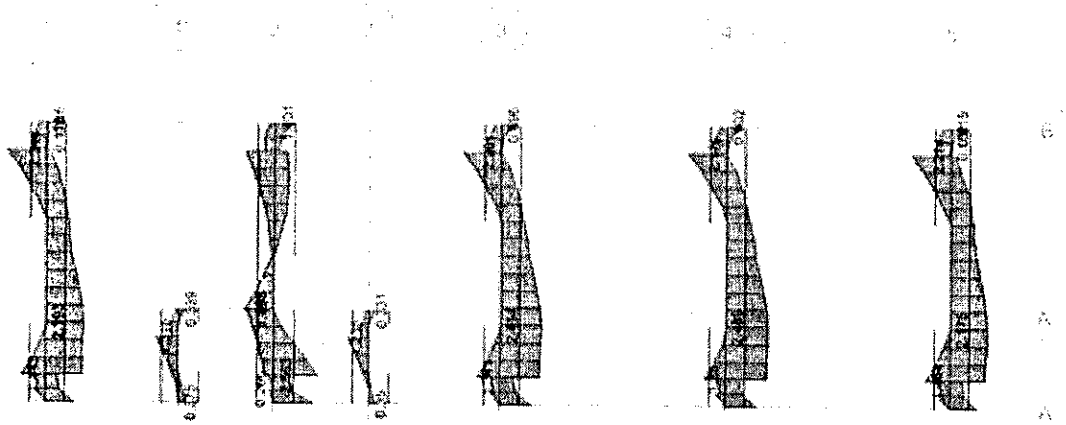


Vigas, Vmin (kN)

INGENIERIA ESTRUCTURAL S.A.S
Evaluamos el Pasado - Analizamos el Presente - Diseñamos el Futuro
Nit.900482474-1



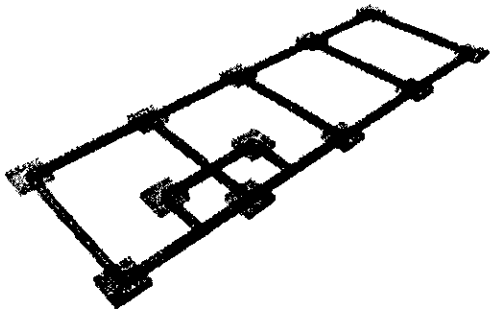
Vigas Long. Suelo AB, Acero de refuerzo a flexion (cm2)



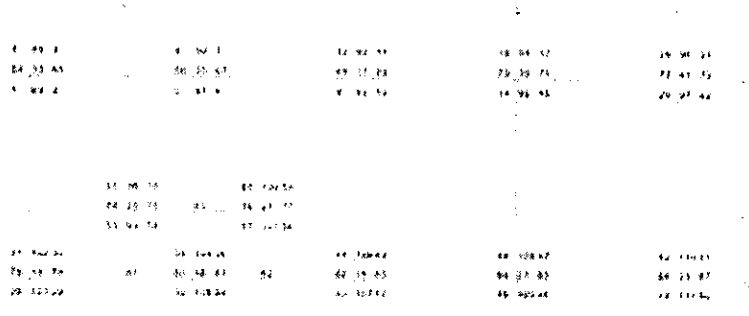
Vigas Transv. Suelo AB, Acero de refuerzo a flexion (cm2)

9.2.2. Suelo Tipo CD

9.2.2.1. Modelo Matemático



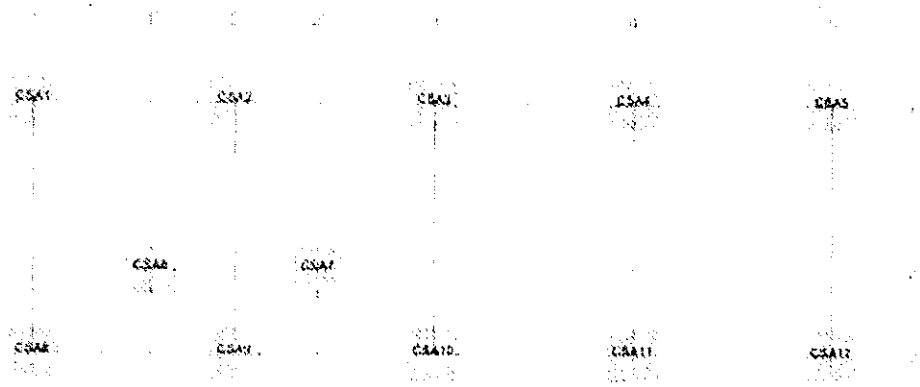
MODELO 3D_SAFE V12.3.2 - Planta Cimentación CD



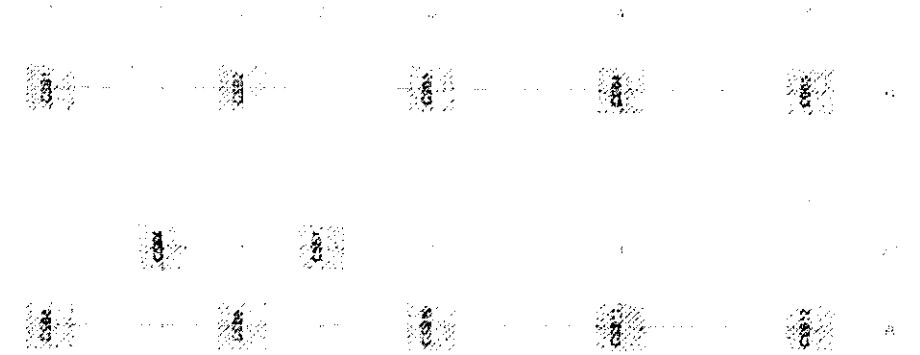
Numeración Nudos



Numeración Elementos



Identificación Strip A



Identificación Strip B

9.2.2.2. Coordenadas, asignaciones

SAFE v12.3.2 7/15/13 14:28:42

Table: Coordinate Systems

CoordSys	Type	OriginGx m	OriginGy m	RotAngle Degrees
GLOBAL	Cartesian	0.00	0.00	0.00

Table: Object Geometry - Areas 01 - General, Part 1 of 2

Area	NumPoints	Point1	Point2	Point3	Point4	Auto	TotalArea mm2	AreaType
1	4	1	2	3	4	No	2250000.00	Slab
2	4	5	6	7	8	No	2250000.00	Slab
3	4	9	10	11	12	No	2250000.00	Slab
4	4	14	15	17	18	No	2250000.00	Slab
5	4	20	22	24	26	No	2250000.00	Slab
6	4	28	29	30	31	No	2250000.00	Slab
7	4	32	34	36	38	No	2250000.00	Slab
8	4	40	42	43	44	No	2250000.00	Slab
9	4	45	46	47	48	No	2250000.00	Slab
10	4	49	50	51	52	No	2250000.00	Slab
11	4	53	54	55	56	No	2250000.00	Slab
12	4	57	58	59	60	No	2250000.00	Slab

Table: Object Geometry - Design Strips

Strip	Point	GlobalX m	GlobalY m	WBLeft m	WBRight m	WALeft m	WARight m
CSA1	64	-0.75000	7.70000			0.75000	0.75000
CSA1	65	0.75000	7.70000	0.75000	0.75000		
CSA2	66	5.25000	7.70000			0.75000	0.75000
CSA2	67	6.75000	7.70000	0.75000	0.75000		
CSA3	68	11.25000	7.70000			0.75000	0.75000
CSA3	69	12.75000	7.70000	0.75000	0.75000		
CSA4	70	17.25000	7.70000			0.75000	0.75000
CSA4	71	18.75000	7.70000	0.75000	0.75000		
CSA5	72	23.25000	7.70000			0.75000	0.75000
CSA5	73	24.75000	7.70000	0.75000	0.75000		
CSA6	74	2.75000	2.55000			0.75000	0.75000
CSA6	75	4.25000	2.55000	0.75000	0.75000		
CSA7	76	7.75000	2.55000			0.75000	0.75000
CSA7	77	9.25000	2.55000	0.75000	0.75000		
CSA8	78	-0.75000	0.00000			0.75000	0.75000
CSA8	79	0.75000	0.00000	0.75000	0.75000		
CSA9	80	5.25000	0.00000			0.75000	0.75000
CSA9	81	6.75000	0.00000	0.75000	0.75000		
CSB1	88	0.00000	8.45000			0.75000	0.75000
CSB1	89	0.00000	6.95000	0.75000	0.75000		
CSB2	90	6.00000	8.45000			0.75000	0.75000
CSB2	91	6.00000	6.95000	0.75000	0.75000		
CSB3	92	12.00000	8.45000			0.75000	0.75000
CSB3	93	12.00000	6.95000	0.75000	0.75000		
CSB4	94	18.00000	8.45000			0.75000	0.75000
CSB4	95	18.00000	6.95000	0.75000	0.75000		
CSB5	96	24.00000	8.45000			0.75000	0.75000
CSB5	97	24.00000	6.95000	0.75000	0.75000		
CSB6	98	3.50000	3.30000			0.75000	0.75000
CSB6	99	3.50000	1.80000	0.75000	0.75000		
CSB7	100	8.50000	3.30000			0.75000	0.75000
CSB7	101	8.50000	1.80000	0.75000	0.75000		
CSB8	102	0.00000	0.75000			0.75000	0.75000
CSB8	103	0.00000	-0.75000	0.75000	0.75000		
CSB9	104	6.00000	0.75000			0.75000	0.75000
CSB9	105	6.00000	-0.75000	0.75000	0.75000		
CSA10	82	11.25000	0.00000			0.75000	0.75000
CSA10	83	12.75000	0.00000	0.75000	0.75000		
CSA11	84	17.25000	0.00000			0.75000	0.75000
CSA11	85	18.75000	0.00000	0.75000	0.75000		
CSA12	86	23.25000	0.00000			0.75000	0.75000
CSA12	87	24.75000	0.00000	0.75000	0.75000		
CSB10	106	12.00000	0.75000			0.75000	0.75000
CSB10	107	12.00000	-0.75000	0.75000	0.75000		
CSB11	108	18.00000	0.75000			0.75000	0.75000
CSB11	109	18.00000	-0.75000	0.75000	0.75000		
CSB12	110	24.00000	0.75000			0.75000	0.75000
CSB12	111	24.00000	-0.75000	0.75000	0.75000		

Table: Beam Property Assignments

Line	BeamProp
1	VC30X40
2	VC30X40
3	VC30X40
4	VC30X40
6	VC30X40
7	VC30X40
8	VC30X40
9	VC30X40
10	VC30X40
11	VC30X40
12	VC30X40
13	VC30X40
14	VC30X40
15	VC30X40
16	VC30X40
17	VC30X40
18	VC30X40
19	VC30X40

Table: Slab Property Assignments

Area	SlabProp
1	Zapata 35 cm
2	Zapata 35 cm
3	Zapata 35 cm
4	Zapata 35 cm
5	Zapata 35 cm
6	Zapata 35 cm
7	Zapata 35 cm
8	Zapata 35 cm
9	Zapata 35 cm
10	Zapata 35 cm
11	Zapata 35 cm
12	Zapata 35 cm

Table: Soil Property Assignments

Area	SoilProp
1	Ks CD
2	Ks CD
3	Ks CD
4	Ks CD
5	Ks Co
6	Ks CD
7	Ks CD
8	KS CD
9	Ks CD
10	Ks CD
11	Ks CD
12	Ks CD

9.2.2.3. Cargas, asignación de cargas SUELO CD

Table: Load Assignments - Point Loads, Part 1 of 2

Point	LoadPat	Fx kN	Fy kN	Fgrav kN	Mx kN-m	My kN-m	Mz kN-m	xDim mm
13	PP	-1.880	0.820	85.980	4.0530	-2.9010	-0.0610	300.000
13	DL	-0.550	-2.400	22.910	4.8590	-0.8370	0.0080	300.000
13	LR	-0.360	-1.860	13.250	3.8670	-0.5440	0.0030	300.000
13	G	-0.670	-3.730	26.380	7.7400	-1.0230	0.0070	300.000
13	EX	-12.650	-7.080	7.710	-22.1730	-34.3210	-0.6220	300.000
13	EY	-3.880	-19.480	10.700	-61.8480	-10.4130	-0.6400	300.000
16	PP	0.330	1.600	121.000	0.0540	0.6660	-0.0680	300.000
16	DL	0.130	-2.930	41.440	5.6620	0.2660	0.0110	300.000
16	LR	0.090	-0.870	15.080	2.2610	0.1840	0.0050	300.000
16	G	0.190	-1.420	26.800	4.0320	0.3630	0.0110	300.000
16	EX	-16.120	-6.630	8.730	-19.9820	-39.9790	-0.4670	300.000
16	EY	-4.890	-21.420	25.780	-64.5090	-12.1260	-0.5740	300.000
19	PP	0.450	5.870	95.720	-3.1580	0.8580	-0.0550	300.000
19	DL	0.200	-4.120	33.530	7.4930	0.3770	0.0150	300.000
19	LR	0.040	-2.880	21.830	5.4430	0.0900	0.0110	300.000
19	G	0.040	-5.760	43.490	10.8870	0.1270	0.0220	300.000
19	EX	-15.220	-5.730	3.350	-18.2530	-38.5340	-0.4620	300.000
19	EY	-4.680	-19.090	11.170	-60.7540	-11.7490	-0.5720	300.000
21	PP	-0.020	6.250	95.670	-3.5020	0.0850	-0.0250	300.000
21	DL	0.000	-4.110	33.020	7.3740	0.0470	0.0130	300.000
21	LR	-0.010	-2.890	22.190	5.3780	0.0110	0.0110	300.000
21	G	-0.020	-5.790	44.390	10.7650	0.0260	0.0230	300.000
21	EX	-15.770	-5.760	3.750	-18.8770	-39.3990	-0.5390	300.000
21	EY	-4.770	-18.240	7.230	-59.5140	-11.9210	-0.6090	300.000
23	PP	0.780	0.630	92.340	5.6050	1.3790	-0.0130	300.000
23	DL	0.250	-2.270	22.700	4.3460	0.4600	0.0070	300.000
23	LR	0.280	-1.910	14.220	3.7200	0.4840	0.0070	300.000
23	G	0.560	-3.830	28.420	7.4370	0.9640	0.0150	300.000
23	EX	-12.680	-7.170	7.290	-22.9290	-34.3380	-0.6730	300.000
23	EY	-3.840	-18.410	8.080	-60.1460	-10.3980	-0.6720	300.000
25	PP	-0.390	-0.170	21.560	2.2020	-0.5900	-0.0170	200.000
25	DL	-0.780	0.440	12.560	-0.3690	-1.2530	0.0020	200.000
25	LR	-0.310	-0.060	3.880	0.3940	-0.4980	0.0010	200.000
25	G	-0.560	-0.200	6.460	0.9310	-0.9010	0.0020	200.000
25	EX	-4.030	-2.990	6.230	-8.1580	-9.7400	-0.1180	200.000
25	EY	-1.250	-9.420	12.520	-25.5240	-2.9770	-0.1470	200.000
27	PP	0.520	-0.590	20.390	2.9980	0.9010	-0.0190	200.000
27	DL	0.810	0.400	12.480	-0.3240	1.3230	0.0030	200.000
27	LR	0.330	-0.100	3.780	0.4540	0.5410	0.0020	200.000
27	G	0.600	-0.290	6.280	1.0460	0.9830	0.0030	200.000
27	EX	-3.950	-2.850	5.360	-7.7130	-9.6130	-0.1220	200.000
27	EY	-1.210	-9.420	12.450	-25.4630	-2.9010	-0.1490	200.000
33	PP	-0.240	-1.330	65.800	7.4870	-0.1640	-0.0360	300.000
33	DL	0.170	1.980	18.450	-2.1400	0.2980	0.0030	300.000
33	LR	-0.220	1.430	11.040	-1.3980	-0.3510	0.0020	300.000
33	G	-0.450	2.840	22.060	-2.7480	-0.7030	0.0040	300.000
33	EX	-9.950	-6.470	7.740	-21.1750	-27.6140	-0.7320	300.000
33	EY	-3.330	-18.250	7.720	-59.8460	-9.2110	-0.6920	300.000
35	PP	0.320	-3.550	67.520	11.4590	0.7400	-0.0590	300.000
35	DL	-0.010	2.750	23.790	-3.4170	0.0100	0.0060	300.000

Table: Load Assignments - Point Loads, Part 1 of 2

Point	LoadPat	Fx kN	Fy kN	Fgrav kN	Mx kN-m	My kN-m	Mz kN-m	XDim mm
35	LR	0.040	1.590	16.220	-1.6590	0.0780	0.0020	300.000
35	G	0.080	3.060	32.250	-3.1130	0.1510	0.0040	300.000
35	EX	-13.020	-5.500	2.510	-18.1950	-32.5470	-0.5250	300.000
35	EY	-4.320	-17.680	7.190	-58.4840	-10.8170	-0.6000	300.000
37	PP	0.220	-4.750	65.720	13.7930	0.5790	-0.0480	300.000
37	DL	0.020	4.030	26.150	-5.5150	0.0550	0.0100	300.000
37	LR	0.010	2.900	18.220	-3.7830	0.0180	0.0070	300.000
37	G	0.010	5.790	36.430	-7.5390	0.0290	0.0140	300.000
37	EX	-12.260	-5.400	2.260	-17.7080	-31.3090	-0.4890	300.000
37	EY	-4.090	-17.970	7.510	-58.9270	-10.4320	-0.5870	300.000
39	PP	0.350	-4.900	65.060	14.2960	0.7850	-0.0270	300.000
39	DL	0.090	4.070	25.830	-5.6780	0.1670	0.0170	300.000
39	LR	0.000	2.950	18.360	-3.9490	0.0080	0.0150	300.000
39	G	0.000	5.900	36.700	-7.8860	0.0120	0.0310	300.000
39	EX	-12.860	-5.780	2.630	-18.8860	-32.3000	-0.5020	300.000
39	EY	-4.280	-18.140	7.710	-59.3050	-10.7480	-0.5980	300.000
41	PP	-0.440	-1.890	70.960	9.6200	-0.4850	-0.0360	300.000
41	DL	-0.340	2.160	18.910	-2.7460	-0.5320	0.0190	300.000
41	LR	0.110	1.700	11.920	-2.0470	0.1930	0.0150	300.000
41	G	0.230	3.390	23.840	-4.0840	0.3820	0.0300	300.000
41	EX	-10.000	-6.870	8.050	-22.4120	-27.7060	-0.7750	300.000
41	EY	-3.340	-18.380	7.990	-60.0640	-9.2260	-0.7140	300.000

9.2.2.4. Esfuerzos sobre el suelo CD

Table: Soil Pressures - Enveloping Summary

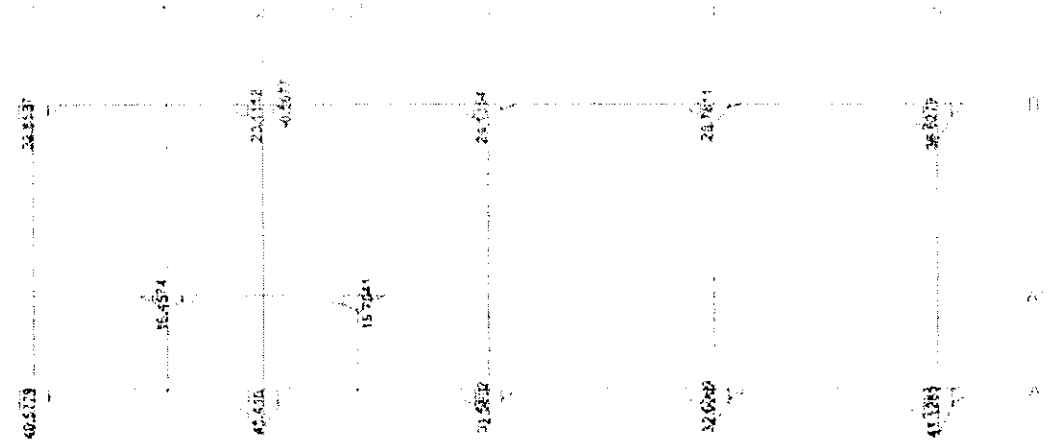
Panel	OutputItem	SurfPress kN/m2	OutputCase	CaseType	GlobalX m	GlobalY m
1	MaxPress	-23.07	Envol.-SRV	Combination	2.75000	2.55000
1	MinPress	-84.85	Envol.-SRV	Combination	0.37500	0.75000
2	MaxPress	-13.88	Envol.-SRV	Combination	2.75000	3.30000
2	MinPress	-73.09	Envol.-SRV	Combination	0.37500	7.32500
3	MaxPress	-28.71	Envol.-SRV	Combination	3.50000	2.55000
3	MinPress	-97.29	Envol.-SRV	Combination	5.62500	0.37500
4	MaxPress	-22.63	Envol.-SRV	Combination	3.50000	3.30000
4	MinPress	-73.11	Envol.-SRV	Combination	5.62500	7.70000
5	MaxPress	-27.83	Envol.-SRV	Combination	8.12500	2.55000
5	MinPress	-97.66	Envol.-SRV	Combination	6.37500	0.37500
6	MaxPress	-20.90	Envol.-SRV	Combination	8.12500	3.30000
6	MinPress	-73.11	Envol.-SRV	Combination	6.00000	7.70000
7	MaxPress	-21.59	Envol.-SRV	Combination	8.87500	2.55000
7	MinPress	-100.63	Envol.-SRV	Combination	11.62500	0.75000
8	MaxPress	-11.99	Envol.-SRV	Combination	8.87500	3.30000
8	MinPress	-84.09	Envol.-SRV	Combination	11.62500	7.32500
9	MaxPress	-45.67	Envol.-SRV	Combination	12.37500	0.37500
9	MinPress	-101.81	Envol.-SRV	Combination	17.25000	0.75000
10	MaxPress	-41.78	Envol.-SRV	Combination	12.37500	7.32500
10	MinPress	-85.51	Envol.-SRV	Combination	17.62500	7.32500
11	MaxPress	-38.71	Envol.-SRV	Combination	23.62500	0.37500
11	MinPress	-101.28	Envol.-SRV	Combination	18.00000	0.75000
12	MaxPress	-37.65	Envol.-SRV	Combination	23.62500	7.32500
12	MinPress	-85.58	Envol.-SRV	Combination	18.37500	7.32500

