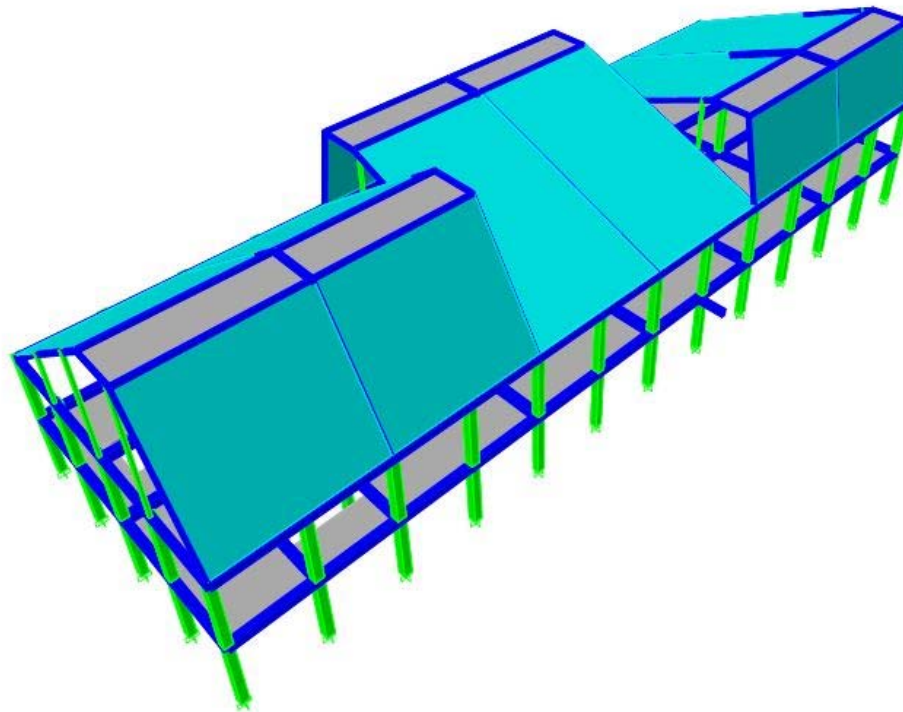


**PROYECTO: CENTRO DE ATENCIÓN
ESPECIALIZADA – EL REDENTOR,
BLOQUE C. TRANSV. 30 # 57-50 SUR/
DIAG. 58 SUR # 28-19, BOGOTÁ
(CUNDINAMARCA)
dye14-2059**



**MEMORIAS DE ANÁLISIS
Y DISEÑO ESTRUCTURAL**

Bogotá D.C. SEPTIEMBRE DE 2014

1. DESCRIPCIÓN DEL PROYECTO

1.1. INTRODUCCIÓN

El presente documento contiene las memorias de análisis y diseño estructural correspondiente al proyecto **CENTRO DE ATENCIÓN ESPECIALIZADA (CAE) – EL REDENTOR, BLOQUE C**, ubicado en la **TRANSV. 30 # 57-50 SUR/ DIAG. 58 SUR # 28-19, BOGOTÁ (CUNDINAMARCA)**.

1.2. DESCRIPCIÓN ARQUITECTÓNICA

El proyecto se encuentra ubicado en un lote de 21330m² de área aproximadamente, en la cual se contempla la construcción de diferentes bloques que funcionarán como un Centro de Atención Especializada (CAE).

1.3. PARÁMETROS UTILIZADOS PARA EL REFORZAMIENTO ESTRUCTURAL

El proyecto se soluciona mediante el diseño de una estructura aporricada, utilizando para el entrepiso del nivel N:+4.45 m placa aligerada en dos direcciones, con una torta superior de e=0.05 m, torta inferior de e=0.03m y una altura total de e=0.50m. La cubierta liviana se apoya sobre correas metálicas tipo ACESCO y éstas a su vez sobre una estructura metálica en tubería estructural situada en las vigas de cubierta del nivel N:+8.90 m, tal como se indica en los planos estructurales. Se manejan luces que varían entre 4.40 m y 4.50 m en los dos sentidos de la estructura.

Para el análisis se empleó el programa de computador **ETABS v.9.7.4**, el cual tiene en cuenta los efectos de segundo orden. Las consideraciones sísmicas empleadas en el análisis estructural del proyecto son las siguientes:

- | | |
|---|--------------------------------|
| ✓ Método de análisis: | Análisis Modal |
| ✓ Zona de amenaza sísmica: | Intermedia |
| ✓ Zona de microzonificación sísmica: | Aluvial-100 |
| ✓ Capacidad de disipación de energía: | Moderada |
| ✓ Coeficiente de disipación de energía: | $R_o = 5.00$ |

El coeficiente de disipación de energía se afecta por las irregularidades presentes en la geometría de cada estructura, las cuales se describen a continuación:

- ✓ Uniones soldadas: $\phi_a = 0.90$
- ✓ Redundancia de la estructura: NO CUMPLE $\phi_r = 0.75$

El valor final del coeficiente R es igual a **3.38**

Las cargas horizontales fueron distribuidas entre los diferentes pórticos en proporción a su rigidez y teniendo en cuenta los efectos de torsión.

El dimensionamiento dado a todos los elementos que intervienen en las estructuras satisfacen los requerimientos de sollicitación ocasionados por las derivas presentes. Las cargas vivas de diseño son: **5.00 kN/m²** para entrepiso de comedores, **5.00 KN/m²** para entrepiso de terrazas, **5.00 KN/m²** para escaleras y **0.50 KN/m²** en cubierta liviana.

Para la cimentación se siguieron las recomendaciones descritas en el respectivo estudio de suelos, que recomienda apoyar la estructura a -1.20 m del nivel actual del terreno mediante zapatas aisladas según lo indicado en los planos estructurales. La capacidad portante de seguridad admisible del suelo es **0.22 MPa** y el tipo de suelo es **F**.

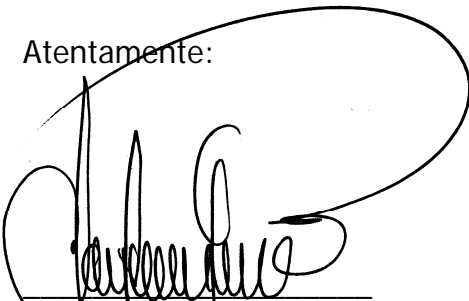
El diseño de todas las estructuras se realizó basado en la Norma Colombiana de Diseño y Construcción Sismo Resistente Ley 400 de 1997 (Modificada Ley 1229 de 2008) y Decreto 926 de Marzo de 2010, en el Decreto 523 de 2010 (Microzonificación Sísmica de Bogotá) y en el Reglamento para Concreto Estructural ACI 318S-08.

1.4. MATERIALES

Los materiales utilizados son:

Concreto	21.1 MPa para cimentación, vigas, columnas y placas.
Concreto	14 MPa (para concreto de limpieza).
Acero	para refuerzo $f_y = 420$ MPa en todos los diámetros.
Acero	HSLAS GRADO 50 en perfiles metálicos tipo PHR.
Acero	A500 en vigas y columnas metálicas.

Atentamente:



JAIR USECHE MACÍAS
ING. ESTRUCTURAL
T.P. 25202-56174 CND

MEMORIAL DE RESPONSABILIDAD

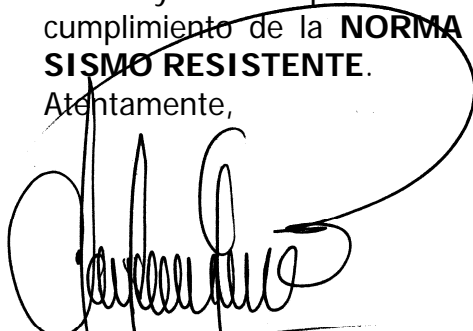
Bogotá D.C. Septiembre de 2014

Señores
CURADURÍA URBANA
La Ciudad

Yo, **JAIR USECHE MACÍAS**, ingeniero civil con Matrícula Profesional N° **25202-56174** de **CUNDINAMARCA**, debidamente registrado en el consejo profesional de Ingeniería y Arquitectura de Cundinamarca, presento los Cálculos y Diseños Estructurales elaborados de acuerdo a los requerimientos de la **NORMA COLOMBIANA DE DISEÑO Y CONSTRUCCIÓN SISMO RESISTENTE LEY 400 DE 1997 (MODIFICADA LEY 1229 DE 2008) Y DECRETO 926 DE MARZO DE 2010**, para el proyecto **CENTRO DE ATENCIÓN ESPECIALIZADA – EL REDENTOR, BLOQUE C.** ubicado en la **TRANSV. 30 # 57-50 SUR/ DIAG. 58 SUR # 28-19, BOGOTÁ (CUNDINAMARCA)**, declaro que asumo la responsabilidad por los perjuicios que causa de ellos puedan deducirse, exonerando a esta **CURADURIA URBANA** de cualquier responsabilidad.

Acepto y reconozco que la revisión efectuada por esta **CURADURÍA URBANA** no constituye una aprobación al Diseño Estructural, sino una verificación del cumplimiento de la **NORMA COLOMBIANA DE DISEÑO Y CONSTRUCCIÓN SISMO RESISTENTE.**

Atentamente,



JAIR USECHE MACÍAS
ING. ESTRUCTURAL
T.P. 25202-56174 CND

REPUBLICA DE COLOMBIA
Consejo Profesional Nacional de Ingeniería
y Arquitectura



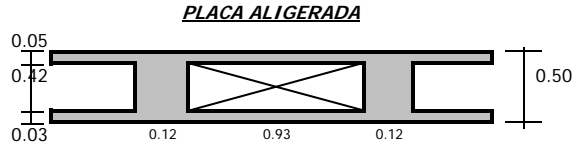
MATRÍCULA No. 2528256174CND
INGENIERO CIVIL
DE FECHA 27/07/95
APELLIDOS
USECHE MACÍAS
NOMBRES
JAIR
C.C. 19.428.425
UNIV. NACIONAL - BOGOTÁ

Óscar Villalaz
Presidente del Consejo

2. AVALÚO DE CARGAS

AVALÚO DE CARGAS

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR,
BLOQUE C, BOGOTÁ (CUNDINAMARCA)**
AVALÚO DE CARGAS



ALTURA DE PLACA	50 cm
TORTA SUPERIOR	5 cm
TORTA INFERIOR	3 cm

1. PLACA ALIGERADA COMEDOR Y TERRAZA

Tortas	0.05x24	1.92 kN/m ²
Viguetas	2X0.12x0.42x24/0.93	2.60 kN/m ²
Casetón		0.35 kN/m ²
Acabados	22x0.05	1.10 kN/m ²
Muros divisorios		0.50 kN/m ²
		<hr/>
	CM	6.47 kN/m ²
	CV	5.00 kN/m ²
	CR	11.47 kN/m ²

$$CU = 1.2 \times 6.47 + 1.6 \times 5 = 15.8 \text{ kN/m}^2$$

Espesor de placa equivalente:

$$e = CM/24 = 0.270 \text{ m}$$

MUROS PERIMETRALES	0.15x4.0x13	7.80 kN/m
--------------------	-------------	-----------

2. CUBIERTA LIVIANA

Eterboard		0.15 kN/m ²
Estructura Metálica		0.10 kN/m ²
Iluminación		0.05 kN/m ²
		<hr/>
	CM	0.30 kN/m ²
	CV	0.50 kN/m ²
	CR	0.80 kN/m ²

$$CU = 1.2 \times 0.3 + 1.6 \times 0.5 = 1.16 \text{ kN/m}^2$$

Espesor de placa equivalente:

$$e = CM/24 = 0.013 \text{ m}$$

Pendiente de Cubierta α (°) = **21.0** → Equivale a 38.4%

Según la tabla B.4.2.1-2 - En cubiertas inclinadas con más de 15° de pendiente en estructura metálica o de madera la carga viva asumida puede ser 0.35 kN/m².

Según B.4.8.3.2 - Para cubiertas con inclinación mayor a 15% el valor de la carga viva para granizo puede reducirse a 0.50 kN/m².

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ
(CUNDINAMARCA)
AVALÚO DE CARGAS DE VIENTO
MÉTODO ANALÍTICO**

B.6.5.1 - Un edificio cuyas cargas de viento de diseño sean determinadas de acuerdo con esta sección deberá cumplir las siguientes condiciones:

- (a) El edificio o estructura es de forma regular, como se define en la sección B.6.2. de NSR-10
- (b) El edificio o estructura no tiene características de respuesta que den lugar a cargas transversales de viento, generación de vórtices, inestabilidad debida a golpeo o aleteo y que por su ubicación, tampoco deben merecer consideración especial los efectos de canalización o sacudimiento por la estela producida por las obstrucciones a barlovento.

B.6.5.3 - PROCEDIMIENTO DE DISEÑO

(a) Determinar Velocidad básica del viento V y factor de dirección K_d:

Zona de amenaza eólica (figura B.6.4-1):

Ciudad: Bogotá
Región: 2
Velocidad del viento: 28 m/s

Región	Velocidad del viento			
	Combinaciones de carga de			
	B.2.3		B.2.4	
	m/s	km/h	m/s	km/h
1	17	60	22	75
2	22	80	28	100
3	28	100	35	125
4	33	120	42	150
5	36	130	46	165

Factor de direccionalidad del viento k_d:

Tipo de estructura: Edificios
K_d = 0.85

Factor de importancia I :

Categoría: III
I = 1.15

Coefficientes de exposición:

Rugosidad del terreno: C Terreno abierto con pocas obstrucciones y con alturas inferiores a 9.0 m. Esta categoría incluye campos planos abiertos, praderas y todas las superficies acuáticas en zonas propensas a huracanes.

Categoría de exposición: C La categoría de exposición C aplicará para todos los casos donde no apliquen las categorías B y D.

h edificación = 17.05 m
K_h = 1.117
K_{z1} = 1.00

Factor de ráfaga:

T_{adoptado} = 0.66 seg
Frecuencia f = 1.52 Hz Estructura rígida
G = 0.85

Coefficiente de presión interna GC_{pi} y coeficiente de presión externa C_p

GC_{pi} = 0.18 para edificios cerrados
C_p = 0.01
1.41

Presión por viento a la altura media de la cubierta q_h:

$$q_h = 0.613 k_h k_{zt} k_d V^2 I \text{ N/m}^2$$

$$q_h = 524.74 \text{ N/m}^2$$

$$0.52 \text{ kN/m}^2$$

Por lo tanto la carga de viento a emplear es: 0.52 kN/m²

L_{fachada} = 58.90 m
h_{fachada} = 8.05 m
A_{fachada} = 474.15 m²
F_{viento} = 24.88 ton
F_{sismo} = 73.13 ton **Prevalece la fuerza sísmica**

3. ANÁLISIS SÍSMICO

ANÁLISIS SÍSMICO ***COMPROBACIÓN DE DERIVAS***

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR,
 BLOQUE C, BOGOTÁ (CUNDINAMARCA)
 ANÁLISIS SÍSMICO (ESPECTRO DE DISEÑO - CURVA DE DISEÑO)
 MICROZONIFICACIÓN SÍSMICA DE BOGOTÁ D.C.**

ZONA DE AMENAZA SÍSMICA
<i>INTERMEDIA</i>

ZONA DE MICROZONIFICACIÓN
<i>ALUVIAL-100</i>

EFFECTOS LOCALES

Perfil de Suelo	F
Coefficiente Av	0.20

COEFICIENTE DE IMPORTANCIA

Grupo de Uso	III
Coefficiente de importancia I	1.25

VARIACIÓN COEFICIENTE DE CAPACIDAD DE DISIPACIÓN DE ENERGÍA

R_0 : Coeficiente de capacidad de disipación de energía básico.

R : Coeficiente de capacidad de disipación de energía, para ser empleado en el diseño.

ϕ_a : Coeficiente de reducción de R causado por irregularidades en altura de la edificación.

ϕ_p : Coeficiente de reducción de R causado por irregularidades en planta de la edificación.

ϕ_r : Coeficiente de reducción de R causado por ausencia de redundancia en el sistema estructural de resistencia sísmica.

R_0	5.00
ϕ_p	1.00
ϕ_a	1.00
ϕ_r	0.75
ϕ	0.90
R	3.38

TIPO	DESCRIPCIÓN	VALOR
3P		ϕ_p : 1.00
3A		ϕ_a : 1.00
	REDUNDANCIA	ϕ_r : 0.75
	UNIONES SOLDADAS	ϕ : 0.90

Para edificaciones clasificadas como irregulares el valor de **R_o** debe multiplicarse por ϕ_a , ϕ_p y por ϕ_r para obtener **R = $\phi_a \times \phi_p \times \phi_r \times R_o$**

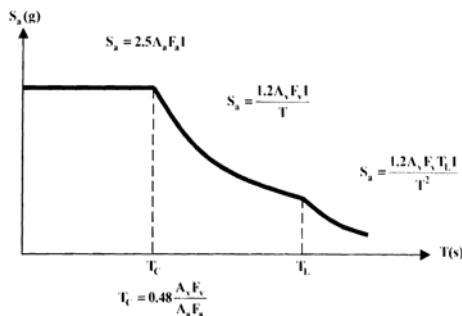
ESPECTRO DE DISEÑO

- Fa: Coeficiente de ampliación que afecta la aceleración en la zona de periodos cortos.
- Fv: Coeficiente de ampliación que afecta la aceleración en la zona de periodos intermedios.
- Sa: Aceleración espectral (g).
- Aa: Aceleración horizontal pico efectiva de diseño. Aa=0.15g.
- Ao: Aceleración horizontal pico efectiva del terreno en superficie (g).
- Av: Aceleración que representa la velocidad horizontal pico efectiva de diseño. Av=0.20g.
- T: Periodo de vibración del sistema elástico, en segundos.
- Tc: Periodo corto, en segundos.
- Tl: Periodo largo, en segundos.

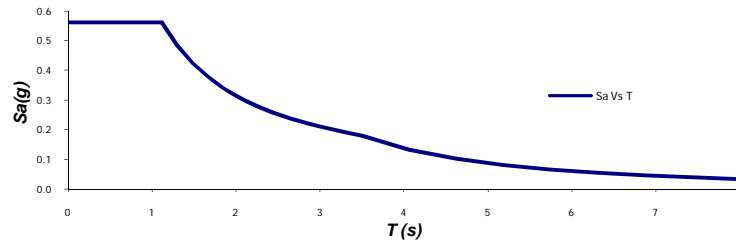
ALUVIAL-100		
T _c :	1.12	Seg
T _l :	3.50	Seg
Ao:	0.18	g
Aa:	0.15	g
Fa:	1.20	
Fv:	2.10	

T (Seg)	Sa (%g)	Sa/R _{adoptado} (%g)
0.00	0.563	0.167
0.16	0.563	0.167
0.32	0.563	0.167
0.48	0.563	0.167
0.64	0.563	0.167
0.80	0.563	0.167
0.96	0.563	0.167
1.12	0.563	0.167
1.30	0.483	0.143
1.49	0.424	0.126
1.67	0.377	0.112
1.85	0.340	0.101
2.04	0.310	0.092
2.22	0.284	0.084
2.40	0.262	0.078
2.58	0.244	0.072
2.77	0.228	0.067
2.95	0.214	0.063
3.13	0.201	0.060
3.32	0.190	0.056
3.50	0.180	0.053
4.06	0.134	0.040
4.63	0.103	0.031
5.19	0.082	0.024
5.75	0.067	0.020
6.31	0.055	0.016
6.88	0.047	0.014
7.44	0.040	0.012
8.00	0.034	0.010

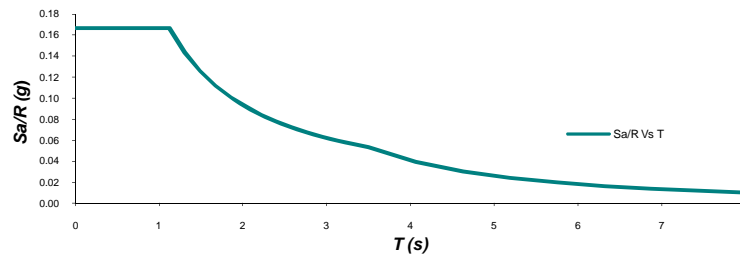
Curva de diseño para un coeficiente de amortiguamiento de 5% del crítico



Espectro Elástico de Diseño



Espectro Elástico de Diseño/R_{adop}



Sistema de resistencia Sísmica: Pórticos resistentes a momentos con Capacidad Moderada de Disipación de Energía (DMO).

Nota: El sistema de pórtico es un sistema estructural compuesto por un pórtico espacial, resistente a momentos, esencialmente completo, sin diagonales, que resiste todas las cargas verticales y las fuerzas horizontales.

MODELO MATEMÁTICO

Modelo Tridimensional con Diafragma Rígido: En este modelo los entrepisos se consideran diafragmas infinitamente rígidos en su propio plano. La masa de cada diafragma se considera concentrada en su centro de masa. Los efectos torsionales accidentales son incluidos haciendo ajustes en la localización de los centros de masa de los diafragmas. Los efectos direccionales son tomados en cuenta a través de las componentes de los desplazamientos de los grados de libertad horizontales ortogonales del diafragma.

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR,
BLOQUE C, BOGOTÁ (CUNDINAMARCA)
ANÁLISIS SÍSMICO (ESPECTRO DE DISEÑO - CURVA DE UMBRAL DE DAÑO)
MICROZONIFICACIÓN SÍSMICA DE BOGOTÁ D.C.**

ZONA DE AMENAZA SÍSMICA
<i>INTERMEDIA</i>

ZONA DE MICROZONIFICACIÓN
<i>ALUVIAL-100</i>

EFFECTOS LOCALES

Perfil de Suelo	F
Coefficiente Ad	0.06

COEFICIENTE DE IMPORTANCIA

Grupo de Uso	III
Coefficiente de importancia I	1.25

ESPECTRO DE UMBRAL DE DAÑO

Fa: Coeficiente de ampliación que afecta la aceleración en la zona de periodos cortos.

Fv: Coeficiente de ampliación que afecta la aceleración en la zona de periodos intermedios.

Sad: Aceleración espectral de umbral de daño (g).

Ad: Aceleración horizontal pico efectiva de umbral de daño. Ad=0.06g.

Aod: Aceleración horizontal pico efectiva del terreno para umbral de daño en superficie (g).

T: Periodo de vibración del sistema elástico, en segundos.

T_{0d}: Periodo inicial de umbral de daño, en segundos.

T_{cd}: Periodo corto de umbral de daño, en segundos.

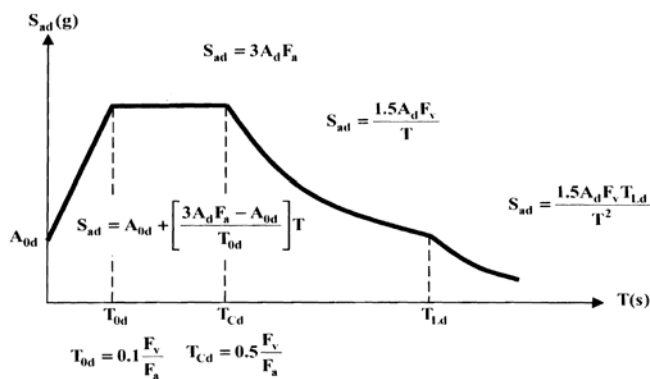
T_{ld}: Periodo largo de umbral de daño, en segundos.

ALUVIAL-100

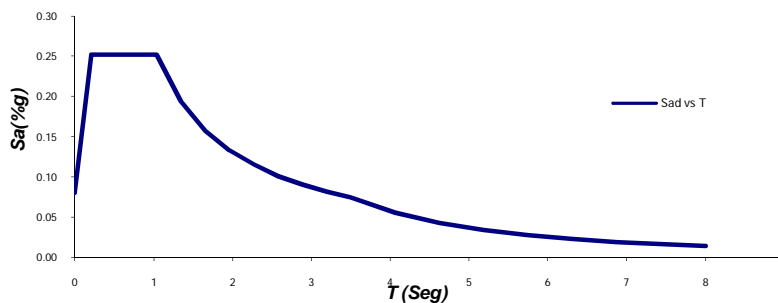
T_{Cd} :	1.04	Seg
T_{Ld} :	3.50	Seg
T_{0d} :	0.21	Seg
A_{0d} :	0.08	g
F_a :	1.40	
F_v :	2.90	

T (Seg)	S _{ad} (%g)
0.00	0.080
0.21	0.252
0.28	0.252
0.35	0.252
0.42	0.252
0.49	0.252
0.56	0.252
0.63	0.252
0.69	0.252
0.76	0.252
0.83	0.252
0.90	0.252
0.97	0.252
1.04	0.252
1.35	0.194
1.66	0.158
1.96	0.133
2.27	0.115
2.58	0.101
2.89	0.090
3.19	0.082
3.50	0.075
4.06	0.055
4.63	0.043
5.19	0.034
5.75	0.028
6.31	0.023
6.88	0.019
7.44	0.017
8.00	0.014

Curva de umbral de daño para un coeficiente de amortiguamiento de 2% del crítico.



Espectro De Umbral De Daño



Sistema de resistencia Sísmica: Pórticos resistentes a momentos con Capacidad Moderada de Disipación de Energía (DMO).

Nota: El sistema de pórtico es un sistema estructural compuesto por un pórtico espacial, resistente a momentos, esencialmente completo, sin diagonales, que resiste todas las cargas verticales y las fuerzas horizontales.

MODELO MATEMÁTICO

Modelo Tridimensional con Diafragma Rígido: En este modelo los entrepisos se consideran diafragmas infinitamente rígidos en su propio plano. La masa de cada diafragma se considera concentrada en su centro de masa. Los efectos torsionales accidentales son incluidos haciendo ajustes en la localización de los centros de masa de los diafragmas. Los efectos direccionales son tomados en cuenta a través de las componentes de los desplazamientos de los grados de libertad horizontales ortogonales del diafragma.

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)
 CALCULO DEL CORTANTE BASAL DE LA ESTRUCTURA (ESPECTRO DE DISEÑO)
 MICROZONIFICACIÓN SÍSMICA DE BOGOTÁ D.C.

CALCULO DEL CORTANTE BASAL DE LA ESTRUCTURA

H_{edificio}	=	17.05	m	
Tipo de Perfil:		F		
Aa	=	0.15		
Av	=	0.20		
Fa	=	1.20		
Fv	=	2.10		
T_c	=	1.12	Seg	
C_t	=	0.047		
α	=	0.90		
T_a	=	0.60	Seg	
C_u	=	1.25		
$C_u T_a$	=	0.75	Seg	
$T_{\text{modelación estructural}}$	=	0.66	Seg	
ΔT	=	9.37	%	Ok!
T_{adoptado}	=	0.66	Seg	
S_a	=	0.563		S_a obtenido del espectro de diseño
g	=	9.81	m/s ²	
M	=	1354.33	Ton	Masa obtenida del modelo
V_s	=	7480.01	kN	
90% V_s	=	6732.00	kN	Cortante basal para comparación de acuerdo a A.5.4.5 NSR-10

MODELO INICIAL
 Response Spectrum Base Reactions

PORCENTAJE PARA REVISIÓN DE CORTANTE BASAL DE ACUERDO A A.5.4.5 NSR-10: 90.0 %

	F1	F2	Total	Factor		g corregido
$V_{s(x)}$	5459.56	48.35	5459.77	1.233	12.096	Se aplica en SISMO X
$V_{s(y)}$	48.35	4921.12	4921.36	1.368	13.419	Se aplica en SISMO Y

MODELO CORREGIDO
 Response Spectrum Base Reactions

	F1	F2	Total	90% V_s
$V_{s(x)}$	6731.79	59.62	6732.05	6732.0
$V_{s(y)}$	66.14	6731.55	6731.87	6732.0

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)
 CALCULO DEL CORTANTE BASAL DE LA ESTRUCTURA (ESPECTRO DE UMBRAL DE DAÑO)
 MICROZONIFICACIÓN SÍSMICA DE BOGOTÁ D.C.

CALCULO DEL CORTANTE BASAL DE LA ESTRUCTURA

H _{edificio} =	17.05	m	
Tipo de Perfil:	F		
Ad =	0.06		
Fv =	2.10		
C _t =	0.047		
α =	0.90		
T _a =	0.60	Seg	
C _u =	1.25		
C _u T _a =	0.75	Seg	
T _{modelación estructural} =	0.66	Seg	
ΔT =	9.37	%	Ok!
T _{adoptado} =	0.66	Seg	
S _a =	0.252		S _a obtenido del espectro de diseño
g =	9.81	m/s ²	
M =	1354.33	Ton	Masa obtenida del modelo
V _s =	3348.07	kN	
100% V _s =	3348.07	kN	Cortante basal para comparación de acuerdo a A.5.4.5 NSR-10

MODELO INICIAL

Response Spectrum Base Reactions

PORCENTAJE PARA REVISIÓN DE CORTANTE BASAL DE ACUERDO A A.5.4.5 NSR-10: 100.0 %

	F1	F2	Total	Factor		g corregido
V _{s(x)} =	2445.66	21.02	2445.75	1.369	13.429	Se aplica en SISMO X
V _{s(y)} =	21.02	2204.07	2204.17	1.519	14.901	Se aplica en SISMO Y

MODELO CORREGIDO

Response Spectrum Base Reactions

	F1	F2	Total	100% V _s
V _{s(x)} =	3347.88	28.78	3348.00	3348.1
V _{s(y)} =	31.93	3347.89	3348.04	3348.1

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA) CÁLCULO DE DERIVAS MÁXIMAS

ALTURA DE N+8.90	4.45	m		Deriva Máxima	1.00	%
ALTURA DE N+4.45	4.50	m		Permitida		
ALTURA DE BASE	0.00	m				

Nivel	Punto	COMBINACIÓN DE CARGA	DESPLAZAMIENTOS FUERZA SÍSMICA		Deriva Δ m	Deriva Δ %	Observación
			Desplazamiento X	Desplazamiento Y			
N+8.90	2	COMDER1 MAX	0.01990	0.00670	0.00733	0.16	OK
N+8.90	2	COMDER1 MIN	-0.01990	-0.00670	0.00733	0.16	OK
N+8.90	2	COMDER2 MAX	0.01079	0.01668	0.00752	0.17	OK
N+8.90	2	COMDER2 MIN	-0.01079	-0.01668	0.00752	0.17	OK
N+4.45	2	COMDER1 MAX	0.01313	0.00389	0.01369	0.30	OK
N+4.45	2	COMDER1 MIN	-0.01313	-0.00389	0.01369	0.30	OK
N+4.45	2	COMDER2 MAX	0.00737	0.00998	0.01241	0.28	OK
N+4.45	2	COMDER2 MIN	-0.00737	-0.00998	0.01241	0.28	OK
BASE	2	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	2	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	2	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	2	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	3	COMDER1 MAX	0.01990	0.00918	0.00867	0.19	OK
N+8.90	3	COMDER1 MIN	-0.01990	-0.00918	0.00867	0.19	OK
N+8.90	3	COMDER2 MAX	0.01079	0.02265	0.01299	0.29	OK
N+8.90	3	COMDER2 MIN	-0.01079	-0.02265	0.01299	0.29	OK
N+4.45	3	COMDER1 MAX	0.01313	0.00375	0.01366	0.30	OK
N+4.45	3	COMDER1 MIN	-0.01313	-0.00375	0.01366	0.30	OK
N+4.45	3	COMDER2 MAX	0.00737	0.01012	0.01252	0.28	OK
N+4.45	3	COMDER2 MIN	-0.00737	-0.01012	0.01252	0.28	OK
BASE	3	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	3	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	3	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	3	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	4	COMDER1 MAX	0.01983	0.00958	0.00888	0.20	OK
N+8.90	4	COMDER1 MIN	-0.01983	-0.00958	0.00888	0.20	OK
N+8.90	4	COMDER2 MAX	0.01072	0.02740	0.01721	0.39	OK
N+8.90	4	COMDER2 MIN	-0.01072	-0.02740	0.01721	0.39	OK
N+4.45	4	COMDER1 MAX	0.01313	0.00375	0.01366	0.30	OK
N+4.45	4	COMDER1 MIN	-0.01313	-0.00375	0.01366	0.30	OK
N+4.45	4	COMDER2 MAX	0.00737	0.01052	0.01284	0.29	OK
N+4.45	4	COMDER2 MIN	-0.00737	-0.01052	0.01284	0.29	OK
BASE	4	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	4	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	4	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	4	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	5	COMDER1 MAX	0.01983	0.01106	0.00991	0.22	OK
N+8.90	5	COMDER1 MIN	-0.01983	-0.01106	0.00991	0.22	OK
N+8.90	5	COMDER2 MAX	0.01072	0.02807	0.01728	0.39	OK
N+8.90	5	COMDER2 MIN	-0.01072	-0.02807	0.01728	0.39	OK
N+4.45	5	COMDER1 MAX	0.01313	0.00375	0.01366	0.30	OK
N+4.45	5	COMDER1 MIN	-0.01313	-0.00375	0.01366	0.30	OK
N+4.45	5	COMDER2 MAX	0.00737	0.01112	0.01334	0.30	OK
N+4.45	5	COMDER2 MIN	-0.00737	-0.01112	0.01334	0.30	OK
BASE	5	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	5	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	5	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	5	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	6	COMDER1 MAX	0.01983	0.00884	0.00833	0.19	OK
N+8.90	6	COMDER1 MIN	-0.01983	-0.00884	0.00833	0.19	OK
N+8.90	6	COMDER2 MAX	0.01072	0.02278	0.01142	0.26	OK
N+8.90	6	COMDER2 MIN	-0.01072	-0.02278	0.01142	0.26	OK
N+4.45	6	COMDER1 MAX	0.01313	0.00389	0.01369	0.30	OK
N+4.45	6	COMDER1 MIN	-0.01313	-0.00389	0.01369	0.30	OK
N+4.45	6	COMDER2 MAX	0.00737	0.01186	0.01396	0.31	OK
N+4.45	6	COMDER2 MIN	-0.00737	-0.01186	0.01396	0.31	OK
BASE	6	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	6	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	6	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	6	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	7	COMDER1 MAX	0.01983	0.01260	0.01088	0.24	OK
N+8.90	7	COMDER1 MIN	-0.01983	-0.01260	0.01088	0.24	OK
N+8.90	7	COMDER2 MAX	0.01072	0.03611	0.02356	0.53	OK
N+8.90	7	COMDER2 MIN	-0.01072	-0.03611	0.02356	0.53	OK
N+4.45	7	COMDER1 MAX	0.01313	0.00402	0.01373	0.31	OK
N+4.45	7	COMDER1 MIN	-0.01313	-0.00402	0.01373	0.31	OK
N+4.45	7	COMDER2 MAX	0.00737	0.01280	0.01477	0.33	OK
N+4.45	7	COMDER2 MIN	-0.00737	-0.01280	0.01477	0.33	OK

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C,
 BOGOTÁ (CUNDINAMARCA)
 CÁLCULO DE DERIVAS MÁXIMAS**

ALTURA DE N+8.90 4.45 m
 ALTURA DE N+4.45 4.50 m
 ALTURA DE BASE 0.00 m

Deriva Máxima 1.00 %
 Permitida

Nivel	Punto	COMBINACIÓN DE CARGA	DESPLAZAMIENTOS FUERZA SÍSMICA		Deriva Δ m	Deriva Δ %	Observación
			Desplazamiento X	Desplazamiento Y			
BASE	7	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	7	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	7	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	7	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	8	COMDER1 MAX	0.01983	0.01407	0.01186	0.27	OK
N+8.90	8	COMDER1 MIN	-0.01983	-0.01407	0.01186	0.27	OK
N+8.90	8	COMDER2 MAX	0.01072	0.04556	0.03180	0.71	OK
N+8.90	8	COMDER2 MIN	-0.01072	-0.04556	0.03180	0.71	OK
N+4.45	8	COMDER1 MAX	0.01313	0.00429	0.01381	0.31	OK
N+4.45	8	COMDER1 MIN	-0.01313	-0.00429	0.01381	0.31	OK
N+4.45	8	COMDER2 MAX	0.00737	0.01394	0.01576	0.35	OK
N+4.45	8	COMDER2 MIN	-0.00737	-0.01394	0.01576	0.35	OK
BASE	8	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	8	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	8	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	8	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	10	COMDER1 MAX	0.01977	0.01467	0.01182	0.27	OK
N+8.90	10	COMDER1 MIN	-0.01977	-0.01467	0.01182	0.27	OK
N+8.90	10	COMDER2 MAX	0.01072	0.04188	0.02654	0.60	OK
N+8.90	10	COMDER2 MIN	-0.01072	-0.04188	0.02654	0.60	OK
N+4.45	10	COMDER1 MAX	0.01313	0.00489	0.01401	0.31	OK
N+4.45	10	COMDER1 MIN	-0.01313	-0.00489	0.01401	0.31	OK
N+4.45	10	COMDER2 MAX	0.00737	0.01554	0.01720	0.38	OK
N+4.45	10	COMDER2 MIN	-0.00737	-0.01554	0.01720	0.38	OK
BASE	10	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	10	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	10	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	10	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	11	COMDER1 MAX	0.01977	0.01132	0.00883	0.20	OK
N+8.90	11	COMDER1 MIN	-0.01977	-0.01132	0.00883	0.20	OK
N+8.90	11	COMDER2 MAX	0.01072	0.03203	0.01512	0.34	OK
N+8.90	11	COMDER2 MIN	-0.01072	-0.03203	0.01512	0.34	OK
N+4.45	11	COMDER1 MAX	0.01313	0.00549	0.01423	0.32	OK
N+4.45	11	COMDER1 MIN	-0.01313	-0.00549	0.01423	0.32	OK
N+4.45	11	COMDER2 MAX	0.00737	0.01729	0.01879	0.42	OK
N+4.45	11	COMDER2 MIN	-0.00737	-0.01729	0.01879	0.42	OK
BASE	11	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	11	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	11	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	11	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	12	COMDER1 MAX	0.01977	0.01628	0.01210	0.27	OK
N+8.90	12	COMDER1 MIN	-0.01977	-0.01628	0.01210	0.27	OK
N+8.90	12	COMDER2 MAX	0.01065	0.04596	0.02713	0.61	OK
N+8.90	12	COMDER2 MIN	-0.01065	-0.04596	0.02713	0.61	OK
N+4.45	12	COMDER1 MAX	0.01313	0.00616	0.01451	0.32	OK
N+4.45	12	COMDER1 MIN	-0.01313	-0.00616	0.01451	0.32	OK
N+4.45	12	COMDER2 MAX	0.00737	0.01903	0.02041	0.45	OK
N+4.45	12	COMDER2 MIN	-0.00737	-0.01903	0.02041	0.45	OK
BASE	12	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	12	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	12	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	12	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	13	COMDER1 MAX	0.01970	0.01621	0.01145	0.26	OK
N+8.90	13	COMDER1 MIN	-0.01970	-0.01621	0.01145	0.26	OK
N+8.90	13	COMDER2 MAX	0.01065	0.04998	0.02940	0.66	OK
N+8.90	13	COMDER2 MIN	-0.01065	-0.04998	0.02940	0.66	OK
N+4.45	13	COMDER1 MAX	0.01313	0.00683	0.01480	0.33	OK
N+4.45	13	COMDER1 MIN	-0.01313	-0.00683	0.01480	0.33	OK
N+4.45	13	COMDER2 MAX	0.00737	0.02077	0.02204	0.49	OK
N+4.45	13	COMDER2 MIN	-0.00737	-0.02077	0.02204	0.49	OK
BASE	13	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	13	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	13	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	13	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	14	COMDER1 MAX	0.01970	0.01836	0.01269	0.29	OK
N+8.90	14	COMDER1 MIN	-0.01970	-0.01836	0.01269	0.29	OK
N+8.90	14	COMDER2 MAX	0.01065	0.05300	0.03059	0.69	OK
N+8.90	14	COMDER2 MIN	-0.01065	-0.05300	0.03059	0.69	OK

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C,
 BOGOTÁ (CUNDINAMARCA)
 CÁLCULO DE DERIVAS MÁXIMAS**

ALTURA DE N+8.90	4.45	m	Deriva Máxima	1.00	%
ALTURA DE N+4.45	4.50	m	Permitida		
ALTURA DE BASE	0.00	m			

Nivel	Punto	COMBINACIÓN DE CARGA	DESPLAZAMIENTOS FUERZA SÍSMICA		Deriva Δ m	Deriva Δ %	Observación
			Desplazamiento X	Desplazamiento Y			
N+4.45	14	COMDER1 MAX	0.01313	0.00750	0.01512	0.34	OK
N+4.45	14	COMDER1 MIN	-0.01313	-0.00750	0.01512	0.34	OK
N+4.45	14	COMDER2 MAX	0.00737	0.02258	0.02375	0.53	OK
N+4.45	14	COMDER2 MIN	-0.00737	-0.02258	0.02375	0.53	OK
BASE	14	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	14	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	14	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	14	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	15	COMDER1 MAX	0.01977	0.01300	0.00820	0.18	OK
N+8.90	15	COMDER1 MIN	-0.01977	-0.01300	0.00820	0.18	OK
N+8.90	15	COMDER2 MAX	0.01065	0.03866	0.01471	0.33	OK
N+8.90	15	COMDER2 MIN	-0.01065	-0.03866	0.01471	0.33	OK
N+4.45	15	COMDER1 MAX	0.01313	0.00817	0.01547	0.34	OK
N+4.45	15	COMDER1 MIN	-0.01313	-0.00817	0.01547	0.34	OK
N+4.45	15	COMDER2 MAX	0.00737	0.02432	0.02541	0.56	OK
N+4.45	15	COMDER2 MIN	-0.00737	-0.02432	0.02541	0.56	OK
BASE	15	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	15	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	15	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	15	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	25	COMDER1 MAX	0.02868	0.00663	0.01638	0.37	OK
N+8.90	25	COMDER1 MIN	-0.02868	-0.00663	0.01638	0.37	OK
N+8.90	25	COMDER2 MAX	0.01266	0.01662	0.00977	0.22	OK
N+8.90	25	COMDER2 MIN	-0.01266	-0.01662	0.00977	0.22	OK
N+4.45	25	COMDER1 MAX	0.01253	0.00389	0.01312	0.29	OK
N+4.45	25	COMDER1 MIN	-0.01253	-0.00389	0.01312	0.29	OK
N+4.45	25	COMDER2 MAX	0.00549	0.00998	0.01139	0.25	OK
N+4.45	25	COMDER2 MIN	-0.00549	-0.00998	0.01139	0.25	OK
BASE	25	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	25	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	25	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	25	COMDER2 MIN	0.00000	0.00000	--	--	--
N+4.45	26	COMDER1 MAX	0.01253	0.00375	0.01308	0.29	OK
N+4.45	26	COMDER1 MIN	-0.01253	-0.00375	0.01308	0.29	OK
N+4.45	26	COMDER2 MAX	0.00549	0.01052	0.01187	0.26	OK
N+4.45	26	COMDER2 MIN	-0.00549	-0.01052	0.01187	0.26	OK
BASE	26	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	26	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	26	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	26	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	27	COMDER1 MAX	0.02593	0.00884	0.01429	0.32	OK
N+8.90	27	COMDER1 MIN	-0.02593	-0.00884	0.01429	0.32	OK
N+8.90	27	COMDER2 MAX	0.01059	0.02271	0.01199	0.27	OK
N+8.90	27	COMDER2 MIN	-0.01059	-0.02271	0.01199	0.27	OK
N+4.45	27	COMDER1 MAX	0.01253	0.00389	0.01312	0.29	OK
N+4.45	27	COMDER1 MIN	-0.01253	-0.00389	0.01312	0.29	OK
N+4.45	27	COMDER2 MAX	0.00549	0.01186	0.01307	0.29	OK
N+4.45	27	COMDER2 MIN	-0.00549	-0.01186	0.01307	0.29	OK
BASE	27	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	27	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	27	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	27	COMDER2 MIN	0.00000	0.00000	--	--	--
N+4.45	28	COMDER1 MAX	0.01253	0.00429	0.01324	0.29	OK
N+4.45	28	COMDER1 MIN	-0.01253	-0.00429	0.01324	0.29	OK
N+4.45	28	COMDER2 MAX	0.00549	0.01394	0.01498	0.33	OK
N+4.45	28	COMDER2 MIN	-0.00549	-0.01394	0.01498	0.33	OK
BASE	28	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	28	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	28	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	28	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	29	COMDER1 MAX	0.02586	0.01132	0.01455	0.33	OK
N+8.90	29	COMDER1 MIN	-0.02586	-0.01132	0.01455	0.33	OK
N+8.90	29	COMDER2 MAX	0.01065	0.03196	0.01555	0.35	OK
N+8.90	29	COMDER2 MIN	-0.01065	-0.03196	0.01555	0.35	OK
N+4.45	29	COMDER1 MAX	0.01253	0.00549	0.01368	0.30	OK
N+4.45	29	COMDER1 MIN	-0.01253	-0.00549	0.01368	0.30	OK
N+4.45	29	COMDER2 MAX	0.00549	0.01729	0.01814	0.40	OK
N+4.45	29	COMDER2 MIN	-0.00549	-0.01729	0.01814	0.40	OK

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA) CÁLCULO DE DERIVAS MÁXIMAS

ALTURA DE N+8.90	4.45	m	Deriva Máxima	1.00	%
ALTURA DE N+4.45	4.50	m	Permitida		
ALTURA DE BASE	0.00	m			

Nivel	Punto	COMBINACIÓN DE CARGA	DESPLAZAMIENTOS FUERZA SÍSMICA		Deriva Δ m	Deriva Δ %	Observación
			Desplazamiento X	Desplazamiento Y			
BASE	29	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	29	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	29	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	29	COMDER2 MIN	0.00000	0.00000	--	--	--
N+4.45	30	COMDER1 MAX	0.01253	0.00683	0.01427	0.32	OK
N+4.45	30	COMDER1 MIN	-0.01253	-0.00683	0.01427	0.32	OK
N+4.45	30	COMDER2 MAX	0.00549	0.02077	0.02148	0.48	OK
N+4.45	30	COMDER2 MIN	-0.00549	-0.02077	0.02148	0.48	OK
BASE	30	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	30	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	30	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	30	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	31	COMDER1 MAX	0.02894	0.01293	0.01709	0.38	OK
N+8.90	31	COMDER1 MIN	-0.02894	-0.01293	0.01709	0.38	OK
N+8.90	31	COMDER2 MAX	0.01380	0.03859	0.01651	0.37	OK
N+8.90	31	COMDER2 MIN	-0.01380	-0.03859	0.01651	0.37	OK
N+4.45	31	COMDER1 MAX	0.01253	0.00817	0.01496	0.33	OK
N+4.45	31	COMDER1 MIN	-0.01253	-0.00817	0.01496	0.33	OK
N+4.45	31	COMDER2 MAX	0.00549	0.02432	0.02493	0.55	OK
N+4.45	31	COMDER2 MIN	-0.00549	-0.02432	0.02493	0.55	OK
BASE	31	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	31	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	31	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	31	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	36	COMDER1 MAX	0.02613	0.00663	0.01447	0.33	OK
N+8.90	36	COMDER1 MIN	-0.02613	-0.00663	0.01447	0.33	OK
N+8.90	36	COMDER2 MAX	0.00831	0.01662	0.00812	0.18	OK
N+8.90	36	COMDER2 MIN	-0.00831	-0.01662	0.00812	0.18	OK
N+4.45	36	COMDER1 MAX	0.01193	0.00389	0.01254	0.28	OK
N+4.45	36	COMDER1 MIN	-0.01193	-0.00389	0.01254	0.28	OK
N+4.45	36	COMDER2 MAX	0.00362	0.00998	0.01062	0.24	OK
N+4.45	36	COMDER2 MIN	-0.00362	-0.00998	0.01062	0.24	OK
BASE	36	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	36	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	36	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	36	COMDER2 MIN	0.00000	0.00000	--	--	--
N+4.45	37	COMDER1 MAX	0.01193	0.00375	0.01250	0.28	OK
N+4.45	37	COMDER1 MIN	-0.01193	-0.00375	0.01250	0.28	OK
N+4.45	37	COMDER2 MAX	0.00362	0.01012	0.01074	0.24	OK
N+4.45	37	COMDER2 MIN	-0.00362	-0.01012	0.01074	0.24	OK
BASE	37	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	37	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	37	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	37	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	38	COMDER1 MAX	0.02613	0.00871	0.01504	0.34	OK
N+8.90	38	COMDER1 MIN	-0.02613	-0.00871	0.01504	0.34	OK
N+8.90	38	COMDER2 MAX	0.00831	0.02519	0.01540	0.35	OK
N+8.90	38	COMDER2 MIN	-0.00831	-0.02519	0.01540	0.35	OK
N+4.45	38	COMDER1 MAX	0.01193	0.00375	0.01250	0.28	OK
N+4.45	38	COMDER1 MIN	-0.01193	-0.00375	0.01250	0.28	OK
N+4.45	38	COMDER2 MAX	0.00362	0.01052	0.01112	0.25	OK
N+4.45	38	COMDER2 MIN	-0.00362	-0.01052	0.01112	0.25	OK
BASE	38	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	38	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	38	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	38	COMDER2 MIN	0.00000	0.00000	--	--	--
N+4.45	39	COMDER1 MAX	0.01193	0.00375	0.01250	0.28	OK
N+4.45	39	COMDER1 MIN	-0.01193	-0.00375	0.01250	0.28	OK
N+4.45	39	COMDER2 MAX	0.00362	0.01112	0.01170	0.26	OK
N+4.45	39	COMDER2 MIN	-0.00362	-0.01112	0.01170	0.26	OK
BASE	39	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	39	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	39	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	39	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	40	COMDER1 MAX	0.02606	0.00884	0.01498	0.34	OK
N+8.90	40	COMDER1 MIN	-0.02606	-0.00884	0.01498	0.34	OK
N+8.90	40	COMDER2 MAX	0.00831	0.02271	0.01182	0.27	OK
N+8.90	40	COMDER2 MIN	-0.00831	-0.02271	0.01182	0.27	OK

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C,
 BOGOTÁ (CUNDINAMARCA)
 CÁLCULO DE DERIVAS MÁXIMAS**

ALTURA DE N+8.90	4.45	m	Deriva Máxima	1.00	%
ALTURA DE N+4.45	4.50	m	Permitida		
ALTURA DE BASE	0.00	m			