Table: Soil Pressures - Summary

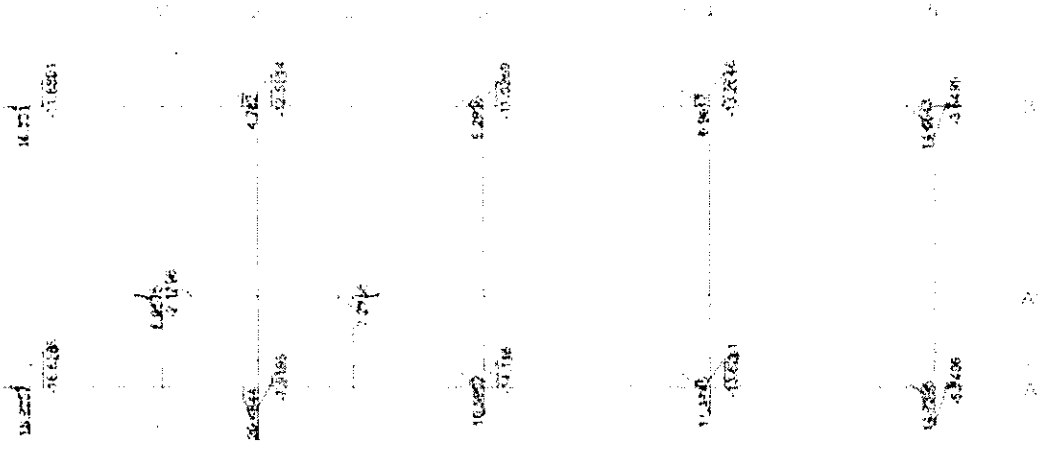
Panel	OutputCase	CaseType	MaxPress kN/m2	MinPress kN/m2	GlobalXMax m	GlobalYMax m	GlobalXMin m	GlobalYMin m
1	Envol.-SRV	Combination	-23.07	-84.85	2.75000	2.55000	0.37500	0.75000
2	Envol.-SRV	Combination	-13.88	-73.09	2.75000	3.30000	0.37500	7.32500
3	Envol.-SRV	Combination	-28.71	-97.29	3.50000	2.55000	5.62500	0.37500
4	Envol.-SRV	Combination	-22.63	-73.11	3.50000	3.30000	5.62500	7.70000
5	Envol.-SRV	Combination	-27.83	-97.66	8.12500	2.55000	6.37500	0.37500
6	Envol.-SRV	Combination	-20.90	-73.11	8.12500	3.30000	6.00000	7.70000
7	Envol.-SRV	Combination	-21.59	-100.63	8.87500	2.55000	11.62500	0.75000
8	Envol.-SRV	Combination	-11.99	-84.09	8.87500	3.30000	11.62500	7.32500
9	Envol.-SRV	Combination	-45.67	-101.81	12.37500	0.37500	17.25000	0.75000
10	Envol.-SRV	Combination	-41.78	-85.51	12.37500	7.32500	17.62500	7.32500
11	Envol.-SRV	Combination	-38.71	-101.28	23.62500	0.37500	18.00000	0.75000
12	Envol.-SRV	Combination	-37.65	-85.58	23.62500	7.32500	18.37500	7.32500

Capacidad admisible de suelo AB, $\square_{adm}$ = 150 kN/m² > Soil Pressures Max/Min => Ok

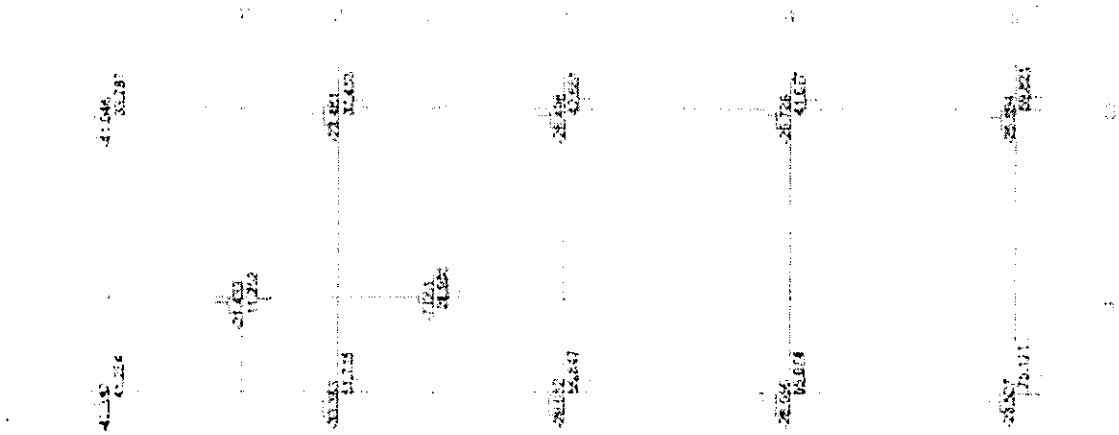
9.2.2.5. Resultados, diseño elementos



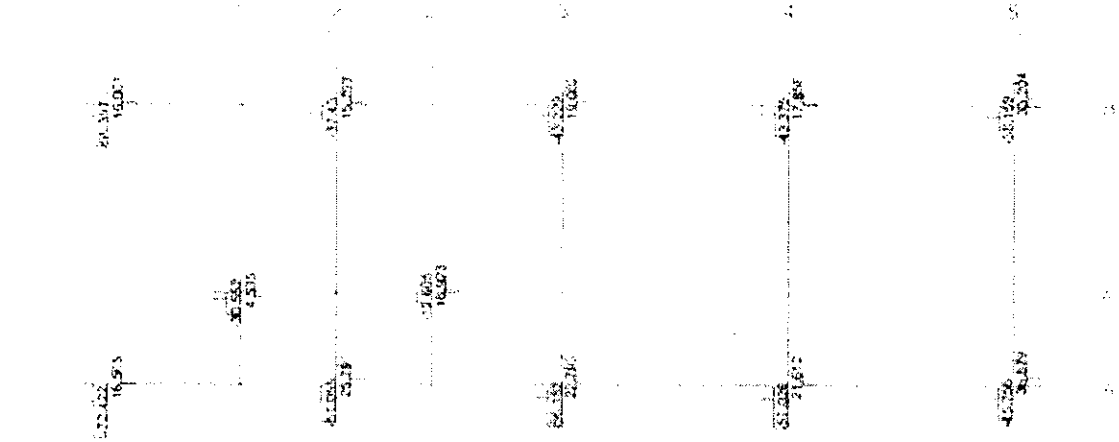
Zapatas - Strip A, Mmax (kN-m)



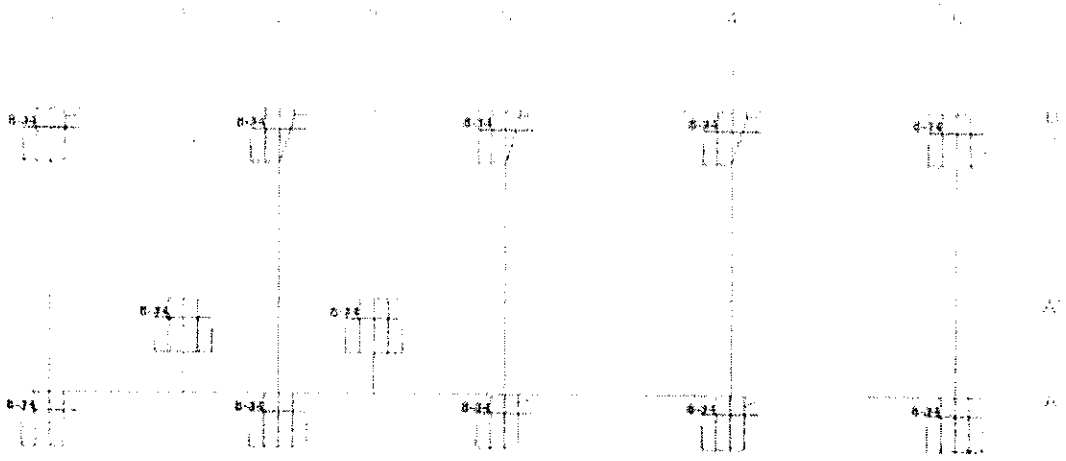
Zapatas - Strip A, Mmin (kN-m)



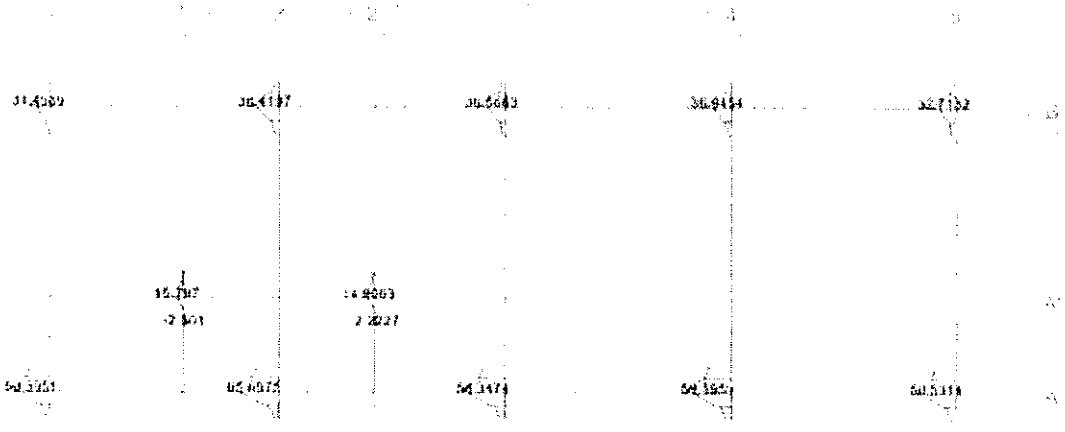
Zapatas - Strip A, Vmax (kN)



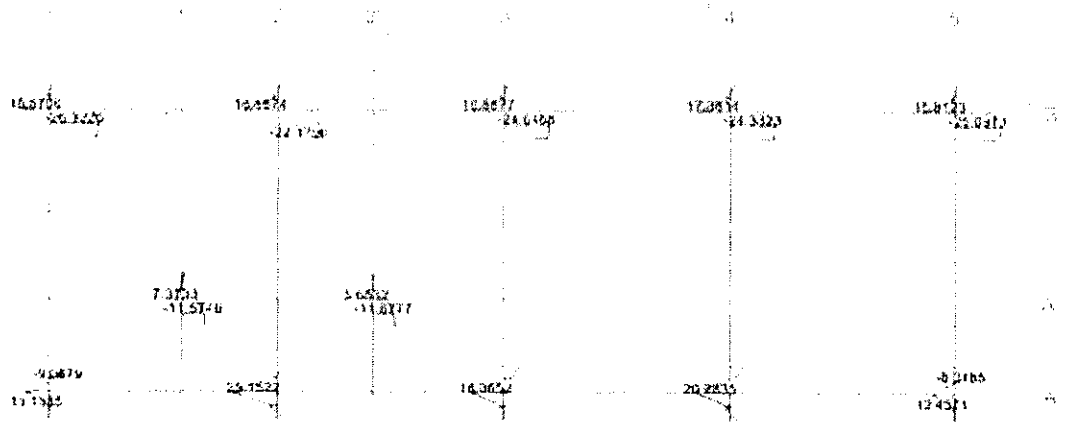
Zapatas - Strip A, Vmin (kN)



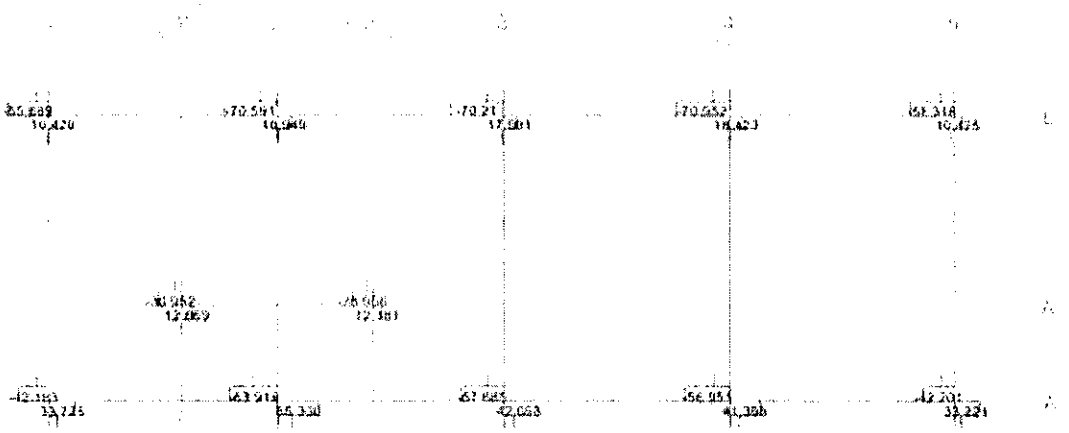
Zapatas SUELO CD - Strip A, Acero de Refuerzo



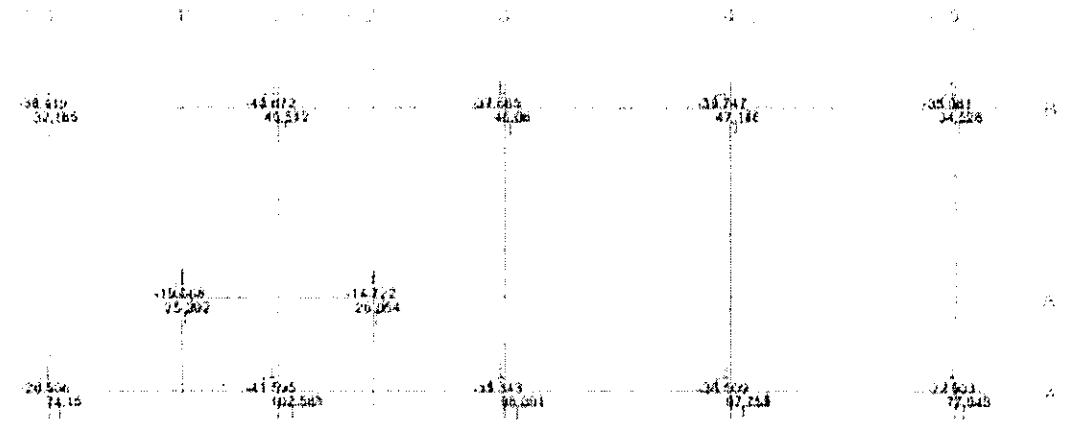
Zapatas - Strip B, Mmax (kN-m)



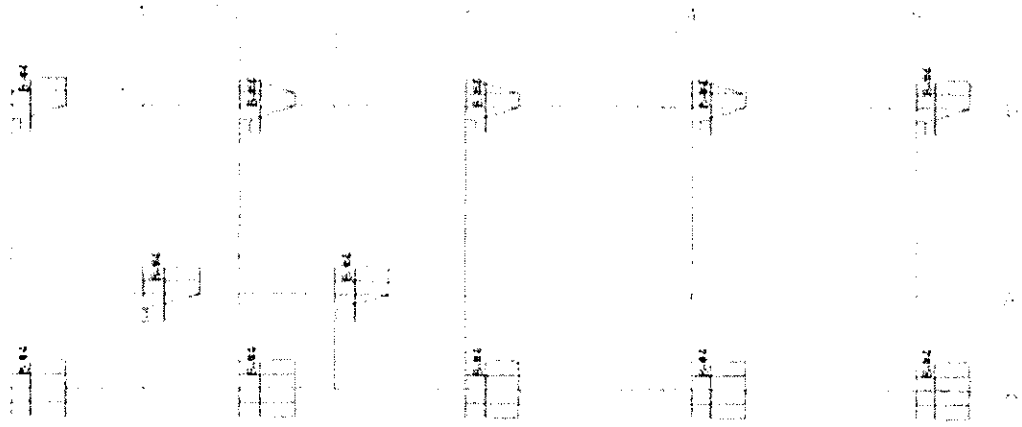
Zapatas - Strip B, Mmin (kN-m)



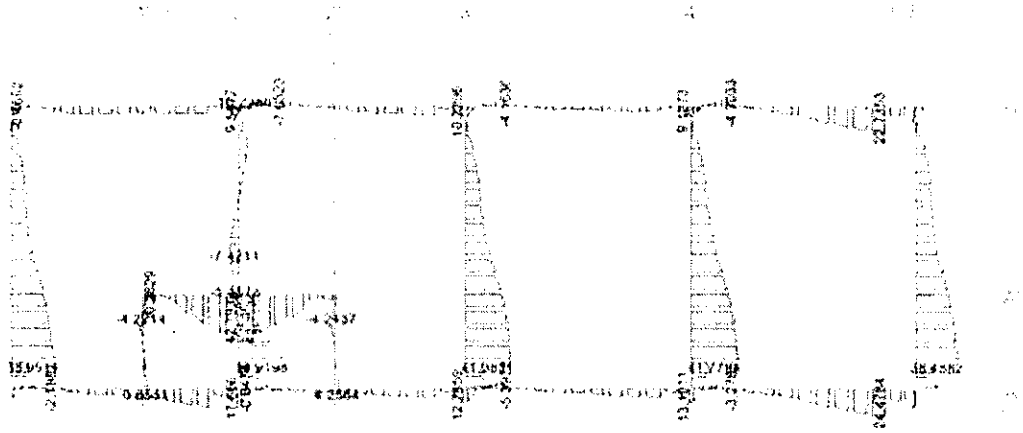
Zapatas - Strip B, Vmax (kN)



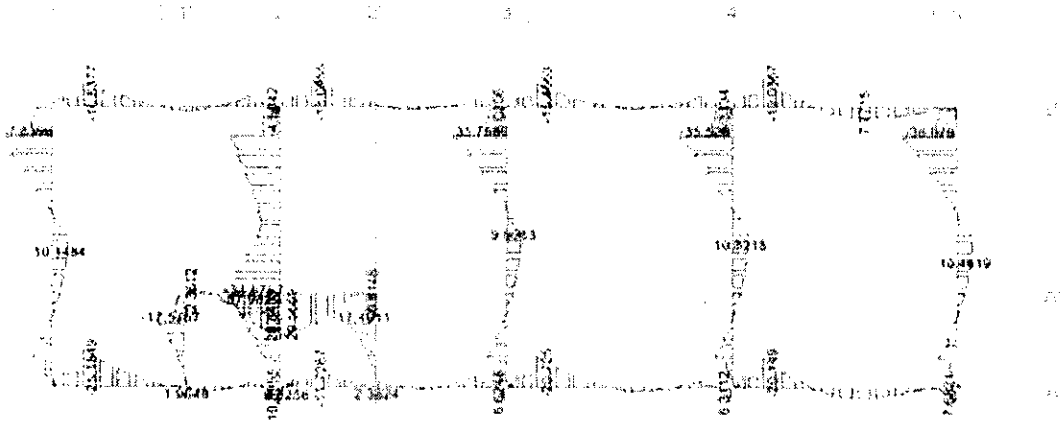
Zapatas - Strip B, Vmin (kN)



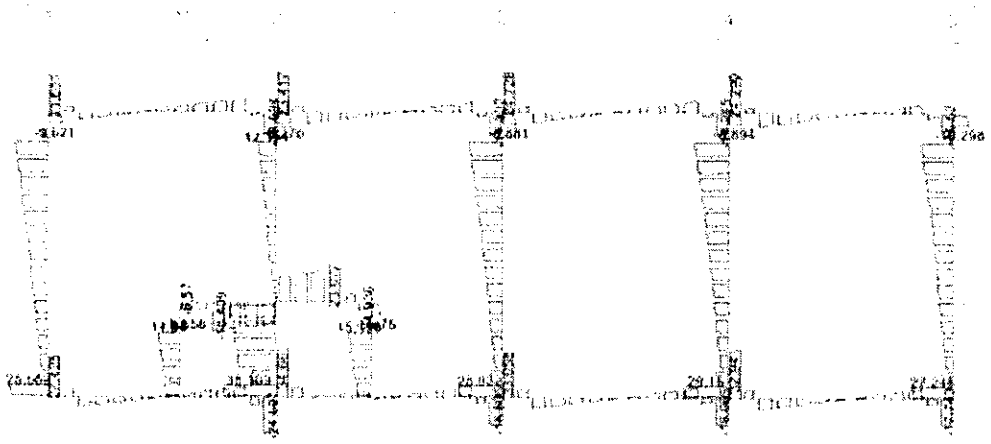
Zapatas SUELO CD - Strip B, Acero de Refuerzo



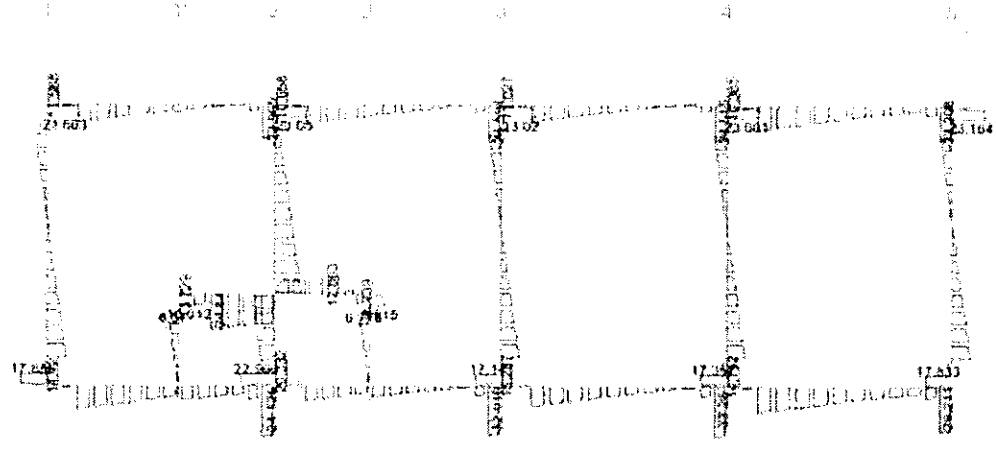
Vigas, Mmax (kN-m)



Vigas, Mmin (kN-m)

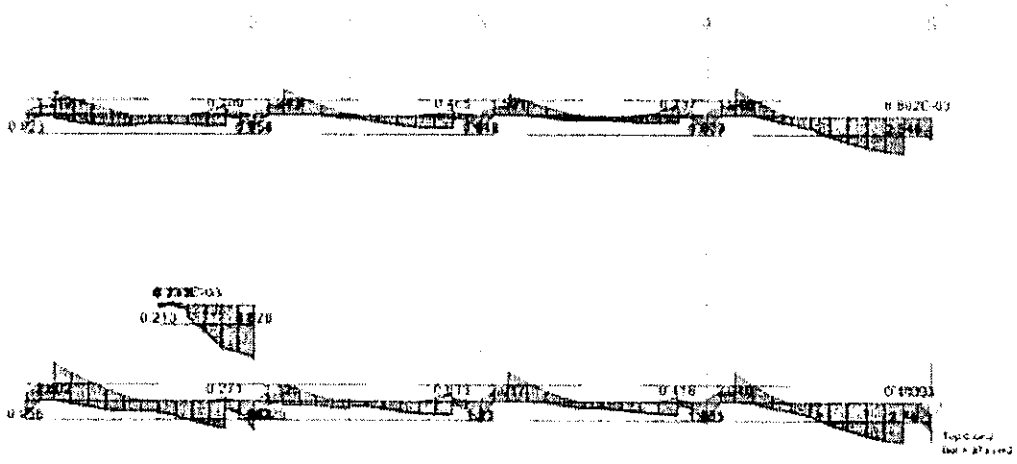


Vigas, Vmax (kN)

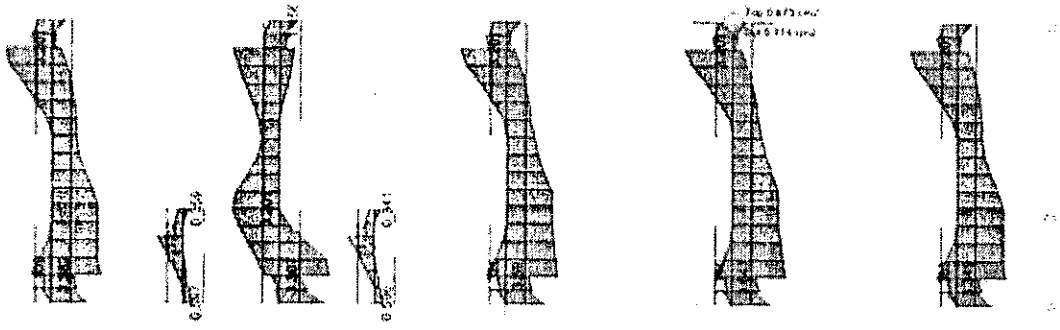


Vigas, Vmin (kN)

INGENIERIA ESTRUCTURAL S.A.S
Evaluamos el Pasado - Analizamos el Presente - Diseñamos el Futuro
Nit.900482474-1



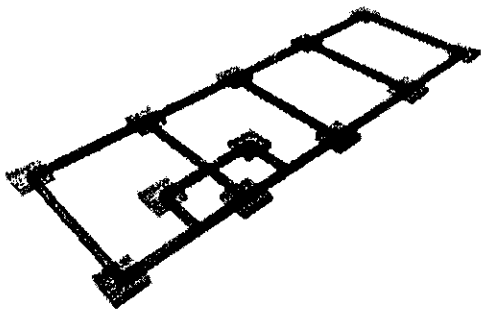
Vigas Long. Suelo CD, Acero de refuerzo a flexion (cm2)



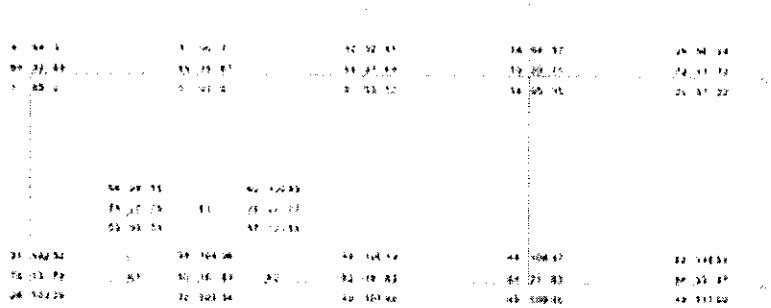
Vigas Transv. Suelo CD, Acero de refuerzo a flexion (cm2)

9.2.3. Suelo Tipo E

9.2.3.1. Modelo Matemático



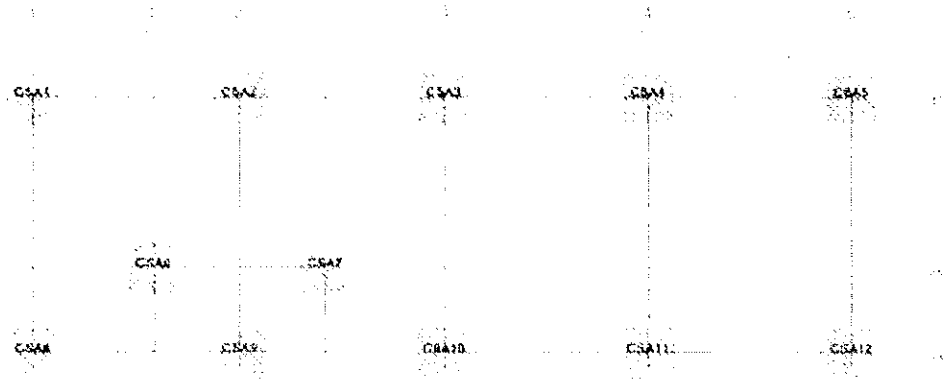
MODELO 3D_SAFE V12.3.2 - Planta Cimentación CD



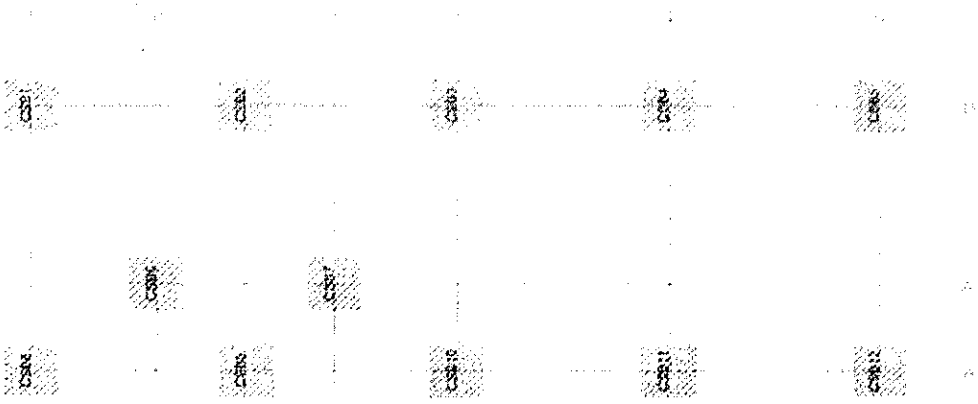
Numeración Nudos



Numeración Elementos



Identificación Strip A



Identificación Strip B

9.2.3.2. Coordenadas, asignaciones

SAFE v12.3.2 7/15/13 14:47:39

Table: Coordinate Systems

CoordSys	Type	OriginGX m	OriginGy m	RotAngle Degrees
GLOBAL	Cartesian	0.00	0.00	0.00

Table: Object Geometry - Areas 01 - General, Part 1 of 2

Area	NumPoints	Point1	Point2	Point3	Point4	Auto	TotalArea mm2	AreaType
1	4	1	2	3	4	No	2250000.00	Slab
2	4	5	6	7	8	No	2250000.00	Slab
3	4	9	10	11	12	No	2250000.00	Slab
4	4	14	15	17	18	No	2250000.00	Slab
5	4	20	22	24	26	No	2250000.00	Slab
6	4	28	29	30	31	No	2250000.00	Slab
7	4	32	34	36	38	No	2560000.00	Slab
8	4	40	42	43	44	No	2560000.00	Slab
9	4	45	46	47	48	No	2560000.00	Slab
10	4	49	50	51	52	No	2250000.00	Slab
11	4	53	54	55	56	No	2250000.00	Slab
12	4	57	58	59	60	No	2250000.00	Slab

Table: Object Geometry - Design Strips

Strip	Point	GlobalX m	GlobalY m	WBLeft m	WBRight m	WALeft m	WARight m
CSA1	64	-0.75000	7.70000			0.75000	0.75000
CSA1	65	0.75000	7.70000	0.75000	0.75000		
CSA2	66	5.25000	7.70000			0.75000	0.75000
CSA2	67	6.75000	7.70000	0.75000	0.75000		
CSA3	68	11.25000	7.70000			0.75000	0.75000
CSA3	69	12.75000	7.70000	0.75000	0.75000		
CSA4	70	17.25000	7.70000			0.75000	0.75000
CSA4	71	18.75000	7.70000	0.75000	0.75000		
CSA5	72	23.25000	7.70000			0.75000	0.75000
CSA5	73	24.75000	7.70000	0.75000	0.75000		
CSA6	74	2.75000	2.55000			0.75000	0.75000
CSA6	75	4.25000	2.55000	0.75000	0.75000		
CSA7	76	7.75000	2.55000			0.75000	0.75000
CSA7	77	9.25000	2.55000	0.75000	0.75000		
CSA8	78	-0.75000	0.00000			0.75000	0.75000
CSA8	79	0.75000	0.00000	0.75000	0.75000		
CSA9	80	5.20000	0.00000			0.80000	0.80000
CSA9	81	6.80000	0.00000	0.80000	0.80000		
CSB1	88	0.00000	8.45000			0.75000	0.75000
CSB1	89	0.00000	6.95000	0.75000	0.75000		
CSB2	90	6.00000	8.45000			0.75000	0.75000
CSB2	91	6.00000	6.95000	0.75000	0.75000		
CSB3	92	12.00000	8.45000			0.75000	0.75000
CSB3	93	12.00000	6.95000	0.75000	0.75000		
CSB4	94	18.00000	8.45000			0.75000	0.75000
CSB4	95	18.00000	6.95000	0.75000	0.75000		
CSB5	96	24.00000	8.45000			0.75000	0.75000
CSB5	97	24.00000	6.95000	0.75000	0.75000		
CSB6	98	3.50000	3.30000			0.75000	0.75000
CSB6	99	3.50000	1.80000	0.75000	0.75000		
CSB7	100	8.50000	3.30000			0.75000	0.75000
CSB7	101	8.50000	1.80000	0.75000	0.75000		
CSB8	102	0.00000	0.75000			0.75000	0.75000
CSB8	103	0.00000	-0.75000	0.75000	0.75000		
CSB9	104	6.00000	0.80000			0.80000	0.80000
CSB9	105	6.00000	-0.80000	0.80000	0.80000		
CSA10	82	11.20000	0.00000			0.80000	0.80000
CSA10	83	12.80000	0.00000	0.80000	0.80000		
CSA11	84	17.20000	0.00000			0.80000	0.80000
CSA11	85	18.80000	0.00000	0.80000	0.80000		
CSA12	86	23.25000	0.00000			0.75000	0.75000
CSA12	87	24.75000	0.00000	0.75000	0.75000		
CSB10	106	12.00000	0.80000			0.80000	0.80000
CSB10	107	12.00000	-0.80000	0.80000	0.80000		
CSB11	108	18.00000	0.80000			0.80000	0.80000
CSB11	109	18.00000	-0.80000	0.80000	0.80000		
CSB12	110	24.00000	0.75000			0.75000	0.75000
CSB12	111	24.00000	-0.75000	0.75000	0.75000		

Table: Slab Property Assignments

Area	SlabProp
1	Zapata 35 cm
2	Zapata 35 cm
3	Zapata 35 cm
4	Zapata 35 cm
5	Zapata 35 cm
6	Zapata 35 cm
7	Zapata 35 cm
8	Zapata 35 cm
9	Zapata 35 cm
10	Zapata 35 cm
11	Zapata 35 cm
12	Zapata 35 cm

Table: Beam Property Assignments

Line	BeamProp
1	VC30X40
2	VC30X40
3	VC30X40
4	VC30X40
6	VC30X40
7	VC30X40
8	VC30X40
9	VC30X40
10	VC30X40
11	VC30X40
12	VC30X40
13	VC30X40
14	VC30X40
15	VC30X40
16	VC30X40
17	VC30X40
18	VC30X40
19	VC30X40

Table: Soil Property Assignments

Area	SoilProp
1	Ks E
2	Ks E
3	Ks E
4	Ks E
5	Ks E
6	Ks E
7	Ks E
8	Ks E
9	Ks E
10	Ks E
11	Ks E
12	Ks E

9.2.3.3. Cargas, asignación de cargas SUELO E

Table: Load Assignments - Point Loads, Part 1 of 2

Point	LoadPat	Fx kN	Fy kN	Fgrav kN	Mx kN-m	My kN-m	Mz kN-m	xOim mm
13	PP	-1.880	0.820	85.980	4.0530	-2.9010	-0.0610	300.000
13	DL	-0.550	-2.400	22.910	4.8590	-0.8370	0.0080	300.000
13	LR	-0.360	-1.860	13.250	3.8670	-0.5440	0.0030	300.000
13	G	-0.670	-3.710	26.380	7.7400	-1.0230	0.0070	300.000
13	EX	-19.740	-10.960	12.000	-34.3220	-53.5510	-0.9690	300.000
13	EY	-6.060	-30.040	16.510	-95.4070	-16.2430	-0.9880	300.000
16	PP	0.330	3.600	121.000	0.0540	0.6660	-0.0680	300.000
16	DL	0.130	-2.930	41.440	5.6620	0.2660	0.0110	300.000
16	LR	0.090	-0.870	15.080	2.2610	0.1840	0.0050	300.000
16	G	0.190	-1.420	26.800	4.0320	0.3630	0.0110	300.000
16	EX	-25.150	-10.200	13.490	-30.8460	-62.3780	-0.7280	300.000
16	EY	-7.630	-33.040	39.770	-99.5090	-18.9150	-0.8860	300.000
19	PP	0.450	5.870	95.720	-3.1580	0.8580	-0.0550	300.000
19	DL	0.200	-4.120	33.530	7.4930	0.3770	0.0150	300.000
19	LR	0.040	-2.880	21.830	5.4430	0.0900	0.0110	300.000
19	G	0.040	-5.760	43.490	10.8870	0.1270	0.0220	300.000
19	EX	-23.750	-8.850	5.170	-28.1570	-60.1240	-0.7200	300.000
19	EY	-7.290	-29.450	17.230	-93.7170	-18.3240	-0.8830	300.000
21	PP	-0.020	6.250	95.670	-3.5020	0.0850	-0.0250	300.000
21	DL	0.000	-4.110	33.020	7.3740	0.0470	0.0130	300.000
21	LR	-0.010	-2.890	22.190	5.3780	0.0110	0.0110	300.000
21	G	-0.020	-5.790	44.390	10.7650	0.0260	0.0230	300.000
21	EX	-24.610	-8.890	5.830	-29.1560	-61.4740	-0.8400	300.000
21	EY	-7.450	-28.140	11.160	-91.8050	-18.5960	-0.9400	300.000
23	PP	0.780	0.630	92.340	5.6050	1.3790	-0.0130	300.000
23	DL	0.250	-2.270	22.700	4.3460	0.4600	0.0070	300.000
23	LR	0.280	-1.910	14.220	3.7200	0.4840	0.0070	300.000
23	G	0.560	-3.810	28.420	7.4370	0.9640	0.0150	300.000
23	EX	-19.780	-11.120	11.370	-35.5260	-53.5760	-1.0490	300.000
23	EY	-5.990	-28.400	12.480	-92.7840	-16.2200	-1.0370	300.000
25	PP	-0.390	-0.170	21.560	2.2020	-0.5900	-0.0170	200.000
25	DL	-0.780	0.440	12.560	-0.3690	-1.2530	0.0020	200.000
25	LR	-0.310	-0.060	3.880	0.3940	-0.4980	0.0010	200.000
25	G	-0.560	-0.200	6.460	0.9310	-0.9010	0.0020	200.000
25	EX	-6.280	-4.610	9.690	-12.6020	-15.1980	-0.1830	200.000
25	EY	-1.950	-14.540	19.310	-39.3720	-4.6430	-0.2270	200.000
27	PP	0.520	-0.590	20.390	2.9980	0.9010	-0.0190	200.000
27	DL	0.810	0.400	12.480	-0.3240	1.3230	0.0030	200.000
27	LR	0.330	-0.100	3.780	0.4540	0.5410	0.0020	200.000
27	G	0.600	-0.290	6.280	1.0460	0.9830	0.0030	200.000
27	EX	-6.160	-4.400	8.320	-11.9000	-14.9980	-0.1900	200.000
27	EY	-1.880	-14.530	19.200	-39.2780	-4.5250	-0.2300	200.000
33	PP	-0.240	-1.330	65.800	7.4870	-0.1640	-0.0360	300.000
33	DL	0.170	1.980	18.450	-2.1400	0.2980	0.0030	300.000
33	LR	-0.220	1.430	11.040	-1.3980	-0.3510	0.0020	300.000
33	G	-0.450	2.840	22.060	-2.7480	-0.7030	0.0040	300.000
33	EX	-15.520	-10.010	12.070	-32.7710	-43.0840	-1.1420	300.000
33	EY	-5.180	-28.150	11.910	-92.3190	-14.3400	-1.0690	300.000
35	PP	0.320	-3.550	67.520	11.4590	0.7400	-0.0590	300.000
35	DL	-0.010	2.750	23.790	-3.4170	0.0100	0.0060	300.000
35	LR	0.040	1.590	16.220	-1.6590	0.0780	0.0020	300.000
35	G	0.080	3.060	32.250	-3.1130	0.1510	0.0040	300.000

Table: Load Assignments - Point Loads, Part 1 of 2

Point	LoadPat	Fx kN	Fy kN	Fgrav kN	Mx kN-m	My kN-m	Mz kN-m	XDim mm
35	EX	-20.310	-8.490	3.890	-28.0900	-50.7810	-0.8180	300.000
35	EY	-6.730	-27.270	11.090	-90.2160	-16.8420	-0.9260	300.000
37	PP	0.220	-4.750	65.720	13.7930	0.5790	-0.0480	300.000
37	DL	0.020	4.030	26.150	-5.5150	0.0550	0.0100	300.000
37	LR	0.010	2.900	18.220	-3.7830	0.0180	0.0070	300.000
37	G	0.010	5.790	36.430	-7.5390	0.0290	0.0140	300.000
37	EX	-19.120	-8.330	3.480	-27.3170	-48.8490	-0.7620	300.000
37	EY	-6.360	-27.720	11.590	-90.8980	-16.2410	-0.9060	300.000
39	PP	0.350	-4.900	65.060	14.2960	0.7850	-0.0270	300.000
39	DL	0.090	4.070	25.830	-5.6780	0.1670	0.0170	300.000
39	LR	0.000	2.950	18.360	-3.9490	0.0080	0.0150	300.000
39	G	0.000	5.900	36.700	-7.8860	0.0120	0.0310	300.000
39	EX	-20.070	-8.920	4.070	-29.1720	-50.3970	-0.7820	300.000
39	EY	-6.670	-27.980	11.900	-91.4830	-16.7340	-0.9230	300.000
41	PP	-0.440	-1.890	70.960	9.6200	-0.4850	-0.0360	300.000
41	DL	-0.340	2.160	18.910	-2.7460	-0.5320	0.0190	300.000
41	LR	0.110	1.700	11.920	-2.0470	0.1930	0.0150	300.000
41	G	0.230	3.390	23.840	-4.0840	0.3820	0.0300	300.000
41	EX	-15.600	-10.640	12.540	-34.7150	-43.2280	-1.2080	300.000
41	EY	-5.200	-28.350	12.330	-92.6570	-14.3630	-1.1030	300.000

9.2.3.4. Esfuerzos sobre el suelo E

Table: Soil Pressures - Enveloping Summary

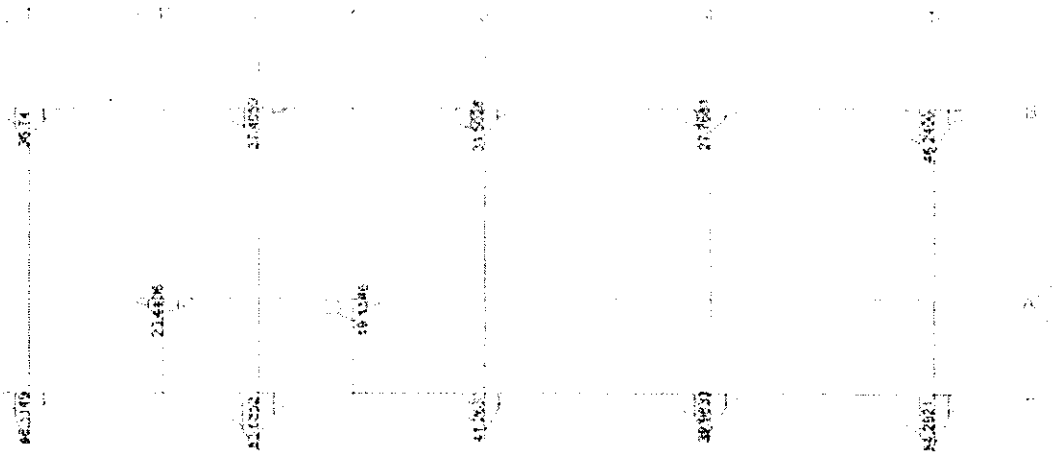
Panel	OutputItem	SurfPress kN/m2	OutputCase	CaseType	GlobalX m	GlobalY m
1	MaxPress	-28.56	Envol.-SRV	Combination	2.75000	2.55000
1	MinPress	-82.38	Envol.-SRV	Combination	0.00000	0.75000
2	MaxPress	-18.76	Envol.-SRV	Combination	2.75000	3.30000
2	MinPress	-71.14	Envol.-SRV	Combination	0.00000	7.32500
3	MaxPress	-32.70	Envol.-SRV	Combination	3.50000	2.55000
3	MinPress	-86.19	Envol.-SRV	Combination	5.60000	0.40000
4	MaxPress	-25.67	Envol.-SRV	Combination	3.50000	3.30000
4	MinPress	-75.26	Envol.-SRV	Combination	5.62500	7.70000
5	MaxPress	-31.40	Envol.-SRV	Combination	8.12500	2.55000
5	MinPress	-86.25	Envol.-SRV	Combination	6.40000	0.40000
6	MaxPress	-24.69	Envol.-SRV	Combination	8.12500	3.30000
6	MinPress	-75.26	Envol.-SRV	Combination	6.00000	7.70000
7	MaxPress	-26.49	Envol.-SRV	Combination	8.87500	2.55000
7	MinPress	-90.24	Envol.-SRV	Combination	11.20000	0.80000
8	MaxPress	-17.66	Envol.-SRV	Combination	8.87500	3.30000
8	MinPress	-81.44	Envol.-SRV	Combination	11.62500	7.32500
9	MaxPress	-39.85	Envol.-SRV	Combination	12.40000	0.40000
9	MinPress	-91.48	Envol.-SRV	Combination	17.20000	0.80000
10	MaxPress	-42.31	Envol.-SRV	Combination	12.37500	7.32500
10	MinPress	-82.81	Envol.-SRV	Combination	17.62500	7.32500
11	MaxPress	-36.87	Envol.-SRV	Combination	23.62500	0.37500
11	MinPress	-91.22	Envol.-SRV	Combination	18.00000	0.80000
12	MaxPress	-38.73	Envol.-SRV	Combination	23.62500	7.32500
12	MinPress	-82.81	Envol.-SRV	Combination	18.00000	7.32500