Nivel	Punto	COMBINACIÓN DE CARGA	DESPLAZAMIENTOS FUERZA SÍSMICA		Deriva Δ m	Deriva Δ %	Observación
			Desplazamiento X	Desplazamiento Y			
N+4.45	40	COMDER1 MAX	0.01193	0.00389	0.01254	0.28	OK
N+4.45	40	COMDER1 MIN	-0.01193	-0.00389	0.01254	0.28	OK
N+4.45	40	COMDER2 MAX	0.00362	0.01186	0.01240	0.28	OK
N+4.45	40	COMDER2 MIN	-0.00362	-0.01186	0.01240	0.28	OK
BASE	40	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	40	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	40	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	40	COMDER2 MIN	0.00000	0.00000	--	--	--
N+4.45	41	COMDER1 MAX	0.01193	0.00402	0.01259	0.28	OK
N+4.45	41	COMDER1 MIN	-0.01193	-0.00402	0.01259	0.28	OK
N+4.45	41	COMDER2 MAX	0.00362	0.01280	0.01330	0.30	OK
N+4.45	41	COMDER2 MIN	-0.00362	-0.01280	0.01330	0.30	OK
BASE	41	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	41	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	41	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	41	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	42	COMDER1 MAX	0.02600	0.01099	0.01558	0.35	OK
N+8.90	42	COMDER1 MIN	-0.02600	-0.01099	0.01558	0.35	OK
N+8.90	42	COMDER2 MAX	0.00831	0.03430	0.02090	0.47	OK
N+8.90	42	COMDER2 MIN	-0.00831	-0.03430	0.02090	0.47	OK
N+4.45	42	COMDER1 MAX	0.01193	0.00429	0.01267	0.28	OK
N+4.45	42	COMDER1 MIN	-0.01193	-0.00429	0.01267	0.28	OK
N+4.45	42	COMDER2 MAX	0.00362	0.01394	0.01440	0.32	OK
N+4.45	42	COMDER2 MIN	-0.00362	-0.01394	0.01440	0.32	OK
BASE	42	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	42	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	42	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	42	COMDER2 MIN	0.00000	0.00000	--	--	--
N+4.45	43	COMDER1 MAX	0.01193	0.00489	0.01289	0.29	OK
N+4.45	43	COMDER1 MIN	-0.01193	-0.00489	0.01289	0.29	OK
N+4.45	43	COMDER2 MAX	0.00362	0.01554	0.01596	0.35	OK
N+4.45	43	COMDER2 MIN	-0.00362	-0.01554	0.01596	0.35	OK
BASE	43	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	43	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	43	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	43	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	44	COMDER1 MAX	0.02606	0.01132	0.01529	0.34	OK
N+8.90	44	COMDER1 MIN	-0.02606	-0.01132	0.01529	0.34	OK
N+8.90	44	COMDER2 MAX	0.00831	0.03196	0.01540	0.35	OK
N+8.90	44	COMDER2 MIN	-0.00831	-0.03196	0.01540	0.35	OK
N+4.45	44	COMDER1 MAX	0.01193	0.00549	0.01313	0.29	OK
N+4.45	44	COMDER1 MIN	-0.01193	-0.00549	0.01313	0.29	OK
N+4.45	44	COMDER2 MAX	0.00362	0.01729	0.01766	0.39	OK
N+4.45	44	COMDER2 MIN	-0.00362	-0.01729	0.01766	0.39	OK
BASE	44	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	44	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	44	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	44	COMDER2 MIN	0.00000	0.00000	--	--	--
N+4.45	45	COMDER1 MAX	0.01193	0.00616	0.01342	0.30	OK
N+4.45	45	COMDER1 MIN	-0.01193	-0.00616	0.01342	0.30	OK
N+4.45	45	COMDER2 MAX	0.00362	0.01903	0.01937	0.43	OK
N+4.45	45	COMDER2 MIN	-0.00362	-0.01903	0.01937	0.43	OK
BASE	45	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	45	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	45	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	45	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	46	COMDER1 MAX	0.02600	0.01648	0.01706	0.38	OK
N+8.90	46	COMDER1 MIN	-0.02600	-0.01648	0.01706	0.38	OK
N+8.90	46	COMDER2 MAX	0.00831	0.04904	0.02866	0.64	OK
N+8.90	46	COMDER2 MIN	-0.00831	-0.04904	0.02866	0.64	OK
N+4.45	46	COMDER1 MAX	0.01193	0.00683	0.01375	0.31	OK
N+4.45	46	COMDER1 MIN	-0.01193	-0.00683	0.01375	0.31	OK
N+4.45	46	COMDER2 MAX	0.00362	0.02077	0.02108	0.47	OK
N+4.45	46	COMDER2 MIN	-0.00362	-0.02077	0.02108	0.47	OK
BASE	46	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	46	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	46	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	46	COMDER2 MIN	0.00000	0.00000	--	--	--

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C,
 BOGOTÁ (CUNDINAMARCA)
 CÁLCULO DE DERIVAS MÁXIMAS**

ALTURA DE N+8.90	4.45	m	Deriva Máxima	1.00	%
ALTURA DE N+4.45	4.50	m	Permitida		
ALTURA DE BASE	0.00	m			

Nivel	Punto	COMBINACIÓN DE CARGA	DESPLAZAMIENTOS FUERZA SÍSMICA		Deriva Δ m	Deriva Δ %	Observación
			Desplazamiento X	Desplazamiento Y			
N+4.45	47	COMDER1 MAX	0.01193	0.00750	0.01409	0.31	OK
N+4.45	47	COMDER1 MIN	-0.01193	-0.00750	0.01409	0.31	OK
N+4.45	47	COMDER2 MAX	0.00362	0.02258	0.02287	0.51	OK
N+4.45	47	COMDER2 MIN	-0.00362	-0.02258	0.02287	0.51	OK
BASE	47	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	47	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	47	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	47	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	48	COMDER1 MAX	0.02606	0.01300	0.01494	0.34	OK
N+8.90	48	COMDER1 MIN	-0.02606	-0.01300	0.01494	0.34	OK
N+8.90	48	COMDER2 MAX	0.00831	0.03866	0.01509	0.34	OK
N+8.90	48	COMDER2 MIN	-0.00831	-0.03866	0.01509	0.34	OK
N+4.45	48	COMDER1 MAX	0.01193	0.00817	0.01446	0.32	OK
N+4.45	48	COMDER1 MIN	-0.01193	-0.00817	0.01446	0.32	OK
N+4.45	48	COMDER2 MAX	0.00362	0.02432	0.02459	0.55	OK
N+4.45	48	COMDER2 MIN	-0.00362	-0.02432	0.02459	0.55	OK
BASE	48	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	48	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	48	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	48	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	50	COMDER1 MAX	0.02935	0.00663	0.01704	0.38	OK
N+8.90	50	COMDER1 MIN	-0.02935	-0.00663	0.01704	0.38	OK
N+8.90	50	COMDER2 MAX	0.01340	0.01662	0.01037	0.23	OK
N+8.90	50	COMDER2 MIN	-0.01340	-0.01662	0.01037	0.23	OK
N+4.45	50	COMDER1 MAX	0.01253	0.00389	0.01312	0.29	OK
N+4.45	50	COMDER1 MIN	-0.01253	-0.00389	0.01312	0.29	OK
N+4.45	50	COMDER2 MAX	0.00543	0.00998	0.01136	0.25	OK
N+4.45	50	COMDER2 MIN	-0.00543	-0.00998	0.01136	0.25	OK
BASE	50	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	50	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	50	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	50	COMDER2 MIN	0.00000	0.00000	--	--	--
N+4.45	51	COMDER1 MAX	0.01253	0.00375	0.01308	0.29	OK
N+4.45	51	COMDER1 MIN	-0.01253	-0.00375	0.01308	0.29	OK
N+4.45	51	COMDER2 MAX	0.00543	0.01052	0.01184	0.26	OK
N+4.45	51	COMDER2 MIN	-0.00543	-0.01052	0.01184	0.26	OK
BASE	51	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	51	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	51	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	51	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	52	COMDER1 MAX	0.02580	0.00878	0.01414	0.32	OK
N+8.90	52	COMDER1 MIN	-0.02580	-0.00878	0.01414	0.32	OK
N+8.90	52	COMDER2 MAX	0.01065	0.02271	0.01205	0.27	OK
N+8.90	52	COMDER2 MIN	-0.01065	-0.02271	0.01205	0.27	OK
N+4.45	52	COMDER1 MAX	0.01253	0.00389	0.01312	0.29	OK
N+4.45	52	COMDER1 MIN	-0.01253	-0.00389	0.01312	0.29	OK
N+4.45	52	COMDER2 MAX	0.00543	0.01186	0.01304	0.29	OK
N+4.45	52	COMDER2 MIN	-0.00543	-0.01186	0.01304	0.29	OK
BASE	52	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	52	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	52	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	52	COMDER2 MIN	0.00000	0.00000	--	--	--
N+4.45	53	COMDER1 MAX	0.01253	0.00429	0.01324	0.29	OK
N+4.45	53	COMDER1 MIN	-0.01253	-0.00429	0.01324	0.29	OK
N+4.45	53	COMDER2 MAX	0.00543	0.01394	0.01496	0.33	OK
N+4.45	53	COMDER2 MIN	-0.00543	-0.01394	0.01496	0.33	OK
BASE	53	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	53	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	53	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	53	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	54	COMDER1 MAX	0.02580	0.01132	0.01449	0.33	OK
N+8.90	54	COMDER1 MIN	-0.02580	-0.01132	0.01449	0.33	OK
N+8.90	54	COMDER2 MAX	0.01018	0.03196	0.01542	0.35	OK
N+8.90	54	COMDER2 MIN	-0.01018	-0.03196	0.01542	0.35	OK
N+4.45	54	COMDER1 MAX	0.01253	0.00549	0.01368	0.30	OK
N+4.45	54	COMDER1 MIN	-0.01253	-0.00549	0.01368	0.30	OK
N+4.45	54	COMDER2 MAX	0.00543	0.01729	0.01812	0.40	OK
N+4.45	54	COMDER2 MIN	-0.00543	-0.01729	0.01812	0.40	OK

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA) CÁLCULO DE DERIVAS MÁXIMAS

ALTURA DE N+8.90 4.45 m
 ALTURA DE N+4.45 4.50 m
 ALTURA DE BASE 0.00 m

Deriva Máxima Permitida 1.00 %

Nivel	Punto	COMBINACIÓN DE CARGA	DESPLAZAMIENTOS FUERZA SÍSMICA		Deriva Δ m	Deriva Δ %	Observación
			Desplazamiento X	Desplazamiento Y			
BASE	54	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	54	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	54	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	54	COMDER2 MIN	0.00000	0.00000	--	--	--
N+4.45	55	COMDER1 MAX	0.01253	0.00683	0.01427	0.32	OK
N+4.45	55	COMDER1 MIN	-0.01253	-0.00683	0.01427	0.32	OK
N+4.45	55	COMDER2 MAX	0.00543	0.02077	0.02147	0.48	OK
N+4.45	55	COMDER2 MIN	-0.00543	-0.02077	0.02147	0.48	OK
BASE	55	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	55	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	55	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	55	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	56	COMDER1 MAX	0.02928	0.01300	0.01743	0.39	OK
N+8.90	56	COMDER1 MIN	-0.02928	-0.01300	0.01743	0.39	OK
N+8.90	56	COMDER2 MAX	0.01380	0.03866	0.01660	0.37	OK
N+8.90	56	COMDER2 MIN	-0.01380	-0.03866	0.01660	0.37	OK
N+4.45	56	COMDER1 MAX	0.01253	0.00817	0.01496	0.33	OK
N+4.45	56	COMDER1 MIN	-0.01253	-0.00817	0.01496	0.33	OK
N+4.45	56	COMDER2 MAX	0.00543	0.02432	0.02492	0.55	OK
N+4.45	56	COMDER2 MIN	-0.00543	-0.02432	0.02492	0.55	OK
BASE	56	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	56	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	56	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	56	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	65	COMDER1 MAX	0.02017	0.00670	0.00751	0.17	OK
N+8.90	65	COMDER1 MIN	-0.02017	-0.00670	0.00751	0.17	OK
N+8.90	65	COMDER2 MAX	0.01079	0.01668	0.00752	0.17	OK
N+8.90	65	COMDER2 MIN	-0.01079	-0.01668	0.00752	0.17	OK
N+4.45	65	COMDER1 MAX	0.01320	0.00389	0.01376	0.31	OK
N+4.45	65	COMDER1 MIN	-0.01320	-0.00389	0.01376	0.31	OK
N+4.45	65	COMDER2 MAX	0.00737	0.00998	0.01241	0.28	OK
N+4.45	65	COMDER2 MIN	-0.00737	-0.00998	0.01241	0.28	OK
BASE	65	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	65	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	65	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	65	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	66	COMDER1 MAX	0.02017	0.01039	0.00962	0.22	OK
N+8.90	66	COMDER1 MIN	-0.02017	-0.01039	0.00962	0.22	OK
N+8.90	66	COMDER2 MAX	0.01079	0.02586	0.01611	0.36	OK
N+8.90	66	COMDER2 MIN	-0.01079	-0.02586	0.01611	0.36	OK
N+4.45	66	COMDER1 MAX	0.01320	0.00375	0.01372	0.30	OK
N+4.45	66	COMDER1 MIN	-0.01320	-0.00375	0.01372	0.30	OK
N+4.45	66	COMDER2 MAX	0.00737	0.01012	0.01252	0.28	OK
N+4.45	66	COMDER2 MIN	-0.00737	-0.01012	0.01252	0.28	OK
BASE	66	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	66	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	66	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	66	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	67	COMDER1 MAX	0.02010	0.01260	0.01122	0.25	OK
N+8.90	67	COMDER1 MIN	-0.02010	-0.01260	0.01122	0.25	OK
N+8.90	67	COMDER2 MAX	0.01079	0.03685	0.02655	0.60	OK
N+8.90	67	COMDER2 MIN	-0.01079	-0.03685	0.02655	0.60	OK
N+4.45	67	COMDER1 MAX	0.01320	0.00375	0.01372	0.30	OK
N+4.45	67	COMDER1 MIN	-0.01320	-0.00375	0.01372	0.30	OK
N+4.45	67	COMDER2 MAX	0.00737	0.01052	0.01284	0.29	OK
N+4.45	67	COMDER2 MIN	-0.00737	-0.01052	0.01284	0.29	OK
BASE	67	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	67	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	67	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	67	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	68	COMDER1 MAX	0.02010	0.01146	0.01034	0.23	OK
N+8.90	68	COMDER1 MIN	-0.02010	-0.01146	0.01034	0.23	OK
N+8.90	68	COMDER2 MAX	0.01079	0.03109	0.02026	0.46	OK
N+8.90	68	COMDER2 MIN	-0.01079	-0.03109	0.02026	0.46	OK
N+4.45	68	COMDER1 MAX	0.01320	0.00375	0.01372	0.30	OK
N+4.45	68	COMDER1 MIN	-0.01320	-0.00375	0.01372	0.30	OK
N+4.45	68	COMDER2 MAX	0.00737	0.01112	0.01334	0.30	OK
N+4.45	68	COMDER2 MIN	-0.00737	-0.01112	0.01334	0.30	OK

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C,
 BOGOTÁ (CUNDINAMARCA)
 CÁLCULO DE DERIVAS MÁXIMAS**

ALTURA DE N+8.90	4.45	m	Deriva Máxima	1.00	%
ALTURA DE N+4.45	4.50	m	Permitida		
ALTURA DE BASE	0.00	m			

Nivel	Punto	COMBINACIÓN DE CARGA	DESPLAZAMIENTOS FUERZA SÍSMICA		Deriva Δ m	Deriva Δ %	Observación
			Desplazamiento X	Desplazamiento Y			
BASE	68	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	68	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	68	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	68	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	69	COMDER1 MAX	0.02010	0.00884	0.00850	0.19	OK
N+8.90	69	COMDER1 MIN	-0.02010	-0.00884	0.00850	0.19	OK
N+8.90	69	COMDER2 MAX	0.01079	0.02278	0.01144	0.26	OK
N+8.90	69	COMDER2 MIN	-0.01079	-0.02278	0.01144	0.26	OK
N+4.45	69	COMDER1 MAX	0.01320	0.00389	0.01376	0.31	OK
N+4.45	69	COMDER1 MIN	-0.01320	-0.00389	0.01376	0.31	OK
N+4.45	69	COMDER2 MAX	0.00737	0.01186	0.01396	0.31	OK
N+4.45	69	COMDER2 MIN	-0.00737	-0.01186	0.01396	0.31	OK
BASE	69	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	69	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	69	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	69	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	70	COMDER1 MAX	0.02003	0.01166	0.01025	0.23	OK
N+8.90	70	COMDER1 MIN	-0.02003	-0.01166	0.01025	0.23	OK
N+8.90	70	COMDER2 MAX	0.01072	0.03136	0.01886	0.42	OK
N+8.90	70	COMDER2 MIN	-0.01072	-0.03136	0.01886	0.42	OK
N+4.45	70	COMDER1 MAX	0.01320	0.00402	0.01380	0.31	OK
N+4.45	70	COMDER1 MIN	-0.01320	-0.00402	0.01380	0.31	OK
N+4.45	70	COMDER2 MAX	0.00737	0.01280	0.01477	0.33	OK
N+4.45	70	COMDER2 MIN	-0.00737	-0.01280	0.01477	0.33	OK
BASE	70	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	70	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	70	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	70	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	71	COMDER1 MAX	0.02003	0.01052	0.00925	0.21	OK
N+8.90	71	COMDER1 MIN	-0.02003	-0.01052	0.00925	0.21	OK
N+8.90	71	COMDER2 MAX	0.01072	0.03417	0.02051	0.46	OK
N+8.90	71	COMDER2 MIN	-0.01072	-0.03417	0.02051	0.46	OK
N+4.45	71	COMDER1 MAX	0.01320	0.00429	0.01388	0.31	OK
N+4.45	71	COMDER1 MIN	-0.01320	-0.00429	0.01388	0.31	OK
N+4.45	71	COMDER2 MAX	0.00737	0.01394	0.01576	0.35	OK
N+4.45	71	COMDER2 MIN	-0.00737	-0.01394	0.01576	0.35	OK
BASE	71	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	71	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	71	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	71	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	72	COMDER1 MAX	0.02010	0.01347	0.01101	0.25	OK
N+8.90	72	COMDER1 MIN	-0.02010	-0.01347	0.01101	0.25	OK
N+8.90	72	COMDER2 MAX	0.01072	0.03712	0.02183	0.49	OK
N+8.90	72	COMDER2 MIN	-0.01072	-0.03712	0.02183	0.49	OK
N+4.45	72	COMDER1 MAX	0.01320	0.00489	0.01408	0.31	OK
N+4.45	72	COMDER1 MIN	-0.01320	-0.00489	0.01408	0.31	OK
N+4.45	72	COMDER2 MAX	0.00737	0.01554	0.01720	0.38	OK
N+4.45	72	COMDER2 MIN	-0.00737	-0.01554	0.01720	0.38	OK
BASE	72	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	72	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	72	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	72	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	74	COMDER1 MAX	0.02010	0.01132	0.00903	0.20	OK
N+8.90	74	COMDER1 MIN	-0.02010	-0.01132	0.00903	0.20	OK
N+8.90	74	COMDER2 MAX	0.01079	0.03203	0.01513	0.34	OK
N+8.90	74	COMDER2 MIN	-0.01079	-0.03203	0.01513	0.34	OK
N+4.45	74	COMDER1 MAX	0.01320	0.00549	0.01430	0.32	OK
N+4.45	74	COMDER1 MIN	-0.01320	-0.00549	0.01430	0.32	OK
N+4.45	74	COMDER2 MAX	0.00737	0.01729	0.01879	0.42	OK
N+4.45	74	COMDER2 MIN	-0.00737	-0.01729	0.01879	0.42	OK

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C,
 BOGOTÁ (CUNDINAMARCA)
 CÁLCULO DE DERIVAS MÁXIMAS**

ALTURA DE N+8.90	4.45	m	Deriva Máxima	1.00	%
ALTURA DE N+4.45	4.50	m	Permitida		
ALTURA DE BASE	0.00	m			

Nivel	Punto	COMBINACIÓN DE CARGA	DESPLAZAMIENTOS FUERZA SÍSMICA		Deriva Δ m	Deriva Δ %	Observación
			Desplazamiento X	Desplazamiento Y			
BASE	74	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	74	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	74	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	74	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	76	COMDER1 MAX	0.02010	0.01729	0.01309	0.29	OK
N+8.90	76	COMDER1 MIN	-0.02010	-0.01729	0.01309	0.29	OK
N+8.90	76	COMDER2 MAX	0.01079	0.05159	0.03274	0.74	OK
N+8.90	76	COMDER2 MIN	-0.01079	-0.05159	0.03274	0.74	OK
N+4.45	76	COMDER1 MAX	0.01320	0.00616	0.01457	0.32	OK
N+4.45	76	COMDER1 MIN	-0.01320	-0.00616	0.01457	0.32	OK
N+4.45	76	COMDER2 MAX	0.00737	0.01903	0.02041	0.45	OK
N+4.45	76	COMDER2 MIN	-0.00737	-0.01903	0.02041	0.45	OK
BASE	76	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	76	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	76	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	76	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	77	COMDER1 MAX	0.02017	0.02077	0.01558	0.35	OK
N+8.90	77	COMDER1 MIN	-0.02017	-0.02077	0.01558	0.35	OK
N+8.90	77	COMDER2 MAX	0.01079	0.06466	0.04402	0.99	OK
N+8.90	77	COMDER2 MIN	-0.01079	-0.06466	0.04402	0.99	OK
N+4.45	77	COMDER1 MAX	0.01320	0.00683	0.01486	0.33	OK
N+4.45	77	COMDER1 MIN	-0.01320	-0.00683	0.01486	0.33	OK
N+4.45	77	COMDER2 MAX	0.00737	0.02077	0.02204	0.49	OK
N+4.45	77	COMDER2 MIN	-0.00737	-0.02077	0.02204	0.49	OK
BASE	77	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	77	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	77	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	77	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	78	COMDER1 MAX	0.02017	0.02057	0.01481	0.33	OK
N+8.90	78	COMDER1 MIN	-0.02017	-0.02057	0.01481	0.33	OK
N+8.90	78	COMDER2 MAX	0.01079	0.05896	0.03654	0.82	OK
N+8.90	78	COMDER2 MIN	-0.01079	-0.05896	0.03654	0.82	OK
N+4.45	78	COMDER1 MAX	0.01320	0.00750	0.01518	0.34	OK
N+4.45	78	COMDER1 MIN	-0.01320	-0.00750	0.01518	0.34	OK
N+4.45	78	COMDER2 MAX	0.00737	0.02258	0.02375	0.53	OK
N+4.45	78	COMDER2 MIN	-0.00737	-0.02258	0.02375	0.53	OK
BASE	78	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	78	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	78	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	78	COMDER2 MIN	0.00000	0.00000	--	--	--
N+8.90	79	COMDER1 MAX	0.02017	0.01300	0.00847	0.19	OK
N+8.90	79	COMDER1 MIN	-0.02017	-0.01300	0.00847	0.19	OK
N+8.90	79	COMDER2 MAX	0.01079	0.03873	0.01480	0.33	OK
N+8.90	79	COMDER2 MIN	-0.01079	-0.03873	0.01480	0.33	OK
N+4.45	79	COMDER1 MAX	0.01320	0.00817	0.01553	0.35	OK
N+4.45	79	COMDER1 MIN	-0.01320	-0.00817	0.01553	0.35	OK
N+4.45	79	COMDER2 MAX	0.00737	0.02432	0.02541	0.56	OK
N+4.45	79	COMDER2 MIN	-0.00737	-0.02432	0.02541	0.56	OK
BASE	79	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	79	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	79	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	79	COMDER2 MIN	0.00000	0.00000	--	--	--
N+4.45	107	COMDER1 MAX	0.01253	0.00375	0.01308	0.29	OK
N+4.45	107	COMDER1 MIN	-0.01253	-0.00375	0.01308	0.29	OK
N+4.45	107	COMDER2 MAX	0.00543	0.01012	0.01148	0.26	OK
N+4.45	107	COMDER2 MIN	-0.00543	-0.01012	0.01148	0.26	OK
BASE	107	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	107	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	107	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	107	COMDER2 MIN	0.00000	0.00000	--	--	--
N+4.45	114	COMDER1 MAX	0.01253	0.00375	0.01308	0.29	OK
N+4.45	114	COMDER1 MIN	-0.01253	-0.00375	0.01308	0.29	OK
N+4.45	114	COMDER2 MAX	0.00549	0.01012	0.01151	0.26	OK
N+4.45	114	COMDER2 MIN	-0.00549	-0.01012	0.01151	0.26	OK
BASE	114	COMDER1 MAX	0.00000	0.00000	--	--	--
BASE	114	COMDER1 MIN	0.00000	0.00000	--	--	--
BASE	114	COMDER2 MAX	0.00000	0.00000	--	--	--
BASE	114	COMDER2 MIN	0.00000	0.00000	--	--	--

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C,
BOGOTÁ (CUNDINAMARCA)
CÁLCULO DE DERIVAS MÁXIMAS**

ALTURA DE N+8.90 4.45 m
ALTURA DE N+4.45 4.50 m
ALTURA DE BASE 0.00 m

Deriva Máxima 1.00 %
Permitida

Nivel	Punto	COMBINACIÓN DE CARGA	DESPLAZAMIENTOS FUERZA SÍSMICA		Deriva Δ m	Deriva Δ %	Observación
			Desplazamiento X	Desplazamiento Y			

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C,
 BOGOTÁ (CUNDINAMARCA)**
CÁLCULO DE DERIVAS MÁXIMAS (ESPECTRO DE UMBRAL DE DAÑO)

ALTURA DE N+8.90	4.45	m	Deriva Máxima	0.40	%
ALTURA DE N+4.45	4.50	m	Permitida		
ALTURA DE BASE	0.00	m			

Nivel	Punto	COMBINACIÓN DE CARGA	DESPLAZAMIENTOS FUERZA SÍSMICA		Deriva Δ m	Deriva Δ %	Observación
			Desplazamiento X	Desplazamiento Y			
N+8.90	2	COMDERUMX MAX	0.00799	0.00265	0.00291	0.07	OK
N+8.90	2	COMDERUMX MIN	-0.00799	-0.00265	0.00291	0.07	OK
N+8.90	2	COMDERUMY MAX	0.00432	0.00664	0.00297	0.07	OK
N+8.90	2	COMDERUMY MIN	-0.00432	-0.00664	0.00297	0.07	OK
N+4.45	2	COMDERUMX MAX	0.00529	0.00157	0.00552	0.12	OK
N+4.45	2	COMDERUMX MIN	-0.00529	-0.00157	0.00552	0.12	OK
N+4.45	2	COMDERUMY MAX	0.00297	0.00400	0.00498	0.11	OK
N+4.45	2	COMDERUMY MIN	-0.00297	-0.00400	0.00498	0.11	OK
BASE	2	COMDERUMX MAX	0.00000	0.00000	--	--	--
BASE	2	COMDERUMX MIN	0.00000	0.00000	--	--	--
BASE	2	COMDERUMY MAX	0.00000	0.00000	--	--	--
BASE	2	COMDERUMY MIN	0.00000	0.00000	--	--	--
N+8.90	3	COMDERUMX MAX	0.00794	0.00362	0.00338	0.08	OK
N+8.90	3	COMDERUMX MIN	-0.00794	-0.00362	0.00338	0.08	OK
N+8.90	3	COMDERUMY MAX	0.00432	0.00902	0.00515	0.12	OK
N+8.90	3	COMDERUMY MIN	-0.00432	-0.00902	0.00515	0.12	OK
N+4.45	3	COMDERUMX MAX	0.00529	0.00151	0.00550	0.12	OK
N+4.45	3	COMDERUMX MIN	-0.00529	-0.00151	0.00550	0.12	OK
N+4.45	3	COMDERUMY MAX	0.00297	0.00405	0.00502	0.11	OK
N+4.45	3	COMDERUMY MIN	-0.00297	-0.00405	0.00502	0.11	OK
BASE	3	COMDERUMX MAX	0.00000	0.00000	--	--	--
BASE	3	COMDERUMX MIN	0.00000	0.00000	--	--	--
BASE	3	COMDERUMY MAX	0.00000	0.00000	--	--	--
BASE	3	COMDERUMY MIN	0.00000	0.00000	--	--	--
N+8.90	4	COMDERUMX MAX	0.00794	0.00383	0.00352	0.08	OK
N+8.90	4	COMDERUMX MIN	-0.00794	-0.00383	0.00352	0.08	OK
N+8.90	4	COMDERUMY MAX	0.00432	0.01096	0.00688	0.15	OK
N+8.90	4	COMDERUMY MIN	-0.00432	-0.01096	0.00688	0.15	OK
N+4.45	4	COMDERUMX MAX	0.00529	0.00151	0.00550	0.12	OK
N+4.45	4	COMDERUMX MIN	-0.00529	-0.00151	0.00550	0.12	OK
N+4.45	4	COMDERUMY MAX	0.00297	0.00421	0.00515	0.11	OK
N+4.45	4	COMDERUMY MIN	-0.00297	-0.00421	0.00515	0.11	OK
BASE	4	COMDERUMX MAX	0.00000	0.00000	--	--	--
BASE	4	COMDERUMX MIN	0.00000	0.00000	--	--	--
BASE	4	COMDERUMY MAX	0.00000	0.00000	--	--	--
BASE	4	COMDERUMY MIN	0.00000	0.00000	--	--	--
N+8.90	5	COMDERUMX MAX	0.00794	0.00437	0.00390	0.09	OK
N+8.90	5	COMDERUMX MIN	-0.00794	-0.00437	0.00390	0.09	OK
N+8.90	5	COMDERUMY MAX	0.00432	0.01118	0.00688	0.15	OK
N+8.90	5	COMDERUMY MIN	-0.00432	-0.01118	0.00688	0.15	OK
N+4.45	5	COMDERUMX MAX	0.00529	0.00151	0.00550	0.12	OK
N+4.45	5	COMDERUMX MIN	-0.00529	-0.00151	0.00550	0.12	OK
N+4.45	5	COMDERUMY MAX	0.00297	0.00443	0.00533	0.12	OK
N+4.45	5	COMDERUMY MIN	-0.00297	-0.00443	0.00533	0.12	OK
BASE	5	COMDERUMX MAX	0.00000	0.00000	--	--	--
BASE	5	COMDERUMX MIN	0.00000	0.00000	--	--	--
BASE	5	COMDERUMY MAX	0.00000	0.00000	--	--	--
BASE	5	COMDERUMY MIN	0.00000	0.00000	--	--	--
N+8.90	6	COMDERUMX MAX	0.00794	0.00351	0.00328	0.07	OK
N+8.90	6	COMDERUMX MIN	-0.00794	-0.00351	0.00328	0.07	OK
N+8.90	6	COMDERUMY MAX	0.00432	0.00913	0.00458	0.10	OK
N+8.90	6	COMDERUMY MIN	-0.00432	-0.00913	0.00458	0.10	OK
N+4.45	6	COMDERUMX MAX	0.00529	0.00157	0.00552	0.12	OK
N+4.45	6	COMDERUMX MIN	-0.00529	-0.00157	0.00552	0.12	OK
N+4.45	6	COMDERUMY MAX	0.00297	0.00475	0.00560	0.12	OK
N+4.45	6	COMDERUMY MIN	-0.00297	-0.00475	0.00560	0.12	OK
BASE	6	COMDERUMX MAX	0.00000	0.00000	--	--	--
BASE	6	COMDERUMX MIN	0.00000	0.00000	--	--	--
BASE	6	COMDERUMY MAX	0.00000	0.00000	--	--	--
BASE	6	COMDERUMY MIN	0.00000	0.00000	--	--	--
N+8.90	7	COMDERUMX MAX	0.00794	0.00497	0.00427	0.10	OK
N+8.90	7	COMDERUMX MIN	-0.00794	-0.00497	0.00427	0.10	OK
N+8.90	7	COMDERUMY MAX	0.00432	0.01447	0.00944	0.21	OK
N+8.90	7	COMDERUMY MIN	-0.00432	-0.01447	0.00944	0.21	OK
N+4.45	7	COMDERUMX MAX	0.00529	0.00162	0.00553	0.12	OK
N+4.45	7	COMDERUMX MIN	-0.00529	-0.00162	0.00553	0.12	OK

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C,
 BOGOTÁ (CUNDINAMARCA)**
CÁLCULO DE DERIVAS MÁXIMAS (ESPECTRO DE UMBRAL DE DAÑO)

			Deriva Máxima Permitida				0.40	%	
ALTURA DE N+8.90	4.45	m							
ALTURA DE N+4.45	4.50	m							
ALTURA DE BASE	0.00	m							
N+4.45	7	COMDERUMY MAX	0.00297	0.00513	0.00593	0.13	OK		
N+4.45	7	COMDERUMY MIN	-0.00297	-0.00513	0.00593	0.13	OK		
BASE	7	COMDERUMX MAX	0.00000	0.00000	--	--	--		
BASE	7	COMDERUMX MIN	0.00000	0.00000	--	--	--		
BASE	7	COMDERUMY MAX	0.00000	0.00000	--	--	--		
BASE	7	COMDERUMY MIN	0.00000	0.00000	--	--	--		
N+8.90	8	COMDERUMX MAX	0.00794	0.00562	0.00470	0.11	OK		
N+8.90	8	COMDERUMX MIN	-0.00794	-0.00562	0.00470	0.11	OK		
N+8.90	8	COMDERUMY MAX	0.00432	0.01825	0.01271	0.29	OK		
N+8.90	8	COMDERUMY MIN	-0.00432	-0.01825	0.01271	0.29	OK		
N+4.45	8	COMDERUMX MAX	0.00529	0.00173	0.00557	0.12	OK		
N+4.45	8	COMDERUMX MIN	-0.00529	-0.00173	0.00557	0.12	OK		
N+4.45	8	COMDERUMY MAX	0.00297	0.00562	0.00635	0.14	OK		
N+4.45	8	COMDERUMY MIN	-0.00297	-0.00562	0.00635	0.14	OK		
BASE	8	COMDERUMX MAX	0.00000	0.00000	--	--	--		
BASE	8	COMDERUMX MIN	0.00000	0.00000	--	--	--		
BASE	8	COMDERUMY MAX	0.00000	0.00000	--	--	--		
BASE	8	COMDERUMY MIN	0.00000	0.00000	--	--	--		
N+8.90	10	COMDERUMX MAX	0.00794	0.00578	0.00466	0.10	OK		
N+8.90	10	COMDERUMX MIN	-0.00794	-0.00578	0.00466	0.10	OK		
N+8.90	10	COMDERUMY MAX	0.00427	0.01674	0.01056	0.24	OK		
N+8.90	10	COMDERUMY MIN	-0.00427	-0.01674	0.01056	0.24	OK		
N+4.45	10	COMDERUMX MAX	0.00529	0.00194	0.00564	0.13	OK		
N+4.45	10	COMDERUMX MIN	-0.00529	-0.00194	0.00564	0.13	OK		
N+4.45	10	COMDERUMY MAX	0.00297	0.00626	0.00693	0.15	OK		
N+4.45	10	COMDERUMY MIN	-0.00297	-0.00626	0.00693	0.15	OK		
BASE	10	COMDERUMX MAX	0.00000	0.00000	--	--	--		
BASE	10	COMDERUMX MIN	0.00000	0.00000	--	--	--		
BASE	10	COMDERUMY MAX	0.00000	0.00000	--	--	--		
BASE	10	COMDERUMY MIN	0.00000	0.00000	--	--	--		
N+8.90	11	COMDERUMX MAX	0.00794	0.00454	0.00352	0.08	OK		
N+8.90	11	COMDERUMX MIN	-0.00794	-0.00454	0.00352	0.08	OK		
N+8.90	11	COMDERUMY MAX	0.00427	0.01285	0.00608	0.14	OK		
N+8.90	11	COMDERUMY MIN	-0.00427	-0.01285	0.00608	0.14	OK		
N+4.45	11	COMDERUMX MAX	0.00529	0.00221	0.00574	0.13	OK		
N+4.45	11	COMDERUMX MIN	-0.00529	-0.00221	0.00574	0.13	OK		
N+4.45	11	COMDERUMY MAX	0.00297	0.00691	0.00752	0.17	OK		
N+4.45	11	COMDERUMY MIN	-0.00297	-0.00691	0.00752	0.17	OK		
BASE	11	COMDERUMX MAX	0.00000	0.00000	--	--	--		
BASE	11	COMDERUMX MIN	0.00000	0.00000	--	--	--		
BASE	11	COMDERUMY MAX	0.00000	0.00000	--	--	--		
BASE	11	COMDERUMY MIN	0.00000	0.00000	--	--	--		
N+8.90	12	COMDERUMX MAX	0.00794	0.00643	0.00475	0.11	OK		
N+8.90	12	COMDERUMX MIN	-0.00794	-0.00643	0.00475	0.11	OK		
N+8.90	12	COMDERUMY MAX	0.00427	0.01841	0.01088	0.24	OK		
N+8.90	12	COMDERUMY MIN	-0.00427	-0.01841	0.01088	0.24	OK		
N+4.45	12	COMDERUMX MAX	0.00529	0.00248	0.00585	0.13	OK		
N+4.45	12	COMDERUMX MIN	-0.00529	-0.00248	0.00585	0.13	OK		
N+4.45	12	COMDERUMY MAX	0.00297	0.00761	0.00817	0.18	OK		
N+4.45	12	COMDERUMY MIN	-0.00297	-0.00761	0.00817	0.18	OK		
BASE	12	COMDERUMX MAX	0.00000	0.00000	--	--	--		
BASE	12	COMDERUMX MIN	0.00000	0.00000	--	--	--		
BASE	12	COMDERUMY MAX	0.00000	0.00000	--	--	--		
BASE	12	COMDERUMY MIN	0.00000	0.00000	--	--	--		
N+8.90	13	COMDERUMX MAX	0.00788	0.00648	0.00454	0.10	OK		
N+8.90	13	COMDERUMX MIN	-0.00788	-0.00648	0.00454	0.10	OK		
N+8.90	13	COMDERUMY MAX	0.00427	0.02003	0.01179	0.26	OK		
N+8.90	13	COMDERUMY MIN	-0.00427	-0.02003	0.01179	0.26	OK		
N+4.45	13	COMDERUMX MAX	0.00529	0.00275	0.00597	0.13	OK		
N+4.45	13	COMDERUMX MIN	-0.00529	-0.00275	0.00597	0.13	OK		
N+4.45	13	COMDERUMY MAX	0.00297	0.00832	0.00883	0.20	OK		
N+4.45	13	COMDERUMY MIN	-0.00297	-0.00832	0.00883	0.20	OK		
BASE	13	COMDERUMX MAX	0.00000	0.00000	--	--	--		
BASE	13	COMDERUMX MIN	0.00000	0.00000	--	--	--		
BASE	13	COMDERUMY MAX	0.00000	0.00000	--	--	--		
BASE	13	COMDERUMY MIN	0.00000	0.00000	--	--	--		
N+8.90	14	COMDERUMX MAX	0.00788	0.00729	0.00499	0.11	OK		
N+8.90	14	COMDERUMX MIN	-0.00788	-0.00729	0.00499	0.11	OK		
N+8.90	14	COMDERUMY MAX	0.00427	0.02122	0.01227	0.28	OK		

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C,
 BOGOTÁ (CUNDINAMARCA)**
CÁLCULO DE DERIVAS MÁXIMAS (ESPECTRO DE UMBRAL DE DAÑO)

ALTURA DE N+8.90	4.45	m			Deriva Máxima Permitida	0.40	%	
ALTURA DE N+4.45	4.50	m						
ALTURA DE BASE	0.00	m						
N+8.90	14	COMDERUMY MIN	-0.00427	-0.02122	0.01227	0.28	OK	
N+4.45	14	COMDERUMX MAX	0.00529	0.00302	0.00610	0.14	OK	
N+4.45	14	COMDERUMX MIN	-0.00529	-0.00302	0.00610	0.14	OK	
N+4.45	14	COMDERUMY MAX	0.00297	0.00902	0.00949	0.21	OK	
N+4.45	14	COMDERUMY MIN	-0.00297	-0.00902	0.00949	0.21	OK	
BASE	14	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	14	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	14	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	14	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	15	COMDERUMX MAX	0.00794	0.00518	0.00325	0.07	OK	
N+8.90	15	COMDERUMX MIN	-0.00794	-0.00518	0.00325	0.07	OK	
N+8.90	15	COMDERUMY MAX	0.00427	0.01550	0.00587	0.13	OK	
N+8.90	15	COMDERUMY MIN	-0.00427	-0.01550	0.00587	0.13	OK	
N+4.45	15	COMDERUMX MAX	0.00529	0.00329	0.00623	0.14	OK	
N+4.45	15	COMDERUMX MIN	-0.00529	-0.00329	0.00623	0.14	OK	
N+4.45	15	COMDERUMY MAX	0.00297	0.00977	0.01022	0.23	OK	
N+4.45	15	COMDERUMY MIN	-0.00297	-0.00977	0.01022	0.23	OK	
BASE	15	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	15	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	15	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	15	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	25	COMDERUMX MAX	0.01145	0.00265	0.00652	0.15	OK	
N+8.90	25	COMDERUMX MIN	-0.01145	-0.00265	0.00652	0.15	OK	
N+8.90	25	COMDERUMY MAX	0.00497	0.00664	0.00382	0.09	OK	
N+8.90	25	COMDERUMY MIN	-0.00497	-0.00664	0.00382	0.09	OK	
N+4.45	25	COMDERUMX MAX	0.00502	0.00157	0.00526	0.12	OK	
N+4.45	25	COMDERUMX MIN	-0.00502	-0.00157	0.00526	0.12	OK	
N+4.45	25	COMDERUMY MAX	0.00221	0.00400	0.00457	0.10	OK	
N+4.45	25	COMDERUMY MIN	-0.00221	-0.00400	0.00457	0.10	OK	
BASE	25	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	25	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	25	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	25	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+4.45	26	COMDERUMX MAX	0.00502	0.00151	0.00524	0.12	OK	
N+4.45	26	COMDERUMX MIN	-0.00502	-0.00151	0.00524	0.12	OK	
N+4.45	26	COMDERUMY MAX	0.00221	0.00421	0.00476	0.11	OK	
N+4.45	26	COMDERUMY MIN	-0.00221	-0.00421	0.00476	0.11	OK	
BASE	26	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	26	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	26	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	26	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	27	COMDERUMX MAX	0.01037	0.00351	0.00569	0.13	OK	
N+8.90	27	COMDERUMX MIN	-0.01037	-0.00351	0.00569	0.13	OK	
N+8.90	27	COMDERUMY MAX	0.00421	0.00913	0.00481	0.11	OK	
N+8.90	27	COMDERUMY MIN	-0.00421	-0.00913	0.00481	0.11	OK	
N+4.45	27	COMDERUMX MAX	0.00502	0.00157	0.00526	0.12	OK	
N+4.45	27	COMDERUMX MIN	-0.00502	-0.00157	0.00526	0.12	OK	
N+4.45	27	COMDERUMY MAX	0.00221	0.00475	0.00524	0.12	OK	
N+4.45	27	COMDERUMY MIN	-0.00221	-0.00475	0.00524	0.12	OK	
BASE	27	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	27	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	27	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	27	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+4.45	28	COMDERUMX MAX	0.00502	0.00173	0.00531	0.12	OK	
N+4.45	28	COMDERUMX MIN	-0.00502	-0.00173	0.00531	0.12	OK	
N+4.45	28	COMDERUMY MAX	0.00221	0.00562	0.00604	0.13	OK	
N+4.45	28	COMDERUMY MIN	-0.00221	-0.00562	0.00604	0.13	OK	
BASE	28	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	28	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	28	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	28	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	29	COMDERUMX MAX	0.01037	0.00454	0.00583	0.13	OK	
N+8.90	29	COMDERUMX MIN	-0.01037	-0.00454	0.00583	0.13	OK	
N+8.90	29	COMDERUMY MAX	0.00427	0.01280	0.00623	0.14	OK	
N+8.90	29	COMDERUMY MIN	-0.00427	-0.01280	0.00623	0.14	OK	
N+4.45	29	COMDERUMX MAX	0.00502	0.00221	0.00549	0.12	OK	
N+4.45	29	COMDERUMX MIN	-0.00502	-0.00221	0.00549	0.12	OK	
N+4.45	29	COMDERUMY MAX	0.00221	0.00691	0.00726	0.16	OK	
N+4.45	29	COMDERUMY MIN	-0.00221	-0.00691	0.00726	0.16	OK	

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C,
 BOGOTÁ (CUNDINAMARCA)**
CÁLCULO DE DERIVAS MÁXIMAS (ESPECTRO DE UMBRAL DE DAÑO)

ALTURA DE N+8.90	4.45	m			Deriva Máxima Permitida	0.40	%	
ALTURA DE N+4.45	4.50	m						
ALTURA DE BASE	0.00	m						
BASE	29	COMDERUMX MAX	0.00000	0.00000	--	--	--	--
BASE	29	COMDERUMX MIN	0.00000	0.00000	--	--	--	--
BASE	29	COMDERUMY MAX	0.00000	0.00000	--	--	--	--
BASE	29	COMDERUMY MIN	0.00000	0.00000	--	--	--	--
N+4.45	30	COMDERUMX MAX	0.00502	0.00275	0.00573	0.13	OK	
N+4.45	30	COMDERUMX MIN	-0.00502	-0.00275	0.00573	0.13	OK	
N+4.45	30	COMDERUMY MAX	0.00221	0.00832	0.00861	0.19	OK	
N+4.45	30	COMDERUMY MIN	-0.00221	-0.00832	0.00861	0.19	OK	
BASE	30	COMDERUMX MAX	0.00000	0.00000	--	--	--	--
BASE	30	COMDERUMX MIN	0.00000	0.00000	--	--	--	--
BASE	30	COMDERUMY MAX	0.00000	0.00000	--	--	--	--
BASE	30	COMDERUMY MIN	0.00000	0.00000	--	--	--	--
N+8.90	31	COMDERUMX MAX	0.01156	0.00518	0.00680	0.15	OK	
N+8.90	31	COMDERUMX MIN	-0.01156	-0.00518	0.00680	0.15	OK	
N+8.90	31	COMDERUMY MAX	0.00540	0.01544	0.00650	0.15	OK	
N+8.90	31	COMDERUMY MIN	-0.00540	-0.01544	0.00650	0.15	OK	
N+4.45	31	COMDERUMX MAX	0.00502	0.00329	0.00601	0.13	OK	
N+4.45	31	COMDERUMX MIN	-0.00502	-0.00329	0.00601	0.13	OK	
N+4.45	31	COMDERUMY MAX	0.00221	0.00977	0.01002	0.22	OK	
N+4.45	31	COMDERUMY MIN	-0.00221	-0.00977	0.01002	0.22	OK	
BASE	31	COMDERUMX MAX	0.00000	0.00000	--	--	--	--
BASE	31	COMDERUMX MIN	0.00000	0.00000	--	--	--	--
BASE	31	COMDERUMY MAX	0.00000	0.00000	--	--	--	--
BASE	31	COMDERUMY MIN	0.00000	0.00000	--	--	--	--
N+8.90	36	COMDERUMX MAX	0.01048	0.00265	0.00582	0.13	OK	
N+8.90	36	COMDERUMX MIN	-0.01048	-0.00265	0.00582	0.13	OK	
N+8.90	36	COMDERUMY MAX	0.00335	0.00664	0.00325	0.07	OK	
N+8.90	36	COMDERUMY MIN	-0.00335	-0.00664	0.00325	0.07	OK	
N+4.45	36	COMDERUMX MAX	0.00475	0.00157	0.00500	0.11	OK	
N+4.45	36	COMDERUMX MIN	-0.00475	-0.00157	0.00500	0.11	OK	
N+4.45	36	COMDERUMY MAX	0.00146	0.00400	0.00425	0.09	OK	
N+4.45	36	COMDERUMY MIN	-0.00146	-0.00400	0.00425	0.09	OK	
BASE	36	COMDERUMX MAX	0.00000	0.00000	--	--	--	--
BASE	36	COMDERUMX MIN	0.00000	0.00000	--	--	--	--
BASE	36	COMDERUMY MAX	0.00000	0.00000	--	--	--	--
BASE	36	COMDERUMY MIN	0.00000	0.00000	--	--	--	--
N+4.45	37	COMDERUMX MAX	0.00475	0.00151	0.00499	0.11	OK	
N+4.45	37	COMDERUMX MIN	-0.00475	-0.00151	0.00499	0.11	OK	
N+4.45	37	COMDERUMY MAX	0.00146	0.00405	0.00430	0.10	OK	
N+4.45	37	COMDERUMY MIN	-0.00146	-0.00405	0.00430	0.10	OK	
BASE	37	COMDERUMX MAX	0.00000	0.00000	--	--	--	--
BASE	37	COMDERUMX MIN	0.00000	0.00000	--	--	--	--
BASE	37	COMDERUMY MAX	0.00000	0.00000	--	--	--	--
BASE	37	COMDERUMY MIN	0.00000	0.00000	--	--	--	--
N+8.90	38	COMDERUMX MAX	0.01048	0.00346	0.00605	0.14	OK	
N+8.90	38	COMDERUMX MIN	-0.01048	-0.00346	0.00605	0.14	OK	
N+8.90	38	COMDERUMY MAX	0.00335	0.01010	0.00618	0.14	OK	
N+8.90	38	COMDERUMY MIN	-0.00335	-0.01010	0.00618	0.14	OK	
N+4.45	38	COMDERUMX MAX	0.00475	0.00151	0.00499	0.11	OK	
N+4.45	38	COMDERUMX MIN	-0.00475	-0.00151	0.00499	0.11	OK	
N+4.45	38	COMDERUMY MAX	0.00146	0.00421	0.00446	0.10	OK	
N+4.45	38	COMDERUMY MIN	-0.00146	-0.00421	0.00446	0.10	OK	
BASE	38	COMDERUMX MAX	0.00000	0.00000	--	--	--	--
BASE	38	COMDERUMX MIN	0.00000	0.00000	--	--	--	--
BASE	38	COMDERUMY MAX	0.00000	0.00000	--	--	--	--
BASE	38	COMDERUMY MIN	0.00000	0.00000	--	--	--	--
N+4.45	39	COMDERUMX MAX	0.00475	0.00151	0.00499	0.11	OK	
N+4.45	39	COMDERUMX MIN	-0.00475	-0.00151	0.00499	0.11	OK	
N+4.45	39	COMDERUMY MAX	0.00146	0.00443	0.00466	0.10	OK	
N+4.45	39	COMDERUMY MIN	-0.00146	-0.00443	0.00466	0.10	OK	
BASE	39	COMDERUMX MAX	0.00000	0.00000	--	--	--	--
BASE	39	COMDERUMX MIN	0.00000	0.00000	--	--	--	--
BASE	39	COMDERUMY MAX	0.00000	0.00000	--	--	--	--
BASE	39	COMDERUMY MIN	0.00000	0.00000	--	--	--	--
N+8.90	40	COMDERUMX MAX	0.01048	0.00351	0.00605	0.14	OK	
N+8.90	40	COMDERUMX MIN	-0.01048	-0.00351	0.00605	0.14	OK	
N+8.90	40	COMDERUMY MAX	0.00335	0.00913	0.00476	0.11	OK	
N+8.90	40	COMDERUMY MIN	-0.00335	-0.00913	0.00476	0.11	OK	
N+4.45	40	COMDERUMX MAX	0.00475	0.00157	0.00500	0.11	OK	

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C,
 BOGOTÁ (CUNDINAMARCA)**
CÁLCULO DE DERIVAS MÁXIMAS (ESPECTRO DE UMBRAL DE DAÑO)

ALTURA DE N+8.90	4.45	m			Deriva Máxima Permitida	0.40	%	
ALTURA DE N+4.45	4.50	m						
ALTURA DE BASE	0.00	m						
N+4.45	40	COMDERUMX MIN	-0.00475	-0.00157	0.00500	0.11	OK	
N+4.45	40	COMDERUMY MAX	0.00146	0.00475	0.00497	0.11	OK	
N+4.45	40	COMDERUMY MIN	-0.00146	-0.00475	0.00497	0.11	OK	
BASE	40	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	40	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	40	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	40	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+4.45	41	COMDERUMX MAX	0.00475	0.00162	0.00502	0.11	OK	
N+4.45	41	COMDERUMX MIN	-0.00475	-0.00162	0.00502	0.11	OK	
N+4.45	41	COMDERUMY MAX	0.00146	0.00513	0.00533	0.12	OK	
N+4.45	41	COMDERUMY MIN	-0.00146	-0.00513	0.00533	0.12	OK	
BASE	41	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	41	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	41	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	41	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	42	COMDERUMX MAX	0.01042	0.00437	0.00626	0.14	OK	
N+8.90	42	COMDERUMX MIN	-0.01042	-0.00437	0.00626	0.14	OK	
N+8.90	42	COMDERUMY MAX	0.00329	0.01372	0.00831	0.19	OK	
N+8.90	42	COMDERUMY MIN	-0.00329	-0.01372	0.00831	0.19	OK	
N+4.45	42	COMDERUMX MAX	0.00475	0.00173	0.00506	0.11	OK	
N+4.45	42	COMDERUMX MIN	-0.00475	-0.00173	0.00506	0.11	OK	
N+4.45	42	COMDERUMY MAX	0.00146	0.00562	0.00580	0.13	OK	
N+4.45	42	COMDERUMY MIN	-0.00146	-0.00562	0.00580	0.13	OK	
BASE	42	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	42	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	42	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	42	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+4.45	43	COMDERUMX MAX	0.00475	0.00194	0.00513	0.11	OK	
N+4.45	43	COMDERUMX MIN	-0.00475	-0.00194	0.00513	0.11	OK	
N+4.45	43	COMDERUMY MAX	0.00146	0.00626	0.00643	0.14	OK	
N+4.45	43	COMDERUMY MIN	-0.00146	-0.00626	0.00643	0.14	OK	
BASE	43	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	43	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	43	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	43	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	44	COMDERUMX MAX	0.01042	0.00454	0.00613	0.14	OK	
N+8.90	44	COMDERUMX MIN	-0.01042	-0.00454	0.00613	0.14	OK	
N+8.90	44	COMDERUMY MAX	0.00329	0.01280	0.00617	0.14	OK	
N+8.90	44	COMDERUMY MIN	-0.00329	-0.01280	0.00617	0.14	OK	
N+4.45	44	COMDERUMX MAX	0.00475	0.00221	0.00524	0.12	OK	
N+4.45	44	COMDERUMX MIN	-0.00475	-0.00221	0.00524	0.12	OK	
N+4.45	44	COMDERUMY MAX	0.00146	0.00691	0.00706	0.16	OK	
N+4.45	44	COMDERUMY MIN	-0.00146	-0.00691	0.00706	0.16	OK	
BASE	44	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	44	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	44	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	44	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+4.45	45	COMDERUMX MAX	0.00475	0.00248	0.00536	0.12	OK	
N+4.45	45	COMDERUMX MIN	-0.00475	-0.00248	0.00536	0.12	OK	
N+4.45	45	COMDERUMY MAX	0.00146	0.00761	0.00775	0.17	OK	
N+4.45	45	COMDERUMY MIN	-0.00146	-0.00761	0.00775	0.17	OK	
BASE	45	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	45	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	45	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	45	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	46	COMDERUMX MAX	0.01042	0.00648	0.00678	0.15	OK	
N+8.90	46	COMDERUMX MIN	-0.01042	-0.00648	0.00678	0.15	OK	
N+8.90	46	COMDERUMY MAX	0.00329	0.01966	0.01149	0.26	OK	
N+8.90	46	COMDERUMY MIN	-0.00329	-0.01966	0.01149	0.26	OK	
N+4.45	46	COMDERUMX MAX	0.00475	0.00275	0.00549	0.12	OK	
N+4.45	46	COMDERUMX MIN	-0.00475	-0.00275	0.00549	0.12	OK	
N+4.45	46	COMDERUMY MAX	0.00146	0.00832	0.00844	0.19	OK	
N+4.45	46	COMDERUMY MIN	-0.00146	-0.00832	0.00844	0.19	OK	
BASE	46	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	46	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	46	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	46	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+4.45	47	COMDERUMX MAX	0.00475	0.00302	0.00563	0.13	OK	
N+4.45	47	COMDERUMX MIN	-0.00475	-0.00302	0.00563	0.13	OK	

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C,
 BOGOTÁ (CUNDINAMARCA)**
CÁLCULO DE DERIVAS MÁXIMAS (ESPECTRO DE UMBRAL DE DAÑO)

			Deriva Máxima Permitida				0.40	%	
ALTURA DE N+8.90	4.45	m							
ALTURA DE N+4.45	4.50	m							
ALTURA DE BASE	0.00	m							
N+4.45	47	COMDERUMY MAX	0.00146	0.00902	0.00914	0.20	OK		
N+4.45	47	COMDERUMY MIN	-0.00146	-0.00902	0.00914	0.20	OK		
BASE	47	COMDERUMX MAX	0.00000	0.00000	--	--	--		
BASE	47	COMDERUMX MIN	0.00000	0.00000	--	--	--		
BASE	47	COMDERUMY MAX	0.00000	0.00000	--	--	--		
BASE	47	COMDERUMY MIN	0.00000	0.00000	--	--	--		
N+8.90	48	COMDERUMX MAX	0.01042	0.00518	0.00598	0.13	OK		
N+8.90	48	COMDERUMX MIN	-0.01042	-0.00518	0.00598	0.13	OK		
N+8.90	48	COMDERUMY MAX	0.00329	0.01550	0.00601	0.14	OK		
N+8.90	48	COMDERUMY MIN	-0.00329	-0.01550	0.00601	0.14	OK		
N+4.45	48	COMDERUMX MAX	0.00475	0.00329	0.00578	0.13	OK		
N+4.45	48	COMDERUMX MIN	-0.00475	-0.00329	0.00578	0.13	OK		
N+4.45	48	COMDERUMY MAX	0.00146	0.00977	0.00988	0.22	OK		
N+4.45	48	COMDERUMY MIN	-0.00146	-0.00977	0.00988	0.22	OK		
BASE	48	COMDERUMX MAX	0.00000	0.00000	--	--	--		
BASE	48	COMDERUMX MIN	0.00000	0.00000	--	--	--		
BASE	48	COMDERUMY MAX	0.00000	0.00000	--	--	--		
BASE	48	COMDERUMY MIN	0.00000	0.00000	--	--	--		
N+8.90	50	COMDERUMX MAX	0.01172	0.00265	0.00678	0.15	OK		
N+8.90	50	COMDERUMX MIN	-0.01172	-0.00265	0.00678	0.15	OK		
N+8.90	50	COMDERUMY MAX	0.00524	0.00664	0.00402	0.09	OK		
N+8.90	50	COMDERUMY MIN	-0.00524	-0.00664	0.00402	0.09	OK		
N+4.45	50	COMDERUMX MAX	0.00502	0.00157	0.00526	0.12	OK		
N+4.45	50	COMDERUMX MIN	-0.00502	-0.00157	0.00526	0.12	OK		
N+4.45	50	COMDERUMY MAX	0.00221	0.00400	0.00457	0.10	OK		
N+4.45	50	COMDERUMY MIN	-0.00221	-0.00400	0.00457	0.10	OK		
BASE	50	COMDERUMX MAX	0.00000	0.00000	--	--	--		
BASE	50	COMDERUMX MIN	0.00000	0.00000	--	--	--		
BASE	50	COMDERUMY MAX	0.00000	0.00000	--	--	--		
BASE	50	COMDERUMY MIN	0.00000	0.00000	--	--	--		
N+4.45	51	COMDERUMX MAX	0.00502	0.00151	0.00524	0.12	OK		
N+4.45	51	COMDERUMX MIN	-0.00502	-0.00151	0.00524	0.12	OK		
N+4.45	51	COMDERUMY MAX	0.00221	0.00421	0.00476	0.11	OK		
N+4.45	51	COMDERUMY MIN	-0.00221	-0.00421	0.00476	0.11	OK		
BASE	51	COMDERUMX MAX	0.00000	0.00000	--	--	--		
BASE	51	COMDERUMX MIN	0.00000	0.00000	--	--	--		
BASE	51	COMDERUMY MAX	0.00000	0.00000	--	--	--		
BASE	51	COMDERUMY MIN	0.00000	0.00000	--	--	--		
N+8.90	52	COMDERUMX MAX	0.01031	0.00351	0.00564	0.13	OK		
N+8.90	52	COMDERUMX MIN	-0.01031	-0.00351	0.00564	0.13	OK		
N+8.90	52	COMDERUMY MAX	0.00427	0.00907	0.00478	0.11	OK		
N+8.90	52	COMDERUMY MIN	-0.00427	-0.00907	0.00478	0.11	OK		
N+4.45	52	COMDERUMX MAX	0.00502	0.00157	0.00526	0.12	OK		
N+4.45	52	COMDERUMX MIN	-0.00502	-0.00157	0.00526	0.12	OK		
N+4.45	52	COMDERUMY MAX	0.00221	0.00475	0.00524	0.12	OK		
N+4.45	52	COMDERUMY MIN	-0.00221	-0.00475	0.00524	0.12	OK		
BASE	52	COMDERUMX MAX	0.00000	0.00000	--	--	--		
BASE	52	COMDERUMX MIN	0.00000	0.00000	--	--	--		
BASE	52	COMDERUMY MAX	0.00000	0.00000	--	--	--		
BASE	52	COMDERUMY MIN	0.00000	0.00000	--	--	--		
N+4.45	53	COMDERUMX MAX	0.00502	0.00173	0.00531	0.12	OK		
N+4.45	53	COMDERUMX MIN	-0.00502	-0.00173	0.00531	0.12	OK		
N+4.45	53	COMDERUMY MAX	0.00221	0.00562	0.00604	0.13	OK		
N+4.45	53	COMDERUMY MIN	-0.00221	-0.00562	0.00604	0.13	OK		
BASE	53	COMDERUMX MAX	0.00000	0.00000	--	--	--		
BASE	53	COMDERUMX MIN	0.00000	0.00000	--	--	--		
BASE	53	COMDERUMY MAX	0.00000	0.00000	--	--	--		
BASE	53	COMDERUMY MIN	0.00000	0.00000	--	--	--		
N+8.90	54	COMDERUMX MAX	0.01031	0.00454	0.00578	0.13	OK		
N+8.90	54	COMDERUMX MIN	-0.01031	-0.00454	0.00578	0.13	OK		
N+8.90	54	COMDERUMY MAX	0.00405	0.01280	0.00617	0.14	OK		
N+8.90	54	COMDERUMY MIN	-0.00405	-0.01280	0.00617	0.14	OK		
N+4.45	54	COMDERUMX MAX	0.00502	0.00221	0.00549	0.12	OK		
N+4.45	54	COMDERUMX MIN	-0.00502	-0.00221	0.00549	0.12	OK		
N+4.45	54	COMDERUMY MAX	0.00221	0.00691	0.00726	0.16	OK		
N+4.45	54	COMDERUMY MIN	-0.00221	-0.00691	0.00726	0.16	OK		
BASE	54	COMDERUMX MAX	0.00000	0.00000	--	--	--		
BASE	54	COMDERUMX MIN	0.00000	0.00000	--	--	--		
BASE	54	COMDERUMY MAX	0.00000	0.00000	--	--	--		

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C,
 BOGOTÁ (CUNDINAMARCA)**
CÁLCULO DE DERIVAS MÁXIMAS (ESPECTRO DE UMBRAL DE DAÑO)

ALTURA DE N+8.90	4.45	m			Deriva Máxima Permitida	0.40	%	
ALTURA DE N+4.45	4.50	m						
ALTURA DE BASE	0.00	m						
BASE	54	COMDERUMY MIN	0.00000	0.00000	--	--	--	--
N+4.45	55	COMDERUMX MAX	0.00502	0.00275	0.00573	0.13	OK	
N+4.45	55	COMDERUMX MIN	-0.00502	-0.00275	0.00573	0.13	OK	
N+4.45	55	COMDERUMY MAX	0.00221	0.00832	0.00861	0.19	OK	
N+4.45	55	COMDERUMY MIN	-0.00221	-0.00832	0.00861	0.19	OK	
BASE	55	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	55	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	55	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	55	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	56	COMDERUMX MAX	0.01172	0.00518	0.00696	0.16	OK	
N+8.90	56	COMDERUMX MIN	-0.01172	-0.00518	0.00696	0.16	OK	
N+8.90	56	COMDERUMY MAX	0.00551	0.01550	0.00660	0.15	OK	
N+8.90	56	COMDERUMY MIN	-0.00551	-0.01550	0.00660	0.15	OK	
N+4.45	56	COMDERUMX MAX	0.00502	0.00329	0.00601	0.13	OK	
N+4.45	56	COMDERUMX MIN	-0.00502	-0.00329	0.00601	0.13	OK	
N+4.45	56	COMDERUMY MAX	0.00221	0.00977	0.01002	0.22	OK	
N+4.45	56	COMDERUMY MIN	-0.00221	-0.00977	0.01002	0.22	OK	
BASE	56	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	56	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	56	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	56	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	65	COMDERUMX MAX	0.00810	0.00265	0.00301	0.07	OK	
N+8.90	65	COMDERUMX MIN	-0.00810	-0.00265	0.00301	0.07	OK	
N+8.90	65	COMDERUMY MAX	0.00432	0.00664	0.00300	0.07	OK	
N+8.90	65	COMDERUMY MIN	-0.00432	-0.00664	0.00300	0.07	OK	
N+4.45	65	COMDERUMX MAX	0.00529	0.00157	0.00552	0.12	OK	
N+4.45	65	COMDERUMX MIN	-0.00529	-0.00157	0.00552	0.12	OK	
N+4.45	65	COMDERUMY MAX	0.00292	0.00400	0.00495	0.11	OK	
N+4.45	65	COMDERUMY MIN	-0.00292	-0.00400	0.00495	0.11	OK	
BASE	65	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	65	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	65	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	65	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	66	COMDERUMX MAX	0.00805	0.00410	0.00378	0.08	OK	
N+8.90	66	COMDERUMX MIN	-0.00805	-0.00410	0.00378	0.08	OK	
N+8.90	66	COMDERUMY MAX	0.00432	0.01031	0.00642	0.14	OK	
N+8.90	66	COMDERUMY MIN	-0.00432	-0.01031	0.00642	0.14	OK	
N+4.45	66	COMDERUMX MAX	0.00529	0.00151	0.00550	0.12	OK	
N+4.45	66	COMDERUMX MIN	-0.00529	-0.00151	0.00550	0.12	OK	
N+4.45	66	COMDERUMY MAX	0.00292	0.00405	0.00499	0.11	OK	
N+4.45	66	COMDERUMY MIN	-0.00292	-0.00405	0.00499	0.11	OK	
BASE	66	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	66	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	66	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	66	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	67	COMDERUMX MAX	0.00805	0.00502	0.00446	0.10	OK	
N+8.90	67	COMDERUMX MIN	-0.00805	-0.00502	0.00446	0.10	OK	
N+8.90	67	COMDERUMY MAX	0.00432	0.01474	0.01062	0.24	OK	
N+8.90	67	COMDERUMY MIN	-0.00432	-0.01474	0.01062	0.24	OK	
N+4.45	67	COMDERUMX MAX	0.00529	0.00151	0.00550	0.12	OK	
N+4.45	67	COMDERUMX MIN	-0.00529	-0.00151	0.00550	0.12	OK	
N+4.45	67	COMDERUMY MAX	0.00292	0.00421	0.00512	0.11	OK	
N+4.45	67	COMDERUMY MIN	-0.00292	-0.00421	0.00512	0.11	OK	
BASE	67	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	67	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	67	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	67	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	68	COMDERUMX MAX	0.00805	0.00448	0.00405	0.09	OK	
N+8.90	68	COMDERUMX MIN	-0.00805	-0.00448	0.00405	0.09	OK	
N+8.90	68	COMDERUMY MAX	0.00432	0.01242	0.00811	0.18	OK	
N+8.90	68	COMDERUMY MIN	-0.00432	-0.01242	0.00811	0.18	OK	
N+4.45	68	COMDERUMX MAX	0.00529	0.00151	0.00550	0.12	OK	
N+4.45	68	COMDERUMX MIN	-0.00529	-0.00151	0.00550	0.12	OK	
N+4.45	68	COMDERUMY MAX	0.00292	0.00443	0.00530	0.12	OK	
N+4.45	68	COMDERUMY MIN	-0.00292	-0.00443	0.00530	0.12	OK	
BASE	68	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	68	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	68	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	68	COMDERUMY MIN	0.00000	0.00000	--	--	--	

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C,
 BOGOTÁ (CUNDINAMARCA)
 CÁLCULO DE DERIVAS MÁXIMAS (ESPECTRO DE UMBRAL DE DAÑO)**

ALTURA DE N+8.90	4.45	m			Deriva Máxima Permitida	0.40	%	
ALTURA DE N+4.45	4.50	m						
ALTURA DE BASE	0.00	m						
N+8.90	69	COMDERUMX MAX	0.00805	0.00351	0.00337	0.08	OK	
N+8.90	69	COMDERUMX MIN	-0.00805	-0.00351	0.00337	0.08	OK	
N+8.90	69	COMDERUMY MAX	0.00432	0.00913	0.00459	0.10	OK	
N+8.90	69	COMDERUMY MIN	-0.00432	-0.00913	0.00459	0.10	OK	
N+4.45	69	COMDERUMX MAX	0.00529	0.00157	0.00552	0.12	OK	
N+4.45	69	COMDERUMX MIN	-0.00529	-0.00157	0.00552	0.12	OK	
N+4.45	69	COMDERUMY MAX	0.00292	0.00475	0.00558	0.12	OK	
N+4.45	69	COMDERUMY MIN	-0.00292	-0.00475	0.00558	0.12	OK	
BASE	69	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	69	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	69	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	69	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	70	COMDERUMX MAX	0.00805	0.00464	0.00409	0.09	OK	
N+8.90	70	COMDERUMX MIN	-0.00805	-0.00464	0.00409	0.09	OK	
N+8.90	70	COMDERUMY MAX	0.00432	0.01253	0.00753	0.17	OK	
N+8.90	70	COMDERUMY MIN	-0.00432	-0.01253	0.00753	0.17	OK	
N+4.45	70	COMDERUMX MAX	0.00529	0.00162	0.00553	0.12	OK	
N+4.45	70	COMDERUMX MIN	-0.00529	-0.00162	0.00553	0.12	OK	
N+4.45	70	COMDERUMY MAX	0.00292	0.00513	0.00590	0.13	OK	
N+4.45	70	COMDERUMY MIN	-0.00292	-0.00513	0.00590	0.13	OK	
BASE	70	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	70	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	70	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	70	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	71	COMDERUMX MAX	0.00805	0.00421	0.00371	0.08	OK	
N+8.90	71	COMDERUMX MIN	-0.00805	-0.00421	0.00371	0.08	OK	
N+8.90	71	COMDERUMY MAX	0.00432	0.01372	0.00822	0.18	OK	
N+8.90	71	COMDERUMY MIN	-0.00432	-0.01372	0.00822	0.18	OK	
N+4.45	71	COMDERUMX MAX	0.00529	0.00173	0.00557	0.12	OK	
N+4.45	71	COMDERUMX MIN	-0.00529	-0.00173	0.00557	0.12	OK	
N+4.45	71	COMDERUMY MAX	0.00292	0.00562	0.00633	0.14	OK	
N+4.45	71	COMDERUMY MIN	-0.00292	-0.00562	0.00633	0.14	OK	
BASE	71	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	71	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	71	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	71	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	72	COMDERUMX MAX	0.00805	0.00535	0.00438	0.10	OK	
N+8.90	72	COMDERUMX MIN	-0.00805	-0.00535	0.00438	0.10	OK	
N+8.90	72	COMDERUMY MAX	0.00432	0.01485	0.00870	0.20	OK	
N+8.90	72	COMDERUMY MIN	-0.00432	-0.01485	0.00870	0.20	OK	
N+4.45	72	COMDERUMX MAX	0.00529	0.00194	0.00564	0.13	OK	
N+4.45	72	COMDERUMX MIN	-0.00529	-0.00194	0.00564	0.13	OK	
N+4.45	72	COMDERUMY MAX	0.00292	0.00626	0.00691	0.15	OK	
N+4.45	72	COMDERUMY MIN	-0.00292	-0.00626	0.00691	0.15	OK	
BASE	72	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	72	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	72	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	72	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	74	COMDERUMX MAX	0.00805	0.00454	0.00360	0.08	OK	
N+8.90	74	COMDERUMX MIN	-0.00805	-0.00454	0.00360	0.08	OK	
N+8.90	74	COMDERUMY MAX	0.00432	0.01285	0.00610	0.14	OK	
N+8.90	74	COMDERUMY MIN	-0.00432	-0.01285	0.00610	0.14	OK	
N+4.45	74	COMDERUMX MAX	0.00529	0.00221	0.00574	0.13	OK	
N+4.45	74	COMDERUMX MIN	-0.00529	-0.00221	0.00574	0.13	OK	
N+4.45	74	COMDERUMY MAX	0.00292	0.00691	0.00750	0.17	OK	
N+4.45	74	COMDERUMY MIN	-0.00292	-0.00691	0.00750	0.17	OK	
BASE	74	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	74	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	74	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	74	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	76	COMDERUMX MAX	0.00805	0.00686	0.00517	0.12	OK	
N+8.90	76	COMDERUMX MIN	-0.00805	-0.00686	0.00517	0.12	OK	
N+8.90	76	COMDERUMY MAX	0.00432	0.02068	0.01314	0.30	OK	
N+8.90	76	COMDERUMY MIN	-0.00432	-0.02068	0.01314	0.30	OK	
N+4.45	76	COMDERUMX MAX	0.00529	0.00248	0.00585	0.13	OK	
N+4.45	76	COMDERUMX MIN	-0.00529	-0.00248	0.00585	0.13	OK	
N+4.45	76	COMDERUMY MAX	0.00292	0.00761	0.00815	0.18	OK	
N+4.45	76	COMDERUMY MIN	-0.00292	-0.00761	0.00815	0.18	OK	
BASE	76	COMDERUMX MAX	0.00000	0.00000	--	--	--	

**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C,
 BOGOTÁ (CUNDINAMARCA)**
CÁLCULO DE DERIVAS MÁXIMAS (ESPECTRO DE UMBRAL DE DAÑO)

ALTURA DE N+8.90	4.45	m			Deriva Máxima Permitida	0.40	%	
ALTURA DE N+4.45	4.50	m						
ALTURA DE BASE	0.00	m						
BASE	76	COMDERUMX MIN	0.00000	0.00000	--	--	--	--
BASE	76	COMDERUMY MAX	0.00000	0.00000	--	--	--	--
BASE	76	COMDERUMY MIN	0.00000	0.00000	--	--	--	--
N+8.90	77	COMDERUMX MAX	0.00810	0.00832	0.00623	0.14	OK	
N+8.90	77	COMDERUMX MIN	-0.00810	-0.00832	0.00623	0.14	OK	
N+8.90	77	COMDERUMY MAX	0.00432	0.02592	0.01766	0.40	OK	
N+8.90	77	COMDERUMY MIN	-0.00432	-0.02592	0.01766	0.40	OK	
N+4.45	77	COMDERUMX MAX	0.00529	0.00275	0.00597	0.13	OK	
N+4.45	77	COMDERUMX MIN	-0.00529	-0.00275	0.00597	0.13	OK	
N+4.45	77	COMDERUMY MAX	0.00292	0.00832	0.00881	0.20	OK	
N+4.45	77	COMDERUMY MIN	-0.00292	-0.00832	0.00881	0.20	OK	
BASE	77	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	77	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	77	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	77	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	78	COMDERUMX MAX	0.00810	0.00815	0.00585	0.13	OK	
N+8.90	78	COMDERUMX MIN	-0.00810	-0.00815	0.00585	0.13	OK	
N+8.90	78	COMDERUMY MAX	0.00432	0.02360	0.01465	0.33	OK	
N+8.90	78	COMDERUMY MIN	-0.00432	-0.02360	0.01465	0.33	OK	
N+4.45	78	COMDERUMX MAX	0.00529	0.00302	0.00610	0.14	OK	
N+4.45	78	COMDERUMX MIN	-0.00529	-0.00302	0.00610	0.14	OK	
N+4.45	78	COMDERUMY MAX	0.00292	0.00902	0.00948	0.21	OK	
N+4.45	78	COMDERUMY MIN	-0.00292	-0.00902	0.00948	0.21	OK	
BASE	78	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	78	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	78	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	78	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+8.90	79	COMDERUMX MAX	0.00810	0.00518	0.00338	0.08	OK	
N+8.90	79	COMDERUMX MIN	-0.00810	-0.00518	0.00338	0.08	OK	
N+8.90	79	COMDERUMY MAX	0.00432	0.01555	0.00595	0.13	OK	
N+8.90	79	COMDERUMY MIN	-0.00432	-0.01555	0.00595	0.13	OK	
N+4.45	79	COMDERUMX MAX	0.00529	0.00329	0.00623	0.14	OK	
N+4.45	79	COMDERUMX MIN	-0.00529	-0.00329	0.00623	0.14	OK	
N+4.45	79	COMDERUMY MAX	0.00292	0.00977	0.01020	0.23	OK	
N+4.45	79	COMDERUMY MIN	-0.00292	-0.00977	0.01020	0.23	OK	
BASE	79	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	79	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	79	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	79	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+4.45	107	COMDERUMX MAX	0.00502	0.00151	0.00524	0.12	OK	
N+4.45	107	COMDERUMX MIN	-0.00502	-0.00151	0.00524	0.12	OK	
N+4.45	107	COMDERUMY MAX	0.00221	0.00405	0.00462	0.10	OK	
N+4.45	107	COMDERUMY MIN	-0.00221	-0.00405	0.00462	0.10	OK	
BASE	107	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	107	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	107	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	107	COMDERUMY MIN	0.00000	0.00000	--	--	--	
N+4.45	114	COMDERUMX MAX	0.00502	0.00151	0.00524	0.12	OK	
N+4.45	114	COMDERUMX MIN	-0.00502	-0.00151	0.00524	0.12	OK	
N+4.45	114	COMDERUMY MAX	0.00221	0.00405	0.00462	0.10	OK	
N+4.45	114	COMDERUMY MIN	-0.00221	-0.00405	0.00462	0.10	OK	
BASE	114	COMDERUMX MAX	0.00000	0.00000	--	--	--	
BASE	114	COMDERUMX MIN	0.00000	0.00000	--	--	--	
BASE	114	COMDERUMY MAX	0.00000	0.00000	--	--	--	
BASE	114	COMDERUMY MIN	0.00000	0.00000	--	--	--	

4. DISEÑO DE CIMENTACIÓN

DISEÑO DE CIMENTACIÓN

CARGAS A CIMENTACIÓN

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)

Story	Point	Load	FX	FY	FZ	MX	MY	MZ
BASE	2	CIMEN	6.43	6.01	194.77	-8.783	9.649	0.012
BASE	3	CIMEN	-1.81	10.63	262.95	-15.556	-2.442	0.018
BASE	4	CIMEN	2.27	6.46	309.84	-9.467	3.565	0.018
BASE	5	CIMEN	0.07	0.39	266.21	-0.591	0.326	0.018
BASE	6	CIMEN	0.81	6.89	318.07	-10.223	1.34	0.012
BASE	7	CIMEN	-0.02	1.48	318.14	-2.262	0.115	0.012
BASE	8	CIMEN	0.63	9.98	332.7	-14.875	1.154	0.018
BASE	10	CIMEN	-0.98	-6.35	361.47	9.233	-1.306	0.012
BASE	11	CIMEN	0.16	9.05	327.89	-13.569	0.385	0.012
BASE	12	CIMEN	0.07	1.12	329.65	-1.988	0.33	0.018
BASE	13	CIMEN	0.08	10.41	352.8	-15.725	0.344	0.018
BASE	14	CIMEN	0.7	0.83	330.15	-1.676	1.257	0.018
BASE	15	CIMEN	-7.11	7.43	207.54	-11.317	-10.363	0.012
BASE	25	CIMEN	0.95	0.27	255.59	-0.298	1.507	0.012
BASE	26	CIMEN	0.83	-3.08	216.98	4.59	1.331	0.012
BASE	27	CIMEN	0.83	8.12	623.7	-12.042	1.338	0.012
BASE	28	CIMEN	0.13	0.61	441.52	-1.023	0.301	0.012
BASE	29	CIMEN	-0.03	0.06	508.16	-0.277	0.06	0.012
BASE	30	CIMEN	0.04	0.56	440.73	-1.084	0.169	0.012
BASE	31	CIMEN	-1.17	-0.01	330.15	-0.307	-1.625	0.012
BASE	36	CIMEN	5.35	-0.06	291.31	0.183	7.977	0.012
BASE	37	CIMEN	-8.19	0.25	139.31	-0.305	-12.038	0.012
BASE	38	CIMEN	5.22	-0.24	283.95	0.38	7.789	0.012
BASE	39	CIMEN	-0.79	0	165.51	-0.008	-1.102	0.012
BASE	40	CIMEN	4.25	0.24	612.16	-0.391	6.355	0.012
BASE	41	CIMEN	-0.94	-0.15	448.35	0.137	-1.315	0.012
BASE	42	CIMEN	0.21	-1.21	510.63	1.675	0.381	0.012
BASE	43	CIMEN	0.03	-0.27	416.41	0.25	0.114	0.012
BASE	44	CIMEN	0.31	-0.61	515.3	0.713	0.531	0.012
BASE	45	CIMEN	0.07	-0.05	442.75	-0.142	0.176	0.012
BASE	46	CIMEN	0.05	-0.01	525.07	-0.246	0.141	0.012
BASE	47	CIMEN	0.39	0.11	443.22	-0.463	0.645	0.012
BASE	48	CIMEN	-8.41	0.3	325.56	-0.776	-12.364	0.012
BASE	50	CIMEN	1.14	-0.47	258.41	0.792	1.721	0.012
BASE	51	CIMEN	1	1.22	200.07	-1.77	1.51	0.012
BASE	52	CIMEN	0.62	-8.02	628.76	11.82	0.95	0.012
BASE	53	CIMEN	-0.14	9.42	476.03	-14.034	-0.165	0.012
BASE	54	CIMEN	0.84	5.59	513.15	-8.454	1.278	0.012
BASE	55	CIMEN	0.03	0.24	440.97	-0.605	0.081	0.012
BASE	56	CIMEN	-1.39	0.6	328.68	-1.217	-2.023	0.012
BASE	65	CIMEN	6.53	-6.11	187.07	9.131	9.653	0.012
BASE	66	CIMEN	-4.59	-6.93	213.71	10.305	-6.755	0.018
BASE	67	CIMEN	4.62	-2.79	247.75	4.155	6.808	0.018
BASE	68	CIMEN	-0.34	-0.29	267.06	0.42	-0.505	0.018
BASE	69	CIMEN	0.68	-6.87	320.48	10.108	1.005	0.012
BASE	70	CIMEN	0.06	-1.67	320	2.385	0.083	0.012
BASE	71	CIMEN	-1.6	-19.95	384.12	29.216	-2.35	0.018
BASE	72	CIMEN	-1.19	-1.43	193.68	1.964	-1.76	0.012
BASE	74	CIMEN	4.94	-10.68	371.35	15.606	7.311	0.012
BASE	76	CIMEN	-2.58	0.99	345.03	-1.8	-3.794	0.018
BASE	77	CIMEN	0.12	-10.97	326.25	15.774	0.186	0.018
BASE	78	CIMEN	0.47	-1.79	329.72	2.185	0.694	0.018
BASE	79	CIMEN	-7.22	-6.91	195.18	9.885	-10.675	0.012
BASE	107	CIMEN	-1.33	2.9	126.07	-4.22	-1.924	0.012
BASE	114	CIMEN	-1.09	-5.25	140.07	7.823	-1.497	0.012

DISEÑO VIGAS DE AMARRE

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)

VIGA DE AMARRE TIPO

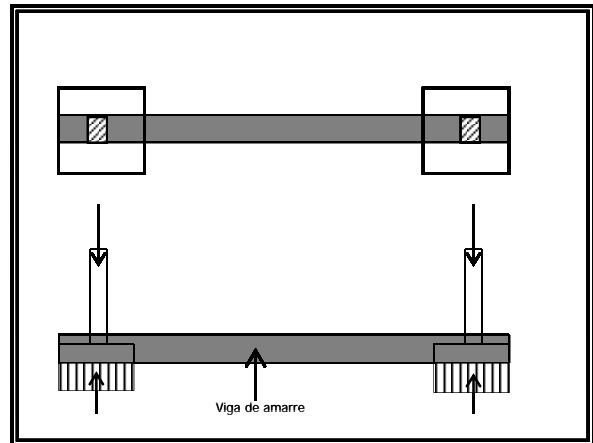
$$f'_c = \boxed{21.1} \text{ MPa}$$
$$f_y = \boxed{420} \text{ MPa}$$

$$b = \boxed{0.30} \text{ m}$$
$$h = \boxed{0.40} \text{ m}$$

$$P_{\text{máx}} = 628.76 \text{ kN}$$

De acuerdo a el numeral A.3.6.4.2 de la NSR-10 tenemos:

$$A_a = 0.15$$
$$P_{\text{axial}} = 0.25 * A_a * P_{\text{máx}}$$
$$P_{\text{axial}} = 23.6 \text{ kN}$$



DISEÑO A TENSIÓN

$$A_s = 1.7 * 23.5785 / (0.90 * 420)$$
$$A_s = \boxed{1.06} \text{ cm}^2$$

DISEÑO A COMPRESIÓN

$$P_{\text{com}} = 1.7 * 23.5785$$
$$P_{\text{com}} = 40.1 \text{ kN}$$

Para esta carga la sección requiere cuantía mínima:

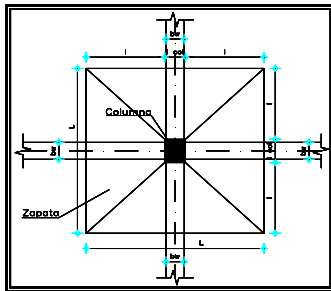
$$A_s = 0.00333 * 0.3 * 0.35$$
$$A_s = \boxed{3.50} \text{ cm}^2$$

Se suministra un refuerzo constituido por 3#4 arriba y abajo (como refuerzo mínimo).

DISEÑO DE ZAPATAS CONCENTRICAS
PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)
ZAPATA TIPO 1 (7 Und)

Columna	b = 45 cm	f'c = 21.1 MPa	σ = 0.220 MPa
	t = 45 cm	fy = 420 MPa	

PREDIMENSIONAMIENTO



L = 1.000 m	Cargas
Icol = 0.450 m	Mu = 0 kN*m
I = 0.275 m	Pu = 194.77 kN
	Pp (10%) = 19 kN
	Σ P = 214 kN

$$\text{Area necesaria} = \frac{\Sigma P}{\sigma} = \frac{214.25}{0.220} = 0.97 \text{ m}^2$$

e = 0.00 m	Aproximamos = 1.00 m
L = 0.987 m	

$$\text{Carga de diseño} = \frac{Pu}{A \text{ real}} = \frac{194.77}{1.000} = 0.195 \text{ MPa}$$

Esfuerzos		
σmáx = 0.214 MPa	OK	
σmín = 0.214 MPa	OK	

DISEÑO DE ZAPATA CONCENTRICA

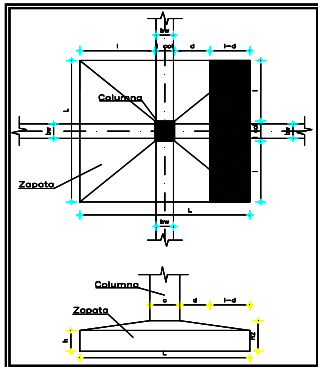
FLEXIÓN

M borde de la columna = 8.10 kN*m
Mu = 1,7 * M borde de la columna = 13.77 kN*m

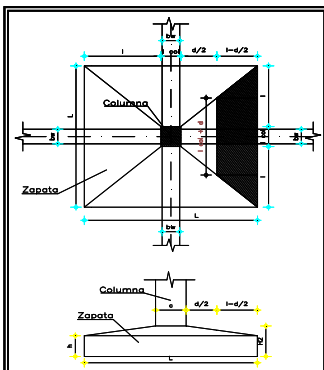
Con el criterio de calcular el refuerzo por metro lineal utilizamos una altura efectiva igual a:

d = 0.23 m
Cuantia = 0.002
As = 4.60 cm ² /m
Armadura: 6#413c./0.18
en ambos sentidos

CORTANTE



a. En una dirección (d)	
L = 1.00 m	H = 0.30 m
I = 0.28 m	h = 0.30 m
I - d = 0.05 m	H-h = 0.00 m
V (d) = 9.64 kN	
Vu (d) = 1.7 * V(d)	σv = Vu / (L * h') = 0.071 MPa
Vu (d) = 16.39 kN	
h' = 0.23 m	φvc = 0.57 MPa OK

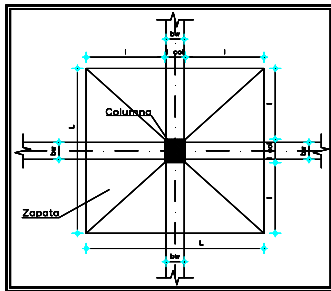


b. En dos direcciones (d/2)		ZAPATA TIPO 1 (7 Und)
L = 1.000 m	H = 0.30 m	
d/2 = 0.115 m	h = 0.30 m	
I - d/2 = 0.160 m	H-h = 0.00 m	
V (d/2) = 28.8 kN		
Vu (d/2) = 1.5 * V(d)	vu = Vu / (bo * d1) = 0.276 MPa	
Vu (d/2) = 43.2 kN		
d1 = 0.23 m	φvc = 1.15 MPa OK	

DISEÑO DE ZAPATAS CONCENTRICAS
PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)
ZAPATA TIPO 2 (10 Und)

Columna	b = 45 cm	f'c = 21.1 MPa	σ = 0.220 MPa
	t = 45 cm	fy = 420 MPa	

PREDIMENSIONAMIENTO



L = 1.200 m	Cargas
Icol = 0.450 m	Mu = 0 kN*m
l = 0.375 m	Pu = 283.95 kN
	Pp (10%) = 28 kN
	Σ P = 312 kN
Area necesaria = $\frac{\Sigma P}{\sigma} = \frac{312.35}{0.220} = 1.42$ m ²	
e = 0.00 m	Aproximamos = 1.20 m
L = 1.192 m	
Carga de diseño = $\frac{Pu}{A \text{ real}} = \frac{283.95}{1.440} = 0.197$ MPa	

Esfuerzos		
σmáx = 0.217 MPa		OK
σmín = 0.217 MPa		OK

DISEÑO DE ZAPATA CONCENTRICA

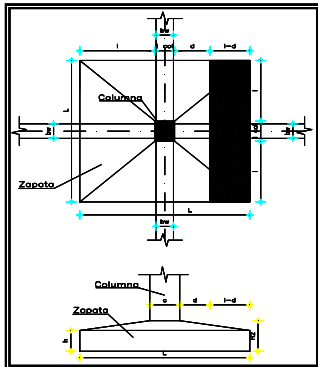
FLEXIÓN

	M borde de la columna = 15.25 kN*m
Mu = 1,7 * M borde de la columna = 25.93 kN*m	

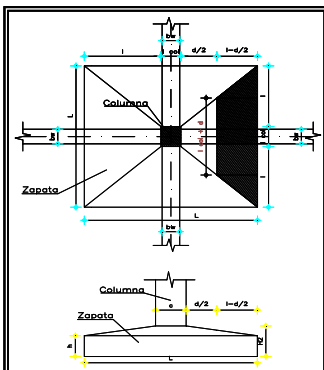
Con el criterio de calcular el refuerzo por metro lineal utilizamos una altura efectiva igual a:

d = 0.23 m
Cuantia = 0.002
As = 4.60 cm ² /m
Armadura: 7#415c./0.18
en ambos sentidos

CORTANTE



a. En una dirección (d)	
L = 1.20 m	H = 0.30 m
l = 0.38 m	h = 0.30 m
l - d = 0.15 m	H - h = 0.00 m
V (d) = 37.74 kN	
Vu (d) = 1.7 * V(d)	
Vu (d) = 64.16 kN	σv = $\frac{Vu}{L * h}$ = 0.232 MPa
h' = 0.23 m	φvc = 0.57 MPa OK

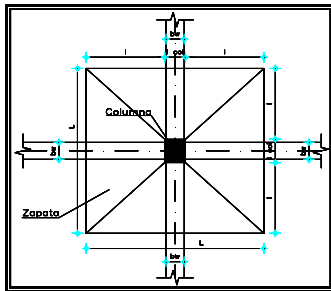


b. En dos direcciones (d/2)		ZAPATA TIPO 2 (10 Und)
L = 1.200 m	H = 0.30 m	
d/2 = 0.115 m	h = 0.30 m	
l - d/2 = 0.260 m	H - h = 0.00 m	
V (d/2) = 53.0 kN		
Vu (d/2) = 1.5 * V(d)		
Vu (d/2) = 79.5 kN	σv = $\frac{Vu}{bo * d_1}$ = 0.508 MPa	
d₁ = 0.23 m	φvc = 1.15 MPa OK	

DISEÑO DE ZAPATAS CONCENTRICAS
PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)
ZAPATA TIPO 3 (12 Und)

Columna	b = 45 cm	f'c = 21.1 MPa	σ = 0.220 MPa
	t = 45 cm	fy = 420 MPa	

PREDIMENSIONAMIENTO



L = 1.300 m	Cargas
lcol = 0.450 m	Mu = 0 kN*m
l = 0.425 m	Pu = 332.7 kN
	Pp (10%) = 33 kN
	Σ P = 366 kN
Area necesaria = $\frac{\Sigma P}{\sigma} = \frac{365.97}{0.220} = 1.66$ m ²	
e = 0.00 m	
L = 1.290 m	Aproximamos = 1.30 m
Carga de diseño = $\frac{Pu}{A \text{ real}} = \frac{332.7}{1.690} = 0.197$ MPa	

Esfuerzos		
σmáx = 0.217 MPa		OK
σmín = 0.217 MPa		OK

DISEÑO DE ZAPATA CONCENTRICA

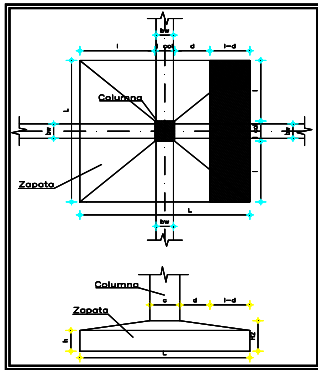
FLEXIÓN

M borde de la columna = 19.56 kN*m
Mu = 1,7 * M borde de la columna = 33.25 kN*m

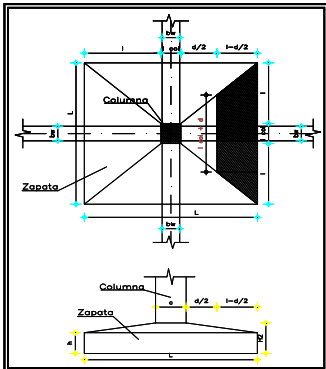
Con el criterio de calcular el refuerzo por metro lineal utilizamos una altura efectiva igual a:

d = 0.23 m
Cuantia = 0.002
As = 4.60 cm ² /m
Armadura: 7#416c./0.2
en ambos sentidos

CORTANTE



a. En una dirección (d)	
L = 1.30 m	H = 0.30 m
l = 0.43 m	h = 0.30 m
l - d = 0.20 m	H-h = 0.00 m
V (d) = 54.90 kN	
Vu (d) = 1.7 * V(d)	
Vu (d) = 93.32 kN	σv = $\frac{Vu}{L * h}$ = 0.312 MPa
h' = 0.23 m	φvc = 0.57 MPa OK

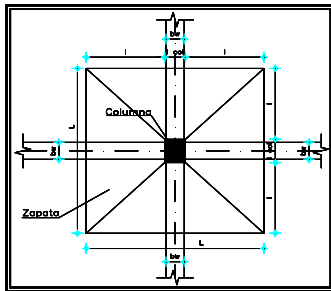


b. En dos direcciones (d/2)		ZAPATA TIPO 3 (12 Und)
L = 1.300 m	H = 0.30 m	
d/2 = 0.115 m	h = 0.30 m	
l - d/2 = 0.310 m	H-h = 0.00 m	
V (d/2) = 66.5 kN		
Vu (d/2) = 1.5 * V(d)		
Vu (d/2) = 99.7 kN	σv = $\frac{Vu}{bo * d_1}$ = 0.637 MPa	
d1 = 0.23 m	φvc = 1.15 MPa OK	

DISEÑO DE ZAPATAS CONCENTRICAS
PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)
ZAPATA TIPO 4 (12 Und)

Columna	b = 45 cm	f'c = 21.1 MPa	σ = 0.220 MPa
	t = 45 cm	fy = 420 MPa	

PREDIMENSIONAMIENTO



L = 1.500 m	Cargas
Icol = 0.450 m	Mu = 0 kN*m
I = 0.525 m	Pu = 448.35 kN
	Pp (10%) = 45 kN
	Σ P = 493 kN

$$\text{Area necesaria} = \frac{\Sigma P}{\sigma} = \frac{493.19}{0.220} = 2.24 \text{ m}^2$$

e = 0.00 m	Aproximamos = 1.50 m
L = 1.497 m	

$$\text{Carga de diseño} = \frac{Pu}{A \text{ real}} = \frac{448.35}{2.250} = 0.199 \text{ MPa}$$

Esfuerzos		
σmáx = 0.219 MPa		OK
σmín = 0.219 MPa		OK

DISEÑO DE ZAPATA CONCENTRICA

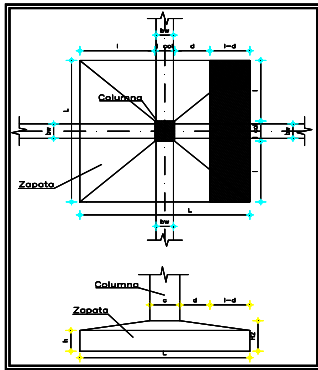
FLEXIÓN

M borde de la columna = 30.21 kN*m
Mu = 1.7 * M borde de la columna = 51.35 kN*m

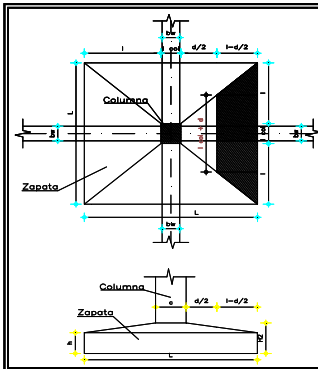
Con el criterio de calcular el refuerzo por metro lineal utilizamos una altura efectiva igual a:

d = 0.23 m
Cuantia = 0.00237771
As = 5.47 cm ² /m
Armadura: 8#418c./0.20
en ambos sentidos

CORTANTE



a. En una dirección (d)	
L = 1.50 m	H = 0.30 m
I = 0.53 m	h = 0.30 m
I - d = 0.30 m	H-h = 0.00 m
V (d) = 96.99 kN	
Vu (d) = 1.7 * V(d)	σv = Vu / (L * h') = 0.478 MPa
Vu (d) = 164.89 kN	
h' = 0.23 m	φvc = 0.57 MPa OK

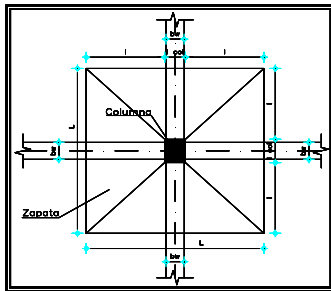


b. En dos direcciones (d/2)		ZAPATA TIPO 4 (12 Und)
L = 1.500 m	H = 0.30 m	
d/2 = 0.115 m	h = 0.30 m	
I - d/2 = 0.410 m	H-h = 0.00 m	
V (d/2) = 98.0 kN		
Vu (d/2) = 1.5 * V(d)	vu = Vu / (bo * d1) = 0.939 MPa	
Vu (d/2) = 146.9 kN		
d1 = 0.23 m	φvc = 1.15 MPa OK	

DISEÑO DE ZAPATAS CONCENTRICAS
PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)
ZAPATA TIPO 5 (6 Und)

Columna	b = 45 cm	f'c = 21.1 MPa	σ = 0.220 MPa
	t = 45 cm	fy = 420 MPa	

PREDIMENSIONAMIENTO



L = 1.700 m	Cargas
lcol = 0.450 m	Mu = 0 kN*m
l = 0.625 m	Pu = 525.07 kN
	Pp (10%) = 53 kN
	Σ P = 578 kN

$$\text{Area necesaria} = \frac{\Sigma P}{\sigma} = \frac{577.58}{0.220} = 2.63 \text{ m}^2$$

e = 0.00 m	Aproximamos = 1.70 m
L = 1.620 m	

$$\text{Carga de diseño} = \frac{Pu}{A \text{ real}} = \frac{525.07}{2.890} = 0.182 \text{ MPa}$$

Esfuerzos		
σmáx = 0.200 MPa	OK	
σmín = 0.200 MPa	OK	

DISEÑO DE ZAPATA CONCENTRICA

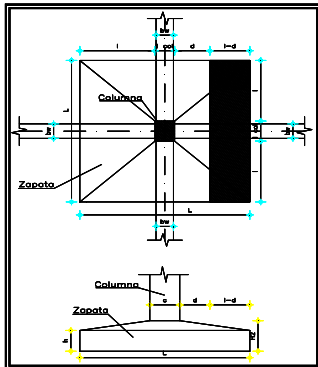
FLEXIÓN

M borde de la columna = 39.03 kN*m
Mu = 1.7 * M borde de la columna = 66.36 kN*m

Con el criterio de calcular el refuerzo por metro lineal utilizamos una altura efectiva igual a:

d = 0.33 m
Cuantia = 0.002
As = 6.60 cm ² /m
Armadura: 10#420c/.0.19 en ambos sentidos

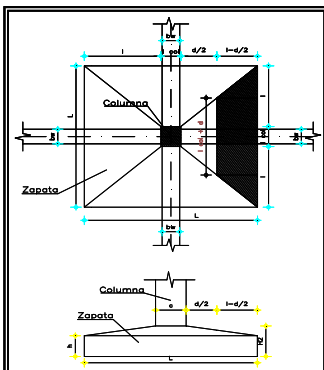
CORTANTE



a. En una dirección (d)

L = 1.70 m	H = 0.40 m
l = 0.63 m	h = 0.30 m
l - d = 0.30 m	H - h = 0.10 m

V (d) = 100.23 kN	$\sigma_v = \frac{Vu}{L * h'} = 0.356$ MPa
Vu (d) = 1.7 * V(d)	
Vu (d) = 170.39 kN	
h' = 0.28 m	φvc = 0.57 MPa OK



b. En dos direcciones (d/2)

ZAPATA TIPO 5 (6 Und)

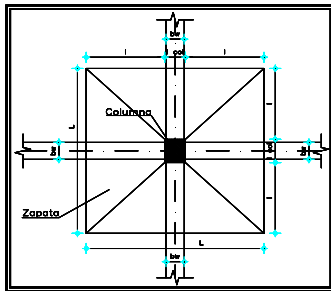
L = 1.700 m	H = 0.40 m
d/2 = 0.165 m	h = 0.30 m
l - d/2 = 0.460 m	H - h = 0.10 m

V (d/2) = 114.0 kN	$\sigma_v = \frac{Vu}{bo * d_1} = 0.707$ MPa
Vu (d/2) = 1.5 * V(d)	
Vu (d/2) = 171.0 kN	
d₁ = 0.31 m	φvc = 1.15 MPa OK

DISEÑO DE ZAPATAS CONCENTRICAS
PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)
ZAPATA TIPO 6 (3 Und)

Columna	b = 45 cm	f'c = 21.1 MPa	σ = 0.220 MPa
	t = 45 cm	fy = 420 MPa	

PREDIMENSIONAMIENTO



L = 1.800 m	Cargas
Icol = 0.450 m	Mu = 0 kN*m
I = 0.675 m	Pu = 628.76 kN
	Pp (10%) = 63 kN
	Σ P = 692 kN
Area necesaria = $\frac{\Sigma P}{\sigma} = \frac{691.64}{0.220} = 3.14$ m²	
e = 0.00 m	
L = 1.773 m	Aproximamos = 1.80 m
Carga de diseño = $\frac{Pu}{A \text{ real}} = \frac{628.76}{3.240} = 0.194$ MPa	

Esfuerzos		
σmáx = 0.213 MPa		OK
σmín = 0.213 MPa		OK

DISEÑO DE ZAPATA CONCENTRICA

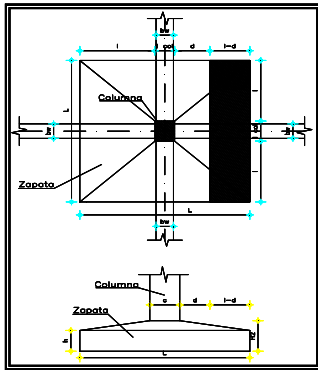
FLEXIÓN

	M borde de la columna = 48.63 kN*m
Mu = 1.7 * M borde de la columna = 82.67 kN*m	

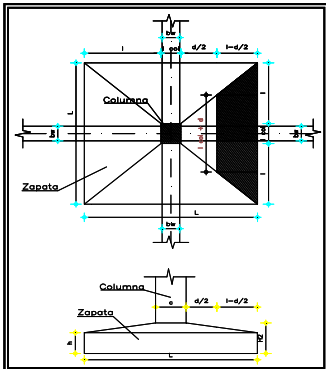
Con el criterio de calcular el refuerzo por metro lineal utilizamos una altura efectiva igual a:

d = 0.33 m
Cuantia = 0.002
As = 6.60 cm ² /m
Armadura: 10#521c/.0.19 en ambos sentidos

CORTANTE



a. En una dirección (d)	
L = 1.80 m	H = 0.40 m
I = 0.68 m	h = 0.30 m
I - d = 0.35 m	H-h = 0.10 m
V (d) = 132.56 kN	
Vu (d) = 1.7*V(d)	
Vu (d) = 225.36 kN	σv = $\frac{Vu}{L * h'} = 0.439$ MPa
h' = 0.29 m	
	φvc = 0.57 MPa OK



b. En dos direcciones (d/2)		ZAPATA TIPO 6 (3 Und)
L = 1.800 m	H = 0.40 m	
d/2 = 0.165 m	h = 0.30 m	
I - d/2 = 0.510 m	H-h = 0.10 m	
V (d/2) = 140.4 kN		
Vu (d/2) = 1.5*V(d)		
Vu (d/2) = 210.7 kN	σv = $\frac{Vu}{bo * d_1} = 0.867$ MPa	
d₁ = 0.3116 m		
	φvc = 1.15 MPa OK	

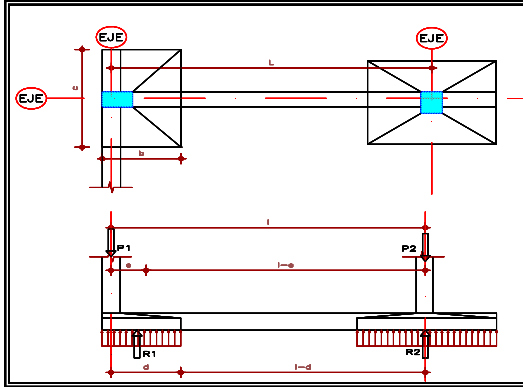
DISEÑO DE ZAPATA EXCENTRICA

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)

ZAPATA TIPO 7 (5 Und).