Table: Soil Pressures - Summary

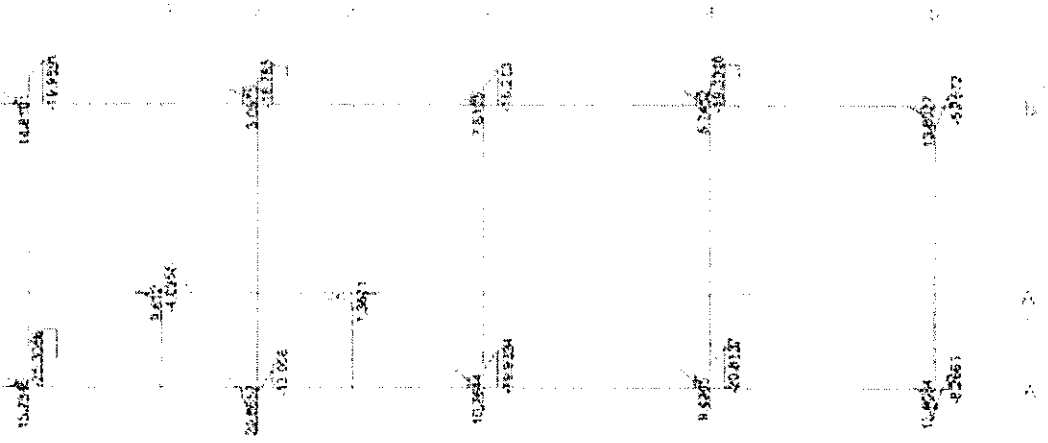
Panel	OutputCase	CaseType	MaxPress kN/m2	MinPress kN/m2	GlobalXMax m	GlobalYMax m	GlobalXMin m	GlobalYMin m
1	Envol.-SRV	Combination	-28.56	-82.38	2.75000	2.55000	0.00000	0.75000
2	Envol.-SRV	Combination	-18.76	-71.14	2.75000	3.30000	0.00000	7.32500
3	Envol.-SRV	Combination	-32.70	-86.19	3.50000	2.55000	5.60000	0.40000
4	Envol.-SRV	Combination	-25.67	-75.26	3.50000	3.30000	5.62500	7.70000
5	Envol.-SRV	Combination	-31.40	-86.25	8.12500	2.55000	6.40000	0.40000
6	Envol.-SRV	Combination	-24.69	-75.26	8.12500	3.30000	6.00000	7.70000
7	Envol.-SRV	Combination	-26.49	-90.24	8.87500	2.55000	11.20000	0.80000
8	Envol.-SRV	Combination	-17.66	-81.44	8.87500	3.30000	11.62500	7.32500
9	Envol.-SRV	Combination	-39.85	-91.48	12.40000	0.40000	17.20000	0.80000
10	Envol.-SRV	Combination	-42.31	-82.81	12.37500	7.32500	17.62500	7.32500
11	Envol.-SRV	Combination	-36.87	-91.22	23.62500	0.37500	18.00000	0.80000
12	Envol.-SRV	Combination	-38.73	-82.81	23.62500	7.32500	18.00000	7.32500

Capacidad admisible de suelo AB, $\square_{adm}$ = 100 kN/m² > Soil Pressures Max/Min => Ok

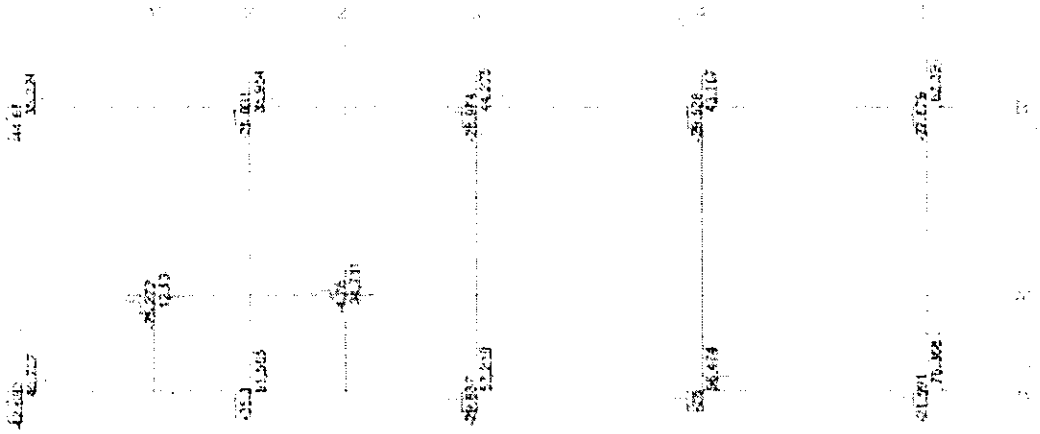
9.2.3.5. Resultados, diseño elementos



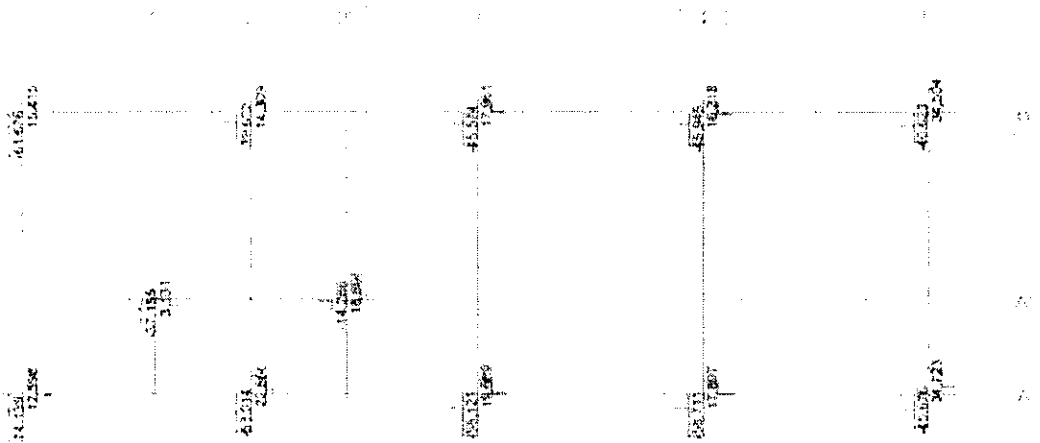
Zapatas - Strip A, Mmax (kN-m)



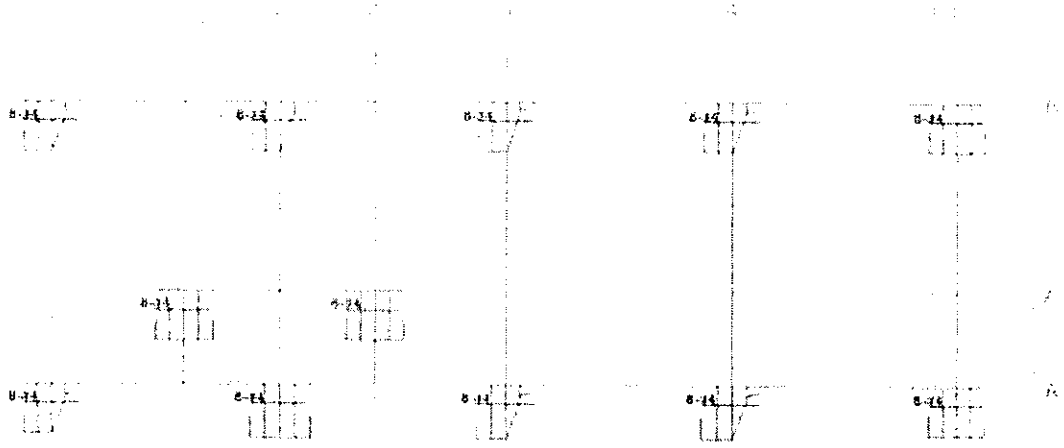
Zapatas - Strip A, Mmin (kN-m)



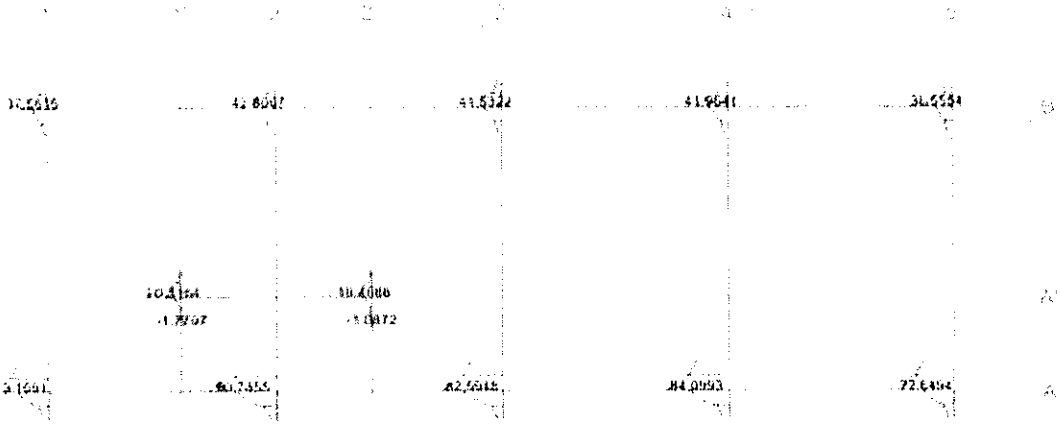
Zapatas - Strip A, Vmax (kN)
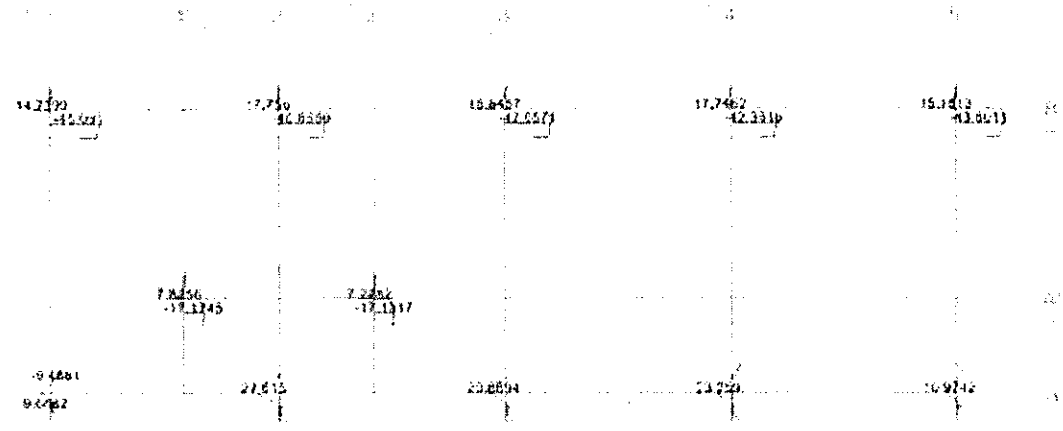


Zapatas - Strip A, Vmin (kN)



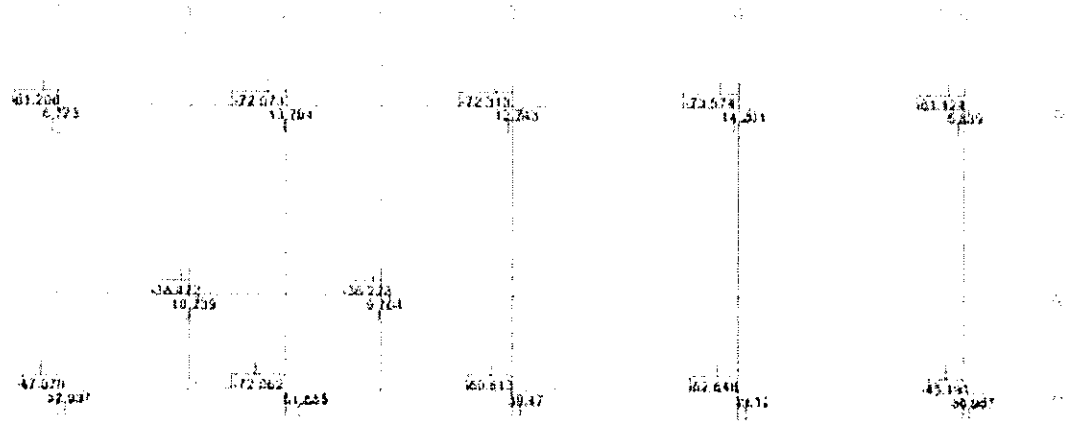
Zapatas SUELO E - Strip A, Acero de Refuerzo



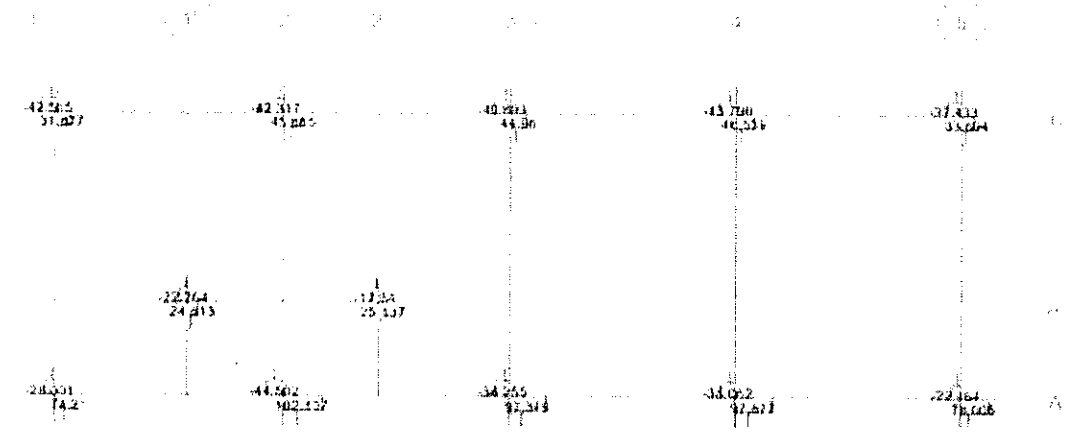
Zapatas - Strip B, Mmax (kN-m)



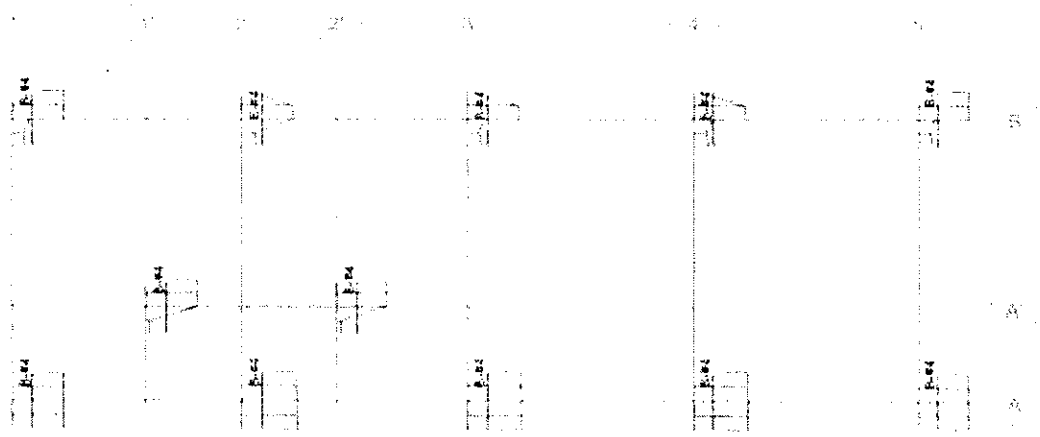
Zapatas - Strip B, Mmin (kN-m)



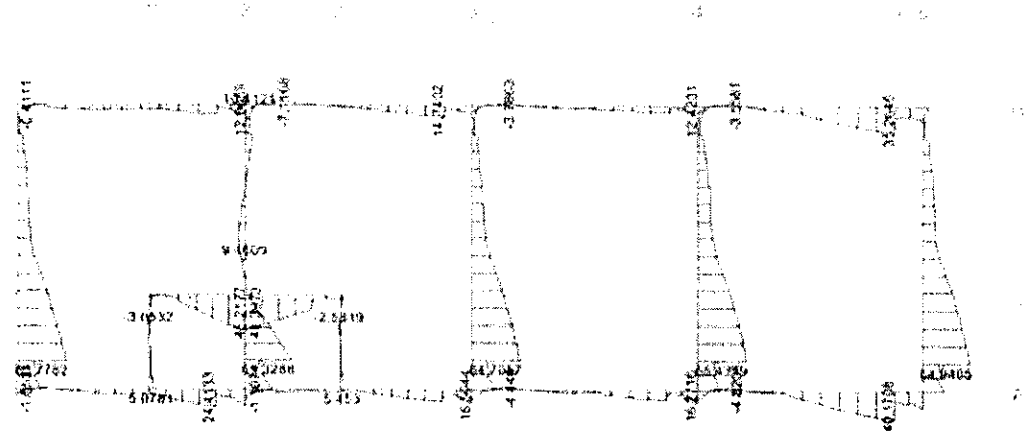
Zapatas - Strip B, Vmax (kN)



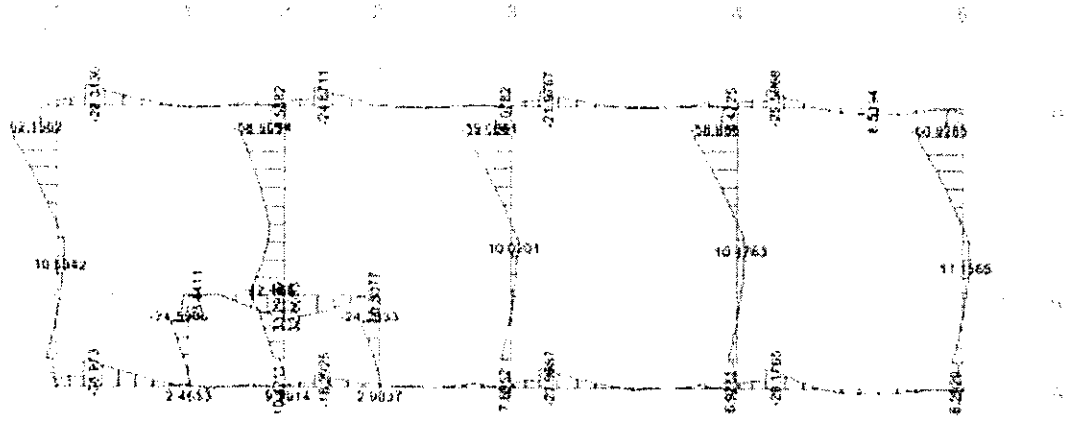
Zapatas - Strip B, Vmin (kN)



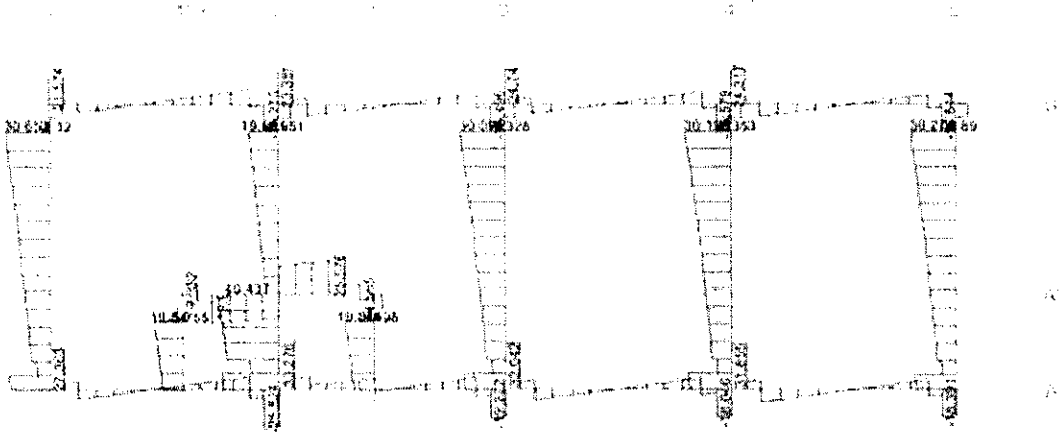
Zapatas SUELO E - Strip B, Acero de Refuerzo



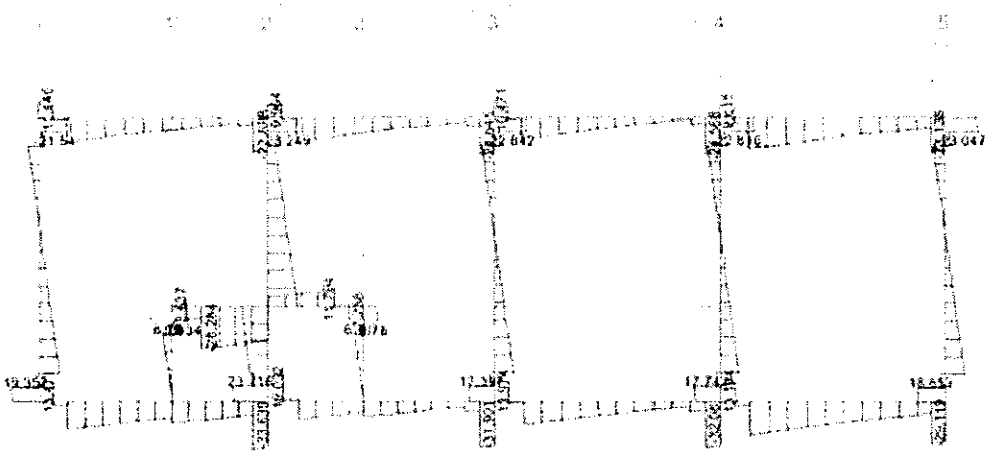
Vigas, Mmax (kN-m)



Vigas, Mmin (kN-m)

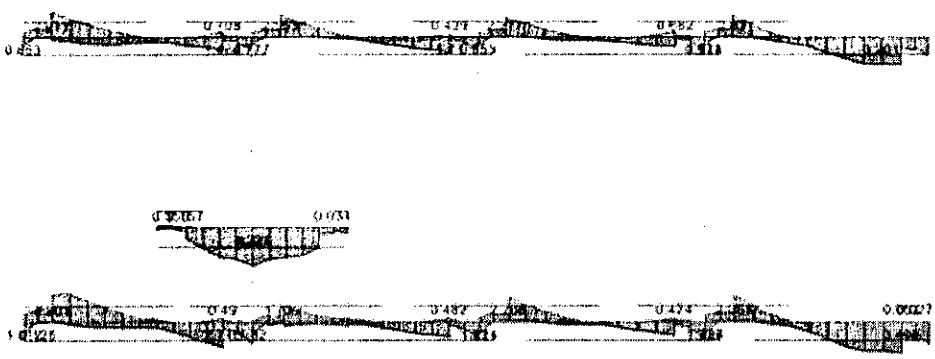


Vigas, Vmax (kN)

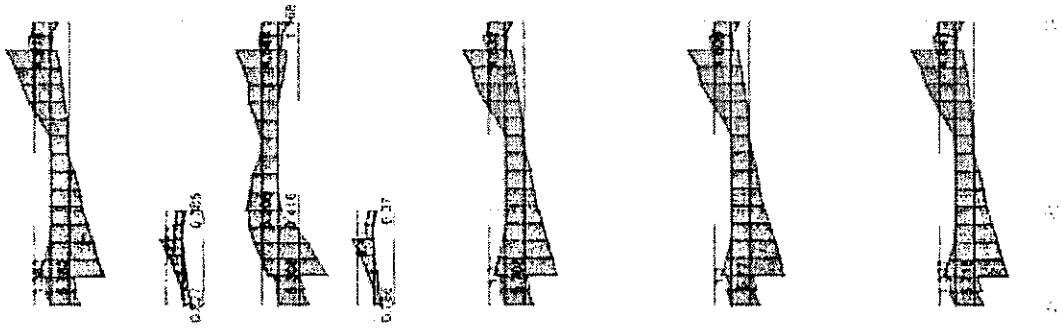


Vigas, Vmin (kN)