Columna	$b_c = 45$ cm. $t = 45$ cm.	$f'_c = 21.1$ MPa $f_y = 420$ MPa	$\sigma = 0.220$ MPa
---------	--------------------------------	--------------------------------------	----------------------

PREDIMENSIONAMIENTO



$c = 2.00$ m	
$b = 1.00$ m	
$l-e = 4.58$ m	
$d = 0.78$ m	
$e = 0.28$ m	
$L = 4.85$ m	

Cargas	
$P_u = 330.15$ kN	
$P_p (10\%) = 33.02$ kN	
$\Sigma P_1 = 363.17$ kN	

Area necesaria = $\frac{\Sigma P_1}{\sigma} = \frac{363.17}{0.22} = 1.65$ m²

$c \gg 2b$ $1.65 = c \times b$ $b = 0.50xc$

$c = 1.817$ m	Asumimos	$c = 2.00$ m
$b = 0.91$ m		$b = 1.00$ m

VALOR DE ΔR

$\Delta R^*(L-e) = P_1 * e = \Delta R * 4.58 = 99.87$ kN-m
 $c = (P_1 + \Delta R) / (\sigma * b) = 1.75$ m
 $\sigma_{neto} = (P_u + \Delta R) / (b * c) = 0.176$ MPa **OK**

$\Delta R = 21.83$ kN
 $c = 2.00$ m
 $\sigma_{neto} = 0.176$ Mpa

DISEÑO DE VIGA DE CONTRAPESO :

Flexión

Donde el cortante es cero (0), el momento es máximo

$M_d = \Delta R(l-d) = 88.956$ kN-m $h = 0.40$ m
 $M_u = 1.5 * M_d = 133.43$ kN-m $b_v = 0.30$ m
 $d = 0.33$ m

Cuantia = 0.01119681
 $A_s = 11.08$ cm²
 Armadura = **3#7** Arriba
 3#4 Abajo

Carga long. Bajo la zapata exterior = 351.98 kN/m
 $A_i = 79.20$ kN
 $Ad = 250.95$ kN
 $V(d) = -21.83$ kN

V borde de columna = 171.76 kN

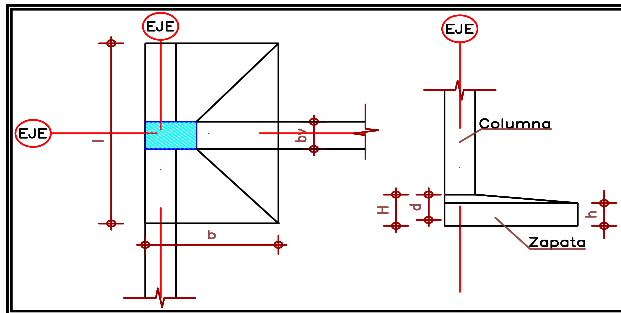
Estribos #3 c/0.08m en la zona de confinamiento.

DISEÑO DE ZAPATA EXCENTRICA

ZAPATA TIPO 7 (5 Und).

Flexión

Se considera como voladizos en el sentido más largo, soportados en la viga de contrapeso:



$\sigma = 0.176$ MPa
 $M = (\sigma * b * (c-bv) / 2 * (c-bv) / 2) = 63.58$ kN-m
 $M_u = 1.7 * M = 108.08$ kN-m

$H = 0.50$ m
 $d = 0.43$ m
 $b = 1.00$ m
 $h = 0.30$ m

Cuantia = 0.0020
 $A_s = 8.60$ cm²
 Armadura = **11#413c./0.19** Transversales
 6#523c./0.18 Longitudinales

Chequeo por cortante

$v_u = \frac{V_u}{b * d}$ V_u borde viga = $\sigma_{neto} * b * (c-bv) / 2 = 149.59$ kN

$V_u = 1.5 * V$ borde = 224.39 kN $v_u = 0.522$ MPa
 $\phi_{vc} = 0.574$ MPa **OK**

5. DISEÑO DE VIGAS, VIGUETAS Y COLUMNAS

***DISEÑO DE VIGAS,
VIGUETAS Y COLUMNAS***

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND.)

VT-2B/

B=0.12 H=0.50 L=0.70			B=0.12 H=0.50 L=0.76			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=6.31 As=1.10			Mu=12.25 As=1.10			Mu=15.81 As=1.10		
Vu=11.86	Vu=10.03	Vu=8.19	Vu=8.19	Vu=6.20	Vu=4.20	Vu=4.20	Vu=1.47	Vu=-1.26

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=0.98		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=14.50 As=1.10			Mu=7.77 As=1.10		
Vu=-1.26	Vu=-3.99	Vu=-6.72	Vu=-6.72	Vu=-9.29	Vu=-11.86

VT-1B/

B=0.12 H=0.50 L=1.01			B=0.12 H=0.50 L=1.00			B=0.12 H=0.50 L=1.00		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=4.21 As=1.10			Mu=7.17 As=1.10			Mu=4.86 As=1.10		
Vu=8.24	Vu=5.59	Vu=2.94	Vu=2.94	Vu=0.31	Vu=-2.31	Vu=-2.31	Vu=-4.94	Vu=-7.56

VT-3B/

B=0.12 H=0.50 L=0.70			B=0.12 H=0.50 L=0.70		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=1.64 As=1.10			Mu=1.42 As=1.10		
Vu=3.37	Vu=1.53	Vu=-0.31	Vu=-0.31	Vu=-2.15	Vu=-3.98

VT-7B/

B=0.12 H=0.50 L=1.05			B=0.12 H=0.50 L=1.05			B=0.12 H=0.50 L=1.05		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=13.34 As=1.10			Mu=27.56 As=1.71			Mu=36.00 As=2.20		
Vu=19.06	Vu=16.30	Vu=13.55	Vu=13.55	Vu=10.79	Vu=8.04	Vu=8.04	Vu=5.28	Vu=2.52

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND.)

B=0.12 H=0.50 L=1.05			B=0.12 H=0.50 L=1.05			B=0.12 H=0.50 L=1.05		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=38.65 As=2.34			Mu=35.51 As=2.17			Mu=26.59 As=1.65		
Vu=2.52	Vu=-0.23	Vu=-2.99	Vu=-2.99	Vu=-5.75	Vu=-8.50	Vu=-8.50	Vu=-11.26	Vu=-14.01

B=0.12 H=0.50 L=1.05			B=0.12 H=0.50 L=1.05			B=0.12 H=0.50 L=1.05		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-21.29 As=1.26		Mu=-21.29 As=1.42	Mu=-50.48 As=3.11	
Mu=11.87 As=1.10			Mu=0.00 As=1.10			Mu=0.00 As=1.10		
Vu=-14.01	Vu=-16.77	Vu=-19.53	Vu=-19.53	Vu=-22.28	Vu=-25.04	Vu=-25.04	Vu=-27.80	Vu=-30.55

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-51.51 As=3.18	Mu=-26.88 As=1.74		Mu=-26.88 As=1.60	Mu=-7.93 As=1.10		Mu=-7.93 As=1.10	Mu=-0.00 As=1.10	
Mu=0.00 As=1.10			Mu=0.00 As=1.10			Mu=0.00 As=1.10		
Vu=26.41	Vu=23.68	Vu=20.95	Vu=20.95	Vu=18.22	Vu=15.49	Vu=15.49	Vu=12.76	Vu=10.03

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=10.09 As=1.10			Mu=14.85 As=1.10			Mu=13.93 As=1.10		
Vu=10.03	Vu=7.30	Vu=4.57	Vu=4.57	Vu=1.84	Vu=-0.89	Vu=-0.89	Vu=-3.62	Vu=-6.35

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-13.45 As=1.10		Mu=-13.45 As=1.10	Mu=-34.25 As=2.06	
Mu=7.33 As=1.10			Mu=0.00 As=1.10			Mu=0.00 As=1.10		
Vu=-6.35	Vu=-9.08	Vu=-11.81	Vu=-11.81	Vu=-14.54	Vu=-17.27	Vu=-17.27	Vu=-20.00	Vu=-22.73

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND.)

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-34.00 As=2.04	Mu=-12.17 As=1.10		Mu=-12.17 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
	Mu=0.00 As=1.10			Mu=0.00 As=1.10			Mu=10.18 As=1.10	
Vu=23.73	Vu=21.00	Vu=18.27	Vu=18.27	Vu=15.54	Vu=12.81	Vu=12.81	Vu=10.08	Vu=7.35

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
	Mu=17.82 As=1.10			Mu=19.78 As=1.17			Mu=16.06 As=1.10	
Vu=7.35	Vu=4.62	Vu=1.89	Vu=1.89	Vu=-0.84	Vu=-3.57	Vu=-3.57	Vu=-6.30	Vu=-9.03

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.40 As=1.10		Mu=-0.40 As=1.10	Mu=-18.31 As=1.10		Mu=-18.31 As=1.20	Mu=-41.91 As=2.55	
	Mu=6.66 As=1.10			Mu=0.00 As=1.10			Mu=0.00 As=1.10	
Vu=-9.03	Vu=-11.76	Vu=-14.49	Vu=-14.49	Vu=-17.22	Vu=-19.95	Vu=-19.95	Vu=-22.68	Vu=-25.41

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-40.82 As=2.48	Mu=-13.67 As=1.10		Mu=-13.67 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
	Mu=0.00 As=1.10			Mu=0.00 As=1.10			Mu=13.18 As=1.10	
Vu=29.75	Vu=26.11	Vu=22.47	Vu=22.47	Vu=18.83	Vu=15.19	Vu=15.19	Vu=11.55	Vu=7.91

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
	Mu=21.40 As=1.29			Mu=22.06 As=1.32			Mu=15.14 As=1.10	
Vu=7.91	Vu=4.27	Vu=0.63	Vu=0.63	Vu=-3.01	Vu=-6.65	Vu=-6.65	Vu=-10.29	Vu=-13.93

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND.)

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-9.75 As=1.10		Mu=-9.75 As=1.10	Mu=-35.60 As=2.15		Mu=-35.60 As=2.33	Mu=-69.01 As=4.38	
Mu=0.65 As=1.10			Mu=0.00 As=1.10			Mu=0.00 As=1.10		
Vu=-13.93	Vu=-17.57	Vu=-21.21	Vu=-21.21	Vu=-24.85	Vu=-28.49	Vu=-28.49	Vu=-32.13	Vu=-35.77

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-67.82 As=4.29	Mu=-29.45 As=1.98		Mu=-29.45 As=1.76	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=0.00 As=1.10			Mu=0.00 As=1.10			Mu=14.24 As=1.10		
Vu=40.54	Vu=36.90	Vu=33.26	Vu=33.26	Vu=29.62	Vu=25.98	Vu=25.98	Vu=22.34	Vu=18.70

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=33.68 As=2.12			Mu=45.56 As=2.83			Mu=49.87 As=3.07		
Vu=18.70	Vu=15.06	Vu=11.42	Vu=11.42	Vu=7.78	Vu=4.14	Vu=4.14	Vu=0.50	Vu=-3.14

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=46.60 As=2.90			Mu=35.76 As=2.24			Mu=17.35 As=1.15		
Vu=-3.14	Vu=-6.78	Vu=-10.42	Vu=-10.42	Vu=-14.06	Vu=-17.70	Vu=-17.70	Vu=-21.34	Vu=-24.98

VT-5B/

B=0.12 H=0.50 L=1.05			B=0.12 H=0.50 L=1.05			B=0.12 H=0.50 L=1.05		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=5.30 As=1.10			Mu=7.85 As=1.10			Mu=4.58 As=1.10		
Vu=7.96	Vu=5.19	Vu=2.43	Vu=2.43	Vu=-0.34	Vu=-3.10	Vu=-3.10	Vu=-5.87	Vu=-8.63

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND.)**VT-6B/**

B=0.12 H=0.50 L=1.03			B=0.12 H=0.50 L=1.03			B=0.12 H=0.50 L=1.03		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
	Mu=5.69 As=1.10			Mu=11.15 As=1.10			Mu=11.05 As=1.10	
Vu=10.71	Vu=8.01	Vu=5.30	Vu=5.30	Vu=2.60	Vu=-0.11	Vu=-0.11	Vu=-2.81	Vu=-5.51

B=0.12 H=0.50 L=1.03			B=0.12 H=0.50 L=1.03			B=0.12 H=0.50 L=1.03		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-13.83 As=1.10		Mu=-13.83 As=1.10	Mu=-33.43 As=2.01	
	Mu=5.37 As=1.10			Mu=0.00 As=1.10			Mu=0.00 As=1.10	
Vu=-5.51	Vu=-8.22	Vu=-10.92	Vu=-10.92	Vu=-13.62	Vu=-16.33	Vu=-16.33	Vu=-19.03	Vu=-21.74

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-32.89 As=1.97	Mu=-10.94 As=1.10		Mu=-10.94 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
	Mu=0.00 As=1.10			Mu=0.00 As=1.10			Mu=11.64 As=1.10	
Vu=23.88	Vu=21.15	Vu=18.43	Vu=18.43	Vu=15.70	Vu=12.97	Vu=12.97	Vu=10.25	Vu=7.52

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
	Mu=19.45 As=1.17			Mu=21.59 As=1.28			Mu=18.07 As=1.10	
Vu=7.52	Vu=4.79	Vu=2.06	Vu=2.06	Vu=-0.66	Vu=-3.39	Vu=-3.39	Vu=-6.12	Vu=-8.85

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-15.77 As=1.10		Mu=-15.77 As=1.10	Mu=-39.13 As=2.37	
	Mu=8.88 As=1.10			Mu=0.00 As=1.10			Mu=0.00 As=1.10	
Vu=-8.85	Vu=-11.57	Vu=-14.30	Vu=-14.30	Vu=-17.03	Vu=-19.76	Vu=-19.76	Vu=-22.48	Vu=-25.21

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND.)

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-39.33 As=2.38	Mu=-16.80 As=1.11		Mu=-16.80 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
	Mu=0.00 As=1.10			Mu=0.00 As=1.10			Mu=6.64 As=1.10	
Vu=24.43	Vu=21.71	Vu=18.98	Vu=18.98	Vu=16.26	Vu=13.53	Vu=13.53	Vu=10.80	Vu=8.07

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
	Mu=15.03 As=1.10			Mu=17.75 As=1.10			Mu=14.81 As=1.10	
Vu=8.07	Vu=5.35	Vu=2.62	Vu=2.62	Vu=-0.11	Vu=-2.84	Vu=-2.84	Vu=-5.56	Vu=-8.29

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.48 As=1.10		Mu=-0.48 As=1.10	Mu=-17.60 As=1.10		Mu=-17.60 As=1.16	Mu=-40.38 As=2.45	
	Mu=6.19 As=1.10			Mu=0.00 As=1.10			Mu=0.00 As=1.10	
Vu=-8.29	Vu=-11.02	Vu=-13.75	Vu=-13.75	Vu=-16.47	Vu=-19.20	Vu=-19.20	Vu=-21.93	Vu=-24.66

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-39.17 As=2.37	Mu=-12.31 As=1.10		Mu=-12.31 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
	Mu=0.00 As=1.10			Mu=0.00 As=1.10			Mu=14.17 As=1.10	
Vu=29.51	Vu=25.87	Vu=22.24	Vu=22.24	Vu=18.61	Vu=14.97	Vu=14.97	Vu=11.33	Vu=7.70

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
	Mu=22.16 As=1.33			Mu=22.60 As=1.35			Mu=15.48 As=1.10	
Vu=7.70	Vu=4.06	Vu=0.42	Vu=0.42	Vu=-3.21	Vu=-6.85	Vu=-6.85	Vu=-10.49	Vu=-14.12

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND.)

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-9.68 As=1.10		Mu=-9.68 As=1.10	Mu=-35.69 As=2.15		Mu=-35.69 As=2.34	Mu=-69.25 As=4.39	
	Mu=0.81 As=1.10			Mu=0.00 As=1.10			Mu=0.00 As=1.10	
Vu=-14.12	Vu=-17.76	Vu=-21.40	Vu=-21.40	Vu=-25.03	Vu=-28.67	Vu=-28.67	Vu=-32.31	Vu=-35.94

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-68.10 As=4.31	Mu=-29.80 As=2.00		Mu=-29.80 As=1.78	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
	Mu=0.00 As=1.10			Mu=0.00 As=1.10			Mu=13.88 As=1.10	
Vu=40.54	Vu=36.91	Vu=33.28	Vu=33.28	Vu=29.64	Vu=26.00	Vu=26.00	Vu=22.37	Vu=18.73

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
	Mu=33.34 As=2.10			Mu=45.24 As=2.81			Mu=49.59 As=3.05	
Vu=18.73	Vu=15.09	Vu=11.46	Vu=11.46	Vu=7.82	Vu=4.18	Vu=4.18	Vu=0.55	Vu=-3.09

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
	Mu=46.38 As=2.88			Mu=35.62 As=2.23			Mu=17.29 As=1.15	
Vu=-3.09	Vu=-6.73	Vu=-10.36	Vu=-10.36	Vu=-14.00	Vu=-17.64	Vu=-17.64	Vu=-21.27	Vu=-24.91

VT-4B/

B=0.12 H=0.50 L=0.89			B=0.12 H=0.50 L=0.89			B=0.12 H=0.50 L=0.89		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
	Mu=7.19 As=1.10			Mu=13.43 As=1.10			Mu=15.50 As=1.10	
Vu=11.68	Vu=9.34	Vu=7.01	Vu=7.01	Vu=4.67	Vu=2.34	Vu=2.34	Vu=0.00	Vu=-2.34

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND.)

B=0.12 H=0.50 L=0.89			B=0.12 H=0.50 L=0.89		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=13.43 As=1.10			Mu=7.19 As=1.10		
Vu=-2.34	Vu=-4.67	Vu=-7.01	Vu=-7.01	Vu=-9.34	Vu=-11.68

VT-8B/

B=0.12 H=0.50 L=0.66			B=0.12 H=0.50 L=0.92		
Mu=-0.27 As=1.10	Mu=-2.96 As=1.10		Mu=-2.96 As=1.10	Mu=-0.00 As=1.10	
Mu=0.00 As=1.10			Mu=0.00 As=1.10		
Vu=-1.78	Vu=-4.09	Vu=-6.40	Vu=6.44	Vu=3.22	Vu=0.00

VT-9B/

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=12.29 As=1.10			Mu=25.07 As=1.55			Mu=32.18 As=1.95		
Vu=17.75	Vu=15.03	Vu=12.30	Vu=12.30	Vu=9.58	Vu=6.85	Vu=6.85	Vu=4.12	Vu=1.39

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=33.63 As=2.03			Mu=29.41 As=1.80			Mu=19.53 As=1.23		
Vu=1.39	Vu=-1.33	Vu=-4.06	Vu=-4.06	Vu=-6.79	Vu=-9.52	Vu=-9.52	Vu=-12.24	Vu=-14.97

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-6.16 As=1.10		Mu=-6.16 As=1.10	Mu=-30.22 As=1.81		Mu=-30.22 As=1.98	Mu=-59.94 As=3.75	
Mu=3.97 As=1.10			Mu=0.00 As=1.10			Mu=0.00 As=1.10		
Vu=-14.97	Vu=-17.70	Vu=-20.42	Vu=-20.42	Vu=-23.15	Vu=-25.88	Vu=-25.88	Vu=-28.61	Vu=-31.33

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND.)

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-59.94 As=3.75	Mu=-30.25 As=1.98		Mu=-30.25 As=1.81	Mu=-6.19 As=1.10		Mu=-6.19 As=1.10	Mu=-0.00 As=1.10	
Mu=0.00 As=1.10			Mu=0.00 As=1.10			Mu=3.95 As=1.10		
Vu=31.33	Vu=28.61	Vu=25.89	Vu=25.89	Vu=23.16	Vu=20.43	Vu=20.43	Vu=17.70	Vu=14.98

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=19.51 As=1.22			Mu=29.41 As=1.80			Mu=33.63 As=2.03		
Vu=14.98	Vu=12.25	Vu=9.52	Vu=9.52	Vu=6.79	Vu=4.07	Vu=4.07	Vu=1.34	Vu=-1.39

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=32.19 As=1.95			Mu=25.08 As=1.55			Mu=12.30 As=1.10		
Vu=-1.39	Vu=-4.12	Vu=-6.84	Vu=-6.84	Vu=-9.57	Vu=-12.30	Vu=-12.30	Vu=-15.03	Vu=-17.75

VT-11B/

B=0.12 H=0.50 L=0.90			B=0.12 H=0.50 L=0.90			B=0.12 H=0.50 L=0.90		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=4.47 As=1.10			Mu=8.72 As=1.10			Mu=8.72 As=1.10		
Vu=9.45	Vu=7.09	Vu=4.72	Vu=4.72	Vu=2.36	Vu=0.00	Vu=0.00	Vu=-2.36	Vu=-4.72

B=0.12 H=0.50 L=0.90		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=4.47 As=1.10		
Vu=-4.72	Vu=-7.09	Vu=-9.45

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND.)

VT-12B/

B=0.12 H=0.50 L=0.56			B=0.12 H=0.50 L=0.99			B=0.12 H=0.50 L=0.99		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-1.66 As=1.10		Mu=-1.66 As=1.10	Mu=-0.00 As=1.10	
Mu=0.84 As=1.10			Mu=0.51 As=1.10			Mu=0.51 As=1.10		
Vu=2.88	Vu=1.41	Vu=-0.06	Vu=-0.06	Vu=-2.66	Vu=-5.25	Vu=5.25	Vu=2.66	Vu=0.06

B=0.12 H=0.50 L=0.56		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=0.84 As=1.10		
Vu=0.06	Vu=-1.41	Vu=-2.88

VT-13B/

B=0.12 H=0.50 L=0.96			B=0.12 H=0.50 L=0.96			B=0.12 H=0.50 L=0.96		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=6.40 As=1.10			Mu=13.66 As=1.10			Mu=16.08 As=1.10		
Vu=12.60	Vu=10.08	Vu=7.56	Vu=7.56	Vu=5.04	Vu=2.52	Vu=2.52	Vu=0.00	Vu=-2.52

B=0.12 H=0.50 L=0.96			B=0.12 H=0.50 L=0.96		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=13.66 As=1.10			Mu=6.40 As=1.10		
Vu=-2.52	Vu=-5.04	Vu=-7.56	Vu=-7.56	Vu=-10.08	Vu=-12.60

VT-14B/

B=0.12 H=0.50 L=0.90			B=0.12 H=0.50 L=0.90			B=0.12 H=0.50 L=0.93		
Mu=-0.00 As=1.10	Mu=-2.84 As=1.10		Mu=-2.84 As=1.10	Mu=-11.34 As=1.10		Mu=-8.12 As=1.10	Mu=-0.00 As=1.10	
Mu=0.00 As=1.10			Mu=0.00 As=1.10			Mu=3.22 As=1.10		
Vu=0.00	Vu=-3.15	Vu=-6.30	Vu=-6.30	Vu=-9.45	Vu=-12.60	Vu=25.47	Vu=22.22	Vu=18.96

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND.)

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=21.76 As=1.38			Mu=33.90 As=2.09			Mu=38.49 As=2.33		
Vu=18.96	Vu=15.32	Vu=11.69	Vu=11.69	Vu=8.05	Vu=4.41	Vu=4.41	Vu=0.78	Vu=-2.86

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-5.28 As=1.10	
Mu=35.52 As=2.18			Mu=24.99 As=1.57			Mu=6.91 As=1.10		
Vu=-2.86	Vu=-6.50	Vu=-10.13	Vu=-10.13	Vu=-13.77	Vu=-17.40	Vu=-17.40	Vu=-21.04	Vu=-24.68

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-5.28 As=1.10	Mu=-34.70 As=2.09		Mu=-34.70 As=2.30	Mu=-71.68 As=4.57		Mu=-71.68 As=4.57	Mu=-34.74 As=2.30	
Mu=0.00 As=1.10			Mu=0.00 As=1.10			Mu=0.00 As=1.10		
Vu=-24.68	Vu=-28.31	Vu=-31.95	Vu=-31.95	Vu=-35.59	Vu=-39.22	Vu=39.22	Vu=35.59	Vu=31.96

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-34.74 As=2.09	Mu=-5.32 As=1.10		Mu=-5.32 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=0.00 As=1.10			Mu=6.87 As=1.10			Mu=24.96 As=1.57		
Vu=31.96	Vu=28.32	Vu=24.68	Vu=24.68	Vu=21.05	Vu=17.41	Vu=17.41	Vu=13.77	Vu=10.14

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10		Mu=-0.00 As=1.10	Mu=-0.00 As=1.10	
Mu=35.50 As=2.18			Mu=38.47 As=2.33			Mu=33.89 As=2.09		
Vu=10.14	Vu=6.50	Vu=2.86	Vu=2.86	Vu=-0.77	Vu=-4.41	Vu=-4.41	Vu=-8.05	Vu=-11.68

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND.)

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=0.93			B=0.12 H=0.50 L=0.90		
Mu=-0.00	Mu=-0.00		Mu=-0.00	Mu=-8.12		Mu=-11.34	Mu=-2.84	
As=1.10	As=1.10		As=1.10	As=1.10		As=1.10	As=1.10	
Mu=21.75 As=1.38			Mu=3.21 As=1.10			Mu=0.00 As=1.10		
Vu=-11.68	Vu=-15.32	Vu=-18.96	Vu=-18.96	Vu=-22.21	Vu=-25.47	Vu=12.60	Vu=9.45	Vu=6.30

B=0.12 H=0.50 L=0.90		
Mu=-2.84	Mu=-0.00	
As=1.10	As=1.10	
Mu=0.00 As=1.10		
Vu=6.30	Vu=3.15	Vu=0.00

VT-15B/

B=0.12 H=0.50 L=0.65			B=0.12 H=0.50 L=0.65			B=0.12 H=0.50 L=0.65		
Mu=-0.00	Mu=-0.00		Mu=-0.00	Mu=-0.00		Mu=-0.00	Mu=-0.00	
As=1.10	As=1.10		As=1.10	As=1.10		As=1.10	As=1.10	
Mu=0.00 As=1.10			Mu=0.00 As=1.10			Mu=0.00 As=1.10		
Vu=0.00	Vu=0.00	Vu=0.00	Vu=0.00	Vu=0.00	Vu=0.00	Vu=0.00	Vu=0.00	Vu=0.00

VT-10B/

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00	Mu=-0.00		Mu=-0.00	Mu=-0.00		Mu=-0.00	Mu=-0.00	
As=1.10	As=1.10		As=1.10	As=1.10		As=1.10	As=1.10	
Mu=16.39 As=1.10			Mu=33.42 As=2.09			Mu=42.91 As=2.65		
Vu=23.67	Vu=20.04	Vu=16.41	Vu=16.41	Vu=12.77	Vu=9.13	Vu=9.13	Vu=5.50	Vu=1.86

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00	Mu=-0.00		Mu=-0.00	Mu=-0.00		Mu=-0.00	Mu=-0.00	
As=1.10	As=1.10		As=1.10	As=1.10		As=1.10	As=1.10	
Mu=44.84 As=2.75			Mu=39.22 As=2.43			Mu=26.04 As=1.65		
Vu=1.86	Vu=-1.78	Vu=-5.41	Vu=-5.41	Vu=-9.05	Vu=-12.69	Vu=-12.69	Vu=-16.32	Vu=-19.96

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND.)

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00	Mu=-8.22		Mu=-8.22	Mu=-40.29		Mu=-40.29	Mu=-79.92	
As=1.10	As=1.10		As=1.10	As=2.44		As=2.68	As=5.17	
	Mu=5.30			Mu=0.00			Mu=0.00	
	As=1.10			As=1.10			As=1.10	
Vu=-19.96	Vu=-23.60	Vu=-27.23	Vu=-27.23	Vu=-30.87	Vu=-34.51	Vu=-34.51	Vu=-38.14	Vu=-41.78

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-79.92	Mu=-40.33		Mu=-40.33	Mu=-8.25		Mu=-8.25	Mu=-0.00	
As=5.17	As=2.68		As=2.45	As=1.10		As=1.10	As=1.10	
	Mu=0.00			Mu=0.00			Mu=5.27	
	As=1.10			As=1.10			As=1.10	
Vu=41.78	Vu=38.15	Vu=34.51	Vu=34.51	Vu=30.88	Vu=27.24	Vu=27.24	Vu=23.60	Vu=19.97

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00	Mu=-0.00		Mu=-0.00	Mu=-0.00		Mu=-0.00	Mu=-0.00	
As=1.10	As=1.10		As=1.10	As=1.10		As=1.10	As=1.10	
	Mu=26.02			Mu=39.21			Mu=44.84	
	As=1.65			As=2.43			As=2.75	
Vu=19.97	Vu=16.33	Vu=12.70	Vu=12.70	Vu=9.06	Vu=5.42	Vu=5.42	Vu=1.79	Vu=-1.85

B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04			B=0.12 H=0.50 L=1.04		
Mu=-0.00	Mu=-0.00		Mu=-0.00	Mu=-0.00		Mu=-0.00	Mu=-0.00	
As=1.10	As=1.10		As=1.10	As=1.10		As=1.10	As=1.10	
	Mu=42.92			Mu=33.44			Mu=16.40	
	As=2.65			As=2.09			As=1.10	
Vu=-1.85	Vu=-5.49	Vu=-9.12	Vu=-9.12	Vu=-12.76	Vu=-16.40	Vu=-16.40	Vu=-20.03	Vu=-23.67

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND)

V-102B/N+4.45

B=0.50 H=0.50 L=4.40		
Mu=-152.17	Mu=-122.82	
As=9.50	As=7.59	
Mu=51.61		
As=7.36		
Vu=-98.46	Vu=-44.67	Vu=94.67

V-103B/N+4.45

B=0.50 H=0.50 L=4.47			B=0.50 H=0.50 L=4.48			B=0.50 H=0.50 L=4.48		
Mu=-133.92	Mu=-121.54		Mu=-105.04	Mu=-129.48		Mu=-153.26	Mu=-190.25	
As=8.31	As=7.51		As=7.36	As=8.02		As=9.57	As=12.05	
Mu=57.18			Mu=37.70			Mu=76.85		
As=7.36			As=7.36			As=7.36		
Vu=-81.61	Vu=40.59	Vu=103.81	Vu=-89.04	Vu=-25.81	Vu=78.34	Vu=-109.66	Vu=-32.65	Vu=215.59

B=0.50 H=0.50 L=4.48			B=0.50 H=0.50 L=4.48			B=0.50 H=0.50 L=4.48		
Mu=-187.54	Mu=-168.78		Mu=-168.47	Mu=-183.63		Mu=-180.31	Mu=-175.29	
As=11.87	As=10.60		As=10.58	As=11.60		As=11.38	As=11.04	
Mu=69.68			Mu=72.08			Mu=66.64		
As=7.36			As=7.36			As=7.36		
Vu=-211.61	Vu=36.34	Vu=113.35	Vu=-114.37	Vu=-37.36	Vu=211.02	Vu=-207.42	Vu=38.62	Vu=115.63

B=0.50 H=0.50 L=4.48			B=0.50 H=0.50 L=4.48			B=0.50 H=0.50 L=4.48		
Mu=-179.30	Mu=-217.11		Mu=-205.33	Mu=-166.58		Mu=-163.25	Mu=-200.12	
As=11.31	As=13.90		As=13.08	As=10.46		As=10.24	As=12.72	
Mu=87.81			Mu=82.08			Mu=81.15		
As=7.36			As=7.36			As=7.36		
Vu=-130.30	Vu=-38.77	Vu=278.82	Vu=-275.70	Vu=34.48	Vu=127.71	Vu=-127.35	Vu=-32.04	Vu=276.02

B=0.50 H=0.50 L=4.40		
Mu=-235.11	Mu=-180.84	
As=15.16	As=11.41	
Mu=106.74		
As=7.36		
Vu=-280.35	Vu=40.45	Vu=128.66

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND)

V-105B/N+4.45

B=0.40 H=0.50 L=4.40		B=0.40 H=0.50 L=4.48		B=0.40 H=0.50 L=4.48	
Mu=-124.70 As=7.80	Mu=-140.76 As=8.87	Mu=-131.41 As=8.24	Mu=-128.49 As=8.05	Mu=-127.30 As=7.97	Mu=-130.94 As=8.21
Mu=46.92 As=5.89		Mu=43.80 As=5.89		Mu=43.65 As=5.89	
Vu=-91.92	Vu=39.29	Vu=104.12	Vu=-106.63	Vu=-27.49	Vu=95.34
			Vu=-94.81	Vu=27.25	Vu=106.40

B=0.40 H=0.50 L=4.40	
Mu=-141.14 As=8.89	Mu=-124.51 As=7.79
Mu=47.05 As=5.89	
Vu=-104.28	Vu=-39.45
	Vu=91.99

V-106B/N+4.45

B=0.40 H=0.50 L=4.34		B=0.40 H=0.50 L=4.48		B=0.40 H=0.50 L=4.48	
Mu=-131.38 As=8.24	Mu=-104.18 As=6.45	Mu=-67.55 As=5.89	Mu=-67.63 As=5.89	Mu=-67.79 As=5.89	Mu=-74.25 As=5.89
Mu=48.78 As=5.89		Mu=22.52 As=5.89		Mu=24.75 As=5.89	
Vu=-74.73	Vu=37.57	Vu=79.84	Vu=-40.67	Vu=-26.47	Vu=47.30
			Vu=-46.52	Vu=28.26	Vu=42.46

B=0.40 H=0.50 L=4.34	
Mu=-111.40 As=6.92	Mu=-139.71 As=8.80
Mu=60.92 As=5.89	
Vu=-87.88	Vu=-45.61
	Vu=93.89

V-107B/N+4.45

B=0.40 H=0.50 L=4.34		B=0.40 H=0.50 L=4.48		B=0.40 H=0.50 L=4.48	
Mu=-161.45 As=10.27	Mu=-110.60 As=6.87	Mu=-78.97 As=5.89	Mu=-109.52 As=6.80	Mu=-109.01 As=6.77	Mu=-87.35 As=5.89
Mu=56.56 As=5.89		Mu=36.62 As=5.89		Mu=30.99 As=5.89	
Vu=-81.51	Vu=43.13	Vu=85.40	Vu=-53.57	Vu=-39.37	Vu=69.56
			Vu=-68.79	Vu=40.69	Vu=54.89

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND)

B=0.40 H=0.50 L=4.34		
Mu=-111.68	Mu=-153.15	
As=6.94	As=9.71	
Mu=61.67		
As=5.89		
Vu=-88.26	Vu=-45.99	Vu=96.28

V-108B/N+4.45

B=0.50 H=0.50 L=4.40			B=0.50 H=0.50 L=4.48			B=0.50 H=0.50 L=4.48		
Mu=-156.65	Mu=-220.11		Mu=-246.93	Mu=-249.56		Mu=-249.65	Mu=-249.12	
As=9.80	As=14.11		As=16.00	As=16.19		As=16.19	As=16.15	
Mu=73.37			Mu=116.16			Mu=116.48		
As=7.36			As=7.36			As=7.36		
Vu=-107.00	Vu=49.72	Vu=180.63	Vu=-279.76	Vu=49.06	Vu=178.73	Vu=-180.62	Vu=-48.45	Vu=280.66

B=0.50 H=0.50 L=4.40		
Mu=-219.78	Mu=-155.42	
As=14.08	As=9.72	
Mu=73.26		
As=7.36		
Vu=-180.29	Vu=-49.38	Vu=106.58

V-109B/N+4.45

B=0.50 H=0.50 L=4.34			B=0.50 H=0.50 L=4.48			B=0.50 H=0.50 L=4.48		
Mu=-241.70	Mu=-217.08		Mu=-175.61	Mu=-173.54		Mu=-174.08	Mu=-182.32	
As=15.62	As=13.89		As=11.06	As=10.92		As=10.96	As=11.51	
Mu=101.13			Mu=75.44			Mu=74.89		
As=7.36			As=7.36			As=7.36		
Vu=-133.71	Vu=-59.58	Vu=235.22	Vu=-209.44	Vu=36.92	Vu=114.07	Vu=-115.26	Vu=-38.11	Vu=212.07

B=0.50 H=0.50 L=4.34		
Mu=-206.89	Mu=-211.40	
As=13.19	As=13.50	
Mu=89.46		
As=7.36		
Vu=-226.22	Vu=51.18	Vu=125.31

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND)

V-111B/N+4.45

B=0.50 H=0.50 L=4.34		B=0.50 H=0.50 L=4.48		B=0.50 H=0.50 L=4.48	
Mu=-320.40 As=21.43	Mu=-267.95 As=17.51	Mu=-215.88 As=13.81	Mu=-207.45 As=13.23	Mu=-205.50 As=13.09	Mu=-211.87 As=13.53
Mu=108.35 As=7.84		Mu=84.71 As=7.36		Mu=85.97 As=7.36	
Vu=-171.29	Vu=-83.25	Vu=282.55	Vu=-273.58	Vu=47.99	Vu=139.69
			Vu=-138.48	Vu=-46.78	Vu=273.58

B=0.50 H=0.50 L=4.34	
Mu=-275.58 As=18.07	Mu=-344.51 As=23.30
Mu=117.20 As=8.62	
Vu=-289.32	Vu=89.89
	Vu=177.93

V-112B/N+4.45

B=0.40 H=0.50 L=4.40		B=0.40 H=0.50 L=4.48		B=0.40 H=0.50 L=4.48	
Mu=-200.50 As=13.01	Mu=-228.84 As=15.07	Mu=-209.93 As=13.69	Mu=-192.68 As=12.45	Mu=-192.91 As=12.47	Mu=-209.59 As=13.66
Mu=63.03 As=5.89		Mu=52.80 As=5.89		Mu=52.85 As=5.89	
Vu=-128.78	Vu=-56.99	Vu=198.24	Vu=-185.27	Vu=51.79	Vu=126.04
			Vu=-126.16	Vu=-51.91	Vu=185.14

B=0.40 H=0.50 L=4.40	
Mu=-229.29 As=15.10	Mu=-201.40 As=13.07
Mu=63.11 As=5.89	
Vu=-198.45	Vu=57.25
	Vu=129.04

V-201B/N+8.90

B=0.30 H=0.50 L=4.37		B=0.30 H=0.50 L=4.43		B=0.30 H=0.50 L=4.43	
Mu=-37.92 As=4.42	Mu=-33.13 As=4.42	Mu=-33.17 As=4.42	Mu=-44.94 As=4.42	Mu=-45.26 As=4.42	Mu=-34.93 As=4.42
Mu=9.42 As=4.42		Mu=14.84 As=4.42		Mu=13.99 As=4.42	
Vu=-20.90	Vu=11.03	Vu=21.45	Vu=-23.22	Vu=-12.59	Vu=22.50
			Vu=-22.26	Vu=12.78	Vu=23.42

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND)

B=0.30 H=0.50 L=4.45			B=0.30 H=0.50 L=4.48			B=0.30 H=0.50 L=4.45		
Mu=-32.57 As=4.42	Mu=-32.78 As=4.42		Mu=-31.66 As=4.42	Mu=-29.13 As=4.42		Mu=-30.06 As=4.42	Mu=-34.79 As=4.42	
	Mu=10.49 As=4.42			Mu=10.67 As=4.42			Mu=9.47 As=4.42	
Vu=-20.89	Vu=-10.26	Vu=19.20	Vu=-18.54	Vu=9.45	Vu=20.09	Vu=-20.36	Vu=-9.72	Vu=19.78

B=0.30 H=0.50 L=4.45			B=0.30 H=0.50 L=4.47			B=0.30 H=0.50 L=4.45		
Mu=-34.58 As=4.42	Mu=-29.75 As=4.42		Mu=-30.58 As=4.42	Mu=-29.18 As=4.42		Mu=-30.50 As=4.42	Mu=-33.36 As=4.42	
	Mu=9.19 As=4.42			Mu=7.36 As=4.42			Mu=6.67 As=4.42	
Vu=-19.63	Vu=9.67	Vu=20.30	Vu=-20.17	Vu=-9.53	Vu=18.36	Vu=-19.18	Vu=10.27	Vu=20.91

B=0.30 H=0.50 L=4.43			B=0.30 H=0.50 L=4.42			B=0.30 H=0.50 L=4.38		
Mu=-33.20 As=4.42	Mu=-30.34 As=4.42		Mu=-30.38 As=4.42	Mu=-30.27 As=4.42		Mu=-34.01 As=4.42	Mu=-38.26 As=4.42	
	Mu=6.64 As=4.42			Mu=6.08 As=4.42			Mu=7.65 As=4.42	
Vu=-20.57	Vu=-9.93	Vu=19.31	Vu=-19.49	Vu=9.07	Vu=19.57	Vu=-21.62	Vu=-11.54	Vu=21.87

V-202B/N+8.90

B=0.40 H=0.50 L=9.30			B=0.40 H=0.50 L=9.40			B=0.40 H=0.50 L=9.40		
Mu=-89.84 As=5.89	Mu=-101.67 As=6.29		Mu=-92.72 As=5.89	Mu=-90.43 As=5.89		Mu=-94.60 As=5.89	Mu=-103.99 As=6.44	
	Mu=33.89 As=5.89			Mu=30.91 As=5.89			Mu=32.44 As=5.89	
Vu=-37.07	Vu=13.25	Vu=41.33	Vu=-37.83	Vu=-9.46	Vu=36.93	Vu=-38.27	Vu=11.17	Vu=39.54

B=0.40 H=0.50 L=9.40		
Mu=-111.15 As=6.91	Mu=-100.39 As=6.21	
	Mu=37.05 As=5.89	
Vu=-42.78	Vu=-14.41	Vu=39.62

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND)**V-203B/N+8.90**

B=0.30 H=0.50 L=4.37			B=0.30 H=0.50 L=4.43			B=0.30 H=0.50 L=4.43		
Mu=-32.23 As=4.42	Mu=-33.03 As=4.42		Mu=-28.55 As=4.42	Mu=-28.53 As=4.42		Mu=-30.28 As=4.42	Mu=-29.75 As=4.42	
	Mu=6.61 As=4.42			Mu=6.02 As=4.42			Mu=6.06 As=4.42	
Vu=-19.45	Vu=10.47	Vu=20.89	Vu=-19.13	Vu=-8.50	Vu=19.02	Vu=-19.11	Vu=-8.47	Vu=18.92

B=0.30 H=0.50 L=4.45			B=0.30 H=0.50 L=4.48			B=0.30 H=0.50 L=4.45		
Mu=-31.16 As=4.42	Mu=-29.25 As=4.42		Mu=-27.85 As=4.42	Mu=-27.06 As=4.42		Mu=-27.60 As=4.42	Mu=-30.59 As=4.42	
	Mu=6.23 As=4.42			Mu=6.03 As=4.42			Mu=6.72 As=4.42	
Vu=-19.93	Vu=-9.29	Vu=18.92	Vu=-17.98	Vu=7.91	Vu=18.55	Vu=-18.95	Vu=-8.33	Vu=18.81

B=0.30 H=0.50 L=4.45			B=0.30 H=0.50 L=4.47			B=0.30 H=0.50 L=4.45		
Mu=-30.05 As=4.42	Mu=-28.05 As=4.42		Mu=-28.77 As=4.42	Mu=-25.00 As=4.42		Mu=-27.94 As=4.42	Mu=-31.03 As=4.42	
	Mu=6.48 As=4.42			Mu=7.61 As=4.42			Mu=7.01 As=4.42	
Vu=-18.50	Vu=8.36	Vu=19.00	Vu=-19.43	Vu=-8.79	Vu=16.97	Vu=-18.14	Vu=8.90	Vu=19.54

B=0.30 H=0.50 L=4.43			B=0.30 H=0.50 L=4.42			B=0.30 H=0.50 L=4.38		
Mu=-32.28 As=4.42	Mu=-33.75 As=4.42		Mu=-34.36 As=4.42	Mu=-30.00 As=4.42		Mu=-31.17 As=4.42	Mu=-35.80 As=4.42	
	Mu=10.80 As=4.42			Mu=11.18 As=4.42			Mu=7.16 As=4.42	
Vu=-21.17	Vu=-10.53	Vu=19.28	Vu=-19.67	Vu=9.86	Vu=20.44	Vu=-20.17	Vu=10.21	Vu=20.63

V-204B/N+8.90

B=0.30 H=0.50 L=4.40			B=0.30 H=0.50 L=4.48			B=0.30 H=0.50 L=4.48		
Mu=-41.22 As=4.42	Mu=-36.60 As=4.42		Mu=-34.54 As=4.42	Mu=-35.85 As=4.42		Mu=-34.67 As=4.42	Mu=-34.02 As=4.42	
	Mu=8.24 As=4.42			Mu=7.17 As=4.42			Mu=6.93 As=4.42	
Vu=-22.88	Vu=13.34	Vu=23.74	Vu=-21.63	Vu=-10.98	Vu=21.18	Vu=-20.77	Vu=10.80	Vu=21.45

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND)

B=0.30 H=0.50 L=4.40		
Mu=-36.15 As=4.42		Mu=-42.72 As=4.42
Mu=8.54 As=4.42		
Vu=-23.13	Vu=13.01	Vu=23.42

V-205B/N+8.90

B=0.40 H=0.50 L=4.40			B=0.40 H=0.50 L=4.48			B=0.40 H=0.50 L=4.48		
Mu=-64.83 As=5.89		Mu=-50.83 As=5.89	Mu=-51.53 As=5.89		Mu=-50.23 As=5.89	Mu=-48.93 As=5.89		Mu=-53.44 As=5.89
Mu=15.10 As=5.89			Mu=10.31 As=5.89			Mu=10.69 As=5.89		
Vu=-34.67	Vu=20.92	Vu=34.27	Vu=-30.91	Vu=-16.71	Vu=28.84	Vu=-28.34	Vu=17.45	Vu=31.65

B=0.40 H=0.50 L=4.40		
Mu=-49.47 As=5.89		Mu=-65.37 As=5.89
Mu=13.46 As=5.89		
Vu=-33.05	Vu=20.89	Vu=34.77

V-206B/N+8.90

B=0.40 H=0.50 L=4.40			B=0.40 H=0.50 L=4.48			B=0.40 H=0.50 L=4.48		
Mu=-70.50 As=5.89		Mu=-61.43 As=5.89	Mu=-53.27 As=5.89		Mu=-53.43 As=5.89	Mu=-53.62 As=5.89		Mu=-54.37 As=5.89
Mu=14.10 As=5.89			Mu=10.69 As=5.89			Mu=10.87 As=5.89		
Vu=-36.28	Vu=24.26	Vu=38.13	Vu=-31.42	Vu=-17.26	Vu=30.74	Vu=-30.77	Vu=17.64	Vu=31.84

B=0.40 H=0.50 L=4.40		
Mu=-62.22 As=5.89		Mu=-67.51 As=5.89
Mu=15.09 As=5.89		
Vu=-39.00	Vu=-25.12	Vu=35.39

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND)

V-207B/N+8.90

B=0.30 H=0.50 L=4.40			B=0.30 H=0.50 L=4.48			B=0.30 H=0.50 L=4.48		
Mu=-59.57	Mu=-47.08		Mu=-42.15	Mu=-44.18		Mu=-44.50	Mu=-41.96	
As=4.42	As=4.42		As=4.42	As=4.42		As=4.42	As=4.42	
Mu=11.91 As=4.42			Mu=8.84 As=4.42			Mu=8.90 As=4.42		
Vu=-29.86	Vu=-19.45	Vu=27.74	Vu=-24.30	Vu=14.50	Vu=25.15	Vu=-25.24	Vu=-14.59	Vu=24.20

B=0.30 H=0.50 L=4.40		
Mu=-48.19	Mu=-58.54	
As=4.42	As=4.42	
Mu=11.71 As=4.42		
Vu=-28.60	Vu=19.13	Vu=29.54

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND)

V-101B/N+4.45

B=0.40 H=0.50 L=4.37			B=0.40 H=0.50 L=4.43			B=0.40 H=0.50 L=4.43		
Mu=-126.21	Mu=-145.29	Mu=-130.38	Mu=-130.16	Mu=-139.29	Mu=-153.81			
As=7.90	As=9.17	As=8.17	As=8.16	As=12.70	As=13.68			
Mu=48.43 As=5.89			Mu=43.46 As=5.89			Mu=50.10 As=6.96		
Vu=-94.66	Vu=40.16	Vu=105.08	Vu=-89.89	Vu=-32.09	Vu=88.96	Vu=-99.81	Vu=-32.95	Vu=125.63

B=0.40 H=0.50 L=4.45			B=0.40 H=0.50 L=4.48			B=0.40 H=0.50 L=4.45		
Mu=-147.84	Mu=-132.18	Mu=-129.57	Mu=-148.97	Mu=-153.83	Mu=-144.56			
As=12.87	As=11.82	As=11.55	As=12.85	As=13.74	As=13.11			
Mu=42.42 As=6.43			Mu=46.69 As=6.36			Mu=48.13 As=7.05		
Vu=-121.46	Vu=30.56	Vu=97.42	Vu=-96.83	Vu=-29.95	Vu=145.43	Vu=-148.42	Vu=34.43	Vu=101.31

B=0.40 H=0.50 L=4.45			B=0.40 H=0.50 L=4.47			B=0.50 H=0.50 L=4.45		
Mu=-144.86	Mu=-153.22	Mu=-147.51	Mu=-137.41	Mu=-157.79	Mu=-181.71			
As=12.91	As=13.47	As=12.89	As=12.21	As=15.67	As=17.27			
Mu=48.77 As=6.84			Mu=42.82 As=6.41			Mu=57.58 As=9.50		
Vu=-101.59	Vu=-34.71	Vu=148.25	Vu=-143.64	Vu=32.12	Vu=98.99	Vu=-169.33	Vu=-31.87	Vu=172.89

B=0.40 H=0.50 L=4.43			B=0.40 H=0.50 L=4.42			B=0.40 H=0.50 L=4.38		
Mu=-184.01	Mu=-157.46	Mu=-156.06	Mu=-180.02	Mu=-189.67	Mu=-138.12			
As=11.84	As=10.00	As=13.62	As=15.27	As=14.74	As=11.19			
Mu=59.05 As=5.89			Mu=57.92 As=7.23			Mu=63.22 As=6.52		
Vu=-173.39	Vu=38.84	Vu=112.97	Vu=-112.24	Vu=-38.11	Vu=171.99	Vu=-178.21	Vu=-36.27	Vu=106.85

V-104B/N+4.45

B=0.40 H=0.50 L=4.37			B=0.40 H=0.50 L=4.43			B=0.40 H=0.50 L=4.43		
Mu=-116.31	Mu=-131.28	Mu=-103.29	Mu=-102.65	Mu=-124.62	Mu=-144.46			
As=7.25	As=8.23	As=6.40	As=6.36	As=7.79	As=9.12			
Mu=46.51 As=5.89			Mu=20.66 As=5.89			Mu=47.38 As=5.89		
Vu=-91.46	Vu=34.65	Vu=99.58	Vu=-65.06	Vu=-27.82	Vu=64.56	Vu=-94.68	Vu=-27.82	Vu=122.14

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND)

B=0.40 H=0.50 L=4.45			B=0.40 H=0.50 L=4.48			B=0.40 H=0.50 L=4.45		
Mu=-139.24	Mu=-124.28		Mu=-121.61	Mu=-140.69		Mu=-145.51	Mu=-135.15	
As=12.14	As=11.14		As=10.85	As=12.12		As=9.19	As=8.49	
Mu=40.39 As=6.17			Mu=44.55 As=6.12			Mu=48.00 As=5.89		
Vu=-117.89	Vu=27.32	Vu=94.18	Vu=-93.76	Vu=-26.89	Vu=141.92	Vu=-144.72	Vu=30.95	Vu=97.83

B=0.40 H=0.50 L=4.45			B=0.40 H=0.50 L=4.47			B=0.50 H=0.50 L=4.45		
Mu=-134.82	Mu=-143.94		Mu=-139.64	Mu=-129.28		Mu=-148.61	Mu=-171.82	
As=12.36	As=12.97		As=12.16	As=11.47		As=14.93	As=16.47	
Mu=47.98 As=6.79			Mu=41.13 As=6.12			Mu=57.60 As=9.21		
Vu=-97.78	Vu=-30.90	Vu=144.21	Vu=-140.41	Vu=28.84	Vu=95.72	Vu=-165.38	Vu=-27.92	Vu=171.06

B=0.40 H=0.50 L=4.43			B=0.40 H=0.50 L=4.42			B=0.40 H=0.50 L=4.38		
Mu=-173.43	Mu=-146.12		Mu=-145.64	Mu=-170.37		Mu=-177.89	Mu=-125.32	
As=15.09	As=13.22		As=12.86	As=14.55		As=14.08	As=10.51	
Mu=52.50 As=7.35			Mu=52.67 As=6.99			Mu=59.30 As=6.54		
Vu=-169.22	Vu=34.11	Vu=108.24	Vu=-107.89	Vu=-33.75	Vu=168.19	Vu=-173.28	Vu=-31.30	Vu=101.61

V-110B/N+4.45

B=0.50 H=0.50 L=4.40			B=0.50 H=0.50 L=4.48			B=0.50 H=0.50 L=4.48		
Mu=-218.19	Mu=-250.37		Mu=-236.52	Mu=-205.16		Mu=-205.61	Mu=-236.71	
As=18.42	As=20.69		As=20.01	As=17.82		As=17.66	As=19.83	
Mu=75.92 As=9.91			Mu=76.44 As=9.40			Mu=76.76 As=9.23		
Vu=-140.35	Vu=-59.26	Vu=250.29	Vu=-243.23	Vu=53.16	Vu=137.58	Vu=-137.81	Vu=-53.38	Vu=243.33

B=0.50 H=0.50 L=4.40		
Mu=-250.01	Mu=-218.60	
As=20.56	As=18.34	
Mu=75.72 As=9.79		
Vu=-250.06	Vu=59.33	Vu=140.42

PROYECTO: CAE - EL REDENTOR, BLOQUE B, BOGOTÁ (CUND)

V-113B/N+4.45

B=0.30 H=0.50 L=2.30		
Mu=-69.14		Mu=-0.00
As=4.42		As=4.42
Mu=0.00		
As=4.42		
Vu=-76.82	Vu=-38.41	Vu=0.00

V-114B/N+4.45

B=0.30 H=0.50 L=2.30		
Mu=-0.00		Mu=-69.14
As=4.42		As=4.42
Mu=0.00		
As=4.42		
Vu=0.00	Vu=38.41	Vu=76.82

PROYECTO: CAE - EL REDENTOR, BLOQUE C, BOGOTÁ (CUND.)

Columnas F-1, F-5, F-6, F-8, F-9, D'-1, D'-5, D'-9, C'-1, C'-3, C'-5, C'-7, C'-9, C'-11, B'-1, B'-5, B'-9, A-1, A-5, A-6, A-8, A-9

Nivel	H Libre	Losa	B	H	M1	M2	P	V1	V2	Cuantia	m/mr	Rap	Ras
N+8.90	3.95	.50	.45	.45	18.21	35.69	-47.56	11.76	16.99	12/#5 (1.2%)	0.24	0	0
					-24.37	-41.63				12/#5 (1.2%)			
N+4.45	4.00	.50	.45	.45	93.73	41.59	-177.29	45.10	34.70	12/#5 (1.2%)	0.56	0	0
					-109.22	-38.49				12/#5 (1.2%)			

Columnas F-13, D'-13, C'-13, B'-13

Nivel	H Libre	Losa	B	H	M1	M2	P	V1	V2	Cuantia	m/mr	Rap	Ras
N+8.90	3.95	.50	.45	.45	2.26	53.48	-47.38	12.65	21.65	12/#5 #6 (1.3%)	0.28	0	0
					18.89	-46.88				12/#5 #6 (1.3%)			
N+4.45	4.00	.50	.45	.45	16.98	150.69	-165.62	45.73	75.90	12/#5 #6 (1.3%)	0.74	0	0
					62.34	170.78				12/#5 #6 (1.3%)			

Columnas D'-3, D'-7, D'-11, C'-2, C'-4, C'-6, C'-8, C'-10, C'-12, B'-3, B'-7, B'-2, D'-2

Nivel	H Libre	Losa	B	H	M1	M2	P	V1	V2	Cuantia	m/mr	Rap	Ras
N+4.45	4.00	.50	.45	.45	-5.66	-91.84	-138.76	19.12	43.61	12/#5 (1.2%)	0.51	0	0
					29.05	95.36				12/#5 (1.2%)			

Columna B'-11

Nivel	H Libre	Losa	B	H	M1	M2	P	V1	V2	Cuantia	m/mr	Rap	Ras
N+4.45	4.00	.50	.45	.45	10.76	187.44	-208.67	21.29	84.40	12/#5 #6 (1.3%)	0.88	0	0
					31.43	191.01				12/#5 #6 (1.3%)			

PROYECTO: CAE - EL REDENTOR, BLOQUE C, BOGOTÁ (CUND.)

Columna A-13

Nivel	H Libre	Losa	B	H	M1	M2	P	V1	V2	Cuantia	m/mr	Rap	Ras
N+8.90	3.95	.50	.45	.45	-20.23	-53.84	-80.44	12.89	21.73	12/#6 #5 (1.5%)	0.28	0	0
					27.70	46.98				12/#6 #5 (1.5%)			
N+4.45	4.00	.50	.45	.45	-66.39	-148.76	-310.71	46.04	75.01	12/#6 #5 (1.5%)	0.77	0	0
		1.20			67.68	188.84				12/#6 #5 (1.5%)			

PROYECTO: CAE - EL REDENTOR, BLOQUE C, BOGOTÁ (CUND.)

Columnas F-2, F-3, F-4, F-7, F-10, F-11, F-12, A-2, A-3, A-4, A-7, A-10, A-12

Nivel	H Libre	Losa	B	H	M1	M2	P	V1	V2	Cuantia	m/mr	Rap	Ras
N+8.90	3.95	.50	.50	.50	-43.35	-3.97	-56.14	16.15	12.42	16/#5 #4 (1.0%)	0.21	0	0
					-4.55	-51.90				16/#5 #4 (1.0%)			
N+4.45	4.00	.50	.50	.50	118.62	43.00	-177.71	63.58	47.04	16/#5 #4 (1.0%)	0.55	0	0
					156.61	31.20				16/#5 #4 (1.0%)			

Columna A-11

Nivel	H Libre	Losa	B	H	M1	M2	P	V1	V2	Cuantia	m/mr	Rap	Ras
N+8.90	3.95	.50	.50	.50	-19.56	-117.98	-104.22	14.15	75.23	16/#5 #4 (1.0%)	0.55	0	0
					8.98	216.90				16/#5 (1.3%)			
N+4.45	4.00	.50	.50	.50	118.18	-59.42	-407.81	60.78	63.18	16/#5 (1.3%)	0.48	0	0
					86.53	183.72				16/#4 #5 (1.0%)			

6. DISEÑO DE ELEMENTOS METÁLICOS

DISEÑO DE ELEMENTOS METÁLICOS

DISEÑO DE ELEMENTOS METÁLICOS

AISC360-10

BLOQUE C

STEEL CODE PREFERENCES

```

Steel Design Code           : AISC360-10

Time History Type          : Step-by-Step
Frame Type                 : IMF
Seismic Design Category   : D
Importance Factor         : 1.
System Rho                 : 1.
System Sds                 : 0.5
System R                   : 8.
System Omega0             : 3.
System Cd                 : 5.5
Design Provision          : LRFD
Design Analysis Method    : Direct Analysis
Second Order Analysis Method : General 2nd Order
Stiffness Reduction Method : Tau-b Fixed
Phi(Bending)              : 0.9
Phi(Compression)         : 0.9
Phi(Tension-Yielding)    : 0.9
Phi(Tension-Fracture)   : 0.75
Phi(Shear)                : 0.9
Phi(Shear Rolled I)      : 1.
Phi(Shear-Torsion)       : 0.9
Ignore Seismic Code?     : No
Ignore Special Seismic Load? : No
Is Doubler Plate Plug Welded? : Yes
HSS Welding Type         : ERW
Reduce HSS Thickness?    : No
Consider Deflection?     : Yes
Deflection Check Type     : Both
DL Limit, L /             : 120
Super DL+LL Limit, L /   : 120
Live Load Limit, L /     : 360
Total Load Limit, L /    : 240
Total--Camber Limit, L/  : 240
DL Limit, abs             : 0.0254
Super DL+LL Limit, abs   : 0.0254
Live Load Limit, abs     : 0.0254
Total Load Limit, abs    : 0.0254
Total--Camber Limit, abs : 0.0254
Pattern Live Load Factor : 0.75
Stress Ratio Limit       : 0.95
Maximum Auto Iteration   : 1
    
```

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 4, 2014 15:44 PAGE 1

C O L U M N S T E E L S T R E S S C H E C K O U T P U T (AISC360-10)

STORY LEVEL	COLUMN LINE	SECTION ID	/-----MOMENT INTERACTION CHECK-----//				----SHEAR22----		----SHEAR33----	
			COMBO	RATIO	=	AXL + B33 + B22	COMBO	RATIO	COMBO	RATIO
N+17.00	C14	TEC1-150X150	COMDIS8(C)	0.797	=	0.685 + 0.067 + 0.045	COMDIS3	0.009	COMDIS10	0.002
			COMDIS11(T)	0.079	=	0.005 + 0.038 + 0.036				
N+17.00	C16	TEC1-150X150	COMDIS8(C)	0.797	=	0.762 + 0.031 + 0.004	COMDIS3	0.012	COMDIS10	0.003
			COMDIS11(T)	0.096	=	0.006 + 0.040 + 0.050				
N+17.00	C18-1	TEC1-150X150	COMDIS9(C)	0.296	=	0.264 + 0.030 + 0.002	COMDIS8	0.019	COMDIS3	0.006
			COMDIS11(T)	0.065	=	0.001 + 0.061 + 0.003				
N+17.00	C20-1	TEC1-150X150	COMDIS9(C)	0.433	=	0.353 + 0.069 + 0.011	COMDIS3	0.013	COMDIS4	0.024
N+17.00	C21-1	TEC1-150X150	COMDIS9(C)	0.782	=	0.749 + 0.029 + 0.005	COMDIS3	0.008	COMDIS8	0.027
			COMDIS10(T)	0.040	=	0.001 + 0.028 + 0.012				
N+17.00	C23-1	TER3-200X400	COMDIS9(C)	0.427	=	0.332 + 0.000 + 0.095	COMDIS3	0.018	COMDIS8	0.030
			COMDIS10(T)	0.084	=	0.000 + 0.001 + 0.082				
N+17.00	C25-1	TEC1-150X150	COMDIS9(C)	0.824	=	0.811 + 0.011 + 0.001	COMDIS3	0.009	COMDIS9	0.003
			COMDIS10(T)	0.033	=	0.002 + 0.025 + 0.007				
N+17.00	C27-1	TER3-200X400	COMDIS9(C)	0.159	=	0.028 + 0.112 + 0.019	COMDIS3	0.011	COMDIS10	0.008
			COMDIS3(C)	0.159	=	0.028 + 0.112 + 0.019	COMDIS3	0.006	COMDIS4	0.001

N+17.00	C31-1	TER3-200X400	COMDIS9(C)	0.298	= 0.296 + 0.000 + 0.002	COMDIS3	0.016	COMDIS11	0.008
N+17.00	C33-1	TEC1-150X150	COMDIS3(C)	0.228	= 0.028 + 0.167 + 0.033	COMDIS3	0.006	COMDIS6	0.001
N+17.00	C34-1	TEC1-150X150	COMDIS9(C)	0.252	= 0.238 + 0.012 + 0.002	COMDIS3	0.006	COMDIS8	0.001
N+17.00	C36-1	TEC1-150X150	COMDIS3(C)	0.137	= 0.022 + 0.111 + 0.004	COMDIS9	0.019	COMDIS9	0.006
N+17.00	C38-1	TEC1-150X150	COMDIS3(C)	0.216	= 0.035 + 0.170 + 0.011	COMDIS9	0.019	COMDIS3	0.004
N+17.00	C40-1	TEC1-150X150	COMDIS9(T)	0.052	= 0.002 + 0.040 + 0.010	COMDIS9	0.003	COMDIS10	0.001
			COMDIS8(C)	0.299	= 0.265 + 0.031 + 0.003				
			COMDIS10(T)	0.065	= 0.001 + 0.061 + 0.003	COMDIS5	0.003	COMDIS10	0.001
			COMDIS3(C)	0.056	= 0.009 + 0.041 + 0.006				

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 4, 2014 15:44 PAGE 2

C O L U M N S P E C I A L S E I S M I C R E Q U I R E M E N T S (AISC360-10)

STORY LEVEL	COLUMN LINE	SECTION ID	SECTION CLASS	--CONTN. PLATE--	--DOUBLER PLATE--	THICK	MAJOR	MINOR
N+17.00	C14	TEC1-150X150	Compact					
N+17.00	C16	TEC1-150X150	Compact					
N+17.00	C18-1	TEC1-150X150	Compact					
N+17.00	C20-1	TEC1-150X150	Compact					
N+17.00	C21-1	TEC1-150X150	Compact					
N+17.00	C23-1	TER3-200X400	Slender					
N+17.00	C25-1	TEC1-150X150	Compact					
N+17.00	C27-1	TER3-200X400	Slender					
N+17.00	C29-1	TEC1-150X150	Compact					
N+17.00	C31-1	TER3-200X400	Slender					
N+17.00	C33-1	TEC1-150X150	Compact					
N+17.00	C34-1	TEC1-150X150	Compact					
N+17.00	C36-1	TEC1-150X150	Compact					
N+17.00	C38-1	TEC1-150X150	Compact					
N+17.00	C40-1	TEC1-150X150	Compact					

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 4, 2014 15:44 PAGE 3

B E A M S T E E L S T R E S S C H E C K O U T P U T (AISC360-10)

STORY LEVEL	BEAM BAY	SECTION ID	COMBO	MOMENT INTERACTION RATIO	CHECK	SHEAR22 RATIO	SHEAR33 RATIO
N+17.00	B14	TER1-150X250	COMDIS3(C)	0.339	= 0.005 + 0.273 + 0.061	COMDIS9	0.024
N+17.00	B15	TER1-150X250	COMDIS3(C)	0.338	= 0.006 + 0.271 + 0.062	COMDIS9	0.024
N+17.00	B23	TER1-150X250	COMDIS11(T)	0.155	= 0.000 + 0.130 + 0.025	COMDIS8	0.023
N+17.00	B24	TER2-200X400	COMDIS3(C)	0.117	= 0.002 + 0.013 + 0.102	COMDIS9	0.043
N+17.00	B25	TER1-150X250	COMDIS11(T)	0.042	= 0.002 + 0.027 + 0.013	COMDIS8	0.022
N+17.00	B26	TER1-150X250	COMDIS3(C)	0.117	= 0.003 + 0.014 + 0.101	COMDIS8	0.024
N+17.00	B27	TER1-150X250	COMDIS11(T)	0.046	= 0.002 + 0.015 + 0.030	COMDIS8	0.024
N+17.00	B28	TER1-150X250	COMDIS3(C)	0.269	= 0.005 + 0.205 + 0.059	COMDIS9	0.025
N+17.00	B29	TER1-150X250	COMDIS3(C)	0.310	= 0.004 + 0.263 + 0.042	COMDIS9	0.025
N+17.00	B31	TER1-150X250	COMDIS11(T)	0.161	= 0.000 + 0.136 + 0.025	COMDIS8	0.025
N+17.00	B32	TER1-150X250	COMDIS3(C)	0.321	= 0.007 + 0.267 + 0.047	COMDIS9	0.025
N+17.00	B33	TER2-200X400	COMDIS8(C)	0.290	= 0.008 + 0.253 + 0.029	COMDIS10	0.055
N+17.00	B34	TER1-150X250	COMDIS3(C)	0.105	= 0.004 + 0.030 + 0.071	COMDIS8	0.018
N+17.00	B35	TER1-150X250	COMDIS3(C)	0.269	= 0.005 + 0.205 + 0.059	COMDIS10	0.046
N+17.00	B41	TER1-150X250	COMDIS8(C)	0.295	= 0.010 + 0.257 + 0.028	COMDIS9	0.026
N+17.00	B42	TER1-150X250	COMDIS3(C)	0.326	= 0.006 + 0.251 + 0.068	COMDIS9	0.026
N+17.00	B43	TER1-150X250	COMDIS10(T)	0.165	= 0.000 + 0.133 + 0.032	COMDIS9	0.026
N+17.00	B44	TER1-150X250	COMDIS3(C)	0.342	= 0.007 + 0.258 + 0.077	COMDIS9	0.026
N+17.00	B45	TER1-150X250	COMDIS10(T)	0.164	= 0.000 + 0.135 + 0.029	COMDIS9	0.024
N+17.00	B69	TER1-150X250	COMDIS3(C)	0.232	= 0.014 + 0.164 + 0.054	COMDIS9	0.024
N+17.00	B70	TER1-150X250	COMDIS3(C)	0.216	= 0.007 + 0.164 + 0.046	COMDIS9	0.024

N+17.00	B71	TER1-150X250	COMDIS3(C)	0.133	= 0.003 + 0.016 + 0.115	COMDIS9	0.024	COMDIS3	0.011
			COMDIS10(T)	0.039	= 0.001 + 0.012 + 0.026				
N+17.00	B72	TER2-200X400	COMDIS8(C)	0.161	= 0.004 + 0.156 + 0.001	COMDIS8	0.044	COMDIS3	0.010
N+17.00	B73	TER1-150X250	COMDIS9			COMDIS9	0.023	COMDIS3	0.009
			COMDIS11(C)	0.102	= 0.006 + 0.079 + 0.017				
			COMDIS10(T)	0.042	= 0.002 + 0.028 + 0.012				
N+17.00	B81	TER1-150X250	COMDIS8			COMDIS8	0.024	COMDIS3	0.002
			COMDIS3(C)	0.260	= 0.007 + 0.206 + 0.047				
N+17.00	B82	TER1-150X250	COMDIS8			COMDIS8	0.024	COMDIS3	0.002
			COMDIS3(C)	0.258	= 0.004 + 0.204 + 0.049				

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 4, 2014 15:44 PAGE 5

B R A C E S T E E L S T R E S S C H E C K O U T P U T (AISC360-10)

STORY LEVEL	BRACE BAY	SECTION ID	COMBO	MOMENT INTERACTION RATIO	CHECK = AXL + B33 + B22	SHEAR22 RATIO	SHEAR33 RATIO		
N+17.00	D1	TER1-150X250	COMDIS3(C)	0.334	= 0.022 + 0.019 + 0.293	COMDIS10	0.022	COMDIS3	0.021
N+17.00	D2	TER2-200X400	COMDIS3(C)	0.312	= 0.015 + 0.030 + 0.267	COMDIS10	0.015	COMDIS3	0.028
N+17.00	D3	TER1-150X250	COMDIS3(C)	0.333	= 0.022 + 0.019 + 0.293	COMDIS10	0.022	COMDIS3	0.021
N+17.00	D4	TER1-150X250	COMDIS8(C)	0.464	= 0.091 + 0.345 + 0.028	COMDIS8	0.045	COMDIS3	0.009
			COMDIS8(T)	0.303	= 0.001 + 0.241 + 0.061				
N+17.00	D5	TER2-200X400	COMDIS3(C)	0.296	= 0.026 + 0.072 + 0.198	COMDIS8	0.037	COMDIS3	0.014
N+17.00	D6	TER1-150X250	COMDIS8(C)	0.539	= 0.205 + 0.305 + 0.028	COMDIS8	0.045	COMDIS3	0.009
			COMDIS10(T)	0.266	= 0.003 + 0.223 + 0.040				
N+17.00	D7	TER1-150X250	COMDIS9(C)	0.612	= 0.513 + 0.089 + 0.010	COMDIS8	0.040	COMDIS3	0.002
			COMDIS10(T)	0.158	= 0.005 + 0.152 + 0.000				
N+17.00	D8	TER1-150X250	COMDIS9(C)	0.450	= 0.348 + 0.093 + 0.010	COMDIS8	0.039	COMDIS3	0.003
			COMDIS8(T)	0.171	= 0.003 + 0.162 + 0.006				
N+17.00	D9	TER1-150X250	COMDIS8(C)	0.341	= 0.222 + 0.077 + 0.042	COMDIS9	0.042	COMDIS3	0.024
N+17.00	D10	TER1-150X250	COMDIS8(C)	0.326	= 0.206 + 0.075 + 0.044	COMDIS9	0.036	COMDIS3	0.021
N+17.00	D11	TER2-200X400	COMDIS9(C)	0.304	= 0.084 + 0.218 + 0.002	COMDIS8	0.057	COMDIS3	0.002
			COMDIS8(T)	0.344	= 0.001 + 0.342 + 0.001				
N+17.00	D12	TER2-200X400	COMDIS9(C)	0.358	= 0.061 + 0.297 + 0.000	COMDIS9	0.054	COMDIS3	0.014
N+17.00	D13	TER1-150X250	COMDIS9(C)	0.587	= 0.486 + 0.095 + 0.006	COMDIS8	0.039	COMDIS3	0.003
			COMDIS10(T)	0.125	= 0.002 + 0.116 + 0.007				
N+17.00	D14	TER1-150X250	COMDIS9(C)	0.417	= 0.312 + 0.092 + 0.012	COMDIS8	0.039	COMDIS3	0.001
			COMDIS8(T)	0.164	= 0.002 + 0.160 + 0.003				
N+17.00	D15	TER1-150X250	COMDIS9(C)	0.432	= 0.235 + 0.048 + 0.148	COMDIS9	0.040	COMDIS10	0.020
			COMDIS9(T)	0.160	= 0.001 + 0.145 + 0.014				
N+17.00	D16	TER1-150X250	COMDIS8(C)	0.346	= 0.246 + 0.093 + 0.007	COMDIS9	0.039	COMDIS4	0.024
			COMDIS9(T)	0.160	= 0.001 + 0.140 + 0.018				
N+17.00	D17	TER1-150X250	COMDIS9(C)	0.407	= 0.242 + 0.136 + 0.029	COMDIS9	0.033	COMDIS3	0.013
					kl/r > 200				
N+17.00	D18	TER2-200X400	COMDIS9(C)	0.284	= 0.067 + 0.217 + 0.001	COMDIS9	0.036	COMDIS3	0.019
N+17.00	D19	TER1-150X250	COMDIS9(C)	0.393	= 0.260 + 0.101 + 0.033	COMDIS9	0.030	COMDIS3	0.021
N+17.00	D20	TER1-150X250	COMDIS9(C)	0.542	= 0.457 + 0.068 + 0.016	COMDIS8	0.030	COMDIS3	0.003
N+17.00	D21	TER1-150X250	COMDIS8(C)	0.281	= 0.262 + 0.007 + 0.012	COMDIS9	0.027	COMDIS3	0.011
N+17.00	D22	TER1-150X250	COMDIS8(C)	0.416	= 0.305 + 0.105 + 0.006	COMDIS9	0.040	COMDIS8	0.027
			COMDIS11(T)	0.148	= 0.002 + 0.145 + 0.001				
N+17.00	D23	TER1-150X250	COMDIS8(C)	0.433	= 0.236 + 0.049 + 0.149	COMDIS8	0.040	COMDIS11	0.020
			COMDIS8(T)	0.160	= 0.001 + 0.145 + 0.014				
N+17.00	D24	TER1-150X250	COMDIS8(C)	0.417	= 0.313 + 0.093 + 0.012	COMDIS9	0.039	COMDIS3	0.002
			COMDIS9(T)	0.165	= 0.002 + 0.159 + 0.004				
N+17.00	D25	TER1-150X250	COMDIS8(C)	0.365	= 0.275 + 0.088 + 0.001	COMDIS9	0.039	COMDIS3	0.001
			COMDIS9(T)	0.176	= 0.003 + 0.164 + 0.009				
N+17.00	D26	TER2-200X400	COMDIS8(C)	0.361	= 0.061 + 0.299 + 0.001	COMDIS8	0.054	COMDIS3	0.009
N+17.00	D27	TER1-150X250	COMDIS8			COMDIS8	0.025	COMDIS11	0.020

			COMDIS8(C)	0.390	= 0.226 + 0.051 + 0.113				
			COMDIS8(T)	0.101	= 0.001 + 0.083 + 0.016				
N+17.00	D28	TER1-150X250				COMDIS9	0.028	COMDIS3	0.004
			COMDIS8(C)	0.604	= 0.505 + 0.061 + 0.037				
N+17.00	D29	TER2-200X400				COMDIS9	0.056	COMDIS8	0.030
			COMDIS8(C)	0.480	= 0.235 + 0.243 + 0.003				
			COMDIS9(T)	0.326	= 0.001 + 0.324 + 0.001				
N+17.00	D30	TER2-200X400				COMDIS9	0.057	COMDIS3	0.003
			COMDIS4(C)	0.318	= 0.068 + 0.243 + 0.008				
			COMDIS9(T)	0.342	= 0.001 + 0.341 + 0.000				
N+17.00	D31	TER1-150X250				COMDIS8	0.040	COMDIS3	0.024
			COMDIS9(C)	0.332	= 0.223 + 0.065 + 0.044				
N+17.00	D32	TER1-150X250				COMDIS8	0.042	COMDIS3	0.016
			COMDIS9(C)	0.343	= 0.223 + 0.077 + 0.043				
N+17.00	D33	TER1-150X250				COMDIS9	0.039	COMDIS3	0.003
			COMDIS8(C)	0.442	= 0.345 + 0.093 + 0.004				
			COMDIS9(T)	0.197	= 0.001 + 0.189 + 0.007				
N+17.00	D34	TER1-150X250				COMDIS9	0.039	COMDIS3	0.005
			COMDIS8(C)	0.689	= 0.560 + 0.105 + 0.024				
			COMDIS11(T)	0.149	= 0.001 + 0.139 + 0.010				
N+17.00	D35	TER1-150X250				COMDIS9	0.039	COMDIS3	0.002
			COMDIS8(C)	0.451	= 0.347 + 0.092 + 0.013				
			COMDIS9(T)	0.171	= 0.003 + 0.162 + 0.006				
N+17.00	D36	TER1-150X250				COMDIS9	0.038	COMDIS3	0.003
			COMDIS8(C)	0.393	= 0.305 + 0.087 + 0.001				
			COMDIS9(T)	0.163	= 0.004 + 0.159 + 0.000				
N+17.00	D37	TER1-150X250				COMDIS11	0.022	COMDIS3	0.014
			COMDIS3(C)	0.229	= 0.021 + 0.016 + 0.192				
N+17.00	D38	TER2-200X400				COMDIS11	0.016	COMDIS3	0.017
			COMDIS3(C)	0.202	= 0.015 + 0.018 + 0.168				
N+17.00	D39	TER1-150X250				COMDIS11	0.022	COMDIS3	0.014
			COMDIS3(C)	0.234	= 0.021 + 0.020 + 0.194				

.....

7. DISEÑO DE ELEMENTOS COMPLEMENTARIOS

DISEÑO DE ELEMENTOS COMPLEMENTARIOS

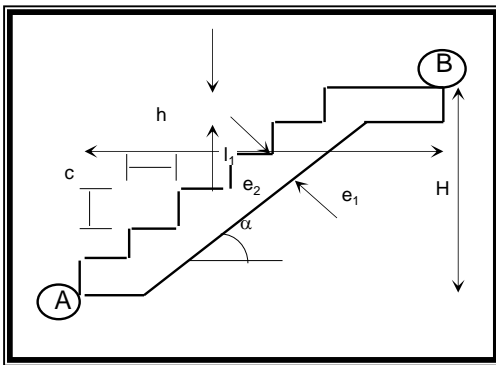
DISEÑO DE ESCALERA

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C,
BOGOTÁ (CUNDINAMARCA)

ESCALERA TIPO 1

Diseño Tramos Inclinados

El diseño se realiza para el tramo inclinado de la escalera mas largo.



Geometría de la losa

$l_1 =$	4.60 m	$f_y =$	420 MPa
$H =$	2.25 m	$f'_c =$	21.1 MPa
$c =$	17.3 cm	$h =$	29 cm

Espesor escogido: **15** cm
Pendiente $\alpha = h/l_1$: 26.065 °

Cargas

Peso propio de la losa	$0.15 \times 100 \times 24 / \cos 26.06^\circ$	4.01	kN/m ²
Peso propio de peldaños	$1/2 \times (0.173 \times 0.30) / 0.30 \times 24$	0.00	kN/m ²
Acabado peldaños	$0.04 \times (0.173 + 0.30) / 0.30 \times 22$	1.40	kN/m ²
Afinado Inferior	$0.02 \times 22 / \cos 26.06^\circ$	0.49	kN/m ²
Sobrecarga		5.00	kN/m ²
		15.08	kN/m²

$$CU = 15.08 \text{ kN/m}^2$$

Diseño Tramo Inclinado

Momentos en tramo A-B.

$$M = \boxed{39.89} \text{ kN-m}$$

Cuántía:	0.0072
As	10.81 cm ² /m

Asmín = 2.4 cm²/m
Colocar 1#5 c/.18 longitudinalmente
Colocar 1#3 c/.20 transversalmente

ESCALERA TIPO 2

Diseño Tramos Inclinados

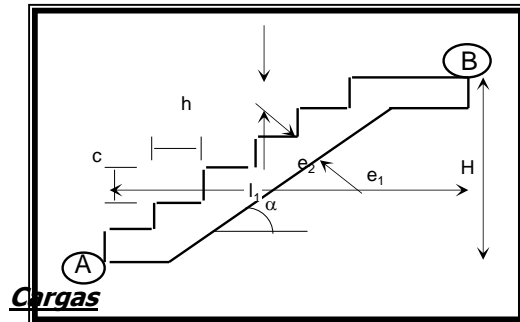
El diseño se realiza para el tramo inclinado de la escalera mas largo.

Geometría de la losa

$$l_1 = 3.40 \text{ m} \quad f_y = 420 \text{ MPa}$$

$$H = 1.56 \text{ m} \quad f_c = 21.1 \text{ MPa}$$

$$c = 17.3 \text{ cm} \quad h = 30 \text{ cm}$$



Espesor escogido: **15 cm**
 Pendiente $\alpha = h/l_1$: 29.971°

Cargas

Peso propio de la losa	$0.15 \times 100 \times 24 / \cos 29.97^\circ$	4.16	kN/m ²
Peso propio de peldaños	$1/2 \times (0.173 \times 0.30) / 0.30 \times 24$	0.00	kN/m ²
Acabado peldaños	$0.04 \times (0.173 + 0.30) / 0.30 \times 22$	1.39	kN/m ²
Afinado Inferior	$0.02 \times 22 / \cos 29.97^\circ$	0.51	kN/m ²
Sobrecarga		5.00	kN/m ²
		15.26	kN/m²

CU = 15.26 kN/m²

Diseño Tramo Inclinado

Momentos en tramo A-B.

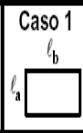
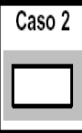
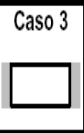
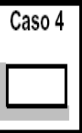
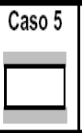

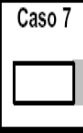
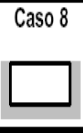

M = **22.05** kN-m

Cuantía: 0.0038
 As 5.73 cm²/m

Asmín = 2.4 cm²/m
 Colocar 1#4 c/.20 longitudinalmente
 Colocar 1#3 c/.20 transversalmente

DISEÑO DE TORTA PLACA ALIGERADA
PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)
TIPO 1

El diseño de la placa maciza se realiza de acuerdo con lo establecido en C.13.9 de las NSR - 10

Caso 1	Caso 2	Caso 3	Caso 4	Caso 5
				
Caso 6	Caso 7	Caso 8	Caso 9	
				

Geometría de la losa

$l_a = 0.93 \text{ m}$ $f_y = 420 \text{ MPa}$
 $l_b = 0.93 \text{ m}$ $f'_c = 21.1 \text{ MPa}$
 Relación $m = 1.00$

$h = l/36 = 26 \text{ mm}$
Espesor escogido: 0.05 m

Cargas

Peso propio de la losa	0.05x24	1.20	kN/m ²
Acabados	0.05x22	1.10	kN/m ²
Carga Muerta adicional	0.00	0.50	kN/m ²
Carga Muerta Total		2.80	kN/m ²
Carga Viva	5.00	5.00	kN/m ²
Carga Última		<u>11.36</u>	kN/m ²

Tipo de soporte CASO N° 2**DISEÑO A MOMENTO FLECTOR**

Coefficientes para momento positivo por carga muerta y viva:

$$C_{aD} = 0.018$$

$$C_{bD} = 0.018$$

$$C_{aV} = 0.027$$

$$C_{bV} = 0.027$$

$$M_{u_a} = 0.16 \text{ kN.m} \quad \text{Cuantía: } 0.0020 \quad A_s = 1.00 \text{ cm}^2/\text{m}$$

$$M_{u_b} = 0.16 \text{ kN.m} \quad \text{Cuantía: } 0.0020 \quad A_s = 1.00 \text{ cm}^2/\text{m}$$

Coefficientes para momento negativo por carga última:

$$C_a = 0.045 \quad M_{u_a} = 0.44 \text{ kN.m} \quad \text{Cuantía: } 0.0027 \quad A_s = 1.36 \text{ cm}^2/\text{m}$$

$$C_b = 0.045 \quad M_{u_b} = 0.44 \text{ kN.m} \quad \text{Cuantía: } 0.0027 \quad A_s = 1.36 \text{ cm}^2/\text{m}$$

Distribución de refuerzo:

Colocar 1malla $\Phi 5.50\text{mm}$ c/.15 Transversal y longitudinalmente.

REVISIÓN A CORTANTE

Coefficientes de relación de carga en las dos direcciones para cortante:

$$W_a = 0.50$$

$$W_b = 0.50$$

$\phi_{vC} =$	0.574	MPa	
$\phi_{vU_a} =$	0.053	MPa	OK
$\phi_{vU_b} =$	0.053	MPa	OK

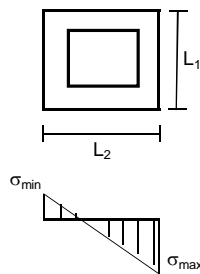
**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ
 (CUNDINAMARCA)
 DISEÑO DE UNIONES DE ELEMENTOS METÁLICOS-CONCRETO - T1**

CARGAS
 M= 44.29 kN.m
 P= 147.73 kN

DATOS DEL PERFIL
 H= 0.40 m.
 B= 0.20 m.

MATERIALES
 f'c= 21000 kN/m²
 fy= 253000 kN/m² platina
 fy= 253000 kN/m² pernos
 ex= 0.300 m

1. DIMENSIONAMIENTO EN PLANTA DE LA PLATINA



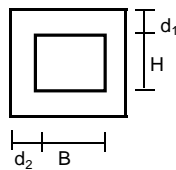
f'c >= Esfuerzo sobre la platina σ_h

$$\sigma_h = P / L^2 =$$

L₁(asumido)= 0.45 m.
 L₂(asumido)= 0.45 m.

σ_{min} = -984.00741 kN/m OK. σ_{med} = 357.451029
 σ_{max} = 1640.5852 kN/m OK.

2. ESPESOR DE LA PLATINA

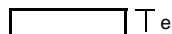


Datos del perfil:

H= 0.4000 m
 B= 0.2000 m
 d₁ = 0.025 m
 d₂ = 0.145 m

M₁= 0.38 kN.m V= 39.192 kN
 M₂= 3.45 kN.m V= 47.60188889 kN

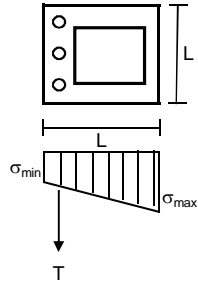
M_{diseño} = 3.45 kN.m



e_{requerido} = 0.90 cm
 e_{colocado} = 1.30 cm

Colocar una platina de 450x450x1/2" A36

3. DISEÑO DE PERNOS



Calculando momentos respecto al ala derecha del perfil:

$$T = -23.89 \text{ kN}$$

$$\text{Area req.} = 1.679 \text{ cm}^2$$

Colocar 3 pernos diametro 1/2" en cada lado

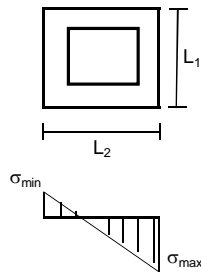
**PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ
 (CUNDINAMARCA)
 DISEÑO DE UNIONES DE ELEMENTOS METÁLICOS-CONCRETO - T2**

CARGAS
 M= 2.062 kN.m
 P= 76.167 kN

DATOS DEL PERFIL
 H= 0.15 m.
 B= 0.15 m.

MATERIALES
 f'c= 21000 kN/m²
 fy= 253000 kN/m² platina
 fy= 253000 kN/m² pernos
 ex= 0.027 m

1. DIMENSIONAMIENTO EN PLANTA DE LA PLATINA



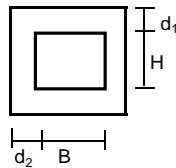
f'c >= Esfuerzo sobre la platina σ_h

$$\sigma_h = P / L^2 =$$

L₁(asumido)= 0.30 m.
L₂(asumido)= 0.30 m.

$\sigma_{min} = 116.42333 \text{ kN/m}$ **OK.** $\sigma_{med} = 259.045$
 $\sigma_{max} = 391.35667 \text{ kN/m}$ **OK.**

2. ESPESOR DE LA PLATINA



Datos del perfil:

H= 0.1500 m
B= 0.1500 m
d₁ = 0.075 m
d₂ = 0.090 m

M₁= 0.98 kN.m V= 26.774 kN
 M₂= 1.03 kN.m V= 22.8501 kN

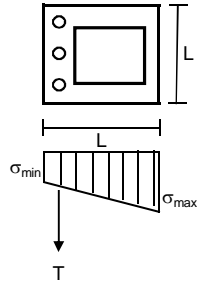
M diseño = 1.03 kN.m



e_{requerido} = 0.49 cm
e_{colocado} = 1.30 cm

Colocar una platina de 300x300x1/2" A36

3. DISEÑO DE PERNOS



Calculando momentos respecto al ala derecha del perfil:

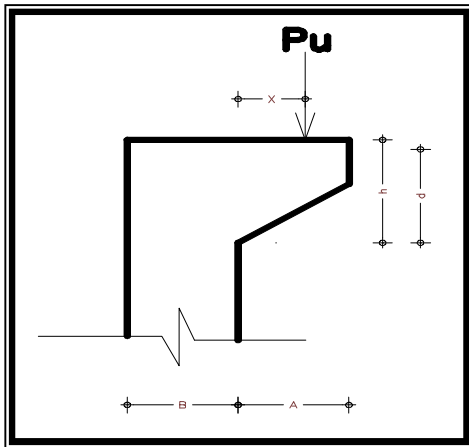
$$T = 28.24 \text{ kN}$$

$$\text{Area req.} = 1.984 \text{ cm}^2$$

Colocar 2 pernos diametro 1/2" en cada lado

DISEÑO DE MÉNSULA TIPO M1

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)



Geometría de la ménsula

B =	0.50	m	fy =	420	MPa
A =	0.30	m	f'c =	21.1	MPa
Ancho:	0.50	m	h =	0.5	m
d =	0.45	m			
x =	0.15	m			

P_u : 159.01 kN

N_u : 31.802 kN

A_{vf} : 3.18 cm²

M_u : 25.44 kN-m

Cuantía : 0.0020

A_f : 4.50 cm²

A_n : 0.89 cm²

A_s : 5.39 cm²

A_s escojido : 5.39 cm²

A_h : 2.25 cm²

A_h escojido : 2.25 cm²

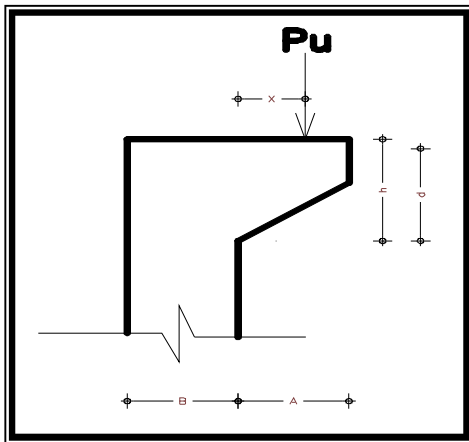
A_{smin} : 4.52 cm²

> **A_s** : 3.01 cm²
 3#5 Arriba

> **A_h** : 1.06 cm²
 3 Flejes #3 c/.15 repartidos en 2/3 de la altura efectiva

DISEÑO DE MÉNSULA TIPO M2

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BOGOTÁ (CUNDINAMARCA)



Geometría de la ménsula

B =	0.50	m	fy =	420	MPa
A =	0.75	m	f'c =	21.1	MPa
Ancho:	0.50	m	h =	0.5	m
d =	0.45	m			
x =	0.50	m			

P_u : 159.01 kN
 N_u : 31.802 kN

A_{vf} : 3.18 cm²

M_u : 81.10 kN-m

Cuantía: 0.0020

A_f 4.50 cm²

A_n 0.89 cm²

A_s 5.39 cm²

A_s escojido 5.39 cm²

A_h 2.25 cm²

A_h escojido 2.25 cm²

A_{smin} 4.52 cm²

> **A_s** 3.01 cm²

3#5 Arriba

> **A_h** 1.06 cm²

3 Flejes #3 c/.15 repartidos en 2/3 de la altura efectiva

Proyecto: _____ Fecha: _____

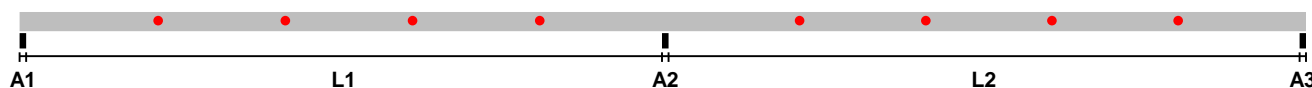
Ingeniero: _____ Firma: _____

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

REPORTE DE CORREAS

PHR C con atiesador 220 x 80 x 20 (3.00 mm)
con $F_y = 35.15 \text{ Kg/mm}^2$ cada 1.32 m con arriostramiento cada L/5.

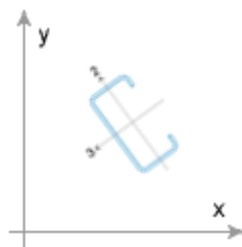
SECCION LONGITUDINAL



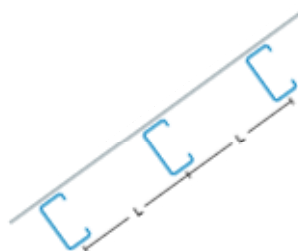
L1	9.75 m
L2	9.68 m
A1	0.10 m
A2	0.10 m
A3	0.10 m

CONFIGURACION	
TIPO DE CARGA	DISTRIBUIDA
Carga muerta	0.30 KN/m ²
Peso propio correa	0.09 KN/m
Carga viva	0.35 KN/m ²
Carga granizo	0.50 KN/m ²
Viento compresión (Perpendicular)	0.52 KN/m ²
Viento succión (Perpendicular)	0.52 KN/m ²
Pendiente sección transversal	36° = 72.6540%

SECCION TRANSVERSAL



$$L = 1.32 \text{ m}$$



Proyecto: _____ Fecha: _____

Ingeniero: _____ Firma: _____

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

REPORTES DE DISEÑO

REPORTE FLEXION				
	Apoyos		Interiores	
Ejes locales	3	2	3	2
Resistente (KN.m)	24.5450	5.0300	21.9499	4.9058
Calculado (KN.m)	20.0644	0.3099	20.0644	0.3948

REPORTE CORTANTE		
Ejes locales	2	3
Resistente (KN)	99.2653	73.0982
Calculado (KN)	10.1897	0.9379

REPORTE DEFLEXION		
Deflexiones máximas	Instantanea	Permanente
Admisible (m)	0.0365	0.0547
Calculado (m)	0.0109	0.0225

REPORTE ARRUGAMIENTO	
No. de Apoyo	0
Resistencia máxima (Kgf)	6.1730
Arrugamiento (Kgf)	20.1057

Memorias de Cálculo

PROGRAMA DE DISEÑO Y CALCULO ESTRUCTURAL ARQUIMET 2.0

Proyecto: _____ Fecha: _____

Ingeniero: _____ Firma: _____

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

COMBINACIONES DE CARGA

No	Muerta	Viva	Granizo	Viento compresión	Viento succión
1	1.4000	0.0000	0.0000	0.0000	0.0000
2	1.2000	0.5000	0.0000	0.0000	0.0000
3	1.2000	0.0000	0.5000	0.0000	0.0000
4	1.2000	1.6000	0.0000	0.5000	0.0000
5	1.2000	0.0000	1.6000	0.5000	0.0000
6	1.2000	1.6000	0.0000	0.0000	0.5000
7	1.2000	0.0000	1.6000	0.0000	0.5000
8	1.2000	0.5000	0.0000	0.0000	1.0000
9	1.2000	0.0000	0.5000	0.0000	1.0000
10	1.2000	0.5000	0.0000	1.0000	0.0000
11	1.2000	0.0000	0.5000	1.0000	0.0000
12	0.9000	0.0000	0.0000	0.0000	1.0000
13	0.9000	0.0000	0.0000	1.0000	0.0000

Memorias de Cálculo

PROGRAMA DE DISEÑO Y CALCULO ESTRUCTURAL ARQUIMET 2.0

Proyecto: _____ Fecha: _____

Ingeniero: _____ Firma: _____

REACCIONES - EJES GLOBALES (KN-m)

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

APOYO 1		
Combinacion	Rx	Ry
Muerta	0.0000	1.3145
Viva de Cub.	0.0000	1.2390
Granizo	0.0000	1.7700
Viento Comp.	-1.4884	2.0486
Viento Succion	1.4884	-2.0486
Comb. 1	-0.9512	1.8402
Comb. 2	-1.1355	2.1969
Comb. 3	-1.2728	2.4624
Comb. 4	-2.5842	4.5841
Comb. 5	-3.0233	5.4337
Comb. 6	-2.5842	4.5841
Comb. 7	-3.0233	5.4337
Comb. 8	-2.6239	4.2454
Comb. 9	-2.7611	4.5109
Comb. 10	-2.6239	4.2454
Comb. 11	-2.7611	4.5109
Comb. 12	-2.0998	3.2316
Comb. 13	-2.0998	3.2316

APOYO 2		
Combinacion	Rx	Ry
Muerta	0.0000	4.2514
Viva de Cub.	0.0000	4.0074
Granizo	0.0000	5.7249
Viento Comp.	-4.9299	6.7855
Viento Succion	4.9299	-6.7855
Comb. 1	-3.3483	5.9519
Comb. 2	-3.9972	7.1054
Comb. 3	-4.4803	7.9641
Comb. 4	-8.9420	14.9063
Comb. 5	-10.4879	17.6542
Comb. 6	-8.9420	14.9063
Comb. 7	-10.4879	17.6542
Comb. 8	-8.9271	13.8909
Comb. 9	-9.4102	14.7496
Comb. 10	-8.9271	13.8909
Comb. 11	-9.4102	14.7496
Comb. 12	-7.0824	10.6117
Comb. 13	-7.0824	10.6117

APOYO 3		
Combinacion	Rx	Ry
Muerta	0.0000	1.2985
Viva de Cub.	0.0000	1.2240
Granizo	0.0000	1.7485
Viento Comp.	-1.4695	2.0226
Viento Succion	1.4695	-2.0226
Comb. 1	-0.9379	1.8179
Comb. 2	-1.1196	2.1702
Comb. 3	-1.2550	2.4324
Comb. 4	-2.5490	4.5278
Comb. 5	-2.9820	5.3671
Comb. 6	-2.5490	4.5278
Comb. 7	-2.9820	5.3671
Comb. 8	-2.5892	4.1928
Comb. 9	-2.7245	4.4551
Comb. 10	-2.5892	4.1928
Comb. 11	-2.7245	4.4551
Comb. 12	-2.0724	3.1913
Comb. 13	-2.0724	3.1913

Memorias de Cálculo

PROGRAMA DE DISEÑO Y CALCULO ESTRUCTURAL ARQUIMET 2.0

Proyecto: _____ Fecha: _____

Ingeniero: _____ Firma: _____

FUERZAS INTERNAS - EJES LOCALES (KN-m)

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

APOYO 1				
Combinacion	R2	R3	M2	M3
Muerta	0.2230	1.4628	-9.5768E-09	1.3599E-06
Viva de Cub.	0.2102	1.3788	0.0000	2.4612E-06
Granizo	0.3002	1.9698	-9.5768E-09	-1.4748E-06
Viento Comp.	0.0000	2.5321	0.0000	1.0151E-06
Viento Succion	0.0000	2.5321	0.0000	1.0151E-06
Comb. 1	0.3121	2.0479	-1.3408E-08	1.9039E-06
Comb. 2	0.3726	2.4447	-1.1492E-08	2.8625E-06
Comb. 3	0.4177	2.7402	-1.6281E-08	8.9447E-07
Comb. 4	0.6038	5.2275	-1.1492E-08	6.0774E-06
Comb. 5	0.7479	6.1730	-2.6815E-08	-2.2027E-07
Comb. 6	0.6038	5.2275	-1.1492E-08	6.0774E-06
Comb. 7	0.7479	6.1730	-2.6815E-08	-2.2027E-07
Comb. 8	0.3726	4.9769	-1.1492E-08	3.8776E-06
Comb. 9	0.4177	5.2724	-1.6281E-08	1.9096E-06
Comb. 10	0.3726	4.9769	-1.1492E-08	3.8776E-06
Comb. 11	0.4177	5.2724	-1.6281E-08	1.9096E-06
Comb. 12	0.2007	3.8486	-8.6191E-09	2.2391E-06
Comb. 13	0.2007	3.8486	-8.6191E-09	2.2391E-06

APOYO 2				
Combinacion	R2	R3	M2	M3
Muerta	0.5640	4.8452	0.0924	-4.7545
Viva de Cub.	0.5317	4.5672	0.0871	-4.4817
Granizo	0.7595	6.5245	0.1244	-6.4024
Viento Comp.	0.0000	8.3873	0.0000	-8.2303
Viento Succion	0.0000	8.3873	0.0000	-8.2303
Comb. 1	0.7896	6.7833	0.1293	-6.6563
Comb. 2	0.9426	8.0978	0.1544	-7.9463
Comb. 3	1.0566	9.0765	0.1730	-8.9066
Comb. 4	1.5275	17.3154	0.2502	-16.9913
Comb. 5	1.8920	20.4472	0.3099	-20.0644
Comb. 6	1.5275	17.3154	0.2502	-16.9913
Comb. 7	1.8920	20.4472	0.3099	-20.0644
Comb. 8	0.9426	16.4852	0.1544	-16.1766
Comb. 9	1.0566	17.4639	0.1730	-17.1370
Comb. 10	0.9426	16.4852	0.1544	-16.1766
Comb. 11	1.0566	17.4639	0.1730	-17.1370
Comb. 12	0.5076	12.7480	0.0831	-12.5094
Comb. 13	0.5076	12.7480	0.0831	-12.5094

APOYO 3				
Combinacion	R2	R3	M2	M3
Muerta	0.2213	1.4443	0.0000	-4.5969E-07
Viva de Cub.	0.2086	1.3614	2.8730E-08	-2.9113E-06
Granizo	0.2979	1.9448	5.7461E-08	2.4517E-06
Viento Comp.	0.0000	2.5001	0.0000	-4.2904E-06
Viento Succion	0.0000	2.5001	0.0000	-4.2904E-06
Comb. 1	0.3098	2.0220	0.0000	-6.4356E-07
Comb. 2	0.3698	2.4138	1.4365E-08	-2.0073E-06
Comb. 3	0.4145	2.7055	2.8730E-08	6.7421E-07
Comb. 4	0.5992	5.1614	4.5969E-08	-7.3550E-06
Comb. 5	0.7422	6.0949	9.1937E-08	1.2258E-06
Comb. 6	0.5992	5.1614	4.5969E-08	-7.3550E-06
Comb. 7	0.7422	6.0949	9.1937E-08	1.2258E-06
Comb. 8	0.3698	4.9139	1.4365E-08	-6.2977E-06
Comb. 9	0.4145	5.2056	2.8730E-08	-3.6162E-06
Comb. 10	0.3698	4.9139	1.4365E-08	-6.2977E-06
Comb. 11	0.4145	5.2056	2.8730E-08	-3.6162E-06
Comb. 12	0.1991	3.7999	0.0000	-4.7041E-06
Comb. 13	0.1991	3.7999	0.0000	-4.7041E-06

Proyecto: _____ Fecha: _____

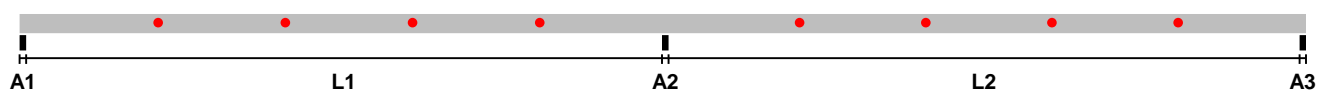
Ingeniero: _____ Firma: _____

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

REPORTE DE CORREAS

PHR C con atiesador 220 x 80 x 20 (2.50 mm)
con $F_y = 35.15 \text{ Kgf/mm}^2$ cada 1.44 m con arriostramiento cada L/5.