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Vigas Long. Suelo E, Acero de refuerzo a flexion (cm2)

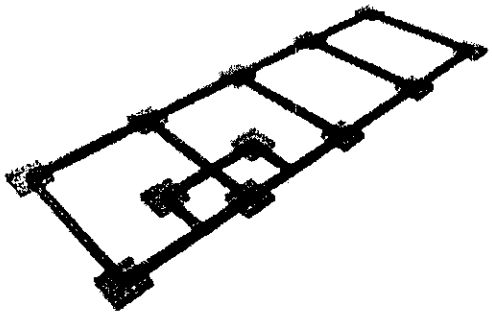


Vigas Transv. Suelo E, Acero de refuerzo a flexion (cm2)

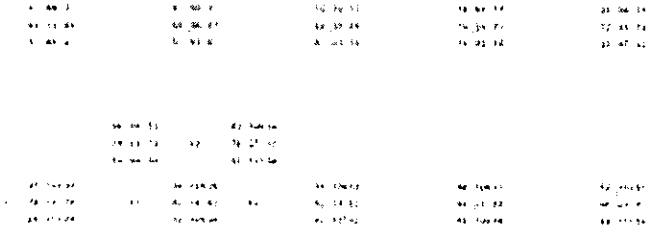
9.3. Zona Baja

9.3.1. Suelo Tipo AB-CD

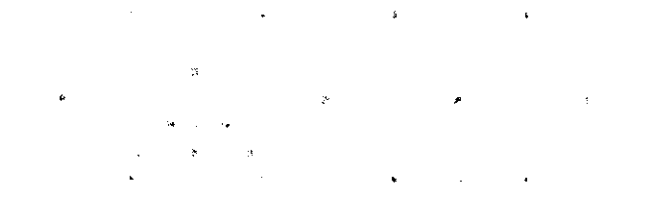
9.3.1.1. Modelo Matemático



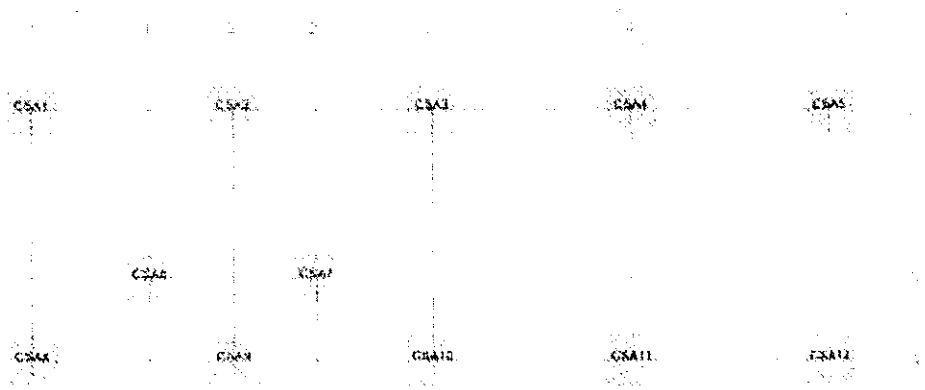
MODELO 3D_SAFE V12.3.2 - Planta Cimentación AB-CD



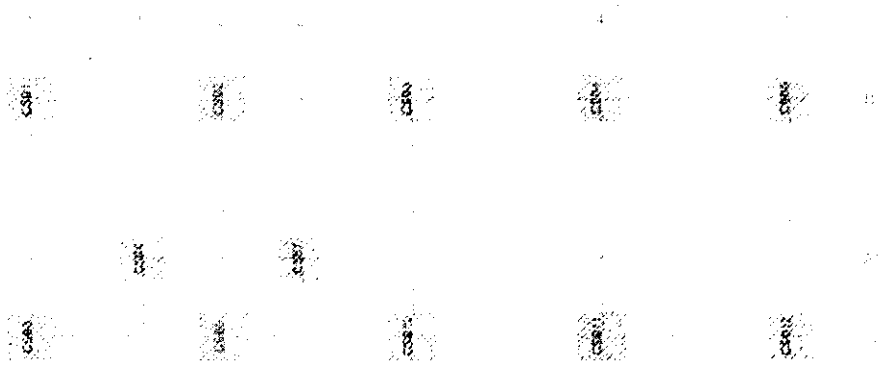
Numeración Nudos



Numeración Elementos



Identificación Strip A



Identificación Strip B

9.3.1.2. Coordenadas, asignaciones

SAFE v12.3.2 7/15/13 13:46:37

Table: Coordinate Systems

CoordSys	Type	OriginGx m	OriginGy m	RotAngle Degrees
GLOBAL	Cartesian	0.00	0.00	0.00

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Nit.900482474-1

Table: Object Geometry - Areas 01 - General, Part 1 of 2

Area	NumPoints	Point1	Point2	Point3	Point4	Auto	TotalArea mm2	AreaType
1	4	1	2	3	4	No	2250000.00	Slab
2	4	5	6	7	8	No	2250000.00	Slab
3	4	9	10	11	12	No	2250000.00	Slab
4	4	14	15	17	18	No	2250000.00	Slab
5	4	20	22	24	26	No	2250000.00	Slab
6	4	28	29	30	31	No	2250000.00	Slab
7	4	32	34	36	38	No	2250000.00	Slab
8	4	40	42	43	44	No	2250000.00	Slab
9	4	45	46	47	48	No	2250000.00	Slab
10	4	49	50	51	52	No	2250000.00	Slab
11	4	53	54	55	56	No	2250000.00	Slab
12	4	57	58	59	60	No	2250000.00	Slab

Table: Object Geometry - Design Strips

Strip	Point	GlobalX m	GlobalY m	WBLeft m	WBRight m	WALeft m	WARight m
CSA1	64	-0.75000	7.70000			0.75000	0.75000
CSA1	65	0.75000	7.70000	0.75000	0.75000		
CSA2	66	5.25000	7.70000			0.75000	0.75000
CSA2	67	6.75000	7.70000	0.75000	0.75000		
CSA3	68	11.25000	7.70000			0.75000	0.75000
CSA3	69	12.75000	7.70000	0.75000	0.75000		
CSA4	70	17.25000	7.70000			0.75000	0.75000
CSA4	71	18.75000	7.70000	0.75000	0.75000		
CSA5	72	23.25000	7.70000			0.75000	0.75000
CSA5	73	24.75000	7.70000	0.75000	0.75000		
CSA6	74	2.75000	2.55000			0.75000	0.75000
CSA6	75	4.25000	2.55000	0.75000	0.75000		
CSA7	76	7.75000	2.55000			0.75000	0.75000
CSA7	77	9.25000	2.55000	0.75000	0.75000		
CSA8	78	-0.75000	0.00000			0.75000	0.75000
CSA8	79	0.75000	0.00000	0.75000	0.75000		
CSA9	80	5.25000	0.00000			0.75000	0.75000
CSA9	81	6.75000	0.00000	0.75000	0.75000		
CSB1	88	0.00000	8.45000			0.75000	0.75000
CSB1	89	0.00000	6.95000	0.75000	0.75000		
CSB2	90	6.00000	8.45000			0.75000	0.75000
CSB2	91	6.00000	6.95000	0.75000	0.75000		
CSB3	92	12.00000	8.45000			0.75000	0.75000
CSB3	93	12.00000	6.95000	0.75000	0.75000		
CSB4	94	18.00000	8.45000			0.75000	0.75000
CSB4	95	18.00000	6.95000	0.75000	0.75000		
CSB5	96	24.00000	8.45000			0.75000	0.75000
CSB5	97	24.00000	6.95000	0.75000	0.75000		
CSB6	98	3.50000	3.30000			0.75000	0.75000
CSB6	99	3.50000	1.80000	0.75000	0.75000		
CSB7	100	8.50000	3.30000			0.75000	0.75000
CSB7	101	8.50000	1.80000	0.75000	0.75000		
CSB8	102	0.00000	0.75000			0.75000	0.75000
CSB8	103	0.00000	-0.75000	0.75000	0.75000		
CSB9	104	6.00000	0.75000			0.75000	0.75000
CSB9	105	6.00000	-0.75000	0.75000	0.75000		
CSA10	82	11.25000	0.00000			0.75000	0.75000
CSA10	83	12.75000	0.00000	0.75000	0.75000		
CSA11	84	17.25000	0.00000			0.75000	0.75000
CSA11	85	18.75000	0.00000	0.75000	0.75000		
CSA12	86	23.25000	0.00000			0.75000	0.75000
CSA12	87	24.75000	0.00000	0.75000	0.75000		
CSB10	106	12.00000	0.75000			0.75000	0.75000
CSB10	107	12.00000	-0.75000	0.75000	0.75000		
CSB11	108	18.00000	0.75000			0.75000	0.75000
CSB11	109	18.00000	-0.75000	0.75000	0.75000		
CSB12	110	24.00000	0.75000			0.75000	0.75000
CSB12	111	24.00000	-0.75000	0.75000	0.75000		

Table: Soil Property Assignments

Area	SoilProp
1	Ks CD
2	Ks CD
3	Ks CD
4	Ks CD
5	Ks CD
6	Ks CD
7	Ks CD
8	Ks CD
9	Ks CD
10	Ks CD
11	Ks CD
12	Ks CD

Table: Beam Property Assignments

Line	BeamProp
1	VC30X40
2	VC30X40
3	VC30X40
4	VC30X40
6	VC30X40
7	VC30X40
8	VC30X40
9	VC30X40
10	VC30X40
11	VC30X40
12	VC30X40
13	VC30X40
14	VC30X40
15	VC30X40
16	VC30X40
17	VC30X40
18	VC30X40
19	VC30X40

Table: Slab Property Assignments

Area	SlabProp
1	Zapata 35 cm
2	Zapata 35 cm
3	Zapata 35 cm
4	Zapata 35 cm
5	Zapata 35 cm
6	Zapata 35 cm
7	Zapata 35 cm
8	Zapata 35 cm
9	Zapata 35 cm
10	Zapata 35 cm
11	Zapata 35 cm
12	Zapata 35 cm

9.3.1.3. Cargas, asignación de cargas SUELO AB

Table: Load Assignments - Point Loads, Part 1 of 2

Point	LoadPat	Fx kN	Fy kN	Fgrav kN	Mx kN-m	My kN-m	Mz kN-m	XDim mm
13	PP	-1.880	0.820	85.980	4.0530	-2.9010	-0.0610	300.000
13	OL	-0.550	-2.400	22.910	4.8590	-0.8370	0.0080	300.000
13	LR	-0.360	-1.860	13.250	3.8670	-0.5440	0.0030	300.000
13	G	-0.670	-3.710	26.380	7.7400	-1.0230	0.0070	300.000
13	EX	-17.310	-9.120	10.400	-28.5050	-46.9780	-0.8450	300.000
13	EY	-5.300	-24.310	13.400	-77.1880	-14.2240	-0.8050	300.000
16	PP	0.330	3.600	121.000	0.0540	0.6660	-0.0680	300.000
16	DL	0.130	-2.930	41.440	5.6620	0.2660	0.0110	300.000
16	LR	0.090	-0.870	15.080	2.2610	0.1840	0.0050	300.000
16	G	0.190	-1.420	26.800	4.0320	0.3630	0.0110	300.000
16	EX	-22.060	-8.290	11.130	-25.0920	-54.7220	-0.6330	300.000
16	EY	-6.680	-26.720	32.170	-80.4850	-16.5640	-0.7200	300.000
19	PP	0.450	5.870	95.720	-3.1580	0.8580	-0.0550	300.000
19	DL	0.200	-4.120	33.530	7.4930	0.3770	0.0150	300.000
19	LR	0.040	-2.880	21.830	5.4430	0.0900	0.0110	300.000
19	G	0.040	-5.760	43.490	10.8870	0.1270	0.0220	300.000
19	EX	-20.830	-7.160	4.180	-22.7830	-52.7440	-0.6260	300.000
19	EY	-6.370	-23.820	13.930	-75.7970	-16.0350	-0.7170	300.000
21	PP	-0.020	6.250	95.670	-3.5020	0.0850	-0.0250	300.000
21	DL	0.000	-4.110	33.020	7.3740	0.0470	0.0130	300.000
21	LR	-0.010	-2.890	22.190	5.3780	0.0110	0.0110	300.000
21	G	-0.020	-5.790	44.390	10.7650	0.0260	0.0230	300.000
21	EX	-21.590	-7.260	4.990	-23.8090	-53.9290	-0.7310	300.000
21	EY	-6.520	-22.760	9.040	-74.2570	-16.2910	-0.7650	300.000
23	PP	0.780	0.630	92.340	5.6050	1.3790	-0.0130	300.000
23	DL	0.250	-2.270	22.700	4.3460	0.4600	0.0070	300.000
23	LR	0.280	-1.910	14.220	3.7200	0.4840	0.0070	300.000
23	G	0.560	-3.810	28.420	7.4370	0.9640	0.0150	300.000
23	EX	-17.350	-9.320	9.900	-29.7060	-47.0000	-0.9150	300.000
23	EY	-5.250	-22.980	10.150	-75.0750	-14.2070	-0.8450	300.000
25	PP	-0.390	-0.170	21.560	2.2020	-0.5900	-0.0170	200.000
25	DL	-0.780	0.440	12.560	-0.3690	-1.2530	0.0020	200.000
25	LR	-0.310	-0.060	3.880	0.3940	-0.4980	0.0010	200.000
25	G	-0.560	-0.200	6.460	0.9310	-0.9010	0.0020	200.000
25	EX	-5.510	-3.760	8.270	-10.3040	-13.3320	-0.1590	200.000
25	EY	-1.700	-11.760	15.640	-31.8470	-4.0610	-0.1850	200.000
27	PP	0.520	-0.590	20.390	2.9980	0.9010	-0.0190	200.000
27	DL	0.810	0.400	12.480	-0.3240	1.3230	0.0030	200.000
27	LR	0.330	-0.100	3.780	0.4540	0.5410	0.0020	200.000
27	G	0.600	-0.290	6.280	1.0460	0.9830	0.0030	200.000
27	EX	-5.400	-3.570	7.040	-9.6430	-13.1580	-0.1650	200.000
27	EY	-1.640	-11.750	15.540	-31.7680	-3.9660	-0.1870	200.000
33	PP	-0.240	-1.330	65.800	7.4870	-0.1640	-0.0360	300.000
33	DL	0.170	1.980	18.450	-2.1400	0.2980	0.0030	300.000
33	LR	-0.220	1.430	11.040	-1.3980	-0.3510	0.0020	300.000
33	G	-0.450	2.840	22.060	-2.7480	-0.7030	0.0040	300.000
33	EX	-13.610	-8.300	10.530	-27.1740	-37.7910	-0.9960	300.000
33	EY	-4.480	-22.770	9.710	-74.6870	-12.3990	-0.8710	300.000
35	PP	0.320	-3.550	67.520	11.4590	0.7400	-0.0590	300.000
35	OL	-0.010	2.750	23.790	-3.4170	0.0100	0.0060	300.000
35	LR	0.040	1.590	16.220	-1.6590	0.0780	0.0020	300.000
35	G	0.080	3.060	32.250	-3.1130	0.1510	0.0040	300.000
35	EX	-17.820	-6.920	3.220	-22.8670	-44.5430	-0.7120	300.000

Table: Load Assignments - Point Loads, Part 1 of 2

Point	LoadPat	Fx kN	Fy kN	Fgrav kN	Mx kN-m	My kN-m	Mz kN-m	XDim mm
35	EY	-5.820	-22.060	8.970	-72.9690	-14.5690	-0.7530	300.000
37	PP	0.220	-4.750	65.720	13.7930	0.5790	-0.0480	300.000
37	DL	0.020	4.030	26.150	-5.5150	0.0550	0.0100	300.000
37	LR	0.010	2.900	18.220	-3.7830	0.0180	0.0070	300.000
37	G	0.010	5.790	36.430	-7.5390	0.0290	0.0140	300.000
37	EX	-16.770	-6.740	2.820	-22.1040	-42.8480	-0.6630	300.000
37	EY	-5.500	-22.420	9.370	-73.5170	-14.0450	-0.7360	300.000
39	PP	0.350	-4.900	65.060	14.2960	0.7850	-0.0270	300.000
39	DL	0.090	4.070	25.830	-5.6780	0.1670	0.0170	300.000
39	LR	0.000	2.950	18.360	-3.9490	0.0080	0.0150	300.000
39	G	0.000	5.900	36.700	-7.8860	0.0120	0.0310	300.000
39	EX	-17.610	-7.290	3.360	-23.8370	-44.2060	-0.6800	300.000
39	EY	-5.770	-22.630	9.620	-73.9960	-14.4730	-0.7500	300.000
41	PP	-0.440	-1.890	70.960	9.6200	-0.4850	-0.0360	300.000
41	DL	-0.340	2.160	18.910	-2.7460	-0.5320	0.0190	300.000
41	LR	0.110	1.700	11.920	-2.0470	0.1930	0.0150	300.000
41	G	0.230	3.390	23.840	-4.0840	0.3820	0.0300	300.000
41	EX	-13.680	-8.880	10.940	-28.9630	-37.9180	-1.0550	300.000
41	EY	-4.490	-22.940	10.050	-74.9700	-12.4220	-0.9000	300.000

9.3.1.4. Esfuerzos sobre el suelo AB

Table: Soil Pressures - Enveloping Summary

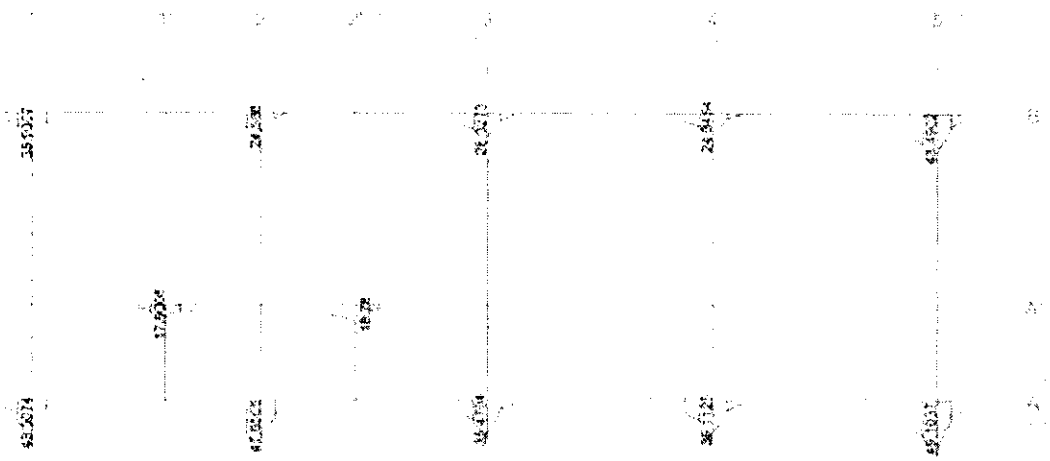
Panel	OutputItem	SurfPress kN/m2	OutputCase	CaseType	GlobalX m	GlobalY m
1	MaxPress	-24.86	Envol.-SRV	Combination	2.75000	2.55000
1	MinPress	-85.82	Envol.-SRV	Combination	0.37500	0.75000
2	MaxPress	-13.88	Envol.-SRV	Combination	2.75000	3.30000
2	MinPress	-73.09	Envol.-SRV	Combination	0.37500	7.32500
3	MaxPress	-30.57	Envol.-SRV	Combination	3.50000	2.55000
3	MinPress	-97.29	Envol.-SRV	Combination	5.62500	0.37500
4	MaxPress	-22.63	Envol.-SRV	Combination	3.50000	3.30000
4	MinPress	-74.22	Envol.-SRV	Combination	5.62500	7.70000
5	MaxPress	-29.46	Envol.-SRV	Combination	8.12500	2.55000
5	MinPress	-97.66	Envol.-SRV	Combination	6.37500	0.37500
6	MaxPress	-20.90	Envol.-SRV	Combination	8.12500	3.30000
6	MinPress	-74.22	Envol.-SRV	Combination	6.00000	7.70000
7	MaxPress	-22.95	Envol.-SRV	Combination	8.87500	2.55000
7	MinPress	-101.82	Envol.-SRV	Combination	11.25000	0.75000
8	MaxPress	-11.99	Envol.-SRV	Combination	8.87500	3.30000
8	MinPress	-84.09	Envol.-SRV	Combination	11.62500	7.32500
9	MaxPress	-45.21	Envol.-SRV	Combination	12.37500	0.37500
9	MinPress	-103.15	Envol.-SRV	Combination	17.25000	0.75000
10	MaxPress	-41.34	Envol.-SRV	Combination	12.37500	7.32500
10	MinPress	-85.51	Envol.-SRV	Combination	17.62500	7.32500
11	MaxPress	-38.02	Envol.-SRV	Combination	23.62500	0.37500
11	MinPress	-102.45	Envol.-SRV	Combination	18.00000	0.75000
12	MaxPress	-37.18	Envol.-SRV	Combination	23.62500	7.32500
12	MinPress	-85.58	Envol.-SRV	Combination	18.37500	7.32500

Table: Soil Pressures - Summary

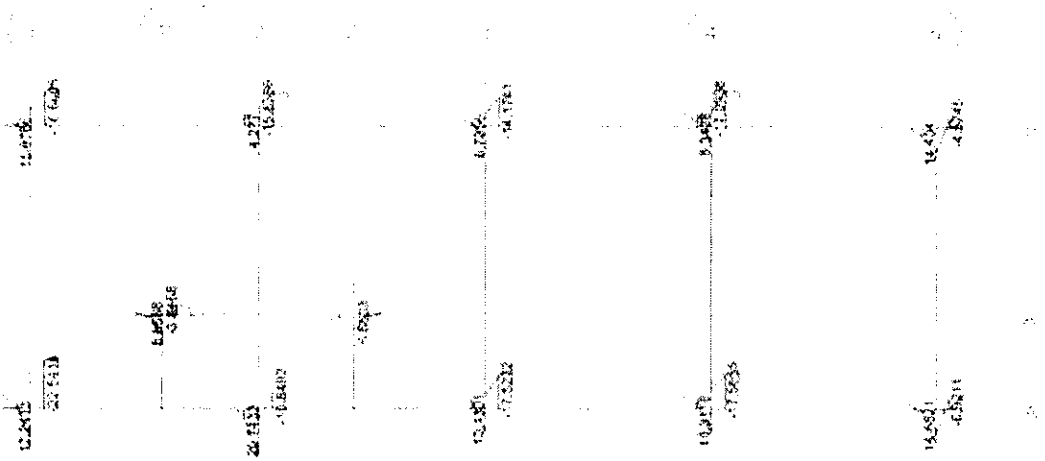
Panel	OutputCase	CaseType	MaxPress kN/m2	MinPress kN/m2	GlobalXMax m	GlobalYMax m	GlobalXMin m	GlobalYMin m
1	Envol.-SRV	Combination	-24.86	-85.82	2.75000	2.55000	0.37500	0.75000
2	Envol.-SRV	Combination	-13.88	-73.09	2.75000	3.30000	0.37500	7.32500
3	Envol.-SRV	Combination	-30.57	-97.29	3.50000	2.55000	5.62500	0.37500
4	Envol.-SRV	Combination	-22.63	-74.22	3.50000	3.30000	5.62500	7.70000
5	Envol.-SRV	Combination	-29.46	-97.66	8.12500	2.55000	6.37500	0.37500
6	Envol.-SRV	Combination	-20.90	-74.22	8.12500	3.30000	6.00000	7.70000
7	Envol.-SRV	Combination	-22.95	-101.82	8.87500	2.55000	11.25000	0.75000
8	Envol.-SRV	Combination	-11.99	-84.09	8.87500	3.30000	11.62500	7.32500
9	Envol.-SRV	Combination	-45.21	-103.15	12.37500	0.37500	17.25000	0.75000
10	Envol.-SRV	Combination	-41.34	-85.51	12.37500	7.32500	17.62500	7.32500
11	Envol.-SRV	Combination	-38.02	-102.45	23.62500	0.37500	18.00000	0.75000
12	Envol.-SRV	Combination	-37.18	-85.58	23.62500	7.32500	18.37500	7.32500