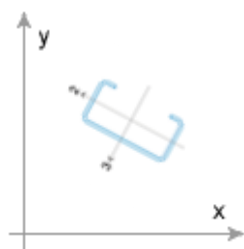
SECCION LONGITUDINAL



L1	9.75 m
L2	9.68 m
A1	0.10 m
A2	0.10 m
A3	0.10 m

CONFIGURACION	
TIPO DE CARGA	DISTRIBUIDA
Carga muerta	0.30 KN/m ²
Peso propio correa	0.08 KN/m
Carga viva	0.35 KN/m ²
Carga granizo	0.50 KN/m ²
Viento compresión (Perpendicular)	0.52 KN/m ²
Viento succión (Perpendicular)	0.52 KN/m ²
Pendiente sección transversal	62.4° = 191.2820%

SECCION TRANSVERSAL



$$L = 1.44 \text{ m}$$



Memorias de Cálculo

PROGRAMA DE DISEÑO Y CALCULO ESTRUCTURAL ARQUIMET 2.0

Proyecto: _____ Fecha: _____

Ingeniero: _____ Firma: _____

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

REPORTES DE DISEÑO

REPORTE FLEXION				
Ejes locales	Apoyos		Interiores	
	3	2	3	2
Resistente (KN.m)	20.0439	4.2921	17.2088	4.1011
Calculado (KN.m)	14.4338	0.5032	14.4338	0.6411

REPORTE CORTANTE		
Ejes locales	2	3
Resistente (KN)	68.9342	61.8977
Calculado (KN)	7.3302	1.5231

REPORTE DEFLEXION		
Deflexiones máximas	Instantanea	Permanente
Admisible (m)	0.0365	0.0547
Calculado (m)	0.0081	0.0163

REPORTE ARRUGAMIENTO	
No. de Apoyo	0
Resistencia máxima (Kgf)	4.4407
Arrugamiento (Kgf)	14.2243

Memorias de Cálculo

PROGRAMA DE DISEÑO Y CALCULO ESTRUCTURAL ARQUIMET 2.0

Proyecto: _____ Fecha: _____

Ingeniero: _____ Firma: _____

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

COMBINACIONES DE CARGA

No	Muerta	Viva	Granizo	Viento compresión	Viento succión
1	1.4000	0.0000	0.0000	0.0000	0.0000
2	1.2000	0.5000	0.0000	0.0000	0.0000
3	1.2000	0.0000	0.5000	0.0000	0.0000
4	1.2000	1.6000	0.0000	0.5000	0.0000
5	1.2000	0.0000	1.6000	0.5000	0.0000
6	1.2000	1.6000	0.0000	0.0000	0.5000
7	1.2000	0.0000	1.6000	0.0000	0.5000
8	1.2000	0.5000	0.0000	0.0000	1.0000
9	1.2000	0.0000	0.5000	0.0000	1.0000
10	1.2000	0.5000	0.0000	1.0000	0.0000
11	1.2000	0.0000	0.5000	1.0000	0.0000
12	0.9000	0.0000	0.0000	0.0000	1.0000
13	0.9000	0.0000	0.0000	1.0000	0.0000

Memorias de Cálculo

PROGRAMA DE DISEÑO Y CALCULO ESTRUCTURAL ARQUIMET 2.0

Proyecto: _____ Fecha: _____

Ingeniero: _____ Firma: _____

REACCIONES - EJES GLOBALES (KN-m)

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

APOYO 1		
Combinacion	Rx	Ry
Muerta	0.0000	0.7167
Viva de Cub.	0.0000	0.7081
Granizo	0.0000	1.0116
Viento Comp.	-2.4573	1.2846
Viento Succion	2.4573	-1.2846
Comb. 1	-0.8581	1.0034
Comb. 2	-1.0382	1.2141
Comb. 3	-1.1680	1.3658
Comb. 4	-2.9330	2.6353
Comb. 5	-3.3482	3.1209
Comb. 6	-2.9330	2.6353
Comb. 7	-3.3482	3.1209
Comb. 8	-3.4955	2.4988
Comb. 9	-3.6253	2.6505
Comb. 10	-3.4955	2.4988
Comb. 11	-3.6253	2.6505
Comb. 12	-3.0089	1.9297
Comb. 13	-3.0089	1.9297

APOYO 2		
Combinacion	Rx	Ry
Muerta	0.0000	2.1304
Viva de Cub.	0.0000	2.1048
Granizo	0.0000	3.0068
Viento Comp.	-8.1394	4.2552
Viento Succion	8.1394	-4.2552
Comb. 1	-3.0204	2.9826
Comb. 2	-3.6547	3.6089
Comb. 3	-4.1114	4.0599
Comb. 4	-10.0690	8.0518
Comb. 5	-11.5306	9.4951
Comb. 6	-10.0690	8.0518
Comb. 7	-11.5306	9.4951
Comb. 8	-11.7941	7.8641
Comb. 9	-12.2508	8.3151
Comb. 10	-11.7941	7.8641
Comb. 11	-12.2508	8.3151
Comb. 12	-10.0811	6.1726
Comb. 13	-10.0811	6.1726

APOYO 3		
Combinacion	Rx	Ry
Muerta	0.0000	0.7092
Viva de Cub.	0.0000	0.7007
Granizo	0.0000	1.0010
Viento Comp.	-2.4262	1.2684
Viento Succion	2.4262	-1.2684
Comb. 1	-0.8460	0.9929
Comb. 2	-1.0237	1.2014
Comb. 3	-1.1516	1.3515
Comb. 4	-2.8936	2.6063
Comb. 5	-3.3029	3.0868
Comb. 6	-2.8936	2.6063
Comb. 7	-3.3029	3.0868
Comb. 8	-3.4499	2.4698
Comb. 9	-3.5778	2.6199
Comb. 10	-3.4499	2.4698
Comb. 11	-3.5778	2.6199
Comb. 12	-2.9701	1.9067
Comb. 13	-2.9701	1.9067

Memorias de Cálculo

PROGRAMA DE DISEÑO Y CALCULO ESTRUCTURAL ARQUIMET 2.0

Proyecto: _____ Fecha: _____

Ingeniero: _____ Firma: _____

FUERZAS INTERNAS - EJES LOCALES (KN-m)

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

APOYO 1				
Combinacion	R2	R3	M2	M3
Muerta	0.3512	0.8752	0.0000	-3.2082E-07
Viva de Cub.	0.3470	0.8647	-9.5768E-09	9.1459E-07
Granizo	0.4957	1.2352	0.0000	-2.2122E-06
Viento Comp.	0.0000	2.7728	0.0000	1.5323E-06
Viento Succion	0.0000	2.7728	0.0000	1.5323E-06
Comb. 1	0.4917	1.2253	0.0000	-4.4915E-07
Comb. 2	0.5949	1.4826	-4.7884E-09	7.2305E-08
Comb. 3	0.6693	1.6679	0.0000	-1.4911E-06
Comb. 4	0.9766	3.8201	-1.5323E-08	1.8445E-06
Comb. 5	1.2145	4.4130	0.0000	-3.1584E-06
Comb. 6	0.9766	3.8201	-1.5323E-08	1.8445E-06
Comb. 7	1.2145	4.4130	0.0000	-3.1584E-06
Comb. 8	0.5949	4.2554	-4.7884E-09	1.6046E-06
Comb. 9	0.6693	4.4407	0.0000	4.1180E-08
Comb. 10	0.5949	4.2554	-4.7884E-09	1.6046E-06
Comb. 11	0.6693	4.4407	0.0000	4.1180E-08
Comb. 12	0.3161	3.5605	0.0000	1.2435E-06
Comb. 13	0.3161	3.5605	0.0000	1.2435E-06

APOYO 2				
Combinacion	R2	R3	M2	M3
Muerta	0.8885	2.8990	0.1455	-2.8447
Viva de Cub.	0.8778	2.8641	0.1438	-2.8105
Granizo	1.2540	4.0915	0.2054	-4.0149
Viento Comp.	0.0000	9.1846	0.0000	-9.0127
Viento Succion	0.0000	9.1846	0.0000	-9.0127
Comb. 1	1.2438	4.0585	0.2037	-3.9826
Comb. 2	1.5050	4.9108	0.2465	-4.8189
Comb. 3	1.6931	5.5245	0.2773	-5.4211
Comb. 4	2.4706	12.6536	0.4046	-12.4167
Comb. 5	3.0725	14.6175	0.5032	-14.3439
Comb. 6	2.4706	12.6536	0.4046	-12.4167
Comb. 7	3.0725	14.6175	0.5032	-14.3439
Comb. 8	1.5050	14.0954	0.2465	-13.8315
Comb. 9	1.6931	14.7091	0.2773	-14.4338
Comb. 10	1.5050	14.0954	0.2465	-13.8315
Comb. 11	1.6931	14.7091	0.2773	-14.4338
Comb. 12	0.7996	11.7937	0.1310	-11.5729
Comb. 13	0.7996	11.7937	0.1310	-11.5729

APOYO 3				
Combinacion	R2	R3	M2	M3
Muerta	0.3485	0.8641	-1.9154E-08	8.4276E-07
Viva de Cub.	0.3443	0.8537	-5.7461E-08	-6.1292E-07
Granizo	0.4919	1.2196	1.1492E-07	2.4517E-06
Viento Comp.	0.0000	2.7377	0.0000	3.6775E-06
Viento Succion	0.0000	2.7377	0.0000	3.6775E-06
Comb. 1	0.4879	1.2098	-2.6815E-08	1.1799E-06
Comb. 2	0.5904	1.4638	-5.1715E-08	7.0485E-07
Comb. 3	0.6642	1.6467	3.4477E-08	2.2371E-06
Comb. 4	0.9692	3.7718	-1.1492E-07	1.8694E-06
Comb. 5	1.2053	4.3572	1.6089E-07	6.7727E-06
Comb. 6	0.9692	3.7718	-1.1492E-07	1.8694E-06
Comb. 7	1.2053	4.3572	1.6089E-07	6.7727E-06
Comb. 8	0.5904	4.2015	-5.1715E-08	4.3823E-06
Comb. 9	0.6642	4.3845	3.4477E-08	5.9146E-06
Comb. 10	0.5904	4.2015	-5.1715E-08	4.3823E-06
Comb. 11	0.6642	4.3845	3.4477E-08	5.9146E-06
Comb. 12	0.3137	3.5155	-1.7238E-08	4.4360E-06
Comb. 13	0.3137	3.5155	-1.7238E-08	4.4360E-06

Proyecto: _____ Fecha: _____

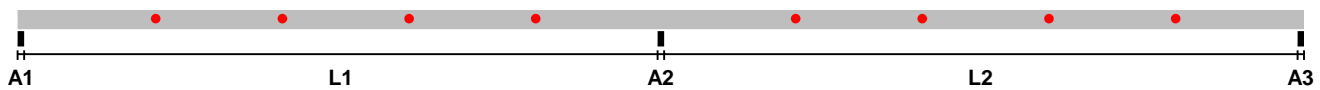
Ingeniero: _____ Firma: _____

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

REPORTE DE CORREAS

PHR C con atiesador 220 x 80 x 20 (2.00 mm)
con $F_y = 35.15 \text{ Kgf/mm}^2$ cada 1.40 m con arriostramiento cada L/5.

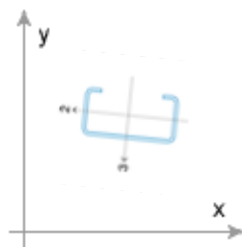
SECCION LONGITUDINAL



L1	9.68 m
L2	9.68 m
A1	0.10 m
A2	0.10 m
A3	0.10 m

CONFIGURACION	
TIPO DE CARGA	DISTRIBUIDA
Carga muerta	0.30 KN/m ²
Peso propio correa	0.06 KN/m
Carga viva	0.35 KN/m ²
Carga granizo	0.50 KN/m ²
Viento compresión (Perpendicular)	0.52 KN/m ²
Viento succión (Perpendicular)	0.52 KN/m ²
Pendiente sección transversal	84° = 951.4360%

SECCION TRANSVERSAL



$L = 1.40 \text{ m}$



Memorias de Cálculo

PROGRAMA DE DISEÑO Y CALCULO ESTRUCTURAL ARQUIMET 2.0

Proyecto: _____ Fecha: _____

Ingeniero: _____ Firma: _____

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

REPORTES DE DISEÑO

REPORTE FLEXION				
	Apoyos		Interiores	
Ejes locales	3	2	3	2
Resistente (KN.m)	15.1981	3.5152	12.6938	3.2623
Calculado (KN.m)	9.8550	0.5397	9.8550	0.6824

REPORTE CORTANTE		
Ejes locales	2	3
Resistente (KN)	36.5782	50.3041
Calculado (KN)	5.0357	1.6434

REPORTE DEFLEXION		
Deflexiones máximas	Instantanea	Permanente
Admisible (m)	0.0362	0.0543
Calculado (m)	0.0021	0.0042

REPORTE ARRUGAMIENTO	
No. de Apoyo	0
Resistencia máxima (Kgf)	3.0246
Arrugamiento (Kgf)	9.2691

Memorias de Cálculo

PROGRAMA DE DISEÑO Y CALCULO ESTRUCTURAL ARQUIMET 2.0

Proyecto: _____ Fecha: _____

Ingeniero: _____ Firma: _____

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

COMBINACIONES DE CARGA

No	Muerta	Viva	Granizo	Viento compresión	Viento succión
1	1.4000	0.0000	0.0000	0.0000	0.0000
2	1.2000	0.5000	0.0000	0.0000	0.0000
3	1.2000	0.0000	0.5000	0.0000	0.0000
4	1.2000	1.6000	0.0000	0.5000	0.0000
5	1.2000	0.0000	1.6000	0.5000	0.0000
6	1.2000	1.6000	0.0000	0.0000	0.5000
7	1.2000	0.0000	1.6000	0.0000	0.5000
8	1.2000	0.5000	0.0000	0.0000	1.0000
9	1.2000	0.0000	0.5000	0.0000	1.0000
10	1.2000	0.5000	0.0000	1.0000	0.0000
11	1.2000	0.0000	0.5000	1.0000	0.0000
12	0.9000	0.0000	0.0000	0.0000	1.0000
13	0.9000	0.0000	0.0000	1.0000	0.0000

Memorias de Cálculo

PROGRAMA DE DISEÑO Y CALCULO ESTRUCTURAL ARQUIMET 2.0

Proyecto: _____ Fecha: _____

Ingeniero: _____ Firma: _____

REACCIONES - EJES GLOBALES (KN-m)

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

APOYO 1		
Combinacion	Rx	Ry
Muerta	0.0000	0.3872
Viva de Cub.	0.0000	0.3933
Granizo	0.0000	0.5618
Viento Comp.	-2.6540	0.2789
Viento Succion	2.6540	-0.2789
Comb. 1	-0.2033	0.5421
Comb. 2	-0.2480	0.6613
Comb. 3	-0.2796	0.7456
Comb. 4	-1.7371	1.2334
Comb. 5	-1.8383	1.5030
Comb. 6	-1.7371	1.2334
Comb. 7	-1.8383	1.5030
Comb. 8	-2.9019	0.9403
Comb. 9	-2.9335	1.0245
Comb. 10	-2.9019	0.9403
Comb. 11	-2.9335	1.0245
Comb. 12	-2.7846	0.6275
Comb. 13	-2.7846	0.6275

APOYO 2		
Combinacion	Rx	Ry
Muerta	0.0000	0.9987
Viva de Cub.	0.0000	1.0142
Granizo	0.0000	1.4489
Viento Comp.	-8.8465	0.9298
Viento Succion	8.8465	-0.9298
Comb. 1	-0.7206	1.3982
Comb. 2	-0.8790	1.7056
Comb. 3	-0.9910	1.9229
Comb. 4	-5.8772	3.2861
Comb. 5	-6.2356	3.9816
Comb. 6	-5.8772	3.2861
Comb. 7	-6.2356	3.9816
Comb. 8	-9.7255	2.6354
Comb. 9	-9.8375	2.8527
Comb. 10	-9.7255	2.6354
Comb. 11	-9.8375	2.8527
Comb. 12	-9.3098	1.8287
Comb. 13	-9.3098	1.8287

APOYO 3		
Combinacion	Rx	Ry
Muerta	0.0000	0.3872
Viva de Cub.	0.0000	0.3933
Granizo	0.0000	0.5618
Viento Comp.	-2.6540	0.2789
Viento Succion	2.6540	-0.2789
Comb. 1	-0.2033	0.5421
Comb. 2	-0.2480	0.6613
Comb. 3	-0.2796	0.7456
Comb. 4	-1.7371	1.2334
Comb. 5	-1.8382	1.5030
Comb. 6	-1.7371	1.2334
Comb. 7	-1.8382	1.5030
Comb. 8	-2.9019	0.9403
Comb. 9	-2.9335	1.0245
Comb. 10	-2.9019	0.9403
Comb. 11	-2.9335	1.0245
Comb. 12	-2.7846	0.6275
Comb. 13	-2.7846	0.6275

Memorias de Cálculo

PROGRAMA DE DISEÑO Y CALCULO ESTRUCTURAL ARQUIMET 2.0

Proyecto: _____ Fecha: _____

Ingeniero: _____ Firma: _____

FUERZAS INTERNAS - EJES LOCALES (KN-m)

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

APOYO 1				
Combinacion	R2	R3	M2	M3
Muerta	0.3699	0.1849	9.5768E-09	-6.9073E-07
Viva de Cub.	0.3757	0.1877	9.5768E-09	-2.0590E-07
Granizo	0.5367	0.2682	3.8307E-08	-3.1364E-07
Viento Comp.	0.0000	2.6686	0.0000	-9.3853E-06
Viento Succion	0.0000	2.6686	0.0000	-9.3853E-06
Comb. 1	0.5179	0.2588	1.3408E-08	-9.6702E-07
Comb. 2	0.6318	0.3157	1.6281E-08	-9.3182E-07
Comb. 3	0.7123	0.3560	3.0646E-08	-9.8569E-07
Comb. 4	1.0450	1.8566	2.6815E-08	-5.8510E-06
Comb. 5	1.3026	1.9853	7.2784E-08	-6.0233E-06
Comb. 6	1.0450	1.8566	2.6815E-08	-5.8510E-06
Comb. 7	1.3026	1.9853	7.2784E-08	-6.0233E-06
Comb. 8	0.6318	2.9843	1.6281E-08	-1.0317E-05
Comb. 9	0.7123	3.0246	3.0646E-08	-1.0371E-05
Comb. 10	0.6318	2.9843	1.6281E-08	-1.0317E-05
Comb. 11	0.7123	3.0246	3.0646E-08	-1.0371E-05
Comb. 12	0.3330	2.8350	8.6191E-09	-1.0007E-05
Comb. 13	0.3330	2.8350	8.6191E-09	-1.0007E-05

APOYO 2				
Combinacion	R2	R3	M2	M3
Muerta	0.9394	0.6163	0.1533	-0.6024
Viva de Cub.	0.9540	0.6258	0.1556	-0.6118
Granizo	1.3629	0.8940	0.2223	-0.8739
Viento Comp.	0.0000	8.8953	0.0000	-8.6951
Viento Succion	0.0000	8.8953	0.0000	-8.6951
Comb. 1	1.3152	0.8628	0.2146	-0.8434
Comb. 2	1.6043	1.0524	0.2617	-1.0288
Comb. 3	1.8088	1.1866	0.2951	-1.1599
Comb. 4	2.6538	6.1885	0.4329	-6.0492
Comb. 5	3.3080	6.6176	0.5397	-6.4687
Comb. 6	2.6538	6.1885	0.4329	-6.0492
Comb. 7	3.3080	6.6176	0.5397	-6.4687
Comb. 8	1.6043	9.9477	0.2617	-9.7239
Comb. 9	1.8088	10.0818	0.2951	-9.8550
Comb. 10	1.6043	9.9477	0.2617	-9.7239
Comb. 11	1.8088	10.0818	0.2951	-9.8550
Comb. 12	0.8455	9.4499	0.1379	-9.2373
Comb. 13	0.8455	9.4499	0.1379	-9.2373

APOYO 3				
Combinacion	R2	R3	M2	M3
Muerta	0.3699	0.1849	0.0000	-1.3408E-07
Viva de Cub.	0.3757	0.1877	5.7461E-08	4.0223E-07
Granizo	0.5367	0.2682	-1.9154E-08	-1.1492E-07
Viento Comp.	0.0000	2.6686	0.0000	-1.8387E-06
Viento Succion	0.0000	2.6686	0.0000	-1.8387E-06
Comb. 1	0.5179	0.2588	0.0000	-1.8771E-07
Comb. 2	0.6318	0.3157	2.8730E-08	4.0223E-08
Comb. 3	0.7123	0.3560	-9.5768E-09	-2.1835E-07
Comb. 4	1.0450	1.8565	9.1937E-08	-4.3670E-07
Comb. 5	1.3026	1.9853	-3.0646E-08	-1.2641E-06
Comb. 6	1.0450	1.8565	9.1937E-08	-4.3670E-07
Comb. 7	1.3026	1.9853	-3.0646E-08	-1.2641E-06
Comb. 8	0.6318	2.9843	2.8730E-08	-1.7985E-06
Comb. 9	0.7123	3.0245	-9.5768E-09	-2.0571E-06
Comb. 10	0.6318	2.9843	2.8730E-08	-1.7985E-06
Comb. 11	0.7123	3.0245	-9.5768E-09	-2.0571E-06
Comb. 12	0.3330	2.8350	0.0000	-1.9594E-06
Comb. 13	0.3330	2.8350	0.0000	-1.9594E-06

Proyecto: _____ Fecha: _____

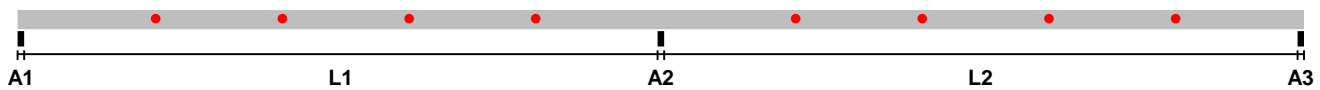
Ingeniero: _____ Firma: _____

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

REPORTE DE CORREAS

PHR C con atiesador 254 x 67 x 18 (3.00 mm)
con $F_y = 35.15 \text{ Kgf/mm}^2$ cada 1.27 m con arriostramiento cada L/5.

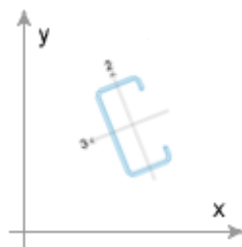
SECCION LONGITUDINAL



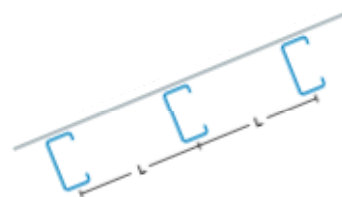
L1	9.68 m
L2	9.68 m
A1	0.10 m
A2	0.10 m
A3	0.10 m

CONFIGURACION	
TIPO DE CARGA	DISTRIBUIDA
Carga muerta	0.30 KN/m ²
Peso propio correa	0.09 KN/m
Carga viva	0.35 KN/m ²
Carga granizo	0.50 KN/m ²
Viento compresión (Perpendicular)	0.52 KN/m ²
Viento succión (Perpendicular)	0.52 KN/m ²
Pendiente sección transversal	22.23° = 40.8700%

SECCION TRANSVERSAL



$$L = 1.27 \text{ m}$$



Proyecto: _____ Fecha: _____

Ingeniero: _____ Firma: _____

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

REPORTES DE DISEÑO

REPORTE FLEXION				
	Apoyos		Interiores	
Ejes locales	3	2	3	2
Resistente (KN.m)	27.2658	3.3929	24.0261	3.5330
Calculado (KN.m)	21.4758	0.1916	21.4758	0.2423

REPORTE CORTANTE		
Ejes locales	2	3
Resistente (KN)	99.2653	57.7712
Calculado (KN)	10.9738	0.5835

REPORTE DEFLEXION		
Deflexiones máximas	Instantanea	Permanente
Admisible (m)	0.0362	0.0543
Calculado (m)	0.0093	0.0193

REPORTE ARRUGAMIENTO	
No. de Apoyo	0
Resistencia máxima (Kgf)	6.5910
Arrugamiento (Kgf)	19.7864

Memorias de Cálculo

PROGRAMA DE DISEÑO Y CALCULO ESTRUCTURAL ARQUIMET 2.0

Proyecto: _____ Fecha: _____

Ingeniero: _____ Firma: _____

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

COMBINACIONES DE CARGA

No	Muerta	Viva	Granizo	Viento compresión	Viento succión
1	1.4000	0.0000	0.0000	0.0000	0.0000
2	1.2000	0.5000	0.0000	0.0000	0.0000
3	1.2000	0.0000	0.5000	0.0000	0.0000
4	1.2000	1.6000	0.0000	0.5000	0.0000
5	1.2000	0.0000	1.6000	0.5000	0.0000
6	1.2000	1.6000	0.0000	0.0000	0.5000
7	1.2000	0.0000	1.6000	0.0000	0.5000
8	1.2000	0.5000	0.0000	0.0000	1.0000
9	1.2000	0.0000	0.5000	0.0000	1.0000
10	1.2000	0.5000	0.0000	1.0000	0.0000
11	1.2000	0.0000	0.5000	1.0000	0.0000
12	0.9000	0.0000	0.0000	0.0000	1.0000
13	0.9000	0.0000	0.0000	1.0000	0.0000

Memorias de Cálculo

PROGRAMA DE DISEÑO Y CALCULO ESTRUCTURAL ARQUIMET 2.0

Proyecto: _____ Fecha: _____

Ingeniero: _____ Firma: _____

REACCIONES - EJES GLOBALES (KN-m)

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

APOYO 1		
Combinacion	Rx	Ry
Muerta	0.0000	1.5436
Viva de Cub.	0.0000	1.4452
Granizo	0.0000	2.0646
Viento Comp.	-0.9158	2.2408
Viento Succion	0.9158	-2.2408
Comb. 1	-0.6738	2.1611
Comb. 2	-0.8029	2.5750
Comb. 3	-0.8994	2.8846
Comb. 4	-1.7564	5.2851
Comb. 5	-2.0654	6.2761
Comb. 6	-1.7564	5.2851
Comb. 7	-2.0654	6.2761
Comb. 8	-1.7187	4.8158
Comb. 9	-1.8153	5.1255
Comb. 10	-1.7187	4.8158
Comb. 11	-1.8153	5.1255
Comb. 12	-1.3490	3.6301
Comb. 13	-1.3490	3.6301

APOYO 2		
Combinacion	Rx	Ry
Muerta	0.0000	5.1038
Viva de Cub.	0.0000	4.7784
Granizo	0.0000	6.8263
Viento Comp.	-3.0528	7.4695
Viento Succion	3.0528	-7.4695
Comb. 1	-2.3885	7.1454
Comb. 2	-2.8459	8.5138
Comb. 3	-3.1882	9.5377
Comb. 4	-6.1294	17.5048
Comb. 5	-7.2247	20.7814
Comb. 6	-6.1294	17.5048
Comb. 7	-7.2247	20.7814
Comb. 8	-5.8988	15.9833
Comb. 9	-6.2410	17.0072
Comb. 10	-5.8988	15.9833
Comb. 11	-6.2410	17.0072
Comb. 12	-4.5883	12.0629
Comb. 13	-4.5883	12.0629

APOYO 3		
Combinacion	Rx	Ry
Muerta	0.0000	1.5436
Viva de Cub.	0.0000	1.4452
Granizo	0.0000	2.0646
Viento Comp.	-0.9158	2.2409
Viento Succion	0.9158	-2.2409
Comb. 1	-0.6738	2.1611
Comb. 2	-0.8029	2.5750
Comb. 3	-0.8994	2.8846
Comb. 4	-1.7564	5.2851
Comb. 5	-2.0654	6.2761
Comb. 6	-1.7564	5.2851
Comb. 7	-2.0654	6.2761
Comb. 8	-1.7187	4.8158
Comb. 9	-1.8153	5.1255
Comb. 10	-1.7187	4.8158
Comb. 11	-1.8153	5.1255
Comb. 12	-1.3490	3.6301
Comb. 13	-1.3490	3.6301

Memorias de Cálculo

PROGRAMA DE DISEÑO Y CALCULO ESTRUCTURAL ARQUIMET 2.0

Proyecto: _____ Fecha: _____

Ingeniero: _____ Firma: _____

FUERZAS INTERNAS - EJES LOCALES (KN-m)

Elementos calculados con el programa de diseño Arquimet 2.0 de ACESCO

APOYO 1				
Combinacion	R2	R3	M2	M3
Muerta	0.1385	1.6110	4.7884E-09	-1.1396E-06
Viva de Cub.	0.1296	1.5083	4.7884E-09	-2.1452E-06
Granizo	0.1852	2.1547	9.5768E-09	-3.8690E-06
Viento Comp.	0.0000	2.4208	0.0000	-2.1452E-06
Viento Succion	0.0000	2.4208	0.0000	-2.1452E-06
Comb. 1	0.1939	2.2554	6.7038E-09	-1.5955E-06
Comb. 2	0.2310	2.6873	8.1403E-09	-2.4402E-06
Comb. 3	0.2588	3.0105	1.0534E-08	-3.3021E-06
Comb. 4	0.3736	5.5568	1.3408E-08	-5.8725E-06
Comb. 5	0.4625	6.5910	2.1069E-08	-8.6306E-06
Comb. 6	0.3736	5.5568	1.3408E-08	-5.8725E-06
Comb. 7	0.4625	6.5910	2.1069E-08	-8.6306E-06
Comb. 8	0.2310	5.1081	8.1403E-09	-4.5854E-06
Comb. 9	0.2588	5.4313	1.0534E-08	-5.4473E-06
Comb. 10	0.2310	5.1081	8.1403E-09	-4.5854E-06
Comb. 11	0.2588	5.4313	1.0534E-08	-5.4473E-06
Comb. 12	0.1246	3.8707	4.3096E-09	-3.1709E-06
Comb. 13	0.1246	3.8707	4.3096E-09	-3.1709E-06

APOYO 2				
Combinacion	R2	R3	M2	M3
Muerta	0.3516	5.3699	0.0574	-5.2491
Viva de Cub.	0.3292	5.0275	0.0537	-4.9144
Granizo	0.4703	7.1822	0.0767	-7.0206
Viento Comp.	0.0000	8.0693	0.0000	-7.8877
Viento Succion	0.0000	8.0693	0.0000	-7.8877
Comb. 1	0.4923	7.5179	0.0803	-7.3488
Comb. 2	0.5866	8.9577	0.0957	-8.7561
Comb. 3	0.6571	10.0350	0.1072	-9.8092
Comb. 4	0.9487	18.5226	0.1548	-18.1059
Comb. 5	1.1745	21.9701	0.1916	-21.4758
Comb. 6	0.9487	18.5226	0.1548	-18.1059
Comb. 7	1.1745	21.9701	0.1916	-21.4758
Comb. 8	0.5866	17.0269	0.0957	-16.6438
Comb. 9	0.6571	18.1043	0.1072	-17.6969
Comb. 10	0.5866	17.0269	0.0957	-16.6438
Comb. 11	0.6571	18.1043	0.1072	-17.6969
Comb. 12	0.3165	12.9022	0.0516	-12.6119
Comb. 13	0.3165	12.9022	0.0516	-12.6119

APOYO 3				
Combinacion	R2	R3	M2	M3
Muerta	0.1385	1.6110	2.3942E-08	3.6775E-06
Viva de Cub.	0.1296	1.5083	3.8307E-08	3.8307E-06
Granizo	0.1852	2.1547	1.9154E-08	9.1937E-07
Viento Comp.	0.0000	2.4208	0.0000	-1.8387E-06
Viento Succion	0.0000	2.4208	0.0000	-1.8387E-06
Comb. 1	0.1939	2.2554	3.3519E-08	5.1485E-06
Comb. 2	0.2310	2.6873	4.7884E-08	6.3284E-06
Comb. 3	0.2588	3.0105	3.8307E-08	4.8727E-06
Comb. 4	0.3736	5.5568	9.0022E-08	9.6228E-06
Comb. 5	0.4625	6.5910	5.9376E-08	4.9646E-06
Comb. 6	0.3736	5.5568	9.0022E-08	9.6228E-06
Comb. 7	0.4625	6.5910	5.9376E-08	4.9646E-06
Comb. 8	0.2310	5.1081	4.7884E-08	4.4896E-06
Comb. 9	0.2588	5.4313	3.8307E-08	3.0339E-06
Comb. 10	0.2310	5.1081	4.7884E-08	4.4896E-06
Comb. 11	0.2588	5.4313	3.8307E-08	3.0339E-06
Comb. 12	0.1246	3.8707	2.1548E-08	1.4710E-06
Comb. 13	0.1246	3.8707	2.1548E-08	1.4710E-06

8. DISEÑO DE ELEMENTOS NO ESTRUCTURALES

***DISEÑO DE ELEMENTOS
NO ESTRUCTURALES***

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)
 DISEÑO DE ELEMENTOS NO ESTRUCTURALES

Units: kN*m

STORY DATA

Story	Height	Elevation	SimilarTo
N+17.00	8.10	17.00	None
N+8.90	4.45	8.90	None
N+4.45	4.50	4.45	None
BASE	0.00	-0.05	None

CENTER MASS RIGIDITY

Story	Diaphragm	MassX	MassY	XCM	YCM	CumMassX	CumMassY
N+4.45	D1	902.0152	902.0152	31.375	9.447	902.0152	902.0152
XCCM	YCCM	XCR	YCR				
31.375	9.447	27.855	9.737				

STORY SHEARS

Story	Load	Loc	P	VX	VY	T	MX	MY
N+4.45	SISDISX	Top	0	2000.39	17.63	21285.581	62.867	2155.523
N+4.45	SISDISX	Bottom	0	2000.39	17.63	21285.581	76.934	11006.927
N+4.45	SISDISY	Top	0	19.56	2000.68	78198.198	3874.576	50.667
N+4.45	SISDISY	Bottom	0	19.56	2000.68	78198.198	12764.458	65.306

$$F_p = \frac{a_x a_p}{R_p} gM_p \geq \frac{A_a I}{2} gM_p$$

$$a_x = \frac{C_{vx} V_x}{m_x g} \leq 2 S_a$$

$$C_{vx} = \frac{m_x h_x^k}{\sum_{i=1}^n (m_i h_i^k)}$$

$$V_s = S_a gM$$

g: 9.81 m/s²
 Sa: 0.563 s

Grupo de uso: III
 Grado de desempeño: SUPERIOR

Grupo de Uso	Grado de desempeño
IV	SUPERIOR
III	SUPERIOR
II	BUENO
I	BAJO

Grado de desempeño de los elementos no estructurales: SUPERIOR

ANÁLISIS DE CARGAS PARA MUROS

Espesor de muros: 0.15 m
 Espesor de pañete en una cara: 0 m
 Densidad de mampostería: 13 kN/m³
 Densidad mortero de pañete: 21 kN/m³
 Altura Fachada: 4.00 m
 Carga: 7.8 kN/m
 Descripción: mampostería reforzada, separada lateralmente de la estructura,
 apoyada arriba y abajo
 ap: 1.0
 Rp: 6

ANÁLISIS DE CARGAS PARA ANTEPECHOS

Espesor de muros: 0.15 m
 Espesor de pañete en una cara: 0 m
 Densidad de mampostería: 13 kN/m³
 Densidad mortero de pañete: 21 kN/m³
 Altura Antepecho: 1 m
 Carga: 1.95 kN/m
 Descripción: mampostería reforzada, separada lateralmente de la estructura,
 apoyada solo abajo
 ap: 2.5
 Rp: 6

Sección de vigas verticales: 0.15x0.25 m
 f'c = 21 MPa
 fy = 420 MPa

DISEÑO PARA MUROS

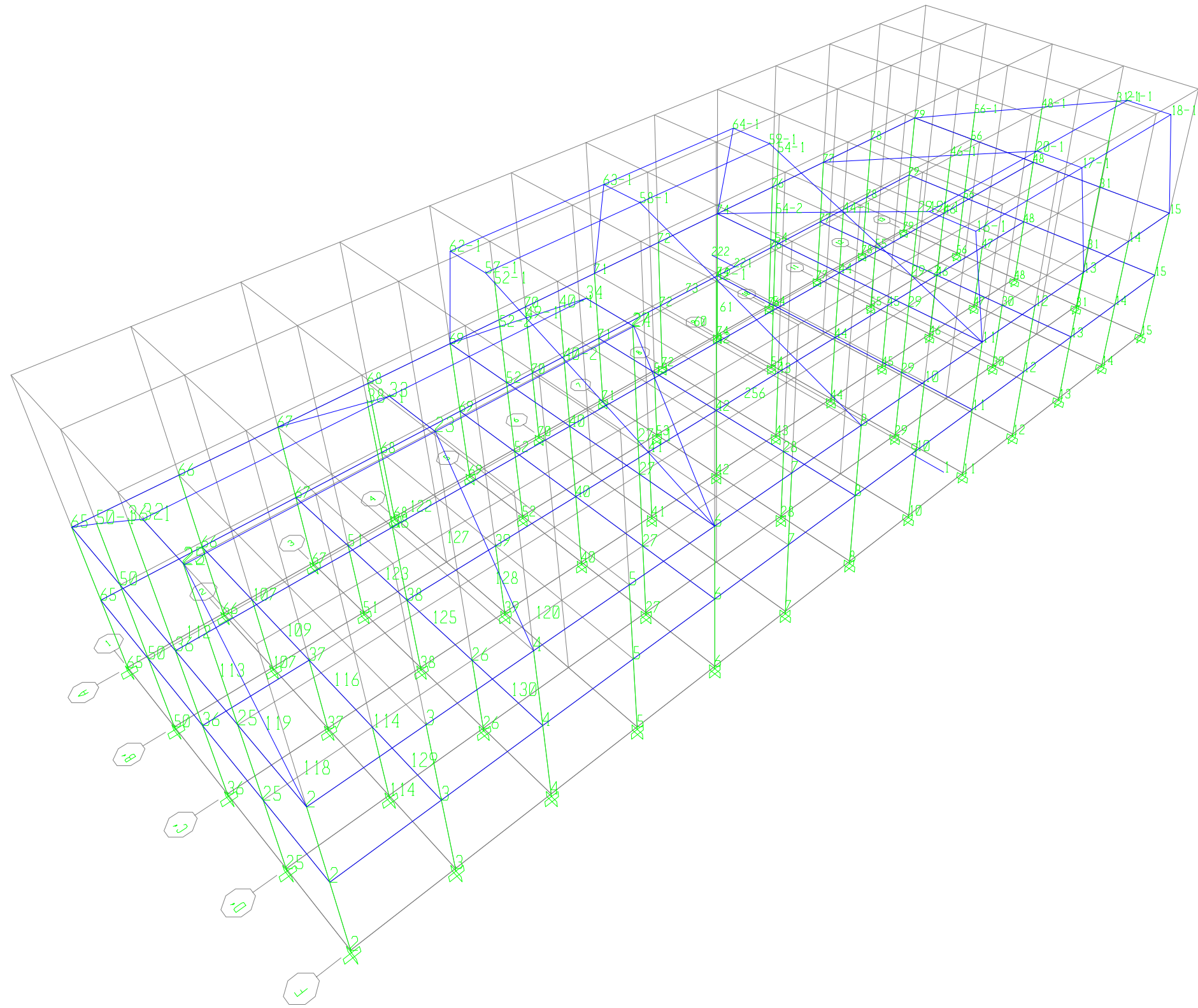
Story	Fx	Wx	ax	ap	Rp	Fp	M	V
N+4.45	2000.39	902.02	1.126	1.0	6	1.464	2.928	2.928
	Sección Vigas V.			As. (cm²)		Separación column.		Fl. 1/4"
Story	b	d	ρ	neces.	ubicado	S max	S escogida	S estribos
N+4.45	0.15	0.21	0.00107	0.34	0.71	2.11	2.10	0.188

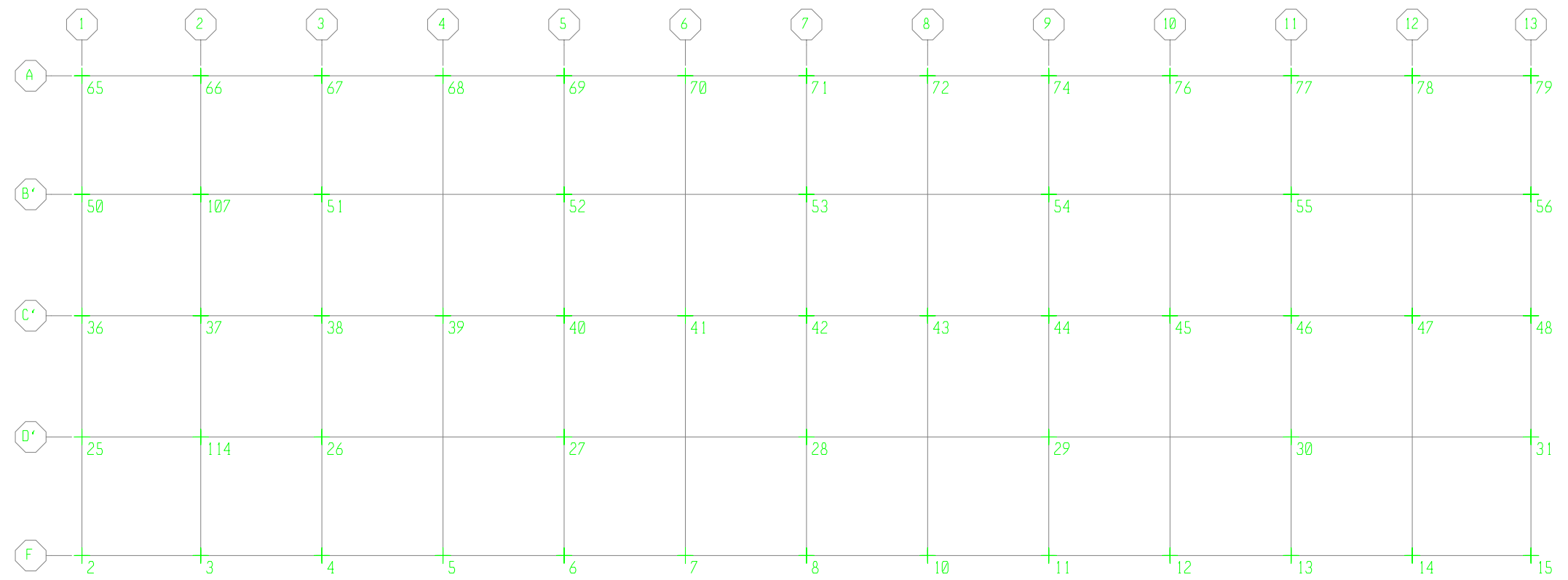
DISEÑO PARA ANTEPECHOS

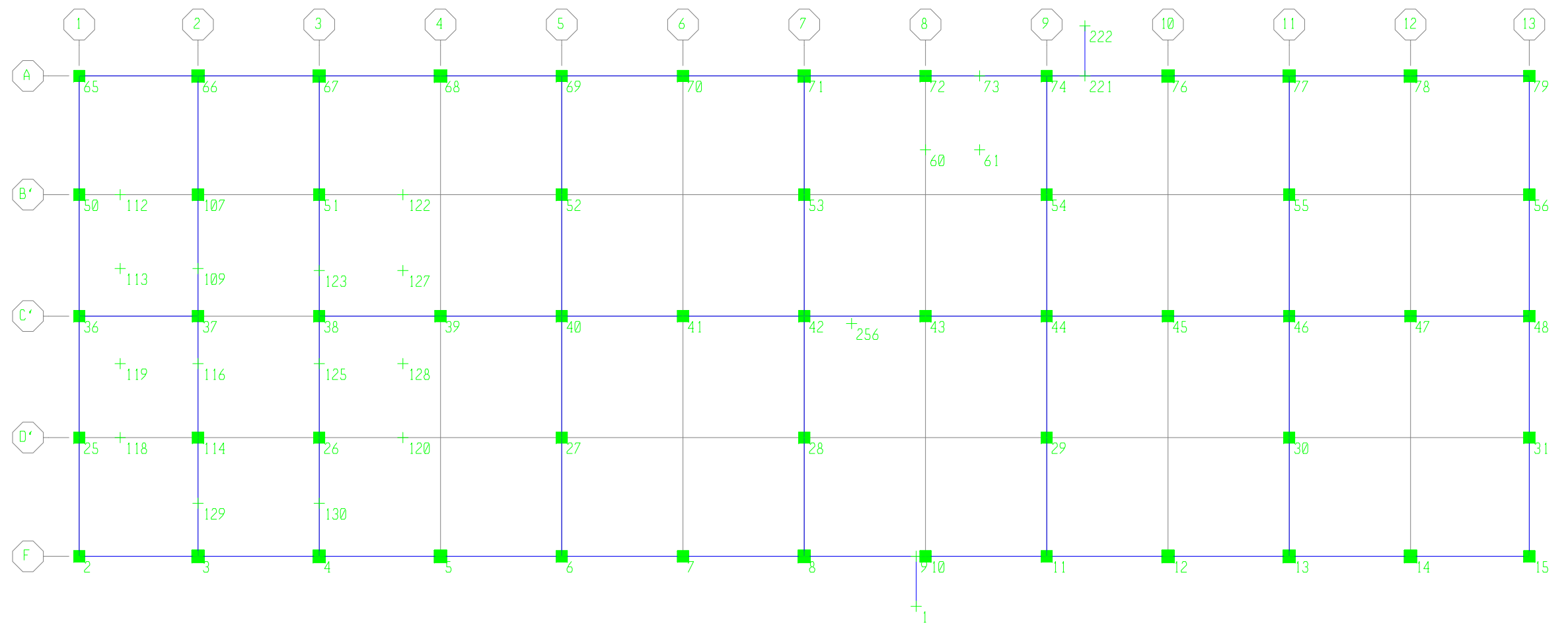
Story	Fx	Wx	ax	ap	Rp	Fp	M	V
N+4.45	2000.39	902.02	1.126	2.5	6	3.660	7.319	7.319
	Sección columneta			As. (cm²)		Separación column.		Fl. 1/4"
Story	b	d	ρ	neces.	ubicado	S max	S escogida	S estribos
N+4.45	0.15	0.21	0.00272	0.86	1.29	1.50	1.50	0.188

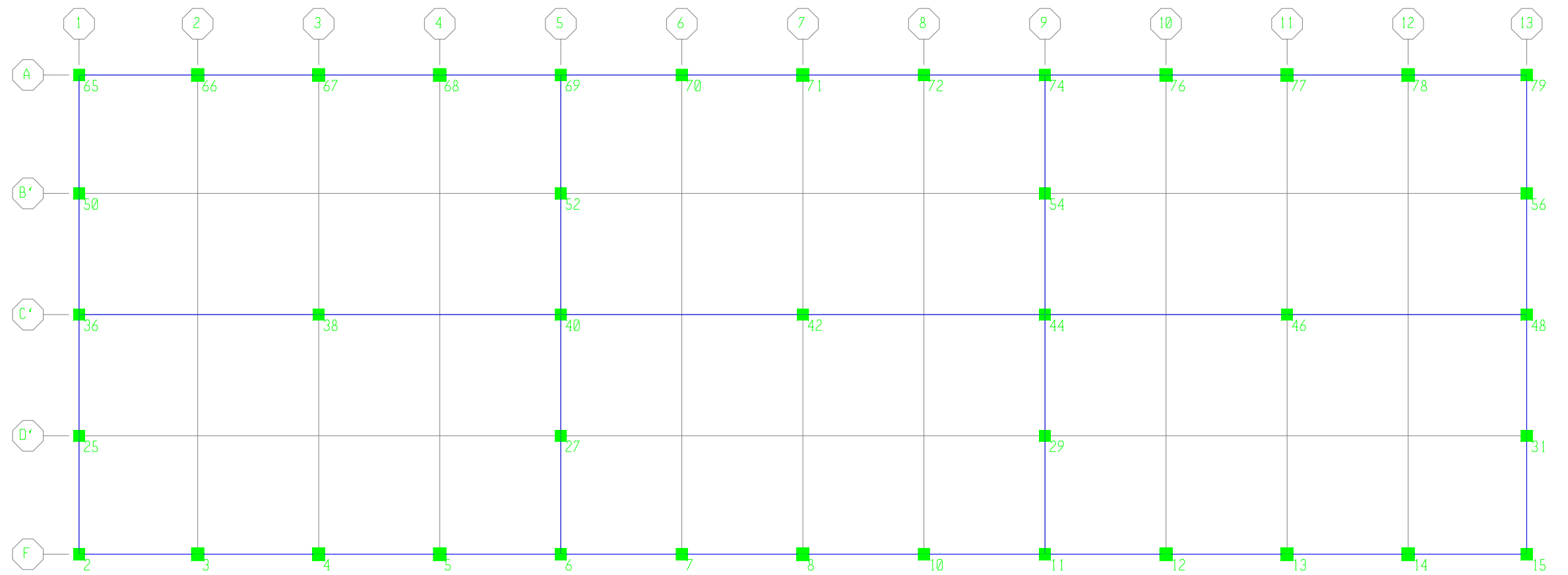
9. ANEXOS DE COMPUTADOR

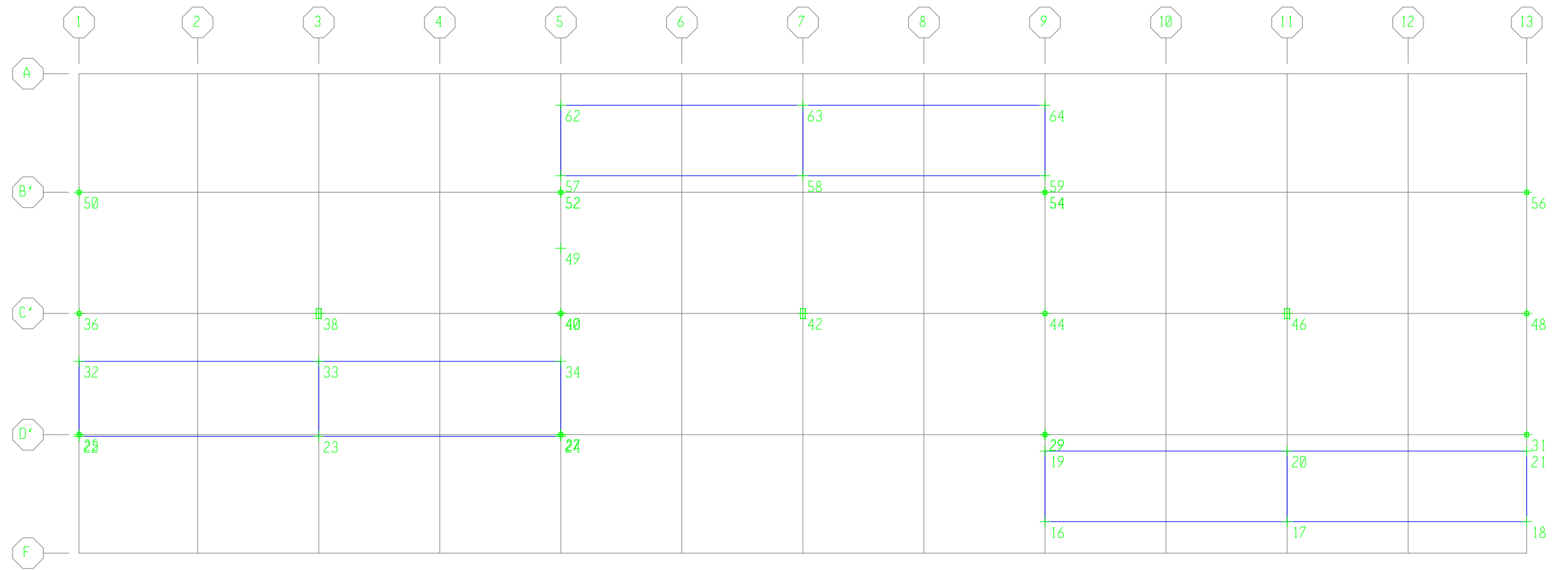
ANEXOS DE COMPUTADOR











ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 1

S T O R Y D A T A

STORY	SIMILAR TO	HEIGHT	ELEVATION
N+17.00	None	8.100	17.000
N+8.90	None	4.450	8.900
N+4.45	None	4.500	4.450
BASE	None		-0.050

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 2

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

POINT	X	Y	DZ-BELOW
1	33.995	-2.030	0.000
2	0.000	0.000	0.000
3	4.825	0.000	0.000
4	9.750	0.000	0.000
5	14.675	0.000	0.000
6	19.600	0.000	0.000
7	24.525	0.000	0.000
8	29.450	0.000	0.000
9	33.995	0.000	0.000
10	34.375	0.000	0.000
11	39.300	0.000	0.000
12	44.225	0.000	0.000
13	49.150	0.000	0.000
14	54.075	0.000	0.000
15	58.900	0.000	0.000
16	39.300	1.280	0.000
16-1	39.300	1.280	2.000
17	49.150	1.280	0.000
17-1	49.150	1.280	2.000
18	58.900	1.280	0.000
18-1	58.900	1.280	2.000
19	39.300	4.150	0.000
19-1	39.300	4.150	2.000
20	49.150	4.150	0.000
20-1	49.150	4.150	2.000
21	58.900	4.150	0.000
21-1	58.900	4.150	2.000
22	0.000	4.750	0.000
23	9.750	4.750	0.000
24	19.600	4.750	0.000
25	0.000	4.820	0.000
26	9.750	4.820	0.000
27	19.600	4.820	0.000
27-1	19.600	4.820	6.150
28	29.450	4.820	0.000
29	39.300	4.820	0.000
29-1	39.300	4.820	2.264
29-2	39.300	4.820	6.150
30	49.150	4.820	0.000
31	58.900	4.820	0.000
31-1	58.900	4.820	2.264
32	0.000	7.800	0.000
33	9.750	7.800	0.000
34	19.600	7.800	0.000
36	0.000	9.750	0.000
36-1	0.000	9.750	1.342
37	4.825	9.750	0.000
38	9.750	9.750	0.000
38-1	9.750	9.750	1.342
39	14.675	9.750	0.000
40	19.600	9.750	0.000
40-1	19.600	9.750	1.342
40-2	19.600	9.750	4.207
41	24.525	9.750	0.000
42	29.450	9.750	0.000
42-1	29.450	9.750	4.207
43	34.375	9.750	0.000
44	39.300	9.750	0.000
44-1	39.300	9.750	4.207
45	44.225	9.750	0.000
46	49.150	9.750	0.000
46-1	49.150	9.750	4.207
47	54.075	9.750	0.000

48	58.900	9.750	0.000
48-1	58.900	9.750	4.207
49	19.600	12.398	0.000
49-1	19.600	12.398	3.164
50	0.000	14.680	0.000
50-1	0.000	14.680	4.734
51	9.750	14.680	0.000
52	19.600	14.680	0.000
52-1	19.600	14.680	2.264
52-2	19.600	14.680	4.734
53	29.450	14.680	0.000
54	39.300	14.680	0.000
54-1	39.300	14.680	2.264
54-2	39.300	14.680	6.150
55	49.150	14.680	0.000
56	58.900	14.680	0.000
56-1	58.900	14.680	6.150
57	19.600	15.350	0.000
57-1	19.600	15.350	2.000
58	29.450	15.350	0.000
58-1	29.450	15.350	2.000
59	39.300	15.350	0.000
59-1	39.300	15.350	2.000
60	34.375	16.500	0.000
61	36.575	16.500	0.000
62	19.600	18.220	0.000
62-1	19.600	18.220	2.000
63	29.450	18.220	0.000
63-1	29.450	18.220	2.000
64	39.300	18.220	0.000
64-1	39.300	18.220	2.000
65	0.000	19.500	0.000
66	4.825	19.500	0.000
67	9.750	19.500	0.000
68	14.675	19.500	0.000
69	19.600	19.500	0.000
70	24.525	19.500	0.000
71	29.450	19.500	0.000
72	34.375	19.500	0.000
73	36.575	19.500	0.000
74	39.300	19.500	0.000
76	44.225	19.500	0.000
77	49.150	19.500	0.000
78	54.075	19.500	0.000
79	58.900	19.500	0.000
107	4.825	14.680	0.000
109	4.825	11.680	0.000
112	1.665	14.680	0.000
113	1.665	11.680	0.000
114	4.825	4.820	0.000
116	4.825	7.820	0.000
118	1.665	4.820	0.000
119	1.665	7.820	0.000
120	13.150	4.820	0.000
122	13.150	14.680	0.000
123	9.750	11.600	0.000
125	9.750	7.820	0.000
127	13.150	11.600	0.000
128	13.150	7.820	0.000
129	4.825	2.150	0.000
130	9.750	2.150	0.000
221	40.850	19.500	0.000
222	40.850	21.530	0.000

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 3

C O L U M N C O N N E C T I V I T Y D A T A

COLUMN	I END PT	J END PT	I END STORY
C1	2	2	Below
C2	3	3	Below
C3	4	4	Below
C4	5	5	Below
C5	6	6	Below
C6	7	7	Below
C7	8	8	Below
C8	10	10	Below
C9	11	11	Below
C10	12	12	Below
C11	13	13	Below

C12	14	14	Below
C13	15	15	Below
C14	25	25	Below
C15	26	26	Below
C16	27	27	Below
C17	28	28	Below
C18	29	29	Below
C18-1	29	29-1	Below
C19	30	30	Below
C20	31	31	Below
C20-1	31	31-1	Below
C21	36	36	Below
C21-1	36	36-1	Below
C22	37	37	Below
C23	38	38	Below
C23-1	38	38-1	Below
C24	39	39	Below
C25	40	40	Below
C25-1	40	40-1	Below
C26	41	41	Below
C27	42	42	Below
C27-1	42	42-1	Below
C28	43	43	Below
C29	44	44	Below
C29-1	44	44-1	Below
C30	45	45	Below
C31	46	46	Below
C31-1	46	46-1	Below
C32	47	47	Below
C33	48	48	Below
C33-1	48	48-1	Below
C34	50	50	Below
C34-1	50	50-1	Below
C35	51	51	Below
C36	52	52	Below
C36-1	52	52-1	Below
C37	53	53	Below
C38	54	54	Below
C38-1	54	54-1	Below
C39	55	55	Below
C40	56	56	Below
C40-1	56	56-1	Below
C41	65	65	Below
C42	66	66	Below
C43	67	67	Below
C44	68	68	Below
C45	69	69	Below
C46	70	70	Below
C47	71	71	Below
C48	72	72	Below
C49	74	74	Below
C50	76	76	Below
C51	77	77	Below
C52	78	78	Below
C53	79	79	Below
C54	107	107	Below
C55	114	114	Below

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 4

BEAM CONNECTIVITY DATA

BEAM	I END PT	J END PT
B1	1	9
B2	2	3
B3	3	4
B4	4	5
B5	5	6
B6	6	7
B7	7	8
B8	8	10
B9	10	11
B10	11	12
B11	12	13
B12	13	14
B13	14	15
B14	16-1	17-1
B15	17-1	18-1
B16	2	25
B17	4	26

B18	6	27
B19	8	28
B20	11	29
B21	13	30
B22	15	31
B23	19-1	16-1
B24	20-1	17-1
B25	21-1	18-1
B26	19-1	20-1
B27	20-1	21-1
B28	22	23
B29	23	24
B31	32	22
B32	33	23
B33	34	24
B34	25	36
B35	26	38
B36	27	40
B37	28	42
B38	29	44
B39	30	46
B40	31	48
B41	32	33
B42	33	34
B43	36	37
B44	36	38
B46	38	39
B47	38	40
B48	39	40
B49	40	41
B50	40	42
B51	41	42
B52	42	43
B53	42	44
B54	43	44
B55	44	45
B56	44	46
B57	45	46
B58	46	47
B59	46	48
B60	47	48
B61	36	50
B62	38	51
B63	40	52
B64	42	53
B65	44	54
B66	46	55
B67	48	56
B69	57-1	58-1
B70	58-1	59-1
B71	62-1	57-1
B72	63-1	58-1
B73	64-1	59-1
B74	50	65
B75	51	67
B76	52	69
B77	53	71
B78	54	74
B79	55	77
B80	56	79
B81	62-1	63-1
B82	63-1	64-1
B83	65	66
B84	66	67
B85	67	68
B86	68	69
B87	69	70
B88	70	71
B89	71	72
B90	72	74
B91	74	76
B92	76	77
B93	77	78
B94	78	79
B109	3	114
B110	114	37
B111	37	107
B112	107	66
B116	221	222

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 5

B R A C E C O N N E C T I V I T Y D A T A

BRACE	I END PT	J END PT	I END STORY
D1	11	16-1	Below
D2	13	17-1	Below
D3	15	18-1	Below
D4	2	22	Below
D5	4	23	Below
D6	6	24	Below
D7	6	27-1	Below
D8	11	29-2	Below
D9	29-1	19-1	Same
D10	31-1	21-1	Same
D11	8	42-1	Below
D12	46-1	20-1	Same
D13	27-1	40-2	Same
D14	29-2	44-1	Same
D15	44-1	29-1	Same
D16	48-1	31-1	Same
D17	36-1	32	Same
D18	38-1	33	Same
D19	40-1	34	Same
D20	40-2	49-1	Same
D21	49-1	40-1	Same
D22	50-1	36-1	Same
D23	44-1	54-1	Same
D24	54-2	44-1	Same
D25	56-1	48-1	Same
D26	42-1	58-1	Same
D27	49-1	52-1	Same
D28	52-2	49-1	Same
D29	67	38-1	Below
D30	77	46-1	Below
D31	52-1	57-1	Same
D32	54-1	59-1	Same
D33	65	50-1	Below
D34	69	52-2	Below
D35	74	54-2	Below
D36	79	56-1	Below
D37	69	62-1	Below
D38	71	63-1	Below
D39	74	64-1	Below

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 6

W A L L C O N N E C T I V I T Y D A T A

WALL	POINT 1	POINT 2	POINT 3	POINT 4	PT1 STORY	PT2 STORY	PT3 STORY	PT4 STORY
W1	6	24	27	27-1	Below	Same	Same	Same
W2	2	25	25	22	Below	Below	Same	Same
W3	6	27-1	27		Below	Same	Below	
W4	11	29-2	29		Below	Same	Below	
W5	11	29-1	19-1	16-1	Below	Same	Same	Same
W6	11	29-2	29-1		Below	Same	Same	
W7	31	15	18-1		Below	Below	Same	
W8	31	18-1	21-1	31-1	Below	Same	Same	Same
W9	27-1	27	34		Same	Same	Same	
W10	25	36	32	25	Below	Below	Same	Same
W11	27-1	40-2	40-1	34	Same	Same	Same	Same
W12	40	27	27-1	40-2	Below	Below	Same	Same
W13	44	29	29-2	44-1	Below	Below	Same	Same
W14	29-2	44-1	29-1		Same	Same	Same	
W15	48	31	31-1	48-1	Below	Below	Same	Same
W16	36	36-1	32		Below	Same	Same	
W17	40-2	40-1	49-1		Same	Same	Same	
W18	36	50	50-1	36-1	Below	Below	Same	Same
W19	52	40	40-2		Below	Below	Same	
W20	52	40-2	49-1	52-2	Below	Same	Same	Same
W21	54-2	44-1	54-1		Same	Same	Same	
W22	54	44	44-1	54-2	Below	Below	Same	Same
W23	56	48	48-1	56-1	Below	Below	Same	Same
W24	52-2	49-1	52-1		Same	Same	Same	
W25	65	50-1	50		Below	Same	Below	
W26	69	52	52-2		Below	Below	Same	
W27	69	52-1	57-1	62-1	Below	Same	Same	Same
W28	69	52-2	52-1		Below	Same	Same	
W29	74	54-1	59-1	64-1	Below	Same	Same	Same

W30	74	54-2	54-1	Below	Same	Same
W31	74	54-2	54	Below	Same	Below
W32	79	56	56-1	Below	Below	Same

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 7

FLOOR CONNECTIVITY DATA

FLOOR	POINT	POINT	POINT	POINT
F1	19-1	20-1	17-1	16-1
F2	20-1	21-1	18-1	17-1
F5	6	8	42	40
F6	8	11	44	42
F7	11	13	46	44
F8	13	15	48	46
F9	22	23	33	32
F10	23	24	34	33
F13	40	42	71	69
F14	44	46	77	74
F15	46	48	79	77
F16	71	72	60	61
	73	74	44	42
F17	62-1	63-1	58-1	57-1
F18	63-1	64-1	59-1	58-1
F19	66	107	112	113
	109	37	36	65
F21	116	37	36	2
	3	114	118	119
F22	51	67	69	40
	38	123	127	122
F23	38	40	6	4
	26	120	128	125
F24	3	4	130	129

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 8

RAMP CONNECTIVITY DATA

RAMP	POINT 1	POINT 2	POINT 3	POINT 4	PT1 STORY	PT2 STORY	PT3 STORY	PT4 STORY
R1	13	11	16-1	17-1	Below	Below	Same	Same
R2	15	13	17-1	18-1	Below	Below	Same	Same
R3	4	2	22	23	Below	Below	Same	Same
R4	6	4	23	24	Below	Below	Same	Same
R5	6	57-1	58-1	8	Below	Same	Same	Below
R6	11	8	58-1	59-1	Below	Below	Same	Same
R7	74	77	20-1	19-1	Below	Below	Same	Same
R8	77	79	21-1	20-1	Below	Below	Same	Same
R9	67	33	32	65	Below	Same	Same	Below
R10	69	34	33	67	Below	Same	Same	Below
R11	71	63-1	62-1	69	Below	Same	Same	Below
R12	74	64-1	63-1	71	Below	Same	Same	Below

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 9

RIGID DIAPHRAGM POINT CONNECTIVITY DATA

STORY	DIAPHRAGM	POINT	POINT	POINT	POINT	POINT
N+4.45	D1	65	66	67	68	69
		70	71	72	74	76
		77	78	79	2	3
		4	5	6	7	8
		10	11	12	13	14
		15	50	36	25	56
		48	31	38	52	40
		27	42	54	44	29
		46	37	51	26	39
		41	53	43	45	55
		30	47	28	60	73
		61	9	1	107	109
		112	113	114	116	118
		119	120	122	123	125
		127	128	129	130	221
		222				

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 10

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

MASS LATERAL LUMP MASS
 FROM MASS ONLY AT STORIES

Masses Yes Yes

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 11

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
N+4.45	D1	9.020E+02	9.020E+02	3.163E+05	31.375	9.447

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 12

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
N+17.00	16-1	1.093E+00	1.093E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	17-1	2.064E+00	2.064E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	18-1	1.234E+00	1.234E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	19-1	1.756E+00	1.756E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	20-1	3.628E+00	3.628E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	21-1	1.736E+00	1.736E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	22	1.389E+00	1.389E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	23	2.711E+00	2.711E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	24	1.376E+00	1.376E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	25	4.434E-01	4.434E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	27	4.535E-01	4.535E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	32	1.844E+00	1.844E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	33	3.163E+00	3.163E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	34	1.776E+00	1.776E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	49-1	3.181E-01	3.181E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	57-1	1.756E+00	1.756E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	58-1	3.644E+00	3.644E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	59-1	1.756E+00	1.756E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	62-1	1.093E+00	1.093E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	63-1	2.073E+00	2.073E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	64-1	1.093E+00	1.093E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	2	3.879E+00	3.879E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	3	3.090E+00	3.090E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	4	4.929E+00	4.929E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	5	3.108E+00	3.108E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	6	6.429E+00	6.429E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	7	2.854E+00	2.854E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	8	6.077E+00	6.077E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	10	2.854E+00	2.854E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	11	6.196E+00	6.196E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	12	3.108E+00	3.108E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	13	4.316E+00	4.316E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	14	3.090E+00	3.090E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	15	3.539E+00	3.539E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	25	3.421E+00	3.421E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	27	4.213E+00	4.213E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	29	4.595E+00	4.595E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	31	3.813E+00	3.813E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	36	6.347E+00	6.347E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	38	6.923E+00	6.923E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	40	9.404E+00	9.404E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	42	6.806E+00	6.806E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	44	9.303E+00	9.303E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	46	6.782E+00	6.782E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	48	6.062E+00	6.062E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	50	3.623E+00	3.623E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	52	4.467E+00	4.467E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	54	4.595E+00	4.595E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	56	3.347E+00	3.347E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	65	4.074E+00	4.074E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	66	3.090E+00	3.090E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	67	5.770E+00	5.770E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	68	3.108E+00	3.108E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	69	6.030E+00	6.030E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	70	2.854E+00	2.854E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	71	4.321E+00	4.321E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	72	2.854E+00	2.854E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	74	6.196E+00	6.196E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

N+8.90	76	3.108E+00	3.108E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	77	6.064E+00	6.064E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	78	3.090E+00	3.090E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	79	4.202E+00	4.202E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+4.45	254	9.020E+02	9.020E+02	0.000E+00	0.000E+00	0.000E+00	3.163E+05
N+4.45	(239)	1.316E+01	1.316E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+4.45	(240)	1.210E+01	1.210E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+4.45	(241)	2.318E+00	2.318E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+4.45	(242)	2.318E+00	2.318E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+4.45	(243)	6.170E+00	6.170E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+4.45	(244)	6.214E+00	6.214E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	2	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	3	1.350E+00	1.350E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	4	1.350E+00	1.350E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	5	1.350E+00	1.350E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	6	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	7	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	8	1.350E+00	1.350E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	10	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	11	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	12	1.350E+00	1.350E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	13	1.350E+00	1.350E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	14	1.350E+00	1.350E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	15	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	25	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	26	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	27	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	28	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	29	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	30	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	31	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	36	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	37	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	38	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	39	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	40	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	41	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	42	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	43	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	44	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	45	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	46	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	47	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	48	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	50	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	51	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	52	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	53	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	54	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	55	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	56	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	65	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	66	1.350E+00	1.350E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	67	1.350E+00	1.350E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	68	1.350E+00	1.350E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	69	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	70	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	71	1.350E+00	1.350E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	72	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	74	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	76	1.350E+00	1.350E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	77	1.350E+00	1.350E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	78	1.350E+00	1.350E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	79	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	107	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BASE	114	1.094E+00	1.094E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+17.00	All	3.640E+01	3.640E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+8.90	All	1.919E+02	1.919E+02	0.000E+00	0.000E+00	0.000E+00	0.000E+00
N+4.45	All	9.443E+02	9.443E+02	0.000E+00	0.000E+00	0.000E+00	3.163E+05
BASE	All	6.373E+01	6.373E+01	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Totals	All	1.236E+03	1.236E+03	0.000E+00	0.000E+00	0.000E+00	3.163E+05

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 13

GROUP MASS DATA

GROUP NAME	SELF MASS	SELF WEIGHT	TOTAL MASS-X	TOTAL MASS-Y	TOTAL MASS-Z
ALL	1236.3589	11767.499	1236.3589	1236.3589	0.0000

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 14

M A T E R I A L L I S T B Y E L E M E N T T Y P E

ELEMENT TYPE	MATERIAL	TOTAL MASS tons	NUMBER PIECES	NUMBER STUDS
Column	A500	2.98	15	
Column	CONC21	227.64	96	
Beam	A500	4.86	21	0
Beam	CONC21	282.65	115	0
Brace	A500	9.90	39	
Floor	CONC21	671.92		

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 15

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

SECTION	ELEMENT TYPE	NUMBER PIECES	TOTAL LENGTH meters	TOTAL MASS tons	NUMBER STUDS
COL50X50	Column	28	125.300	76.66	
VIGA40X50	Beam	53	288.775	141.34	0
VIGA50X50	Beam	27	131.975	80.75	0
COL45X45	Column	68	304.650	150.98	
TER1-150X25	Beam	18	135.380	4.14	0
TER1-150X25	Brace	30	138.243	4.22	
TER2-200X40	Beam	3	8.790	0.72	0
TER2-200X40	Brace	9	69.121	5.67	
VIGA30X50	Beam	34	160.860	59.05	0
VIGA25X50	Beam	1	4.925	1.51	0
TEC1-150X15	Column	12	66.162	1.79	
TER3-200X40	Column	3	14.544	1.19	
PLACALCOM	Floor			671.92	

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 16

M A T E R I A L L I S T B Y S T O R Y

STORY	ELEMENT TYPE	MATERIAL	TOTAL WEIGHT tons	FLOOR AREA m2	UNIT WEIGHT kg/m2	NUMBER PIECES	NUMBER STUDS
N+17.00	Column	A500	2.98	172.571	17.2954	15	
N+17.00	Beam	A500	4.86	172.571	28.1463	21	0
N+17.00	Brace	A500	9.90	172.571	57.3426	39	
N+8.90	Column	CONC21	97.66	0.000	41		
N+8.90	Beam	CONC21	105.48	0.000	46	0	
N+4.45	Column	CONC21	129.98	1016.869	127.8239	55	
N+4.45	Beam	CONC21	177.17	1016.869	174.2305	69	0
N+4.45	Floor	CONC21	671.92	1016.869	660.7761		
SUM	Column	A500	2.98	1189.440	2.5093	15	
SUM	Column	CONC21	227.64	1189.440	191.3853	96	
SUM	Beam	A500	4.86	1189.440	4.0836	21	0
SUM	Beam	CONC21	282.65	1189.440	237.6320	115	0
SUM	Brace	A500	9.90	1189.440	8.3196	39	
SUM	Floor	CONC21	671.92	1189.440	564.9068		
TOTAL	All	All	1199.95	1189.440	1008.8367	286	0

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 17

M A T E R I A L P R O P E R T Y D A T A

MATERIAL NAME	MATERIAL TYPE	DESIGN TYPE	MATERIAL DIR/PLANE	MODULUS OF ELASTICITY	POISSON'S RATIO	THERMAL COEFF	SHEAR MODULUS
A36	Iso	Steel	All	199900000.00	0.3000	1.1700E-05	76884615.38
A500	Iso	Steel	All	199900000.00	0.3000	1.1700E-05	76884615.38
CONC21	Iso	Concrete	All	21538110.000	0.2000	9.9000E-06	8974212.500
MAT1	Iso	Concrete	All	0.001	0.2000	9.9000E-06	0.000

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 MASS PER WEIGHT PER

NAME	UNIT VOL	UNIT VOL
A36	7.8271E+00	7.6820E+01
A500	7.8271E+00	7.6820E+01
CONC21	2.4000E+00	2.4000E+01
MAT1	2.4000E+00	0.0000E+00

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

MATERIAL NAME	STEEL FY	STEEL FU	STEEL COST (\$)
A36	252000.000	400000.000	5000.00
A500	352000.000	400000.000	5000.00

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
CONC21	No	21000.000	420000.000	420000.000	N/A
MAT1	No	0.001	420000.000	420000.000	N/A

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 18

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 COL	CONC BEAM
COL50X50	CONC21	Rectangular	Yes	
VIGA40X50	CONC21	Rectangular		Yes
VIGA50X50	CONC21	Rectangular		Yes
COL45X45	CONC21	Rectangular	Yes	
TER1-150X250	A500	Box/Tube		
TER2-200X400	A500	Box/Tube		
VIGA30X50	CONC21	Rectangular		Yes
VIGA25X50	CONC21	Rectangular		Yes
TEC1-150X150	A500	Box/Tube		
TER3-200X400	A500	Box/Tube		

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
COL50X50	0.5000	0.5000	0.0000	0.0000	0.0000	0.0000
VIGA40X50	0.5000	0.4000	0.0000	0.0000	0.0000	0.0000
VIGA50X50	0.5000	0.5000	0.0000	0.0000	0.0000	0.0000
COL45X45	0.4500	0.4500	0.0000	0.0000	0.0000	0.0000
TER1-150X250	0.2500	0.1500	0.0050	0.0050	0.0000	0.0000
TER2-200X400	0.4000	0.2000	0.0090	0.0090	0.0000	0.0000
VIGA30X50	0.5000	0.3000	0.0000	0.0000	0.0000	0.0000
VIGA25X50	0.5000	0.2500	0.0000	0.0000	0.0000	0.0000
TEC1-150X150	0.1500	0.1500	0.0060	0.0060	0.0000	0.0000
TER3-200X400	0.2000	0.4000	0.0090	0.0090	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
COL50X50	0.2500	0.0088	0.0052	0.0052	0.2083	0.2083
VIGA40X50	0.2000	0.0055	0.0042	0.0027	0.1667	0.1667
VIGA50X50	0.2500	0.0088	0.0052	0.0052	0.2083	0.2083
COL45X45	0.2025	0.0058	0.0034	0.0034	0.1688	0.1688
TER1-150X250	0.0039	0.0000	0.0000	0.0000	0.0025	0.0015
TER2-200X400	0.0105	0.0002	0.0002	0.0001	0.0072	0.0036
VIGA30X50	0.1500	0.0028	0.0031	0.0011	0.1250	0.1250
VIGA25X50	0.1250	0.0018	0.0026	0.0007	0.1042	0.1042
TEC1-150X150	0.0035	0.0000	0.0000	0.0000	0.0018	0.0018
TER3-200X400	0.0105	0.0002	0.0001	0.0002	0.0036	0.0072

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

SECTION MODULI PLASTIC MODULI RADIUS OF GYRATION

FRAME SECTION NAME	S33	S22	Z33	Z22	R33	R22
COL50X50	0.0208	0.0208	0.0313	0.0313	0.1443	0.1443
VIGA40X50	0.0167	0.0133	0.0250	0.0200	0.1443	0.1155
VIGA50X50	0.0208	0.0208	0.0313	0.0313	0.1443	0.1443
COL45X45	0.0152	0.0152	0.0228	0.0228	0.1299	0.1299
TER1-150X250	0.0003	0.0002	0.0003	0.0002	0.0934	0.0629
TER2-200X400	0.0011	0.0007	0.0014	0.0008	0.1453	0.0845
VIGA30X50	0.0125	0.0075	0.0188	0.0113	0.1443	0.0866
VIGA25X50	0.0104	0.0052	0.0156	0.0078	0.1443	0.0722
TEC1-150X150	0.0002	0.0002	0.0002	0.0002	0.0588	0.0588
TER3-200X400	0.0007	0.0011	0.0008	0.0014	0.0845	0.1453

FRAME SECTION WEIGHTS AND MASSES

FRAME SECTION NAME	TOTAL WEIGHT	TOTAL MASS
COL50X50	751.8000	75.1800
VIGA40X50	1386.1200	138.6120
VIGA50X50	791.8500	79.1850
COL45X45	1480.5990	148.0599
TER1-150X250	81.9764	8.3525
TER2-200X400	62.7000	6.3885
VIGA30X50	579.0960	57.9096
VIGA25X50	14.7750	1.4775
TEC1-150X150	17.5653	1.7897
TER3-200X400	11.7044	1.1926

CONCRETE COLUMN DATA

FRAME SECTION NAME	REINF CONFIGURATION		REINF SIZE/TYPE	NUM BARS 3DIR/2DIR	NUM BARS CIRCULAR	BAR COVER
	LONGIT	LATERAL				
COL50X50	Rectangular	Ties	#8/Design	5/5	N/A	0.0500
COL45X45	Rectangular	Ties	#8/Design	4/4	N/A	0.0500

CONCRETE BEAM DATA

FRAME SECTION NAME	TOP COVER	BOT COVER	TOP LEFT AREA	TOP RIGHT AREA	BOT LEFT AREA	BOT RIGHT AREA
VIGA40X50	0.0500	0.0500	0.000	0.000	0.000	0.000
VIGA50X50	0.0500	0.0500	0.000	0.000	0.000	0.000
VIGA30X50	0.0500	0.0500	0.000	0.000	0.000	0.000
VIGA25X50	0.0500	0.0500	0.000	0.000	0.000	0.000

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 19

SHELL SECTION PROPERTY DATA

SHELL SECTION	MATERIAL NAME	SHELL TYPE	LOAD DIST ONE WAY	MEMBRANE THICK	BENDING THICK	TOTAL WEIGHT	TOTAL MASS
CUB	MAT1	Membrane	Yes	0.0130	0.0130	0.0000	59.2803
PLACALCOM	CONC21	Membrane	No	0.2700	0.2700	6589.3127	658.9313

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 20

LINK PROPERTY DATA

LINK: NLPR1
 TYPE: Damper

MASS	WEIGHT	INERTIA 1	INERTIA 2	INERTIA 3	P-D M2I	P-D M2J	P-D M3I	P-D M3J
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
DOF	KE	CE	DJ	K	C	C EXP		
U1	0.0000	0.0000	N/A	---	---	---		

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 21

STATIC LOAD CASES

STATIC CASE	CASE TYPE	AUTO LAT LOAD	SELF WT MULTIPLIER	NOTIONAL FACTOR	NOTIONAL DIRECTION
DEAD	DEAD	N/A	1.0000		
LIVE	LIVE	N/A	0.0000		
VIENTO	WIND	None	0.0000		
VIVACUB	SNOW	N/A	0.0000		

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 22

RESPONSE SPECTRUM CASES

RESP SPEC CASE: SISDERX

BASIC RESPONSE SPECTRUM DATA

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

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	DERIVAS	12.0960
U2	----	N/A
UZ	----	N/A

RESP SPEC CASE: SISDERY

BASIC RESPONSE SPECTRUM DATA

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

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	----	N/A
U2	DERIVAS	13.4190
UZ	----	N/A

RESP SPEC CASE: SISDISX

BASIC RESPONSE SPECTRUM DATA

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

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	DISENO	12.0960
U2	----	N/A
UZ	----	N/A

RESP SPEC CASE: SISDISY

BASIC RESPONSE SPECTRUM DATA

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

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	----	N/A
U2	DISENO	13.4190
UZ	----	N/A

RESP SPEC CASE: SISUMBX

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
SRSS	SRSS	0.0200	0.0000	0.0500

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	UMBRAL	13.4290
U2	----	N/A
UZ	----	N/A

RESP SPEC CASE: SISUMBY

BASIC RESPONSE SPECTRUM DATA

MODAL COMBO	DIRECTION COMBO	MODAL DAMPING	SPECTRUM ANGLE	TYPICAL ECCEN
SRSS	SRSS	0.0200	0.0000	0.0500

RESPONSE SPECTRUM FUNCTION ASSIGNMENT DATA

DIRECTION	FUNCTION	SCALE FACT
U1	----	N/A
U2	UMBRAL	14.9010
UZ	----	N/A

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 23

LOADING COMBINATIONS

COMBO	COMBO TYPE	CASE	CASE TYPE	SCALE FACTOR
COMDIS1	ADD	DEAD	Static	1.4000
COMDIS2	ADD	DEAD	Static	1.2000
COMDIS3	ADD	LIVE	Static	1.6000
		DEAD	Static	1.2000
		LIVE	Static	1.0000
COMDIS4	ADD	SISDISX	Spectra	1.0000
		SISDISY	Spectra	0.3000
		DEAD	Static	1.2000
		LIVE	Static	1.0000
COMDIS5	ADD	SISDISX	Spectra	0.3000
		SISDISY	Spectra	1.0000
		DEAD	Static	0.9000
		SISDISX	Spectra	1.0000
COMDIS6	ADD	SISDISY	Spectra	0.3000
		DEAD	Static	0.9000
		SISDISX	Spectra	0.3000
COMDIS7	ADD	SISDISY	Spectra	1.0000
		DEAD	Static	1.2000
		VIVACUB	Static	0.5000
COMDIS8	ADD	DEAD	Static	1.2000
		VIVACUB	Static	1.6000
		VIENTO	Static	0.5000
COMDIS9	ADD	DEAD	Static	1.2000
		VIVACUB	Static	1.6000
		VIENTO	Static	-0.5000
ENVOLVENTE	ENVE	COMDIS1	Combo	1.0000
		COMDIS2	Combo	1.0000

		COMDIS3	Combo	1.0000
		COMDIS4	Combo	1.0000
		COMDIS5	Combo	1.0000
		COMDIS6	Combo	1.0000
		COMDIS7	Combo	1.0000
		COMDIS8	Combo	1.0000
		COMDIS9	Combo	1.0000
COMDER1	ADD	SISDERX	Spectra	1.0000
		SISDERY	Spectra	0.3000
COMDER2	ADD	SISDERX	Spectra	0.3000
		SISDERY	Spectra	1.0000
CIMEN	ADD	DEAD	Static	1.0000
		LIVE	Static	1.0000
DEFLEX1	ADD	DEAD	Static	1.0000
DEFLEX2	ADD	DEAD	Static	1.0000
		LIVE	Static	1.0000
COMDERUMX	ADD	SISUMBX	Spectra	1.0000
		SISUMBY	Spectra	0.3000
COMDERUMY	ADD	SISUMBX	Spectra	0.3000
		SISUMBY	Spectra	1.0000
COMDIS10	ADD	DEAD	Static	1.2000
		VIVACUB	Static	0.5000
		VIENTO	Static	1.0000
COMDIS11	ADD	DEAD	Static	1.2000
		VIVACUB	Static	0.5000
		VIENTO	Static	-1.0000

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 24

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: DERIVAS

FILE NAME: c:\users\jair useche\desktop\proyectos abby\dye14-20xx - cae el redentor\bloque c\modelo\derivadas.txt
 DATA TYPE: Period vs Acceleration
 NUMBER OF HEADER LINES = 0

PERIOD	ACCEL
0.0000	0.5625
0.1600	0.5625
0.3200	0.5625
0.4800	0.5625
0.6400	0.5625
0.8000	0.5625
0.9600	0.5625
1.1200	0.5625
1.3031	0.4835
1.4862	0.4239
1.6692	0.3774
1.8523	0.3401
2.0354	0.3095
2.2185	0.2840
2.4015	0.2623
2.5846	0.2438
2.7677	0.2276
2.9508	0.2135
3.1338	0.2010
3.3169	0.1899
3.5000	0.1800
4.0625	0.1336
4.6250	0.1031
5.1875	0.0819
5.7500	0.0667
6.3125	0.0553
6.8750	0.0467
7.4375	0.0399
8.0000	0.0345

FUNCTION NAME: DISENO

FILE NAME: c:\users\jair useche\desktop\proyectos abby\dye14-20xx - cae el redentor\bloque c\modelo\diseño.txt
 DATA TYPE: Period vs Acceleration
 NUMBER OF HEADER LINES = 0

PERIOD	ACCEL
0.0000	0.1670

0.1600	0.1670
0.3200	0.1670
0.4800	0.1670
0.6400	0.1670
0.8000	0.1670
0.9600	0.1670
1.1200	0.1670
1.3000	0.1430
1.4900	0.1260
1.6700	0.1120
1.8500	0.1010
2.0400	0.0920
2.2200	0.0840
2.4000	0.0780
2.5800	0.0720
2.7700	0.0670
2.9500	0.0630
3.1300	0.0600
3.3200	0.0560
3.5000	0.0530
4.0600	0.0400
4.6300	0.0310
5.1900	0.0240
5.7500	0.0200
6.3100	0.0160
6.8800	0.0140
7.4400	0.0120
8.0000	0.0100

FUNCTION NAME: UMBRAL

FILE NAME: c:\users\jair useche\desktop\proyectos abby\dye14-20xx - cae el redentor\bloque c\modelo\umbral.txt
 DATA TYPE: Period vs Acceleration
 NUMBER OF HEADER LINES = 0

PERIOD	ACCEL
0.0000	0.0800
0.2100	0.2520
0.2792	0.2520
0.3483	0.2520
0.4175	0.2520
0.4867	0.2520
0.5558	0.2520
0.6250	0.2520
0.6942	0.2520
0.7633	0.2520
0.8325	0.2520
0.9017	0.2520
0.9708	0.2520
1.0400	0.2520
1.3475	0.1937
1.6550	0.1577
1.9625	0.1330
2.2700	0.1150
2.5775	0.1013
2.8850	0.0905
3.1925	0.0818
3.5000	0.0746
4.0625	0.0554
4.6250	0.0427
5.1875	0.0339
5.7500	0.0276
6.3125	0.0229
6.8750	0.0193
7.4375	0.0165
8.0000	0.0143

ETABS v9.7.4 File:BLOQUE C CAE EL REDENTOR Units:KN-m agosto 19, 2014 15:15 PAGE 25

FRAME SECTION ASSIGNMENTS TO LINE OBJECTS

STORY LEVEL	LINE ID	LINE TYPE	SECTION TYPE	AUTO SELECT SECTION	ANALYSIS SECTION	DESIGN PROCEDURE	DESIGN SECTION
N+17.00	C14	Column	Box/Tube	None	TEC1-150X15	Steel Frame	TEC1-150X15
N+17.00	C16	Column	Box/Tube	None	TEC1-150X15	Steel Frame	TEC1-150X15
N+17.00	C18-1	Column	Box/Tube	None	TEC1-150X15	Steel Frame	TEC1-150X15
N+17.00	C20-1	Column	Box/Tube	None	TEC1-150X15	Steel Frame	TEC1-150X15

N+17.00	D1	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D2	Brace	Box/Tube	None	TER2-200X40	Steel	Frame	TER2-200X40
N+17.00	D3	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D4	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D5	Brace	Box/Tube	None	TER2-200X40	Steel	Frame	TER2-200X40
N+17.00	D6	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D7	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D8	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D9	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D10	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D11	Brace	Box/Tube	None	TER2-200X40	Steel	Frame	TER2-200X40
N+17.00	D12	Brace	Box/Tube	None	TER2-200X40	Steel	Frame	TER2-200X40
N+17.00	D13	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D14	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D15	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D16	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D17	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D18	Brace	Box/Tube	None	TER2-200X40	Steel	Frame	TER2-200X40
N+17.00	D19	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D20	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D21	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D22	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D23	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D24	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D25	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D26	Brace	Box/Tube	None	TER2-200X40	Steel	Frame	TER2-200X40
N+17.00	D27	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D28	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D29	Brace	Box/Tube	None	TER2-200X40	Steel	Frame	TER2-200X40
N+17.00	D30	Brace	Box/Tube	None	TER2-200X40	Steel	Frame	TER2-200X40
N+17.00	D31	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D32	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D33	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D34	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D35	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D36	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D37	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25
N+17.00	D38	Brace	Box/Tube	None	TER2-200X40	Steel	Frame	TER2-200X40
N+17.00	D39	Brace	Box/Tube	None	TER1-150X25	Steel	Frame	TER1-150X25

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)

FUERZAS EN VIGAS

BEAM FORCES

UNID: kN-m

Story	Beam	Load	Loc	P	V2	T	M3
N+4.45	B1	ENVOLVENTE MAX	0	0	0	0	0
N+4.45	B1	ENVOLVENTE MAX	2.03	0	61.43	0	-25.748
N+4.45	B1	ENVOLVENTE MIN	0	0	0	0	0
N+4.45	B1	ENVOLVENTE MIN	2.03	0	25.37	0	-62.353
N+8.90	B2	ENVOLVENTE MAX	0	7.8	2.1	6.295	18.819
N+8.90	B2	ENVOLVENTE MAX	4.825	7.8	20.25	6.295	14.26
N+8.90	B2	ENVOLVENTE MIN	0	-18.19	-19.69	-5.709	-33.051
N+8.90	B2	ENVOLVENTE MIN	4.825	-18.19	-1.36	-5.709	-31.626
N+4.45	B2	ENVOLVENTE MAX	0	0	-7.81	3.542	55.882
N+4.45	B2	ENVOLVENTE MAX	4.825	0	112.42	3.542	33.833
N+4.45	B2	ENVOLVENTE MIN	0	0	-100.91	-3.824	-127.378
N+4.45	B2	ENVOLVENTE MIN	4.825	0	14.83	-3.824	-150.023
N+8.90	B3	ENVOLVENTE MAX	0	4.67	0.59	4.476	13.77
N+8.90	B3	ENVOLVENTE MAX	4.925	4.67	19.18	4.476	18.097
N+8.90	B3	ENVOLVENTE MIN	0	-12.38	-19.78	-3.666	-29.353
N+8.90	B3	ENVOLVENTE MIN	4.925	-12.38	-1.14	-3.666	-30.853
N+4.45	B3	ENVOLVENTE MAX	0	0	-10.67	4.806	36.035
N+4.45	B3	ENVOLVENTE MAX	4.925	0	92.89	4.806	38.832
N+4.45	B3	ENVOLVENTE MIN	0	0	-93.89	-2.113	-132.531
N+4.45	B3	ENVOLVENTE MIN	4.925	0	9.88	-2.113	-130.955
N+8.90	B4	ENVOLVENTE MAX	0	13.24	1.33	3.437	17.9
N+8.90	B4	ENVOLVENTE MAX	4.925	13.24	20.03	3.437	12.956
N+8.90	B4	ENVOLVENTE MIN	0	-22.63	-18.98	-3.541	-31.401
N+8.90	B4	ENVOLVENTE MIN	4.925	-22.63	-0.45	-3.541	-31.228
N+4.45	B4	ENVOLVENTE MAX	0	0	-16.72	7.251	32.829
N+4.45	B4	ENVOLVENTE MAX	4.925	0	140.73	7.251	21.839
N+4.45	B4	ENVOLVENTE MIN	0	0	-107.47	-4.469	-143.329
N+4.45	B4	ENVOLVENTE MIN	4.925	0	32.22	-4.469	-162.762
N+8.90	B5	ENVOLVENTE MAX	0	12.6	-0.12	5.393	12.779
N+8.90	B5	ENVOLVENTE MAX	4.925	12.6	18.26	5.393	15.502
N+8.90	B5	ENVOLVENTE MIN	0	-21.72	-19.77	-7.332	-31.213
N+8.90	B5	ENVOLVENTE MIN	4.925	-21.72	-0.91	-7.332	-27.699
N+4.45	B5	ENVOLVENTE MAX	0	0	-34.42	5.619	17.867
N+4.45	B5	ENVOLVENTE MAX	4.925	0	105.93	5.619	21.369
N+4.45	B5	ENVOLVENTE MIN	0	0	-136.79	-10.963	-157.597
N+4.45	B5	ENVOLVENTE MIN	4.925	0	19.99	-10.963	-139.225
N+8.90	B6	ENVOLVENTE MAX	0	18.46	-0.04	10.19	14.143
N+8.90	B6	ENVOLVENTE MAX	4.925	18.46	18.63	10.19	10.44
N+8.90	B6	ENVOLVENTE MIN	0	-30.11	-17.73	-9.632	-26.861
N+8.90	B6	ENVOLVENTE MIN	4.925	-30.11	0.83	-9.632	-27.337
N+4.45	B6	ENVOLVENTE MAX	0	0	-25.87	14.216	12.774
N+4.45	B6	ENVOLVENTE MAX	4.925	0	171.48	14.216	-2.703
N+4.45	B6	ENVOLVENTE MIN	0	0	-106.35	-9.921	-137.605
N+4.45	B6	ENVOLVENTE MIN	4.925	0	54.73	-9.921	-162.313
N+8.90	B7	ENVOLVENTE MAX	0	17.71	-0.45	4.439	11.298
N+8.90	B7	ENVOLVENTE MAX	4.925	17.71	18.3	4.439	12.883
N+8.90	B7	ENVOLVENTE MIN	0	-28.66	-18.16	-6.268	-26.694
N+8.90	B7	ENVOLVENTE MIN	4.925	-28.66	0.33	-6.268	-28.315
N+4.45	B7	ENVOLVENTE MAX	0	0	-50.39	2.142	4.241
N+4.45	B7	ENVOLVENTE MAX	4.925	0	111.16	2.142	23.352
N+4.45	B7	ENVOLVENTE MIN	0	0	-171.81	-5.901	-167.28
N+4.45	B7	ENVOLVENTE MIN	4.925	0	22.61	-5.901	-153.802
N+8.90	B8	ENVOLVENTE MAX	0	21.08	-0.57	6.698	12.136
N+8.90	B8	ENVOLVENTE MAX	4.925	21.08	17.83	6.698	10.956
N+8.90	B8	ENVOLVENTE MIN	0	-32.65	-18.29	-3.188	-28.549
N+8.90	B8	ENVOLVENTE MIN	4.925	-32.65	0.54	-3.188	-26.151
N+4.45	B8	ENVOLVENTE MAX	0	0	-24.09	16.683	20.997
N+4.45	B8	ENVOLVENTE MAX	4.545	0	140.39	16.683	23.741
N+4.45	B8	ENVOLVENTE MAX	4.545	0	194.69	-14.691	23.741
N+4.45	B8	ENVOLVENTE MAX	4.925	0	228.8	-14.691	-1.851
N+4.45	B8	ENVOLVENTE MIN	0	0	-113.33	-0.662	-156.654
N+4.45	B8	ENVOLVENTE MIN	4.545	0	34.65	-0.662	-99.321
N+4.45	B8	ENVOLVENTE MIN	4.545	0	60.02	-49.194	-99.321
N+4.45	B8	ENVOLVENTE MIN	4.925	0	74.81	-49.194	-177.481
N+8.90	B9	ENVOLVENTE MAX	0	22.66	-0.54	10.173	11.304
N+8.90	B9	ENVOLVENTE MAX	4.925	22.66	18.2	10.173	14.573
N+8.90	B9	ENVOLVENTE MIN	0	-33.27	-18.46	-10.339	-26.466
N+8.90	B9	ENVOLVENTE MIN	4.925	-33.27	0.03	-10.339	-27.825
N+4.45	B9	ENVOLVENTE MAX	0	0	-54.76	6.844	-3.778
N+4.45	B9	ENVOLVENTE MAX	4.925	0	106.06	6.844	13.299
N+4.45	B9	ENVOLVENTE MIN	0	0	-172.12	-18.935	-166.14

N+4.45	B9	ENVOLVENTE MIN	4.925	0	25.32	-18.935	-138.875
N+8.90	B10	ENVOLVENTE MAX	0	20	0.39	10.457	14.233
N+8.90	B10	ENVOLVENTE MAX	4.925	20	19.03	10.457	12.546
N+8.90	B10	ENVOLVENTE MIN	0	-28.56	-18.43	-9.116	-28.589
N+8.90	B10	ENVOLVENTE MIN	4.925	-28.56	0.16	-9.116	-29.764
N+4.45	B10	ENVOLVENTE MAX	0	0	-22.35	18.405	18.091
N+4.45	B10	ENVOLVENTE MAX	4.925	0	172.48	18.405	8.558
N+4.45	B10	ENVOLVENTE MIN	0	0	-109.88	-11.68	-143.938
N+4.45	B10	ENVOLVENTE MIN	4.925	0	51.26	-11.68	-174.575
N+8.90	B11	ENVOLVENTE MAX	0	23.08	0.98	5.295	13.344
N+8.90	B11	ENVOLVENTE MAX	4.925	23.08	19.49	5.295	21.258
N+8.90	B11	ENVOLVENTE MIN	0	-31.89	-20.65	-2.157	-31.266
N+8.90	B11	ENVOLVENTE MIN	4.925	-31.89	-1.93	-2.157	-34.014
N+4.45	B11	ENVOLVENTE MAX	0	0	-47.78	4.826	14.328
N+4.45	B11	ENVOLVENTE MAX	4.925	0	113.33	4.826	29.569
N+4.45	B11	ENVOLVENTE MIN	0	0	-176.07	-9.346	-180.806
N+4.45	B11	ENVOLVENTE MIN	4.925	0	18.78	-9.346	-155.314
N+8.90	B12	ENVOLVENTE MAX	0	1.51	1.42	1.54	20.27
N+8.90	B12	ENVOLVENTE MAX	4.925	1.51	19.89	1.54	13.753
N+8.90	B12	ENVOLVENTE MIN	0	-11	-19.84	-5.292	-34.537
N+8.90	B12	ENVOLVENTE MIN	4.925	-11	-1.08	-5.292	-28.965
N+4.45	B12	ENVOLVENTE MAX	0	0	-19.69	13.635	27.613
N+4.45	B12	ENVOLVENTE MAX	4.925	0	175.07	13.635	11.647
N+4.45	B12	ENVOLVENTE MIN	0	0	-112.63	-8.911	-154.498
N+4.45	B12	ENVOLVENTE MIN	4.925	0	48.56	-8.911	-178.262
N+8.90	B13	ENVOLVENTE MAX	0	7.58	1.74	11.082	15.218
N+8.90	B13	ENVOLVENTE MAX	4.825	7.58	20.41	11.082	18.413
N+8.90	B13	ENVOLVENTE MIN	0	-17.75	-19.66	-12.149	-30.293
N+8.90	B13	ENVOLVENTE MIN	4.825	-17.75	-1.85	-12.149	-35.02
N+4.45	B13	ENVOLVENTE MAX	0	0	-46.83	12.579	13.849
N+4.45	B13	ENVOLVENTE MAX	4.825	0	105.88	12.579	52.873
N+4.45	B13	ENVOLVENTE MIN	0	0	-180.78	-18.633	-187.155
N+4.45	B13	ENVOLVENTE MIN	4.825	0	10.78	-18.633	-132.717
N+17.00	B14	ENVOLVENTE MAX	0	1.27	0.64	-0.052	12.887
N+17.00	B14	ENVOLVENTE MAX	9.85	1.27	11.52	-0.052	11.435
N+17.00	B14	ENVOLVENTE MIN	0	-2.18	-8.49	-0.516	-17.646
N+17.00	B14	ENVOLVENTE MIN	9.85	-2.18	0.35	-0.516	-27.574
N+17.00	B15	ENVOLVENTE MAX	0	1.94	-0.32	0.536	11.385
N+17.00	B15	ENVOLVENTE MAX	9.75	1.94	8.38	0.536	12.767
N+17.00	B15	ENVOLVENTE MIN	0	-2.72	-11.42	0.057	-27.34
N+17.00	B15	ENVOLVENTE MIN	9.75	-2.72	-0.68	0.057	-17.376
N+8.90	B16	ENVOLVENTE MAX	0	14.28	2.57	6.452	21.808
N+8.90	B16	ENVOLVENTE MAX	4.82	14.28	20.74	6.452	13.298
N+8.90	B16	ENVOLVENTE MIN	0	-12.01	-19.2	-6.264	-31.012
N+8.90	B16	ENVOLVENTE MIN	4.82	-12.01	-0.93	-6.264	-30.179
N+4.45	B16	ENVOLVENTE MAX	0	0	-16.3	6.942	36.61
N+4.45	B16	ENVOLVENTE MAX	4.82	0	104.68	6.942	7.315
N+4.45	B16	ENVOLVENTE MIN	0	0	-90.16	-11.697	-105.604
N+4.45	B16	ENVOLVENTE MIN	4.82	0	24.47	-11.697	-130.979
N+4.45	B17	ENVOLVENTE MAX	0	0	-10.66	9.164	54.324
N+4.45	B17	ENVOLVENTE MAX	2.15	0	18.85	9.164	78.361
N+4.45	B17	ENVOLVENTE MAX	2.15	0	34.87	9.164	78.361
N+4.45	B17	ENVOLVENTE MAX	4.82	0	94.92	9.164	19.621
N+4.45	B17	ENVOLVENTE MIN	0	0	-106.13	-9.632	-151.305
N+4.45	B17	ENVOLVENTE MIN	2.15	0	-49.46	-9.632	-1.469
N+4.45	B17	ENVOLVENTE MIN	2.15	0	-26.98	-9.632	-1.469
N+4.45	B17	ENVOLVENTE MIN	4.82	0	4.95	-9.632	-114.549
N+8.90	B18	ENVOLVENTE MAX	0	49.05	8.74	9.286	46.044
N+8.90	B18	ENVOLVENTE MAX	4.82	49.05	31.64	9.286	32.875
N+8.90	B18	ENVOLVENTE MIN	0	-17.37	-33.09	-8.874	-59.749
N+8.90	B18	ENVOLVENTE MIN	4.82	-17.37	-7.41	-8.874	-46.287
N+4.45	B18	ENVOLVENTE MAX	0	0	-4.55	14.655	70.587
N+4.45	B18	ENVOLVENTE MAX	4.82	0	213.3	14.655	-1.961
N+4.45	B18	ENVOLVENTE MIN	0	0	-118.25	-14.551	-156.888
N+4.45	B18	ENVOLVENTE MIN	4.82	0	48.86	-14.551	-246.542
N+4.45	B19	ENVOLVENTE MAX	0	0	0.79	11.93	120.464
N+4.45	B19	ENVOLVENTE MAX	4.82	0	283.51	11.93	0.517
N+4.45	B19	ENVOLVENTE MIN	0	0	-149.48	-12.247	-246.141
N+4.45	B19	ENVOLVENTE MIN	4.82	0	60.84	-12.247	-250.454
N+8.90	B20	ENVOLVENTE MAX	0	28.85	14.63	8.752	59.875
N+8.90	B20	ENVOLVENTE MAX	4.82	28.85	38.01	8.752	42.814
N+8.90	B20	ENVOLVENTE MIN	0	-24.12	-38.77	-8.962	-78.164
N+8.90	B20	ENVOLVENTE MIN	4.82	-24.12	-13.57	-8.962	-61.8
N+4.45	B20	ENVOLVENTE MAX	0	0	3.98	14.536	104.54
N+4.45	B20	ENVOLVENTE MAX	4.82	0	287.83	14.536	29.629
N+4.45	B20	ENVOLVENTE MIN	0	0	-148.83	-14.743	-214.856
N+4.45	B20	ENVOLVENTE MIN	4.82	0	60.37	-14.743	-282.743
N+4.45	B21	ENVOLVENTE MAX	0	0	12.03	12.347	149.906
N+4.45	B21	ENVOLVENTE MAX	4.82	0	295.02	12.347	26.159
N+4.45	B21	ENVOLVENTE MIN	0	0	-161.12	-12.305	-276.539
N+4.45	B21	ENVOLVENTE MIN	4.82	0	48.93	-12.305	-275.103
N+8.90	B22	ENVOLVENTE MAX	0	8.72	11.21	6.346	43.49