Capacidad admisible de suelo AB, σ_{adm} = 400 kN/m² > Soil Pressures Max/Min => Ok

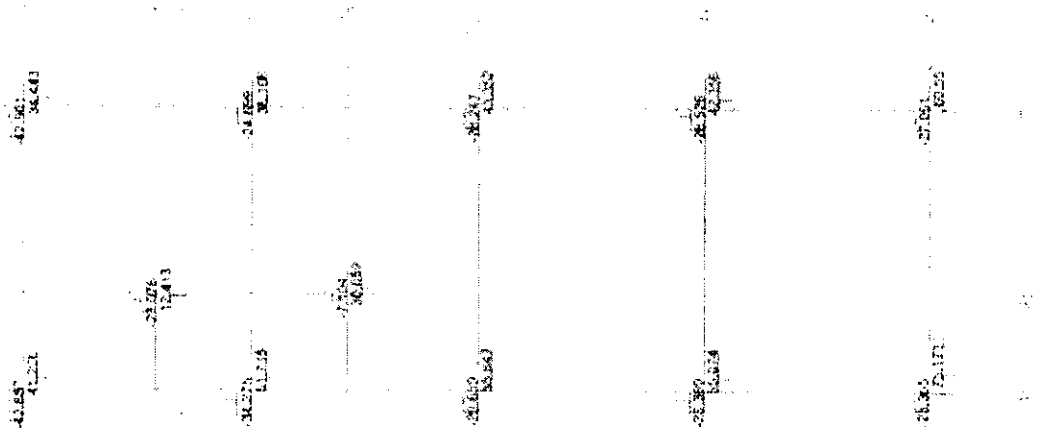
9.3.1.5. Resultados, diseño elementos



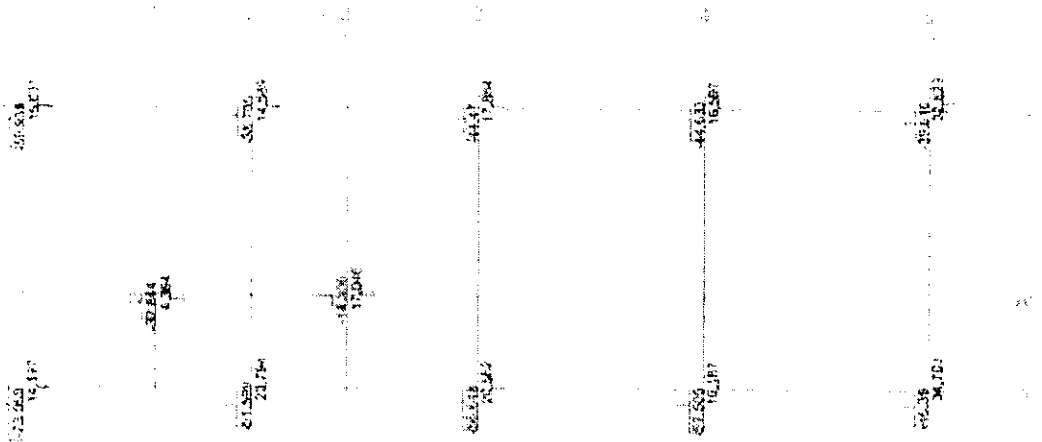
Zapatas - Strip A, Mmax (kN-m)



Zapatas - Strip A, Mmin (kN-m)

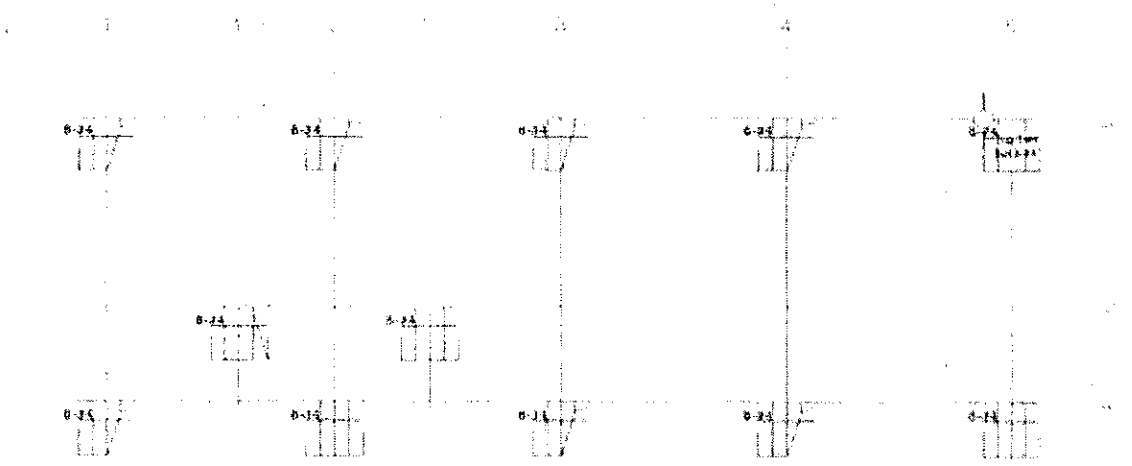


Zapatas - Strip A, Vmax (kN)

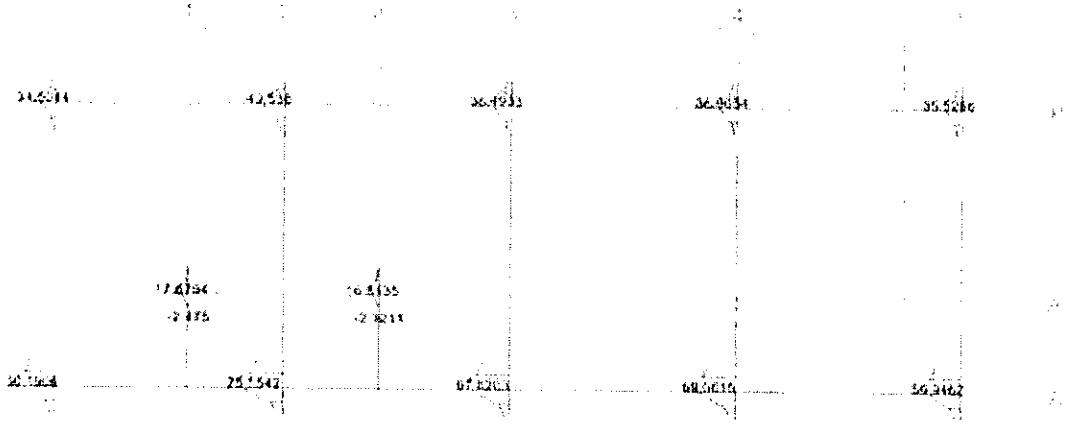


Zapatas - Strip A, Vmin (kN)

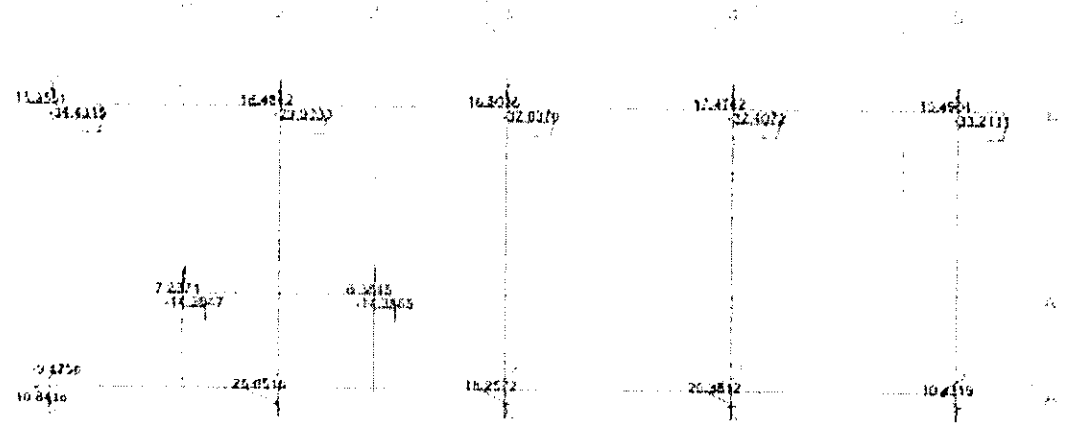
INGENIERIA ESTRUCTURAL S.A.S
Evaluamos el Pasado - Analizamos el Presente - Diseñamos el Futuro
Nit.900482474-1



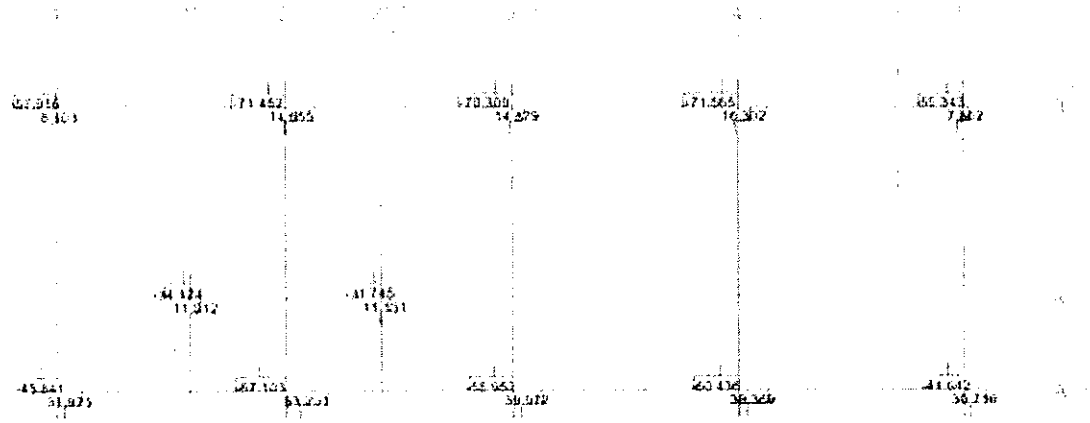
Zapatas SUELO AB - Strip A, Acero de Refuerzo



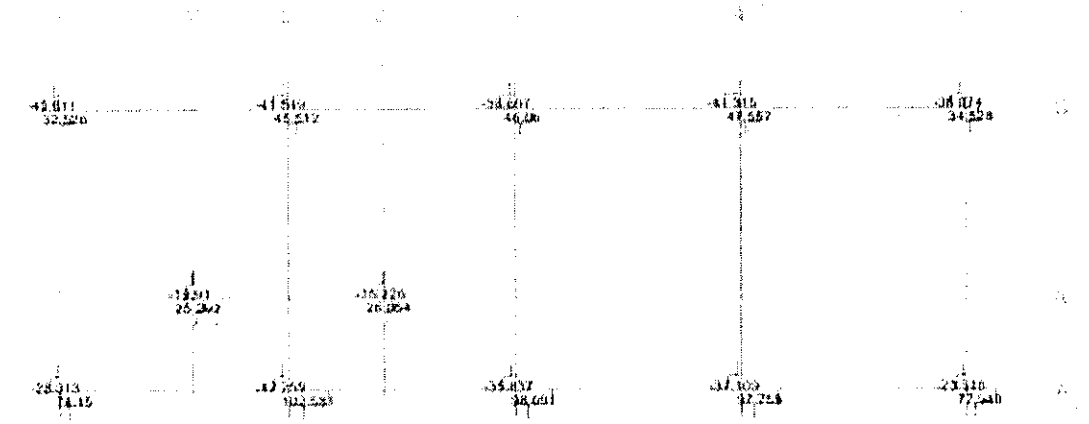
Zapatas - Strip B, Mmax (kN-m)



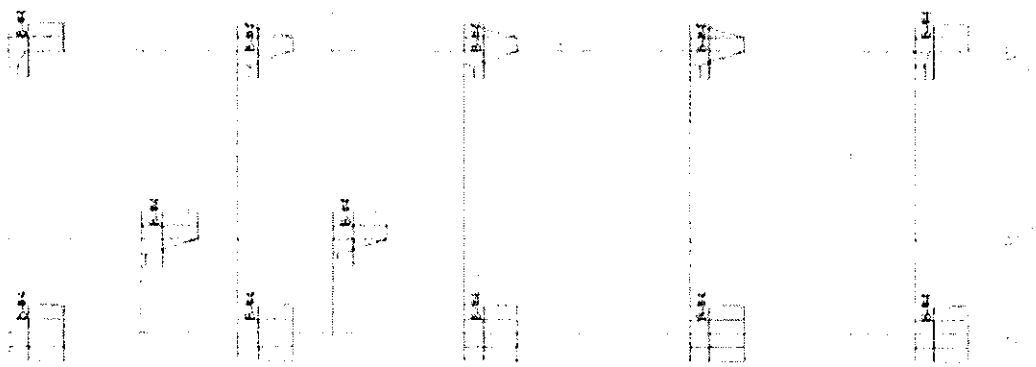
Zapatas - Strip B, Mmin (kN-m)



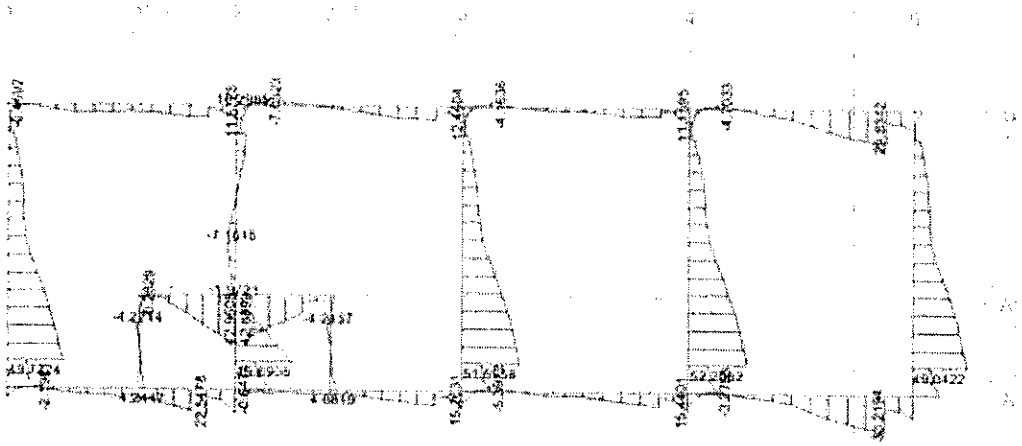
Zapatas - Strip B, Vmax (kN)



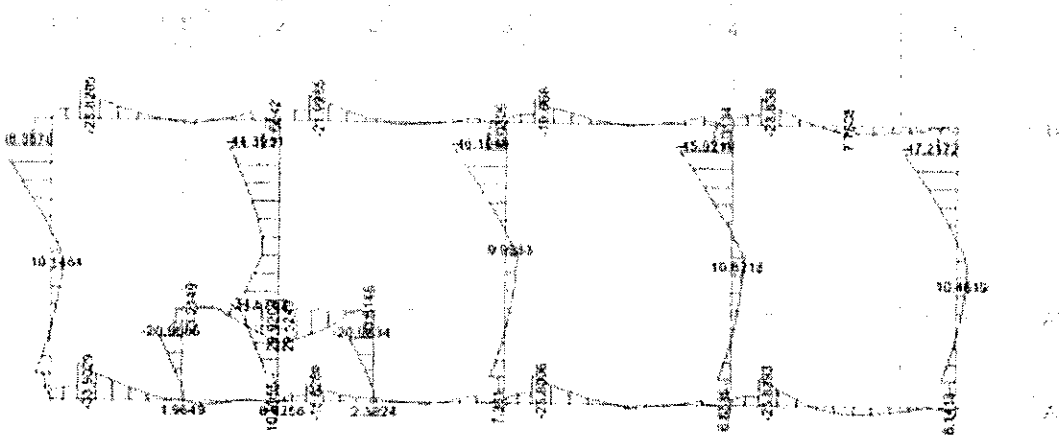
Zapatas - Strip B, Vmin (kN)



Zapatas SUELO AB - Strip B, Acero de Refuerzo

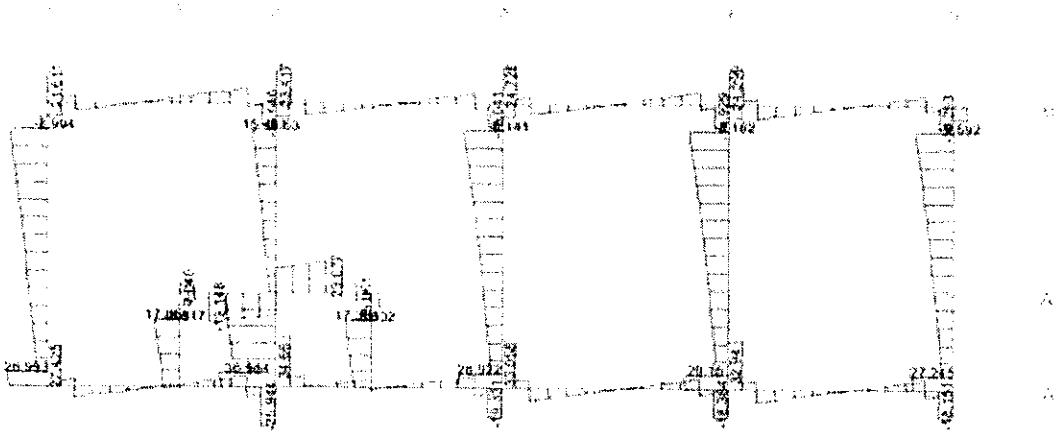


Vigas, Mmax (kN-m)

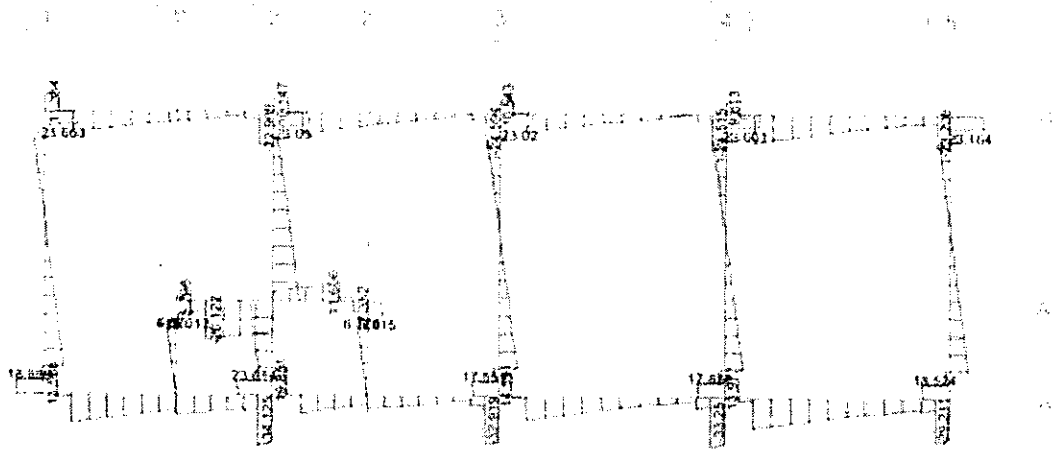


Vigas, Mmin (kN-m)

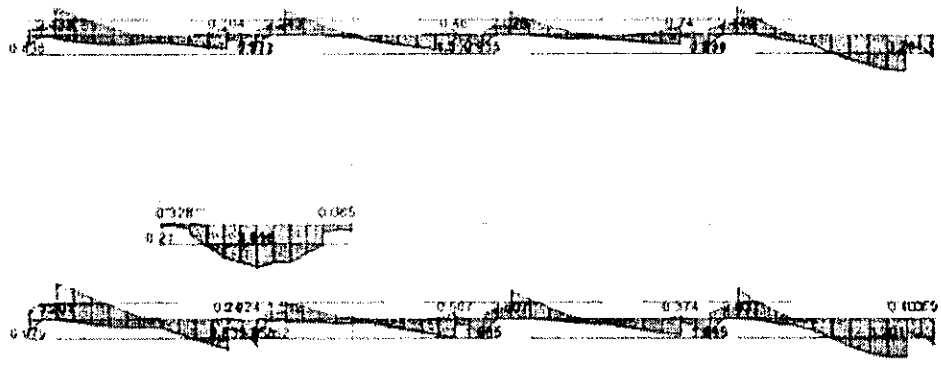
INGENIERIA ESTRUCTURAL S.A.S
Evaluamos el Pasado - Analizamos el Presente - Diseñamos el Futuro
Nit.900482474-1



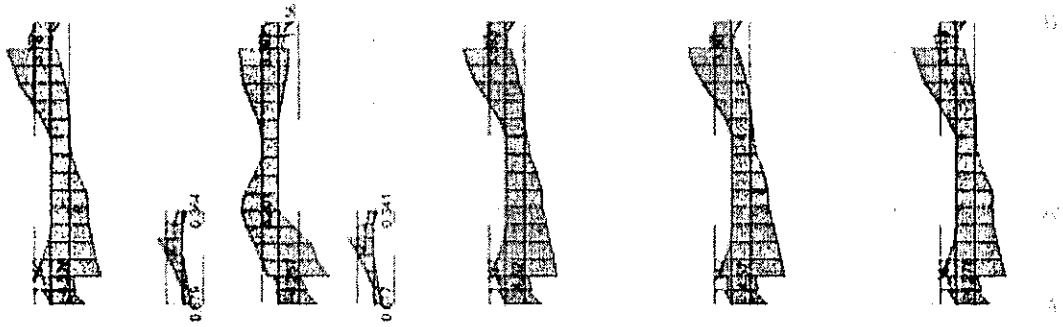
Vigas, Vmax (kN)



Vigas, Vmin (kN)



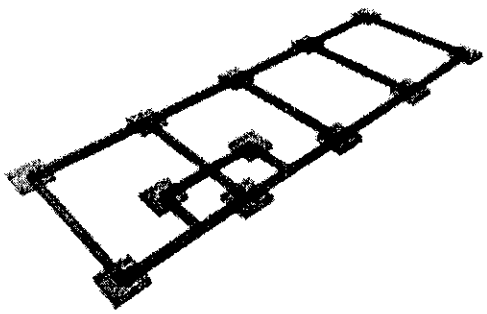
Vigas Long. Suelo AB, Acero de refuerzo a flexion (cm2)



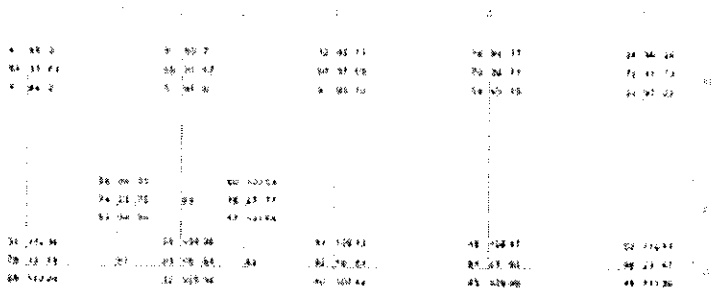
Vigas Transv. Suelo AB, Acero de refuerzo a flexion (cm2)

9.3.3. Suelo Tipo E

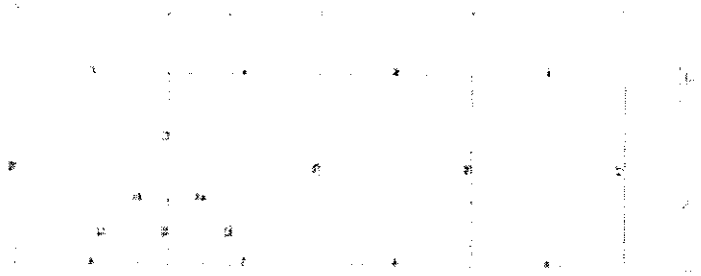
9.3.3.1. Modelo Matemático



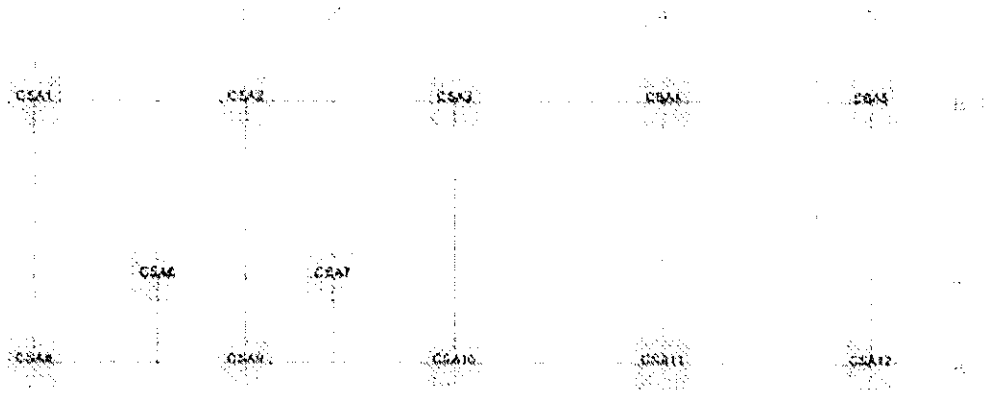
MODELO 3D_SAFE V12.3.2 - Planta Cimentación E



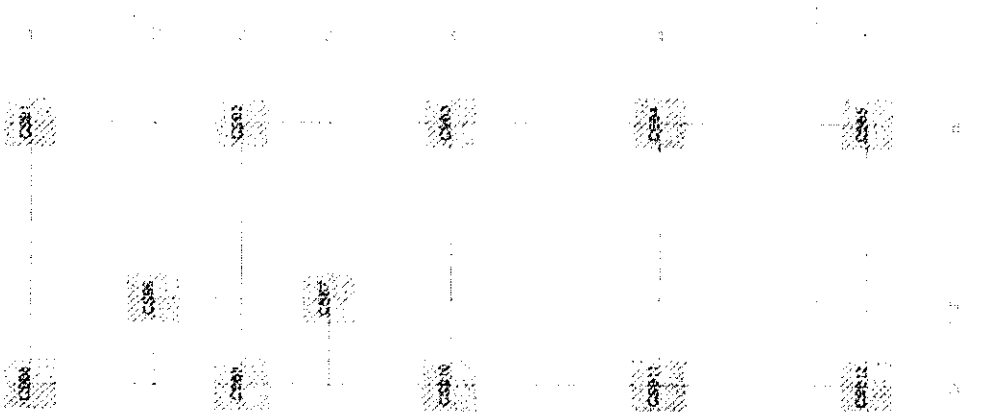
Numeración Nudos



Numeración Elementos



Identificación Strip A



Identificación Strip B

9.3.3.2. Coordenadas, asignaciones

SAFE v12.3.2 7/15/13 18:00:40

Table: Coordinate Systems

CoordSys	Type	OriginGx m	OriginGy m	RotAngle Degrees
GLOBAL	Cartesian	0.00	0.00	0.00

Table: Grid Lines

CoordSys	AxisDir	GridID	Ordinate m	Visible	BubbleLoc	GridColor	BubbleSize mm	HideAll
GLOBAL	X	1	0.00	Yes	End	10461087	1000.00	No
GLOBAL	X	2	7.00	Yes	End			
GLOBAL	X	3	13.30	Yes	End			
GLOBAL	X	4	19.60	Yes	End			
GLOBAL	Y	B	0.00	Yes	End			
GLOBAL	Y	A	8.00	Yes	End			

Table: Object Geometry - Areas 01 - General, Part 1 of 2

Area	NumPoints	Point1	Point2	Point3	Point4	Auto	TotalArea mm2	AreaType
1	4	1	2	3	4	No	2250000.00	Slab
2	4	5	6	7	8	No	2250000.00	Slab
3	4	9	10	11	12	No	2250000.00	Slab
4	4	14	15	17	18	No	2250000.00	Slab
5	4	20	22	24	26	No	2250000.00	Slab
6	4	28	29	30	31	No	2250000.00	Slab
7	4	32	34	36	38	No	2560000.00	Slab
8	4	40	42	43	44	No	2560000.00	Slab
9	4	45	46	47	48	No	2560000.00	Slab
10	4	49	50	51	52	No	2250000.00	Slab
11	4	53	54	55	56	No	2250000.00	Slab
12	4	57	58	59	60	No	2250000.00	Slab

Table: Object Geometry - Design Strips

Strip	Point	GlobalX m	GlobalY m	WBLeft m	WBRight m	WALeft m	WARight m
CSA1	64	-0.75000	7.70000			0.75000	0.75000
CSA1	65	0.75000	7.70000	0.75000	0.75000		
CSA2	66	5.25000	7.70000			0.75000	0.75000
CSA2	67	6.75000	7.70000	0.75000	0.75000		
CSA3	68	11.25000	7.70000			0.75000	0.75000
CSA3	69	12.75000	7.70000	0.75000	0.75000		
CSA4	70	17.25000	7.70000			0.75000	0.75000
CSA4	71	18.75000	7.70000	0.75000	0.75000		
CSA5	72	23.25000	7.70000			0.75000	0.75000
CSA5	73	24.75000	7.70000	0.75000	0.75000		
CSA6	74	2.75000	2.55000			0.75000	0.75000
CSA6	75	4.25000	2.55000	0.75000	0.75000		
CSA7	76	7.75000	2.55000			0.75000	0.75000
CSA7	77	9.25000	2.55000	0.75000	0.75000		
CSA8	78	-0.75000	0.00000			0.75000	0.75000
CSA8	79	0.75000	0.00000	0.75000	0.75000		
CSA9	80	5.20000	0.00000			0.80000	0.80000
CSA9	81	6.80000	0.00000	0.80000	0.80000		
CSB1	88	0.00000	8.45000			0.75000	0.75000
CSB1	89	0.00000	6.95000	0.75000	0.75000		
CSB2	90	6.00000	8.45000			0.75000	0.75000
CSB2	91	6.00000	6.95000	0.75000	0.75000		
CSB3	92	12.00000	8.45000			0.75000	0.75000
CSB3	93	12.00000	6.95000	0.75000	0.75000		
CSB4	94	18.00000	8.45000			0.75000	0.75000
CSB4	95	18.00000	6.95000	0.75000	0.75000		
CSB5	96	24.00000	8.45000			0.75000	0.75000
CSB5	97	24.00000	6.95000	0.75000	0.75000		
CSB6	98	3.50000	3.30000			0.75000	0.75000
CSB6	99	3.50000	1.80000	0.75000	0.75000		
CSB7	100	8.50000	3.30000			0.75000	0.75000
CSB7	101	8.50000	1.80000	0.75000	0.75000		
CSB8	102	0.00000	0.75000			0.75000	0.75000
CSB8	103	0.00000	-0.75000	0.75000	0.75000		
CSB9	104	6.00000	0.80000			0.80000	0.80000
CSB9	105	6.00000	-0.80000	0.80000	0.80000		
CSA10	82	11.20000	0.00000			0.80000	0.80000
CSA10	83	12.80000	0.00000	0.80000	0.80000		
CSA11	84	17.20000	0.00000			0.80000	0.80000
CSA11	85	18.80000	0.00000	0.80000	0.80000		
CSA12	86	23.25000	0.00000			0.75000	0.75000
CSA12	87	24.75000	0.00000	0.75000	0.75000		
CSB10	106	12.00000	0.80000			0.80000	0.80000
CSB10	107	12.00000	-0.80000	0.80000	0.80000		
CSB11	108	18.00000	0.80000			0.80000	0.80000
CSB11	109	18.00000	-0.80000	0.80000	0.80000		
CSB12	110	24.00000	0.75000			0.75000	0.75000
CSB12	111	24.00000	-0.75000	0.75000	0.75000		

Table: Beam Property Assignments

Line	BeamProp
1	VC30X40
2	VC30X40
3	VC30X40
4	VC30X40
6	VC30X40
7	VC30X40
8	VC30X40
9	VC30X40
10	VC30X40
11	VC30X40
12	VC30X40
13	VC30X40
14	VC30X40
15	VC30X40
16	VC30X40
17	VC30X40
18	VC30X40
19	VC30X40

Table: Slab Property Assignments

Area	SlabProp
1	Zapata 35 cm
2	Zapata 35 cm
3	Zapata 35 cm
4	Zapata 35 cm
5	Zapata 35 cm
6	Zapata 35 cm
7	Zapata 35 cm
8	Zapata 35 cm
9	Zapata 35 cm
10	Zapata 35 cm
11	Zapata 35 cm
12	Zapata 35 cm

Table: Soil Property Assignments

Area	SoilProp
1	Ks E
2	Ks E
3	Ks E
4	Ks E
5	Ks E
6	Ks E
7	Ks E
8	Ks E
9	Ks E
10	Ks E
11	Ks E
12	Ks E

9.3.3.3. Cargas, asignación de cargas SUELO E

Table: Load Assignments - Point Loads, Part 1 of 2

Point	LoadPat	Fx kN	Fy kN	Fgrav kN	Mx kN-m	My kN-m	Mz kN-m	XDim mm
13	PP	-1.880	0.820	85.980	4.0530	-2.9010	-0.0610	300.000
13	DL	-0.550	-2.400	22.910	4.8590	-0.8370	0.0080	300.000
13	LR	-0.360	-1.860	13.250	3.8670	-0.5440	0.0030	300.000
13	G	-0.670	-3.710	26.380	7.7400	-1.0230	0.0070	300.000
13	EX	-29.960	-15.860	18.010	-49.5850	-81.2990	-1.4620	300.000
13	EY	-9.170	-42.400	23.370	-134.6250	-24.6190	-1.4020	300.000
16	PP	0.330	3.600	121.000	0.0540	0.6660	-0.0680	300.000
16	DL	0.130	-2.930	41.440	5.6620	0.2660	0.0110	300.000
16	LR	0.090	-0.870	15.080	2.2610	0.1840	0.0050	300.000
16	G	0.190	-1.420	26.800	4.0320	0.3630	0.0110	300.000
16	EX	-38.180	-14.460	19.370	-43.7390	-94.7010	-1.0960	300.000
16	EY	-11.570	-46.610	56.120	-140.3790	-28.6700	-1.2550	300.000
19	PP	0.450	5.870	95.720	-3.1580	0.8580	-0.0550	300.000
19	DL	0.200	-4.120	33.530	7.4930	0.3770	0.0150	300.000
19	LR	0.040	-2.880	21.830	5.4430	0.0900	0.0110	300.000
19	G	0.040	-5.760	43.490	10.8870	0.1270	0.0220	300.000
19	EX	-36.050	-12.480	7.300	-39.7360	-91.2770	-1.0840	300.000
19	EY	-11.030	-41.540	24.300	-132.2030	-27.7560	-1.2500	300.000
21	PP	-0.020	6.250	95.670	-3.5020	0.0850	-0.0250	300.000
21	DL	0.000	-4.110	33.020	7.3740	0.0470	0.0130	300.000
21	LR	-0.010	-2.890	22.190	5.3780	0.0110	0.0110	300.000
21	G	-0.020	-5.790	44.390	10.7650	0.0260	0.0230	300.000
21	EX	-37.360	-12.640	8.650	-41.4870	-93.3280	-1.2670	300.000
21	EY	-11.290	-39.700	15.770	-129.5160	-28.1960	-1.3330	300.000
23	PP	0.780	0.630	92.340	5.6050	1.3790	-0.0130	300.000
23	DL	0.250	-2.270	22.700	4.3460	0.4600	0.0070	300.000
23	LR	0.280	-1.910	14.220	3.7200	0.4840	0.0070	300.000
23	G	0.560	-3.810	28.420	7.4370	0.9640	0.0150	300.000
23	EX	-30.030	-16.190	17.140	-51.6400	-81.3380	-1.5840	300.000
23	EY	-9.090	-40.080	17.700	-130.9390	-24.5900	-1.4730	300.000
25	PP	-0.390	-0.170	21.560	2.2020	-0.5900	-0.0170	200.000
25	DL	-0.780	0.440	12.560	-0.3690	-1.2530	0.0020	200.000
25	LR	-0.310	-0.060	3.880	0.3940	-0.4980	0.0010	200.000
25	G	-0.560	-0.200	6.460	0.9310	-0.9010	0.0020	200.000
25	EX	-9.540	-6.560	14.350	-17.9510	-23.0730	-0.2750	200.000
25	EY	-2.950	-20.510	27.270	-55.5460	-7.0300	-0.3220	200.000
27	PP	0.520	-0.590	20.390	2.9980	0.9010	-0.0190	200.000
27	DL	0.810	0.400	32.480	-0.3240	1.3230	0.0030	200.000
27	LR	0.330	-0.100	3.780	0.4540	0.5410	0.0020	200.000
27	G	0.600	-0.290	6.280	1.0460	0.9830	0.0030	200.000
27	EX	-9.350	-6.220	12.220	-16.8160	-22.7700	-0.2860	200.000
27	EY	-2.850	-20.500	27.100	-55.4090	-6.8640	-0.3260	200.000
33	PP	-0.240	-1.330	65.800	7.4870	-0.1640	-0.0360	300.000
33	DL	0.170	1.980	18.450	-2.1400	0.2980	0.0030	300.000
33	LR	-0.220	1.430	11.040	-1.3980	-0.3510	0.0020	300.000
33	G	-0.450	2.840	22.060	-2.7480	-0.7030	0.0040	300.000
33	EX	-23.560	-14.440	18.230	-47.2770	-65.4010	-1.7250	300.000
33	EY	-7.760	-39.720	16.920	-130.2640	-21.4850	-1.5190	300.000
35	PP	0.320	-3.550	67.520	11.4590	0.7400	-0.0590	300.000
35	DL	-0.010	2.750	23.790	-3.4170	0.0100	0.0060	300.000
35	LR	0.040	1.590	16.220	-1.6590	0.0780	0.0020	300.000
35	G	0.080	3.060	32.250	-3.1130	0.1510	0.0040	300.000
35	EX	-30.830	-12.050	5.600	-39.8570	-77.0850	-1.2320	300.000
35	EY	-10.090	-38.470	15.650	-127.2700	-25.2440	-1.3130	300.000
37	PP	0.220	-4.750	65.720	13.7930	0.5790	-0.0480	300.000

Table: Load Assignments - Point Loads, Part 1 of 2

Point	LoadPat	Fx kN	Fy kN	Fgrav kN	Mx kN-m	My kN-m	Mz kN-m	XDim mm
37	DL	0.020	4.030	26.150	-5.5150	0.0550	0.0100	300.000
37	LR	0.010	2.900	18.220	-3.7830	0.0180	0.0070	300.000
37	G	0.010	5.790	36.430	-7.5390	0.0290	0.0140	300.000
37	EX	-29.030	-11.760	4.920	-38.5520	-74.1520	-1.1480	300.000
37	EY	-9.530	-39.100	16.350	-128.2270	-24.3370	-1.2840	300.000
39	PP	0.350	-4.900	65.060	14.2960	0.7850	-0.0270	300.000
39	DL	0.090	4.070	25.830	-5.6780	0.1670	0.0170	300.000
39	LR	0.000	2.950	18.360	-3.9490	0.0080	0.0150	300.000
39	G	0.000	5.900	36.700	-7.8860	0.0120	0.0310	300.000
39	EX	-30.470	-12.710	5.850	-41.5330	-76.5020	-1.1780	300.000
39	EY	-9.990	-39.480	16.780	-129.0620	-25.0790	-1.3070	300.000
41	PP	-0.440	-1.890	70.960	9.6200	-0.4850	-0.0360	300.000
41	DL	-0.340	2.160	18.910	-2.7460	-0.5320	0.0190	300.000
41	LR	0.110	1.700	11.920	-2.0470	0.1930	0.0150	300.000
41	G	0.230	3.390	23.840	-4.0840	0.3820	0.0300	300.000
41	EX	-23.680	-15.430	18.940	-50.3580	-65.6200	-1.8260	300.000
41	EY	-7.780	-40.010	17.510	-130.7550	-21.5250	-1.5680	300.000

9.3.3.4. Esfuerzos sobre el suelo E

Table: Soil Pressures - Enveloping Summary

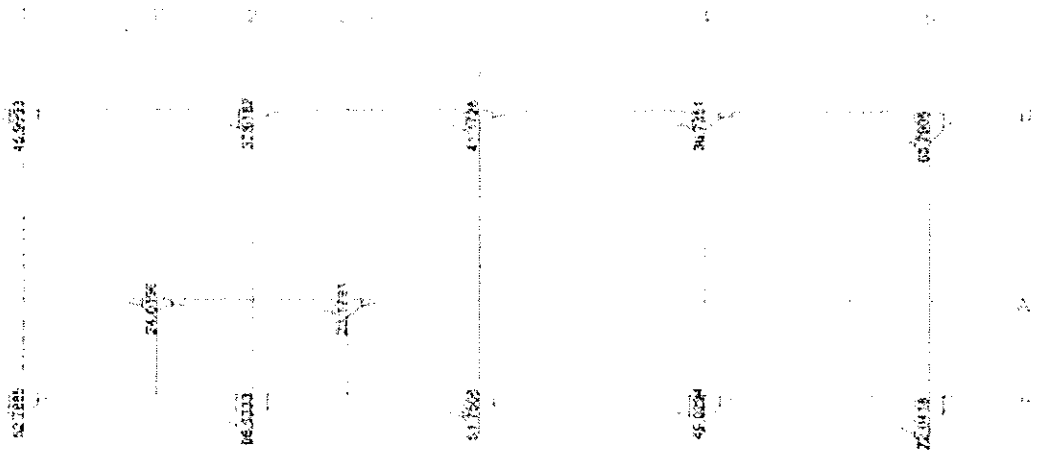
Panel	OutputItem	SurfPress kN/m2	OutputCase	CaseType	GlobalX m	GlobalY m
1	MaxPress	-31.23	Envol.-SRV	Combination	2.75000	2.55000
1	MinPress	-85.65	Envol.-SRV	Combination	0.00000	0.75000
2	MaxPress	-18.76	Envol.-SRV	Combination	2.75000	3.30000
2	MinPress	-73.75	Envol.-SRV	Combination	0.00000	7.32500
3	MaxPress	-35.94	Envol.-SRV	Combination	3.50000	2.17500
3	MinPress	-86.19	Envol.-SRV	Combination	5.60000	0.40000
4	MaxPress	-25.67	Envol.-SRV	Combination	3.50000	3.30000
4	MinPress	-78.27	Envol.-SRV	Combination	5.62500	7.70000
5	MaxPress	-35.05	Envol.-SRV	Combination	8.12500	2.17500
5	MinPress	-86.25	Envol.-SRV	Combination	6.40000	0.40000
6	MaxPress	-24.69	Envol.-SRV	Combination	8.12500	3.30000
6	MinPress	-78.27	Envol.-SRV	Combination	6.00000	7.70000
7	MaxPress	-29.74	Envol.-SRV	Combination	8.87500	2.17500
7	MinPress	-92.39	Envol.-SRV	Combination	11.20000	0.80000
8	MaxPress	-17.66	Envol.-SRV	Combination	8.87500	3.30000
8	MinPress	-83.31	Envol.-SRV	Combination	11.62500	7.70000
9	MaxPress	-38.86	Envol.-SRV	Combination	12.40000	0.40000
9	MinPress	-93.72	Envol.-SRV	Combination	17.20000	0.80000
10	MaxPress	-42.70	Envol.-SRV	Combination	12.37500	7.32500
10	MinPress	-84.97	Envol.-SRV	Combination	17.25000	7.70000
11	MaxPress	-35.05	Envol.-SRV	Combination	23.62500	0.37500
11	MinPress	-93.18	Envol.-SRV	Combination	18.00000	0.80000
12	MaxPress	-39.00	Envol.-SRV	Combination	23.62500	7.32500
12	MinPress	-84.91	Envol.-SRV	Combination	18.00000	7.70000

Table: Soil Pressures - Summary

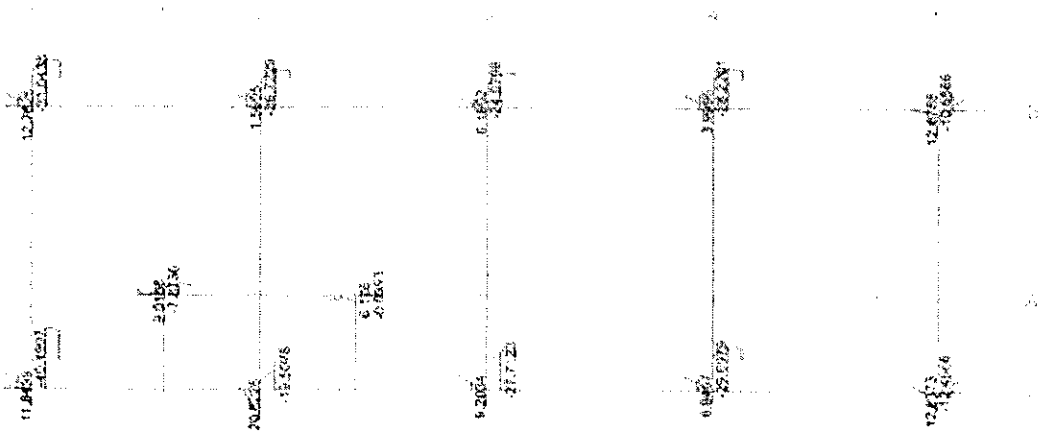
Panel	OutputCase	CaseType	MaxPress kN/m2	MinPress kN/m2	GlobalXMax m	GlobalYMax m	GlobalXMin m	GlobalYMin m
1	Envol.-SRV	Combination	-31.23	-85.65	2.75000	2.55000	0.00000	0.75000
2	Envol.-SRV	Combination	-18.76	-73.75	2.75000	3.30000	0.00000	7.32500
3	Envol.-SRV	Combination	-35.94	-86.19	3.50000	2.17500	5.60000	0.40000
4	Envol.-SRV	Combination	-25.67	-78.27	3.50000	3.30000	5.62500	7.70000
5	Envol.-SRV	Combination	-35.05	-86.25	8.12500	2.17500	6.40000	0.40000
6	Envol.-SRV	Combination	-24.69	-78.27	8.12500	3.30000	6.00000	7.70000
7	Envol.-SRV	Combination	-29.74	-92.39	8.87500	2.17500	11.20000	0.80000
8	Envol.-SRV	Combination	-17.66	-83.31	8.87500	3.30000	11.62500	7.70000
9	Envol.-SRV	Combination	-38.86	-93.72	12.40000	0.40000	17.20000	0.80000
10	Envol.-SRV	Combination	-42.70	-84.97	12.37500	7.32500	17.25000	7.70000
11	Envol.-SRV	Combination	-35.05	-93.18	23.62500	0.37500	18.00000	0.80000
12	Envol.-SRV	Combination	-39.00	-84.91	23.62500	7.32500	18.00000	7.70000

Capacidad admisible de suelo A8, $\square_{adm}$ = 100 kN/m² > Soil Pressures Max/Min => Ok

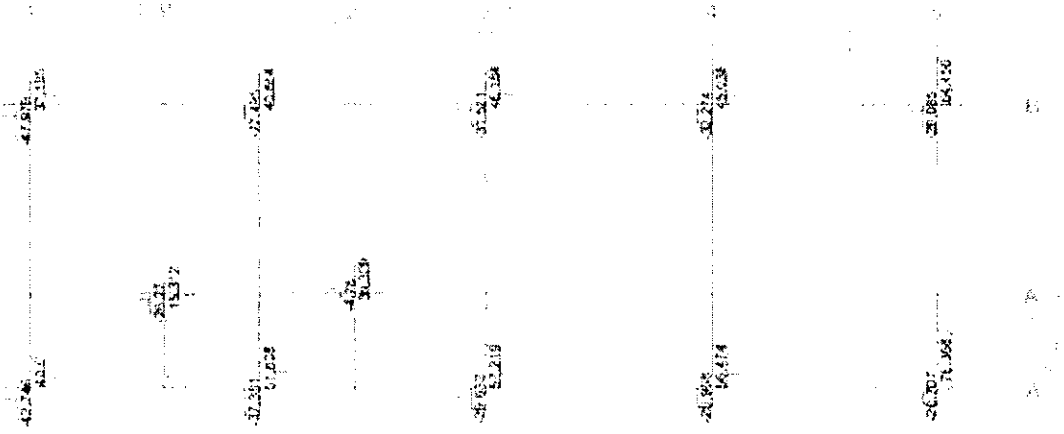
9.3.3.5. Resultados, diseño elementos



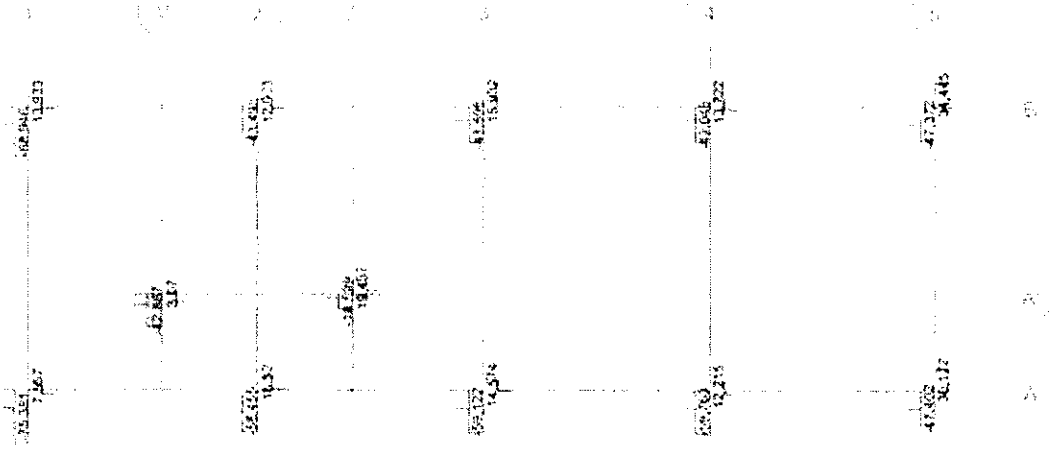
Zapatas - Strip A, Mmax (kN-m)



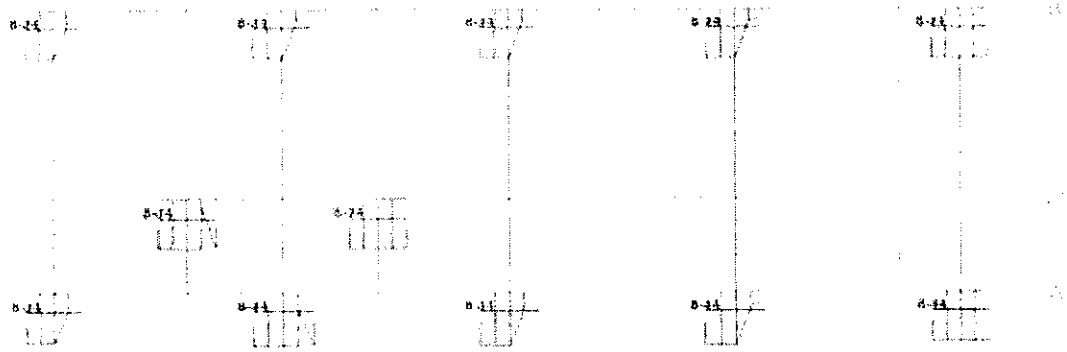
Zapatas - Strip A, Mmin (kN-m)



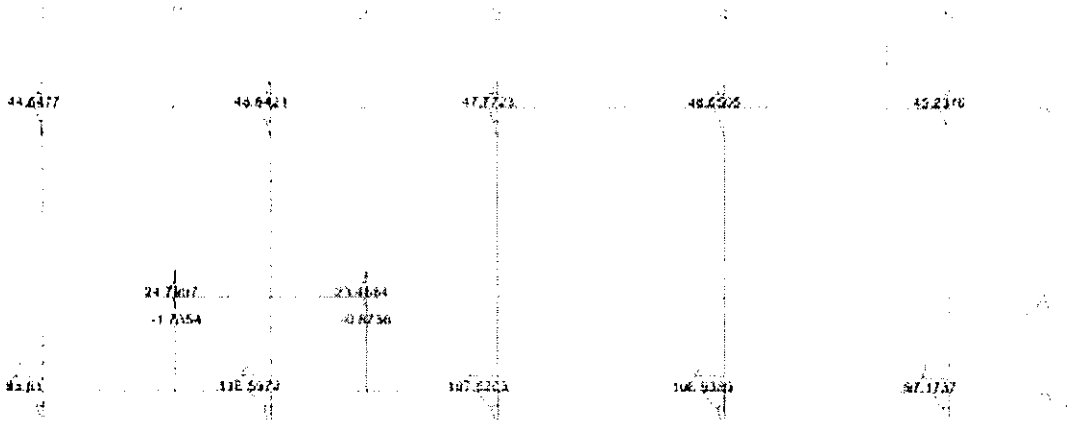
Zapatas - Strip A, Vmax (kN)



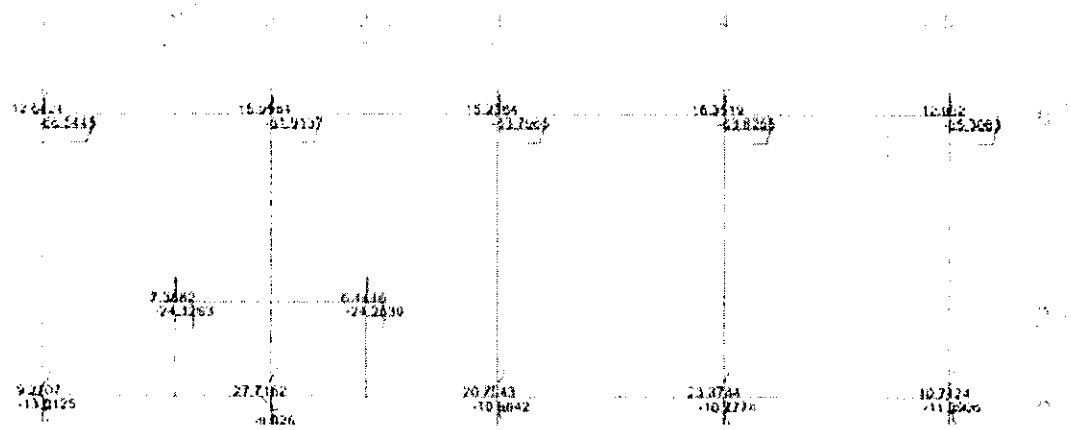
Zapatas - Strip A, Vmin (kN)



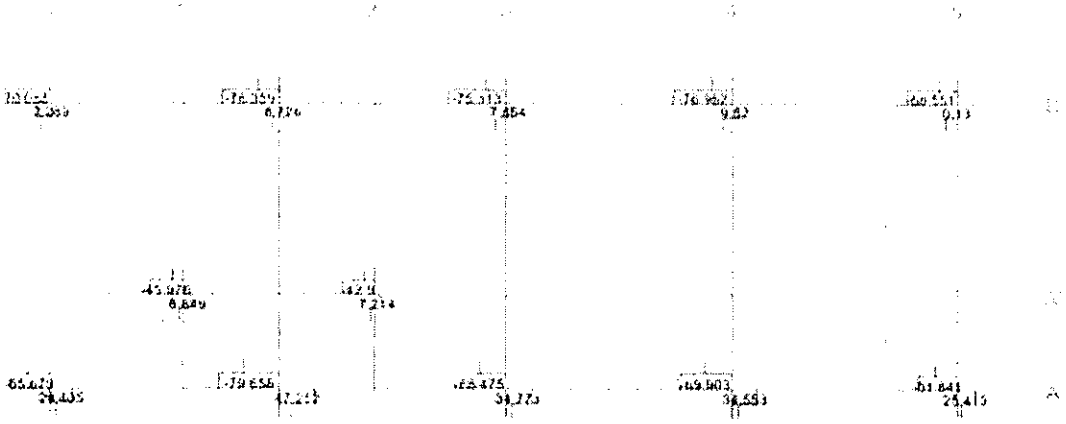
Zapatas SUELO E - Strip A, Acero de Refuerzo



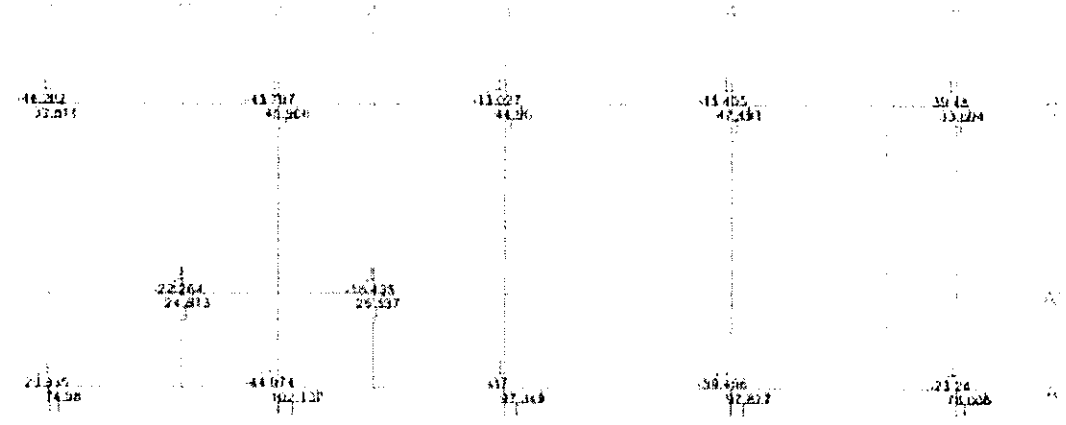
Zapatas - Strip B, Mmax (kN-m)



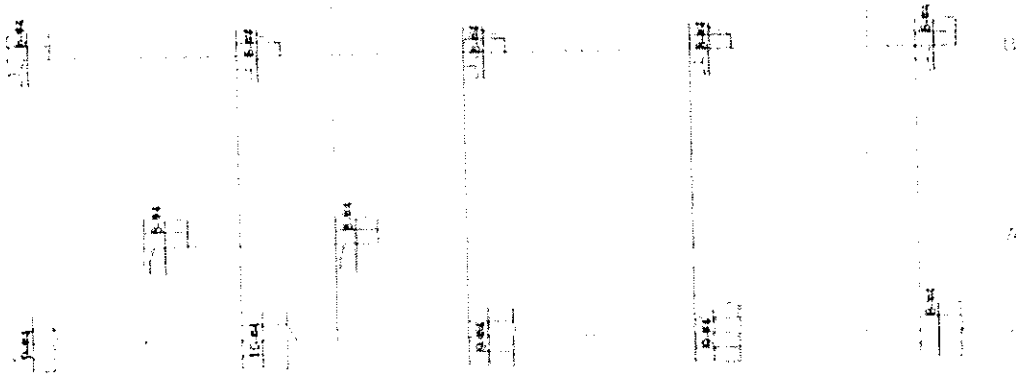
Zapatas - Strip B, Mmin (kN-m)



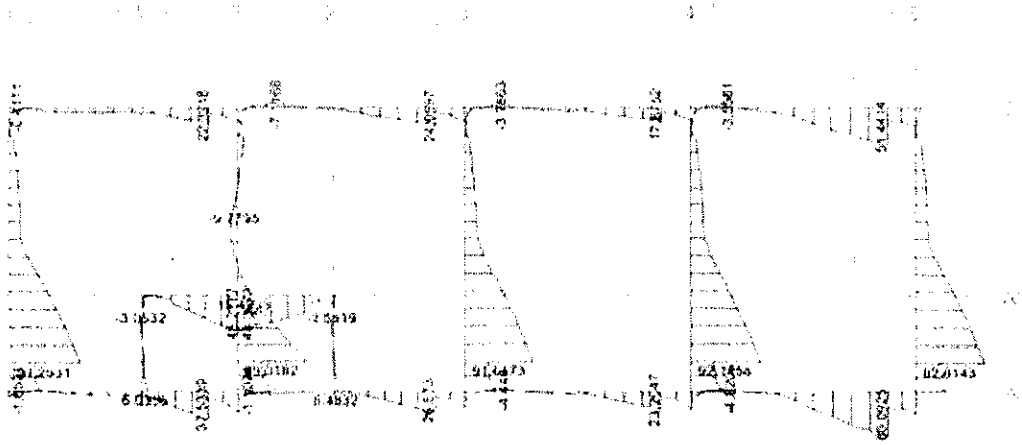
Zapatas - Strip B, Vmax (kN)



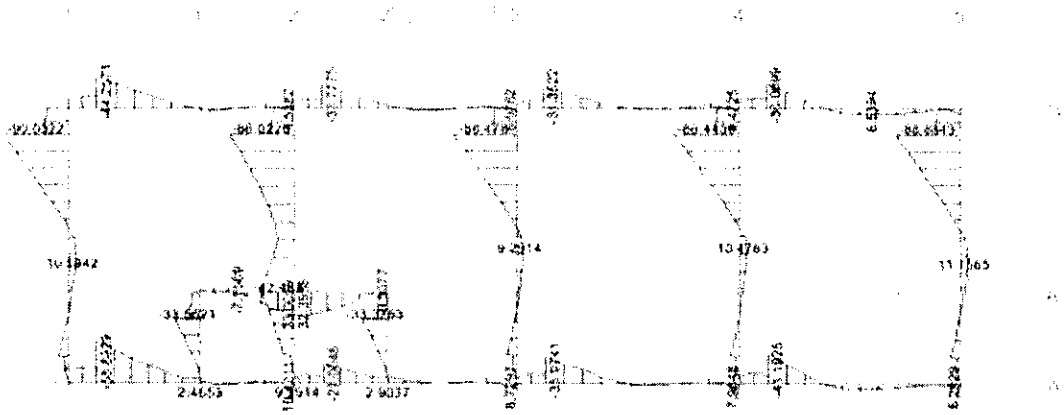
Zapatas - Strip B, Vmin (kN)



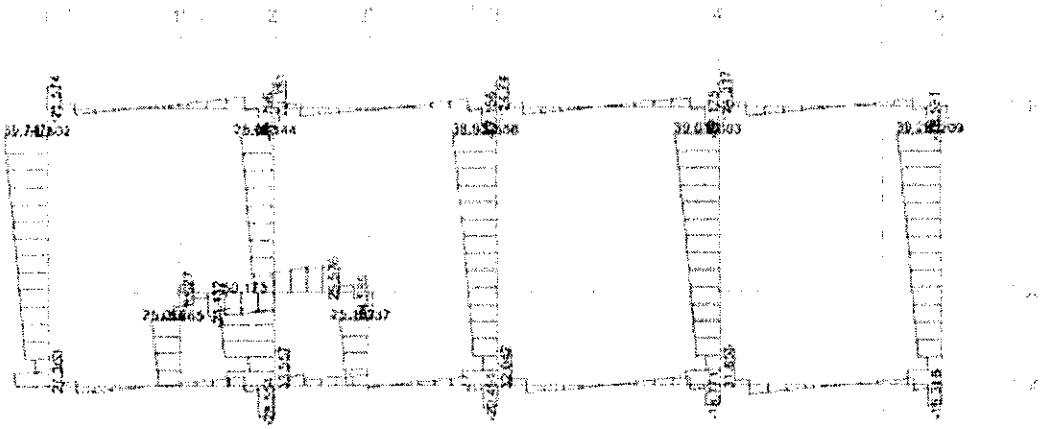
Zapatas SUELO E - Strip B, Acero de Refuerzo



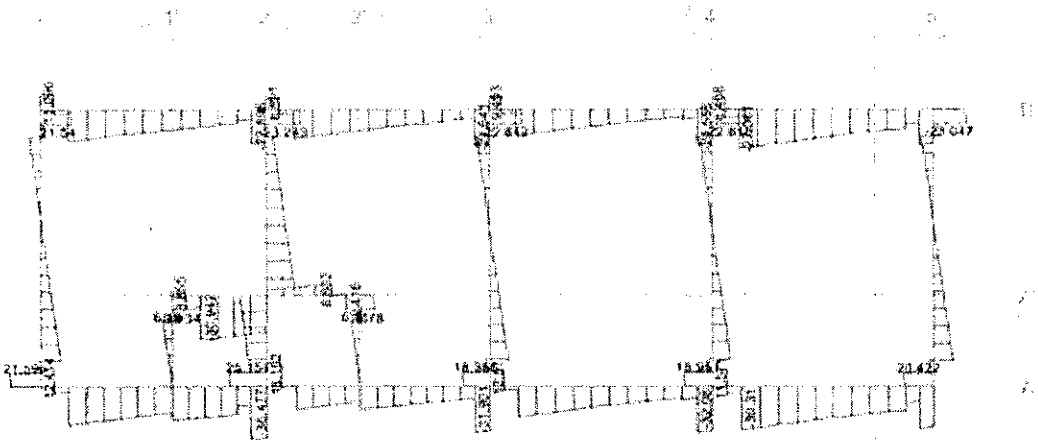
Vigas, Mmax (kN-m)



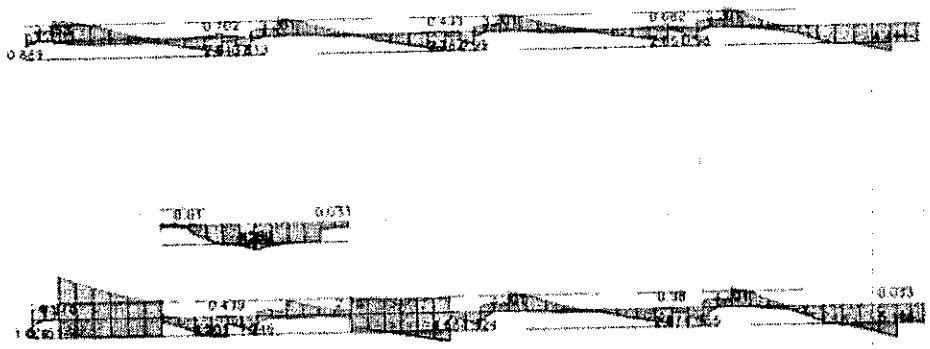
Vigas, Mmin (kN-m)



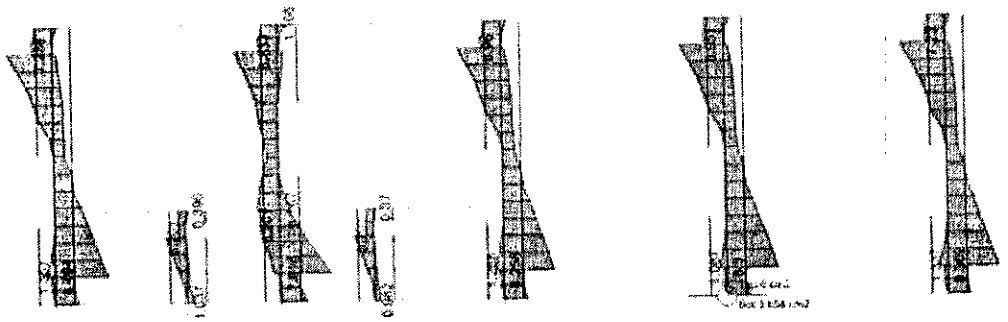
Vigas, Vmax (kN)



Vigas, Vmin (kN)



Vigas Long. Suelo E, Acero de refuerzo a flexion (cm2)



Vigas Transv. Suelo E, Acero de refuerzo a flexion (cm2)