N+8.90	B22	ENVOLVENTE MAX	4.82	8.72	28.78	6.346	36.736
N+8.90	B22	ENVOLVENTE MIN	0	-16.42	-30.63	-6.556	-61.637
N+8.90	B22	ENVOLVENTE MIN	4.82	-16.42	-11.76	-6.556	-49.118
N+4.45	B22	ENVOLVENTE MAX	0	0	12.82	12.176	118.844
N+4.45	B22	ENVOLVENTE MAX	4.82	0	203.58	12.176	64.866
N+4.45	B22	ENVOLVENTE MIN	0	0	-131.27	-6.989	-203.372
N+4.45	B22	ENVOLVENTE MIN	4.82	0	21.67	-6.989	-233.137
N+17.00	B23	ENVOLVENTE MAX	0	2.38	-1.46	0.696	1.428
N+17.00	B23	ENVOLVENTE MAX	2.87	2.38	10.94	0.696	-0.806
N+17.00	B23	ENVOLVENTE MIN	0	-12.11	-8.61	-0.107	-1.727
N+17.00	B23	ENVOLVENTE MIN	2.87	-12.11	2.24	-0.107	-7.263
N+17.00	B24	ENVOLVENTE MAX	0	2.99	23.91	10.116	66.709
N+17.00	B24	ENVOLVENTE MAX	2.87	2.99	59.31	10.116	5.219
N+17.00	B24	ENVOLVENTE MIN	0	-34.88	-5.58	-10.2	1.945
N+17.00	B24	ENVOLVENTE MIN	2.87	-34.88	4.09	-10.2	-52.715
N+17.00	B25	ENVOLVENTE MAX	0	3.7	-1.22	0.101	1.768
N+17.00	B25	ENVOLVENTE MAX	2.87	3.7	10.46	0.101	-0.965
N+17.00	B25	ENVOLVENTE MIN	0	-11.7	-8.82	-0.737	-2.214
N+17.00	B25	ENVOLVENTE MIN	2.87	-11.7	1.97	-0.737	-6.678
N+17.00	B26	ENVOLVENTE MAX	0	0.86	-0.31	0.059	10.038
N+17.00	B26	ENVOLVENTE MAX	9.85	0.86	11.28	0.059	6.015
N+17.00	B26	ENVOLVENTE MIN	0	-2.28	-8.8	-0.519	-15.26
N+17.00	B26	ENVOLVENTE MIN	9.85	-2.28	1.15	-0.519	-21.012
N+17.00	B27	ENVOLVENTE MAX	0	1.04	-1.19	0.515	5.826
N+17.00	B27	ENVOLVENTE MAX	9.75	1.04	8.67	0.515	9.475
N+17.00	B27	ENVOLVENTE MIN	0	-2.58	-11.2	-0.06	-20.692
N+17.00	B27	ENVOLVENTE MIN	9.75	-2.58	0.33	-0.06	-14.528
N+17.00	B28	ENVOLVENTE MAX	0	1.26	0.52	0.122	13.692
N+17.00	B28	ENVOLVENTE MAX	9.75	1.26	11.79	0.122	10.345
N+17.00	B28	ENVOLVENTE MIN	0	-2.33	-9.1	-0.232	-19.198
N+17.00	B28	ENVOLVENTE MIN	9.75	-2.33	0.38	-0.232	-26.241
N+17.00	B29	ENVOLVENTE MAX	0	2.03	-0.38	0.202	10.458
N+17.00	B29	ENVOLVENTE MAX	9.85	2.03	9.23	0.202	14.019
N+17.00	B29	ENVOLVENTE MIN	0	-3.17	-11.89	-0.105	-26.593
N+17.00	B29	ENVOLVENTE MIN	9.85	-3.17	-0.51	-0.105	-19.723
N+17.00	B31	ENVOLVENTE MAX	0	-3.21	0.62	1.996	4.614
N+17.00	B31	ENVOLVENTE MAX	2.98	-3.21	16.95	1.996	-3.811
N+17.00	B31	ENVOLVENTE MAX	2.98	-2.9	7.89	7.097	-4.545
N+17.00	B31	ENVOLVENTE MAX	3.05	-2.9	8.04	7.097	-3.905
N+17.00	B31	ENVOLVENTE MIN	0	-15.12	-3.2	-1.628	-2.157
N+17.00	B31	ENVOLVENTE MIN	2.98	-15.12	2.92	-1.628	-22.389
N+17.00	B31	ENVOLVENTE MIN	2.98	-15.55	-21.04	-9.928	-25.369
N+17.00	B31	ENVOLVENTE MIN	3.05	-15.55	-20.62	-9.928	-23.91
N+17.00	B32	ENVOLVENTE MAX	0	-5.31	3.94	2.106	9.399
N+17.00	B32	ENVOLVENTE MAX	3.05	-5.31	16.04	2.106	16.477
N+17.00	B32	ENVOLVENTE MIN	0	-57.66	-24.96	-2.053	-26.919
N+17.00	B32	ENVOLVENTE MIN	3.05	-57.66	-5.78	-2.053	-22.714
N+17.00	B33	ENVOLVENTE MAX	0	-4.89	0.49	1.362	5.121
N+17.00	B33	ENVOLVENTE MAX	2.98	-4.89	16.83	1.362	-3.655
N+17.00	B33	ENVOLVENTE MAX	2.98	-4.77	12.9	10.488	-4.563
N+17.00	B33	ENVOLVENTE MAX	3.05	-4.77	13.05	10.488	-4.359
N+17.00	B33	ENVOLVENTE MIN	0	-18.09	-2.97	-1.773	-3.098
N+17.00	B33	ENVOLVENTE MIN	2.98	-18.09	2.79	-1.773	-22.029
N+17.00	B33	ENVOLVENTE MIN	2.98	-18.98	-15.87	-7.585	-25.76
N+17.00	B33	ENVOLVENTE MIN	3.05	-18.98	-15.44	-7.585	-24.664
N+8.90	B34	ENVOLVENTE MAX	0	8.12	-0.4	5.051	11.636
N+8.90	B34	ENVOLVENTE MAX	4.93	8.12	18.17	5.051	14.319
N+8.90	B34	ENVOLVENTE MIN	0	-6.97	-18.95	-1.663	-28.572
N+8.90	B34	ENVOLVENTE MIN	4.93	-6.97	-0.25	-1.663	-27.73
N+4.45	B34	ENVOLVENTE MAX	0	0.28	-35.52	9.459	-0.654
N+4.45	B34	ENVOLVENTE MAX	3	0.28	33.53	9.459	49.214
N+4.45	B34	ENVOLVENTE MAX	3	0.44	57.32	9.459	49.214
N+4.45	B34	ENVOLVENTE MAX	4.93	0.44	98.4	9.459	3.078
N+4.45	B34	ENVOLVENTE MIN	0	-0.28	-112.8	-6.053	-125.417
N+4.45	B34	ENVOLVENTE MIN	3	-0.28	-9.52	-6.053	11.18
N+4.45	B34	ENVOLVENTE MIN	3	-0.44	1.34	-6.053	11.18
N+4.45	B34	ENVOLVENTE MIN	4.93	-0.44	28.66	-6.053	-121.911
N+4.45	B35	ENVOLVENTE MAX	0	0	-3.56	7.87	8.249
N+4.45	B35	ENVOLVENTE MAX	3	0	9.4	7.87	57.446
N+4.45	B35	ENVOLVENTE MAX	3	0	51.93	7.87	57.446
N+4.45	B35	ENVOLVENTE MAX	4.93	0	74.94	7.87	30.531
N+4.45	B35	ENVOLVENTE MIN	0	0	-57.19	-4.274	-88.812
N+4.45	B35	ENVOLVENTE MIN	3	0	-39.91	-4.274	-1.122
N+4.45	B35	ENVOLVENTE MIN	3	0	-2.66	-4.274	-1.122
N+4.45	B35	ENVOLVENTE MIN	4.93	0	11.1	-4.274	-104.781
N+8.90	B36	ENVOLVENTE MAX	0	34.75	2.83	4.38	22.33
N+8.90	B36	ENVOLVENTE MAX	4.93	34.75	27.36	4.38	30.6
N+8.90	B36	ENVOLVENTE MIN	0	-2.73	-30	-5.03	-49.834
N+8.90	B36	ENVOLVENTE MIN	4.93	-2.73	-4.83	-5.03	-46.65
N+4.45	B36	ENVOLVENTE MAX	0	0.24	-121.59	14.228	-36.858
N+4.45	B36	ENVOLVENTE MAX	3	0.24	111.11	14.228	129.012
N+4.45	B36	ENVOLVENTE MAX	3	0.37	168.14	14.228	129.011

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR
 BOGOTÁ (CUNDINAMARCA)
 DATOS DE SALIDA DEL MODELO

N+4.45	B36	ENVOLVENTE MAX	4.93	0.37	226.11	14.228	-26.02
N+4.45	B36	ENVOLVENTE MIN	0	-0.24	-388.64	-9.991	-288.384
N+4.45	B36	ENVOLVENTE MIN	3	-0.24	9.19	-9.991	31.242
N+4.45	B36	ENVOLVENTE MIN	3	-0.37	34.19	-9.991	31.241
N+4.45	B36	ENVOLVENTE MIN	4.93	-0.37	60.91	-9.991	-288.902
N+4.45	B37	ENVOLVENTE MAX	0	0	-88.05	11.737	-37.963
N+4.45	B37	ENVOLVENTE MAX	4.93	0	134.73	11.737	29.115
N+4.45	B37	ENVOLVENTE MIN	0	0	-288.1	-11.572	-215.228
N+4.45	B37	ENVOLVENTE MIN	4.93	0	28.76	-11.572	-191.958
N+8.90	B38	ENVOLVENTE MAX	0	15.7	8.39	5.074	35.761
N+8.90	B38	ENVOLVENTE MAX	4.93	15.7	33.75	5.074	41.938
N+8.90	B38	ENVOLVENTE MIN	0	-0.45	-33.23	-4.401	-55.94
N+8.90	B38	ENVOLVENTE MIN	4.93	-0.45	-8.89	-4.401	-62.177
N+4.45	B38	ENVOLVENTE MAX	0	0	-72.43	11.812	13.293
N+4.45	B38	ENVOLVENTE MAX	4.93	0	150.53	11.812	50.871
N+4.45	B38	ENVOLVENTE MIN	0	0	-287.46	-11.308	-265.974
N+4.45	B38	ENVOLVENTE MIN	4.93	0	14.04	-11.308	-218.524
N+4.45	B39	ENVOLVENTE MAX	0	0	-73.04	11.511	-7.649
N+4.45	B39	ENVOLVENTE MAX	4.93	0	150.21	11.511	69.135
N+4.45	B39	ENVOLVENTE MIN	0	0	-287	-11.464	-244.294
N+4.45	B39	ENVOLVENTE MIN	4.93	0	14.65	-11.464	-237.455
N+8.90	B40	ENVOLVENTE MAX	0	6.33	7.74	2.264	31.263
N+8.90	B40	ENVOLVENTE MAX	4.93	6.33	26.5	2.264	34.211
N+8.90	B40	ENVOLVENTE MIN	0	-14.56	-26.53	-5.15	-46.374
N+8.90	B40	ENVOLVENTE MIN	4.93	-14.56	-8.01	-5.15	-48.584
N+4.45	B40	ENVOLVENTE MAX	0	0	-33.23	4.968	47.615
N+4.45	B40	ENVOLVENTE MAX	4.93	0	128.09	4.968	68.371
N+4.45	B40	ENVOLVENTE MIN	0	0	-191.14	-10.367	-215.448
N+4.45	B40	ENVOLVENTE MIN	4.93	0	4.06	-10.367	-194.545
N+17.00	B41	ENVOLVENTE MAX	0	2.52	-0.02	0.367	9.697
N+17.00	B41	ENVOLVENTE MAX	9.75	2.52	12.28	0.367	7.877
N+17.00	B41	ENVOLVENTE MIN	0	-3.16	-8.55	-0.122	-13.366
N+17.00	B41	ENVOLVENTE MIN	9.75	-3.16	1.21	-0.122	-25.122
N+17.00	B42	ENVOLVENTE MAX	0	2.84	-1.09	0.117	8.261
N+17.00	B42	ENVOLVENTE MAX	9.85	2.84	8.67	0.117	10.872
N+17.00	B42	ENVOLVENTE MIN	0	-3.4	-12.38	-0.382	-25.713
N+17.00	B42	ENVOLVENTE MIN	9.85	-3.4	-0.09	-0.382	-14.674
N+4.45	B43	ENVOLVENTE MAX	0	0	5.25	1.611	82.538
N+4.45	B43	ENVOLVENTE MAX	4.825	0	103.89	1.611	73.073
N+4.45	B43	ENVOLVENTE MIN	0	0	-108.91	-1.932	-155.986
N+4.45	B43	ENVOLVENTE MIN	4.825	0	-8.13	-1.932	-127.432
N+8.90	B44	ENVOLVENTE MAX	0	3.61	-10.72	8.074	23.217
N+8.90	B44	ENVOLVENTE MAX	9.75	3.61	38.77	8.074	2.294
N+8.90	B44	ENVOLVENTE MIN	0	-23.06	-35.28	-7.324	-80.673
N+8.90	B44	ENVOLVENTE MIN	9.75	-23.06	13.52	-7.324	-90.372
N+4.45	B46	ENVOLVENTE MAX	0	0	1.54	10.813	84.66
N+4.45	B46	ENVOLVENTE MAX	4.925	0	117.18	10.813	18.267
N+4.45	B46	ENVOLVENTE MIN	0	0	-90.8	-11.099	-136.2
N+4.45	B46	ENVOLVENTE MIN	4.925	0	12.2	-11.099	-132.899
N+8.90	B47	ENVOLVENTE MAX	0	10.4	-14.49	6.699	-2.427
N+8.90	B47	ENVOLVENTE MAX	9.85	10.4	34.8	6.699	3.232
N+8.90	B47	ENVOLVENTE MIN	0	-33.99	-36.33	-7.479	-85.708
N+8.90	B47	ENVOLVENTE MIN	9.85	-33.99	13.67	-7.479	-79.829
N+4.45	B48	ENVOLVENTE MAX	0	0	-17.52	11.298	6.308
N+4.45	B48	ENVOLVENTE MAX	4.925	0	88.76	11.298	41.046
N+4.45	B48	ENVOLVENTE MIN	0	0	-102.02	-11.545	-116.71
N+4.45	B48	ENVOLVENTE MIN	4.925	0	10.34	-11.545	-136.802
N+4.45	B49	ENVOLVENTE MAX	0	0	-27.04	14.99	29.099
N+4.45	B49	ENVOLVENTE MAX	4.925	0	292.91	14.99	-36.681
N+4.45	B49	ENVOLVENTE MIN	0	0	-129.66	-14.453	-169.746
N+4.45	B49	ENVOLVENTE MIN	4.925	0	90.44	-14.453	-225.966
N+8.90	B50	ENVOLVENTE MAX	0	12.91	-14.02	9.204	2.357
N+8.90	B50	ENVOLVENTE MAX	9.85	12.91	35.68	9.204	-1.753
N+8.90	B50	ENVOLVENTE MIN	0	-40.92	-35.36	-9.717	-82.766
N+8.90	B50	ENVOLVENTE MIN	9.85	-40.92	14.22	-9.717	-81.25
N+4.45	B51	ENVOLVENTE MAX	0	0	-88.11	11.286	-34.64
N+4.45	B51	ENVOLVENTE MAX	4.925	0	134.38	11.286	21.657
N+4.45	B51	ENVOLVENTE MIN	0	0	-287.5	-9.928	-223.298
N+4.45	B51	ENVOLVENTE MIN	4.925	0	28.74	-9.928	-189.162
N+4.45	B52	ENVOLVENTE MAX	0	0	-28.77	14.921	22.02
N+4.45	B52	ENVOLVENTE MAX	4.925	0	268.38	14.921	-30.361
N+4.45	B52	ENVOLVENTE MIN	0	0	-134.53	-16.005	-188.553
N+4.45	B52	ENVOLVENTE MIN	4.925	0	81.04	-16.005	-214.122
N+8.90	B53	ENVOLVENTE MAX	0	9.61	-14.16	8.938	-1.188
N+8.90	B53	ENVOLVENTE MAX	9.85	9.61	35.53	8.938	1.257
N+8.90	B53	ENVOLVENTE MIN	0	-36.66	-35.36	-8.508	-79.549
N+8.90	B53	ENVOLVENTE MIN	9.85	-36.66	14.24	-8.508	-83.222
N+4.45	B54	ENVOLVENTE MAX	0	0	-81.38	15.785	-31.113
N+4.45	B54	ENVOLVENTE MAX	4.925	0	134.31	15.785	19.984
N+4.45	B54	ENVOLVENTE MIN	0	0	-268.12	-15.327	-213.379
N+4.45	B54	ENVOLVENTE MIN	4.925	0	29.34	-15.327	-188.196
N+4.45	B55	ENVOLVENTE MAX	0	0	-29.6	21.67	19.948

N+4.45	B55	ENVOLVENTE MAX	4.925	0	286.37	21.67	-33.698
N+4.45	B55	ENVOLVENTE MIN	0	0	-134.81	-22.272	-188.22
N+4.45	B55	ENVOLVENTE MIN	4.925	0	88.18	-22.272	-218.614
N+8.90	B56	ENVOLVENTE MAX	0	6.72	-14.04	13.009	1.787
N+8.90	B56	ENVOLVENTE MAX	9.85	6.72	35.62	13.009	-1.819
N+8.90	B56	ENVOLVENTE MIN	0	-32.85	-35.34	-12.113	-82.39
N+8.90	B56	ENVOLVENTE MIN	9.85	-32.85	14.29	-12.113	-81.436
N+4.45	B57	ENVOLVENTE MAX	0	0	-87.53	15.376	-32.706
N+4.45	B57	ENVOLVENTE MAX	4.925	0	135.51	15.376	-22.045
N+4.45	B57	ENVOLVENTE MIN	0	0	-286.31	-15.387	-219.873
N+4.45	B57	ENVOLVENTE MIN	4.925	0	28.93	-15.387	-190.7
N+4.45	B58	ENVOLVENTE MAX	0	0	-30.16	21.427	19.884
N+4.45	B58	ENVOLVENTE MAX	4.925	0	286.61	21.427	-36.967
N+4.45	B58	ENVOLVENTE MIN	0	0	-134.08	-21.5	-188.732
N+4.45	B58	ENVOLVENTE MIN	4.925	0	88.72	-21.5	-216.755
N+8.90	B59	ENVOLVENTE MAX	0	1.22	-13.52	12.148	1.578
N+8.90	B59	ENVOLVENTE MAX	9.75	1.22	35.56	12.148	20.259
N+8.90	B59	ENVOLVENTE MIN	0	-27.75	-37.99	-12.868	-87.353
N+8.90	B59	ENVOLVENTE MIN	9.75	-27.75	11.21	-12.868	-82.938
N+4.45	B60	ENVOLVENTE MAX	0	0	-81.44	24.075	-27.292
N+4.45	B60	ENVOLVENTE MAX	4.825	0	128.04	24.075	60.145
N+4.45	B60	ENVOLVENTE MIN	0	0	-286.88	-24.263	-228.059
N+4.45	B60	ENVOLVENTE MIN	4.825	0	16.83	-24.263	-171.107
N+8.90	B61	ENVOLVENTE MAX	0	8.31	-0.01	1.612	13.693
N+8.90	B61	ENVOLVENTE MAX	4.93	8.31	18.68	1.612	11.245
N+8.90	B61	ENVOLVENTE MIN	0	-6.03	-18.03	-4.591	-27.467
N+8.90	B61	ENVOLVENTE MIN	4.93	-6.03	0.55	-4.591	-27.927
N+4.45	B61	ENVOLVENTE MAX	0	0.44	-28.69	6.46	3.039
N+4.45	B61	ENVOLVENTE MAX	1.93	0.44	-1.37	6.46	49.333
N+4.45	B61	ENVOLVENTE MAX	1.93	0.28	9.49	6.46	49.333
N+4.45	B61	ENVOLVENTE MAX	4.93	0.28	112.87	6.46	-1.224
N+4.45	B61	ENVOLVENTE MIN	0	-0.44	-98.05	-9.617	-120.963
N+4.45	B61	ENVOLVENTE MIN	1.93	-0.44	-56.97	-9.617	11.351
N+4.45	B61	ENVOLVENTE MIN	1.93	-0.28	-33.18	-9.617	11.351
N+4.45	B61	ENVOLVENTE MIN	4.93	-0.28	35.77	-9.617	-125.513
N+4.45	B62	ENVOLVENTE MAX	0	0	-12.93	4.403	26.869
N+4.45	B62	ENVOLVENTE MAX	1.85	0	0.05	4.403	56.689
N+4.45	B62	ENVOLVENTE MAX	1.85	0	33.94	4.403	56.689
N+4.45	B62	ENVOLVENTE MAX	4.93	0	51.68	4.403	9.837
N+4.45	B62	ENVOLVENTE MIN	0	0	-75.28	-7.794	-105.387
N+4.45	B62	ENVOLVENTE MIN	1.85	0	-53.7	-7.794	-3.991
N+4.45	B62	ENVOLVENTE MIN	1.85	0	-10.77	-7.794	-3.991
N+4.45	B62	ENVOLVENTE MIN	4.93	0	2.54	-7.794	-76.308
N+8.90	B63	ENVOLVENTE MAX	0	28.57	4.56	3.5	30.051
N+8.90	B63	ENVOLVENTE MAX	4.93	28.57	29.68	3.5	22.018
N+8.90	B63	ENVOLVENTE MIN	0	-3.1	-27.19	-3.744	-45.963
N+8.90	B63	ENVOLVENTE MIN	4.93	-3.1	-2.62	-3.744	-48.878
N+4.45	B63	ENVOLVENTE MAX	0	0.37	-62.44	10.04	-27.058
N+4.45	B63	ENVOLVENTE MAX	1.85	0.37	-37.48	10.04	121.088
N+4.45	B63	ENVOLVENTE MAX	1.85	0.22	-13.4	10.041	121.089
N+4.45	B63	ENVOLVENTE MAX	4.93	0.22	389.28	10.041	-38.04
N+4.45	B63	ENVOLVENTE MIN	0	-0.37	-229.91	-14.451	-289.921
N+4.45	B63	ENVOLVENTE MIN	1.85	-0.37	-176.1	-14.451	25.996
N+4.45	B63	ENVOLVENTE MIN	1.85	-0.22	-119.48	-14.451	25.996
N+4.45	B63	ENVOLVENTE MIN	4.93	-0.22	122.08	-14.451	-289.124
N+4.45	B64	ENVOLVENTE MAX	0	0	-22.08	11.61	36.825
N+4.45	B64	ENVOLVENTE MAX	4.93	0	263.46	11.61	-44.344
N+4.45	B64	ENVOLVENTE MIN	0	0	-125.66	-11.979	-184.307
N+4.45	B64	ENVOLVENTE MIN	4.93	0	77.06	-11.979	-247.757
N+8.90	B65	ENVOLVENTE MAX	0	16.3	8.72	3.775	42.165
N+8.90	B65	ENVOLVENTE MAX	4.93	16.3	32.89	3.775	36.54
N+8.90	B65	ENVOLVENTE MIN	0	0.79	-34.01	-3.31	-61.526
N+8.90	B65	ENVOLVENTE MIN	4.93	0.79	-8.48	-3.31	-53.752
N+4.45	B65	ENVOLVENTE MAX	0	0	-11.13	12.149	53.65
N+4.45	B65	ENVOLVENTE MAX	4.93	0	257.09	12.149	9.699
N+4.45	B65	ENVOLVENTE MIN	0	0	-144.39	-11.405	-212.781
N+4.45	B65	ENVOLVENTE MIN	4.93	0	61.06	-11.405	-275.119
N+4.45	B66	ENVOLVENTE MAX	0	0	-17.38	11.571	63.821
N+4.45	B66	ENVOLVENTE MAX	4.93	0	286.02	11.571	-15.064
N+4.45	B66	ENVOLVENTE MIN	0	0	-148.6	-11.509	-236.42
N+4.45	B66	ENVOLVENTE MIN	4.93	0	75.09	-11.509	-235.609
N+8.90	B67	ENVOLVENTE MAX	0	5.92	7.83	4.376	33.703
N+8.90	B67	ENVOLVENTE MAX	4.93	5.92	26.2	4.376	31.745
N+8.90	B67	ENVOLVENTE MIN	0	-14.44	-26.9	-1.961	-49.769
N+8.90	B67	ENVOLVENTE MIN	4.93	-14.44	-7.99	-1.961	-45.703
N+4.45	B67	ENVOLVENTE MAX	0	0	-4.38	10.405	67.569
N+4.45	B67	ENVOLVENTE MAX	4.93	0	190.59	10.405	48.646
N+4.45	B67	ENVOLVENTE MIN	0	0	-128.72	-5.13	-196.048
N+4.45	B67	ENVOLVENTE MIN	4.93	0	32.83	-5.13	-214.099
N+17.00	B69	ENVOLVENTE MAX	0	4.98	-1.19	0.58	5.714
N+17.00	B69	ENVOLVENTE MAX	9.85	4.98	11.26	0.58	1.46
N+17.00	B69	ENVOLVENTE MIN	0	-6.5	-8.81	0.003	-11.082

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR
 BOGOTÁ (CUNDINAMARCA)
 DATOS DE SALIDA DEL MODELO

N+17.00	B69	ENVOLVENTE MIN	9.85	-6.5	2.03	0.003	-19.848
N+17.00	B70	ENVOLVENTE MAX	0	1.86	-2.04	0.022	1.484
N+17.00	B70	ENVOLVENTE MAX	9.85	1.86	8.79	0.022	5.768
N+17.00	B70	ENVOLVENTE MIN	0	-3.26	-11.28	-0.523	-19.798
N+17.00	B70	ENVOLVENTE MIN	9.85	-3.26	1.19	-0.523	-10.973
N+17.00	B71	ENVOLVENTE MAX	0	1.19	-2.66	0.176	-1.143
N+17.00	B71	ENVOLVENTE MAX	2.87	1.19	7.59	0.176	1.946
N+17.00	B71	ENVOLVENTE MIN	0	-12.26	-11.37	-0.565	-7.492
N+17.00	B71	ENVOLVENTE MIN	2.87	-12.26	1.31	-0.565	-0.636
N+17.00	B72	ENVOLVENTE MAX	0	-1.09	-6.82	6.527	1.488
N+17.00	B72	ENVOLVENTE MAX	2.87	-1.09	2.91	6.527	66.8
N+17.00	B72	ENVOLVENTE MIN	0	-35.31	-59.66	-6.512	-53.324
N+17.00	B72	ENVOLVENTE MIN	2.87	-35.31	-24.05	-6.512	6.102
N+17.00	B73	ENVOLVENTE MAX	0	2.24	-2.25	0.697	-0.818
N+17.00	B73	ENVOLVENTE MAX	2.87	2.24	8.63	0.697	1.376
N+17.00	B73	ENVOLVENTE MIN	0	-12.08	-10.93	-0.123	-7.221
N+17.00	B73	ENVOLVENTE MIN	2.87	-12.08	1.49	-0.123	-1.71
N+8.90	B74	ENVOLVENTE MAX	0	14.59	1.55	6.236	14.477
N+8.90	B74	ENVOLVENTE MAX	4.82	14.59	20.05	6.236	20.541
N+8.90	B74	ENVOLVENTE MIN	0	-11.65	-20.11	-6.85	-29.1
N+8.90	B74	ENVOLVENTE MIN	4.82	-11.65	-2.18	-6.85	-33.503
N+4.45	B74	ENVOLVENTE MAX	0	0	-24.09	11.964	8.192
N+4.45	B74	ENVOLVENTE MAX	4.82	0	90.74	11.964	36.657
N+4.45	B74	ENVOLVENTE MIN	0	0	-104.5	-7.24	-130.599
N+4.45	B74	ENVOLVENTE MIN	4.82	0	16.29	-7.24	-107.103
N+4.45	B75	ENVOLVENTE MAX	0	0	6.99	10.407	32.934
N+4.45	B75	ENVOLVENTE MAX	4.82	0	84.76	10.407	83.704
N+4.45	B75	ENVOLVENTE MIN	0	0	-85.96	-8.793	-104.86
N+4.45	B75	ENVOLVENTE MIN	4.82	0	-7.07	-8.793	-152.541
N+8.90	B76	ENVOLVENTE MAX	0	45.11	8.19	8.712	34.775
N+8.90	B76	ENVOLVENTE MAX	4.82	45.11	34.18	8.712	42.648
N+8.90	B76	ENVOLVENTE MIN	0	-8.28	-30.45	-8.548	-45.442
N+8.90	B76	ENVOLVENTE MIN	4.82	-8.28	-7.86	-8.548	-63.097
N+4.45	B76	ENVOLVENTE MAX	0	0	-48.85	14.612	-1.768
N+4.45	B76	ENVOLVENTE MAX	4.82	0	118.19	14.612	70.86
N+4.45	B76	ENVOLVENTE MIN	0	0	-213.48	-14.458	-246.978
N+4.45	B76	ENVOLVENTE MIN	4.82	0	4.44	-14.458	-156.545
N+4.45	B77	ENVOLVENTE MAX	0	0.69	-95.74	11.523	-36.728
N+4.45	B77	ENVOLVENTE MAX	1.82	0.69	-34.75	11.523	214.634
N+4.45	B77	ENVOLVENTE MAX	1.82	0.42	81.49	11.523	214.634
N+4.45	B77	ENVOLVENTE MAX	4.82	0.42	189.32	11.523	64.699
N+4.45	B77	ENVOLVENTE MIN	0	-0.69	-355.41	-12.605	-300.794
N+4.45	B77	ENVOLVENTE MIN	1.82	-0.69	-208.03	-12.605	75.516
N+4.45	B77	ENVOLVENTE MIN	1.82	-0.42	-25.35	-12.605	75.516
N+4.45	B77	ENVOLVENTE MIN	4.82	-0.42	30.22	-12.605	-265.027
N+8.90	B78	ENVOLVENTE MAX	0	27.51	13.56	8.31	41.855
N+8.90	B78	ENVOLVENTE MAX	4.82	27.51	38.56	8.31	60.284
N+8.90	B78	ENVOLVENTE MIN	0	-27.96	-38.58	-9.285	-64.496
N+8.90	B78	ENVOLVENTE MIN	4.82	-27.96	-14.99	-9.285	-79.432
N+4.45	B78	ENVOLVENTE MAX	0	0.39	-74.52	16.977	9.557
N+4.45	B78	ENVOLVENTE MAX	1.82	0.39	-13.53	16.977	175.312
N+4.45	B78	ENVOLVENTE MAX	1.82	0.24	75.26	16.977	175.312
N+4.45	B78	ENVOLVENTE MAX	4.82	0.24	182.86	16.977	82.564
N+4.45	B78	ENVOLVENTE MIN	0	-0.39	-323.16	-11.578	-324.624
N+4.45	B78	ENVOLVENTE MIN	1.82	-0.39	-192.07	-11.578	49.868
N+4.45	B78	ENVOLVENTE MIN	1.82	-0.24	-43	-11.578	49.868
N+4.45	B78	ENVOLVENTE MIN	4.82	-0.24	12.46	-11.578	-255.962
N+4.45	B79	ENVOLVENTE MAX	0	0	-38.5	12.462	38.572
N+4.45	B79	ENVOLVENTE MAX	4.82	0	171.31	12.462	194.609
N+4.45	B79	ENVOLVENTE MIN	0	0	-307.52	-12.337	-289.757
N+4.45	B79	ENVOLVENTE MIN	4.82	0	-24.28	-12.337	-313.512
N+8.90	B80	ENVOLVENTE MAX	0	25.92	11.46	6.592	36.064
N+8.90	B80	ENVOLVENTE MAX	4.82	25.92	30.07	6.592	46.489
N+8.90	B80	ENVOLVENTE MIN	0	-35.11	-29.9	-6.069	-50.684
N+8.90	B80	ENVOLVENTE MIN	4.82	-35.11	-12.07	-6.069	-60.031
N+4.45	B80	ENVOLVENTE MAX	0	0	-21.77	6.971	64.416
N+4.45	B80	ENVOLVENTE MAX	4.82	0	130.92	6.971	120.577
N+4.45	B80	ENVOLVENTE MIN	0	0	-204.43	-11.97	-234.905
N+4.45	B80	ENVOLVENTE MIN	4.82	0	-13.43	-11.97	-202.71
N+17.00	B81	ENVOLVENTE MAX	0	2.32	-0.6	0.472	7.429
N+17.00	B81	ENVOLVENTE MAX	9.85	2.32	11.54	0.472	4.604
N+17.00	B81	ENVOLVENTE MIN	0	-3.27	-8.47	0.061	-12.17
N+17.00	B81	ENVOLVENTE MIN	9.85	-3.27	1.6	0.061	-21.535
N+17.00	B82	ENVOLVENTE MAX	0	1.07	-1.61	-0.081	4.522
N+17.00	B82	ENVOLVENTE MAX	9.85	1.07	8.49	-0.081	7.327
N+17.00	B82	ENVOLVENTE MIN	0	-2.05	-11.52	-0.515	-21.376
N+17.00	B82	ENVOLVENTE MIN	9.85	-2.05	0.63	-0.515	-12.129
N+8.90	B83	ENVOLVENTE MAX	0	8.36	2.61	8.607	19.739
N+8.90	B83	ENVOLVENTE MAX	4.825	8.36	21	8.607	14.39
N+8.90	B83	ENVOLVENTE MIN	0	-19.7	-19.52	-8.789	-32.769
N+8.90	B83	ENVOLVENTE MIN	4.825	-19.7	-1.44	-8.789	-33.795
N+4.45	B83	ENVOLVENTE MAX	0	0	-8.03	3.944	56.186

N+4.45	B83	ENVOLVENTE MAX	4.825	0	111.52	3.944	37.083
N+4.45	B83	ENVOLVENTE MIN	0	0	-102.56	-5.536	-129.436
N+4.45	B83	ENVOLVENTE MIN	4.825	0	13.86	-5.536	-146.014
N+8.90	B84	ENVOLVENTE MAX	0	5.15	0.31	8.629	14.408
N+8.90	B84	ENVOLVENTE MAX	4.925	5.15	18.95	8.629	15.327
N+8.90	B84	ENVOLVENTE MIN	0	-10.48	-19.2	-5.571	-28.473
N+8.90	B84	ENVOLVENTE MIN	4.925	-10.48	-0.61	-5.571	-28.018
N+4.45	B84	ENVOLVENTE MAX	0	0	1.88	4.432	47.403
N+4.45	B84	ENVOLVENTE MAX	4.925	0	67	4.432	49.331
N+4.45	B84	ENVOLVENTE MIN	0	0	-67.57	-7.004	-110.753
N+4.45	B84	ENVOLVENTE MIN	4.925	0	-2.38	-7.004	-110.036
N+8.90	B85	ENVOLVENTE MAX	0	5.9	0.72	4.401	14.374
N+8.90	B85	ENVOLVENTE MAX	4.925	5.9	19.14	4.401	13.86
N+8.90	B85	ENVOLVENTE MIN	0	-16.1	-19.24	-8.492	-30.716
N+8.90	B85	ENVOLVENTE MIN	4.925	-16.1	-0.42	-8.492	-30.683
N+4.45	B85	ENVOLVENTE MAX	0	0	-15.85	4.643	35.695
N+4.45	B85	ENVOLVENTE MAX	4.925	0	142.35	4.643	21.908
N+4.45	B85	ENVOLVENTE MIN	0	0	-106.4	-5.565	-138.902
N+4.45	B85	ENVOLVENTE MIN	4.925	0	32.53	-5.565	-165.04
N+8.90	B86	ENVOLVENTE MAX	0	5.08	-0.64	9.518	12.419
N+8.90	B86	ENVOLVENTE MAX	4.925	5.08	17.75	9.518	14.543
N+8.90	B86	ENVOLVENTE MIN	0	-15.33	-19.52	-8.449	-30.784
N+8.90	B86	ENVOLVENTE MIN	4.925	-15.33	-0.68	-8.449	-25.31
N+4.45	B86	ENVOLVENTE MAX	0	0	-34.06	12.595	18.638
N+4.45	B86	ENVOLVENTE MAX	4.925	0	106.26	12.595	22.379
N+4.45	B86	ENVOLVENTE MIN	0	0	-137.24	-7.216	-158.78
N+4.45	B86	ENVOLVENTE MIN	4.925	0	19.58	-7.216	-140.242
N+8.90	B87	ENVOLVENTE MAX	0	6.95	-0.41	5.891	12.042
N+8.90	B87	ENVOLVENTE MAX	4.925	6.95	18.21	5.891	10.769
N+8.90	B87	ENVOLVENTE MIN	0	-16.18	-17.62	-7.286	-26.029
N+8.90	B87	ENVOLVENTE MIN	4.925	-16.18	1	-7.286	-27.656
N+4.45	B87	ENVOLVENTE MAX	0	0	-25.39	7.63	14.052
N+4.45	B87	ENVOLVENTE MAX	4.925	0	171.9	7.63	-2.783
N+4.45	B87	ENVOLVENTE MIN	0	0	-106.26	-11.918	-137.749
N+4.45	B87	ENVOLVENTE MIN	4.925	0	54.66	-11.918	-163.924
N+8.90	B88	ENVOLVENTE MAX	0	4.3	-1.17	2.242	10.062
N+8.90	B88	ENVOLVENTE MAX	4.925	4.3	17.49	2.242	12.576
N+8.90	B88	ENVOLVENTE MIN	0	-13.4	-17.96	-5.088	-26.593
N+8.90	B88	ENVOLVENTE MIN	4.925	-13.4	0.62	-5.088	-26.609
N+4.45	B88	ENVOLVENTE MAX	0	0	-50.79	10.318	3.653
N+4.45	B88	ENVOLVENTE MAX	4.925	0	109.95	10.318	27.127
N+4.45	B88	ENVOLVENTE MIN	0	0	-173.76	-1.624	-170.328
N+4.45	B88	ENVOLVENTE MIN	4.925	0	21.46	-1.624	-149.628
N+8.90	B89	ENVOLVENTE MAX	0	8.76	-0.37	5.147	13.305
N+8.90	B89	ENVOLVENTE MAX	4.925	8.76	18.9	5.147	7.176
N+8.90	B89	ENVOLVENTE MIN	0	-15.2	-15.81	-1.376	-23.058
N+8.90	B89	ENVOLVENTE MIN	4.925	-15.2	2.16	-1.376	-28.937
N+4.45	B89	ENVOLVENTE MAX	0	0	-14.89	5.07	34.553
N+4.45	B89	ENVOLVENTE MAX	4.925	0	97.33	5.07	31.321
N+4.45	B89	ENVOLVENTE MIN	0	0	-100.07	-13.892	-140.132
N+4.45	B89	ENVOLVENTE MIN	4.925	0	13.63	-13.892	-127.046
N+8.90	B90	ENVOLVENTE MAX	0	11.65	-1.73	7.243	9.354
N+8.90	B90	ENVOLVENTE MAX	4.925	11.65	16.08	7.243	14.159
N+8.90	B90	ENVOLVENTE MIN	0	-16.69	-19.61	-6.465	-30.241
N+8.90	B90	ENVOLVENTE MIN	4.925	-16.69	-0.19	-6.465	-21.636
N+4.45	B90	ENVOLVENTE MAX	0	0	-16.06	4.658	9.153
N+4.45	B90	ENVOLVENTE MAX	2.2	0	5.33	4.658	34.761
N+4.45	B90	ENVOLVENTE MAX	2.2	0	22.22	4.658	34.761
N+4.45	B90	ENVOLVENTE MAX	4.925	0	81.25	4.658	5.586
N+4.45	B90	ENVOLVENTE MIN	0	0	-68.77	-2.237	-93.085
N+4.45	B90	ENVOLVENTE MIN	2.2	0	-40.26	-2.237	13.807
N+4.45	B90	ENVOLVENTE MIN	2.2	0	-15.63	-2.237	13.807
N+4.45	B90	ENVOLVENTE MIN	4.925	0	21.68	-2.237	-106.985
N+8.90	B91	ENVOLVENTE MAX	0	4.48	0.23	13.867	12.711
N+8.90	B91	ENVOLVENTE MAX	4.925	4.48	19	13.867	11.665
N+8.90	B91	ENVOLVENTE MIN	0	-19.21	-17.64	-13.461	-25.846
N+8.90	B91	ENVOLVENTE MIN	4.925	-19.21	0.82	-13.461	-30.749
N+4.45	B91	ENVOLVENTE MAX	0	0	-37.62	-3.75	14.515
N+4.45	B91	ENVOLVENTE MAX	1.55	0	-13.04	-3.75	82.032
N+4.45	B91	ENVOLVENTE MAX	1.55	0	12.33	27.073	82.033
N+4.45	B91	ENVOLVENTE MAX	4.925	0	191.03	27.073	1.323
N+4.45	B91	ENVOLVENTE MIN	0	0	-146.65	-58.154	-170.657
N+4.45	B91	ENVOLVENTE MIN	1.55	0	-107.86	-58.154	4.107
N+4.45	B91	ENVOLVENTE MIN	1.55	0	-56.78	-11.385	4.107
N+4.45	B91	ENVOLVENTE MIN	4.925	0	57.35	-11.385	-199.333
N+8.90	B92	ENVOLVENTE MAX	0	6.65	0.72	7.512	15.246
N+8.90	B92	ENVOLVENTE MAX	4.925	6.65	19.47	7.512	15.208
N+8.90	B92	ENVOLVENTE MIN	0	-17.9	-19.41	-5.105	-30.393
N+8.90	B92	ENVOLVENTE MIN	4.925	-17.9	-0.93	-5.105	-29.983
N+4.45	B92	ENVOLVENTE MAX	0	0	-48.12	8.212	12.746
N+4.45	B92	ENVOLVENTE MAX	4.925	0	112.34	8.212	30.364
N+4.45	B92	ENVOLVENTE MIN	0	0	-177.45	-2.182	-186.031

N+4.45	B92	ENVOLVENTE MIN	4.925	0	18.06	-2.182	-154.447
N+8.90	B93	ENVOLVENTE MAX	0	2.65	0.34	4.116	13.933
N+8.90	B93	ENVOLVENTE MAX	4.925	2.65	18.73	4.116	14.422
N+8.90	B93	ENVOLVENTE MIN	0	-14.6	-19.29	-6.87	-29.699
N+8.90	B93	ENVOLVENTE MIN	4.925	-14.6	-0.44	-6.87	-28.574
N+4.45	B93	ENVOLVENTE MAX	0	0	-19.36	6.662	28.158
N+4.45	B93	ENVOLVENTE MAX	4.925	0	175.47	6.662	13.013
N+4.45	B93	ENVOLVENTE MIN	0	0	-112.94	-11.13	-154.739
N+4.45	B93	ENVOLVENTE MIN	4.925	0	48.17	-11.13	-179.405
N+8.90	B94	ENVOLVENTE MAX	0	7.75	2.2	15.39	16.694
N+8.90	B94	ENVOLVENTE MAX	4.825	7.75	20.88	15.39	19.225
N+8.90	B94	ENVOLVENTE MIN	0	-20.54	-20.14	-15.831	-31.224
N+8.90	B94	ENVOLVENTE MIN	4.825	-20.54	-2.34	-15.831	-35.205
N+4.45	B94	ENVOLVENTE MAX	0	0	-46.09	20.572	15.816
N+4.45	B94	ENVOLVENTE MAX	4.825	0	106.71	20.572	53.59
N+4.45	B94	ENVOLVENTE MIN	0	0	-181.09	-15.565	-188.154
N+4.45	B94	ENVOLVENTE MIN	4.825	0	10.39	-15.565	-134.532
N+4.45	B109	ENVOLVENTE MAX	0	0	-12.44	9.007	48.164
N+4.45	B109	ENVOLVENTE MAX	2.15	0	17.06	9.007	77.735
N+4.45	B109	ENVOLVENTE MAX	2.15	0	33.26	9.007	77.735
N+4.45	B109	ENVOLVENTE MAX	4.82	0	93.32	9.007	17.805
N+4.45	B109	ENVOLVENTE MIN	0	0	-101.79	-8.912	-130.685
N+4.45	B109	ENVOLVENTE MIN	2.15	0	-45.12	-8.912	8.119
N+4.45	B109	ENVOLVENTE MIN	2.15	0	-22.81	-8.912	8.119
N+4.45	B109	ENVOLVENTE MIN	4.82	0	9.12	-8.912	-110.601
N+4.45	B110	ENVOLVENTE MAX	0	0	-4.06	7.62	7.168
N+4.45	B110	ENVOLVENTE MAX	3	0	8.9	7.62	27.917
N+4.45	B110	ENVOLVENTE MAX	3	0	25.43	7.62	27.917
N+4.45	B110	ENVOLVENTE MAX	4.93	0	48.44	7.62	20.229
N+4.45	B110	ENVOLVENTE MIN	0	0	-42.64	-13.368	-74.161
N+4.45	B110	ENVOLVENTE MIN	3	0	-25.36	-13.368	-0.164
N+4.45	B110	ENVOLVENTE MIN	3	0	-7.24	-13.368	-0.164
N+4.45	B110	ENVOLVENTE MIN	4.93	0	6.53	-13.368	-63.086
N+4.45	B111	ENVOLVENTE MAX	0	0	-7.43	13.345	19.474
N+4.45	B111	ENVOLVENTE MAX	1.93	0	6.33	13.345	29.951
N+4.45	B111	ENVOLVENTE MAX	1.93	0	23.6	13.345	29.951
N+4.45	B111	ENVOLVENTE MAX	4.93	0	40.88	13.345	9.4
N+4.45	B111	ENVOLVENTE MIN	0	0	-49.81	-7.705	-63.963
N+4.45	B111	ENVOLVENTE MIN	1.93	0	-26.79	-7.705	0.537
N+4.45	B111	ENVOLVENTE MIN	1.93	0	-9.4	-7.705	0.537
N+4.45	B111	ENVOLVENTE MIN	4.93	0	3.56	-7.705	-66.868
N+4.45	B112	ENVOLVENTE MAX	0	0	-1.09	8.48	26.227
N+4.45	B112	ENVOLVENTE MAX	4.82	0	76.3	8.48	63.697
N+4.45	B112	ENVOLVENTE MIN	0	0	-81.03	-9.749	-98.237
N+4.45	B112	ENVOLVENTE MIN	4.82	0	-1.75	-9.749	-117.456
N+4.45	B116	ENVOLVENTE MAX	0	0	-25.37	0	-25.748
N+4.45	B116	ENVOLVENTE MAX	2.03	0	0	0	0
N+4.45	B116	ENVOLVENTE MIN	0	0	-61.43	0	-62.353
N+4.45	B116	ENVOLVENTE MIN	2.03	0	0	0	0

FUERZAS EN COLUMNAS

BEAM FORCES
UNID: kN-m

Story	Column	Load	Loc	P	V2	V3	T	M2	M3
N+8.90	C1	ENVOLVENTE MAX	0	-29.77	1.55	3.55	8.765	5.164	-5.2
N+8.90	C1	ENVOLVENTE MAX	4.45	-10.31	1.55	3.55	8.765	35.696	28.036
N+8.90	C1	ENVOLVENTE MIN	0	-107.97	-11.77	-17	-6.92	-41.653	-26.736
N+8.90	C1	ENVOLVENTE MIN	4.45	-82.02	-11.77	-17	-6.92	-12.351	-14.526
N+4.45	C1	ENVOLVENTE MAX	0	-99.1	33.55	23.96	1.996	67.731	91.962
N+4.45	C1	ENVOLVENTE MAX	4.5	-79.42	33.55	23.96	1.996	73.019	93.842
N+4.45	C1	ENVOLVENTE MIN	0	-279.9	-45.16	-34.76	-2.017	-83.514	-109.364
N+4.45	C1	ENVOLVENTE MIN	4.5	-253.65	-45.16	-34.76	-2.017	-40.231	-59.038
N+8.90	C2	ENVOLVENTE MAX	0	-38	16.15	6.44	8.941	25.072	29.687
N+8.90	C2	ENVOLVENTE MAX	4.45	-13.97	16.15	6.44	8.941	5.089	41.579
N+8.90	C2	ENVOLVENTE MIN	0	-62.95	-13.48	-12.43	-11.861	-51.912	-19.577
N+8.90	C2	ENVOLVENTE MIN	4.45	-25.57	-13.48	-12.43	-11.861	-5.313	-43.362
N+4.45	C2	ENVOLVENTE MAX	0	-163.96	63.67	29.74	3.042	93.334	158.252
N+4.45	C2	ENVOLVENTE MAX	4.5	-139.66	63.67	29.74	3.042	93.868	118.807
N+4.45	C2	ENVOLVENTE MIN	0	-335.64	-60.67	-47.1	-3.074	-118.737	-154.201
N+4.45	C2	ENVOLVENTE MIN	4.5	-303.24	-60.67	-47.1	-3.074	-41.164	-128.296
N+8.90	C3	ENVOLVENTE MAX	0	-72.67	14.38	7	10.233	33.073	19.186
N+8.90	C3	ENVOLVENTE MAX	4.45	-48.64	14.38	7	10.233	91.205	47.254
N+8.90	C3	ENVOLVENTE MIN	0	-214.43	-16.1	-41.58	-12.561	-113.597	-26.189
N+8.90	C3	ENVOLVENTE MIN	4.45	-182.39	-16.1	-41.58	-12.561	-1.17	-46.608
N+4.45	C3	ENVOLVENTE MAX	0	-198.02	59.67	30.1	3.042	95.092	152.468
N+4.45	C3	ENVOLVENTE MAX	4.5	-173.72	59.67	30.1	3.042	70.386	126.95
N+4.45	C3	ENVOLVENTE MIN	0	-409.9	-63.4	-38.92	-3.074	-108.012	-158.344
N+4.45	C3	ENVOLVENTE MIN	4.5	-377.5	-63.4	-38.92	-3.074	-43.625	-116.045
N+8.90	C4	ENVOLVENTE MAX	0	-38.35	14.18	6.22	11.336	24.03	23.274
N+8.90	C4	ENVOLVENTE MAX	4.45	-14.32	14.18	6.22	11.336	7.812	41.321
N+8.90	C4	ENVOLVENTE MIN	0	-63.68	-13.92	-8.46	-8.063	-32.195	-21.961
N+8.90	C4	ENVOLVENTE MIN	4.45	-26.3	-13.92	-8.46	-8.063	-5.977	-41.159
N+4.45	C4	ENVOLVENTE MAX	0	-184.92	61.62	22.6	3.042	86.576	155.336
N+4.45	C4	ENVOLVENTE MAX	4.5	-160.62	61.62	22.6	3.042	26.616	122.15
N+4.45	C4	ENVOLVENTE MIN	0	-342.24	-61.78	-22.59	-3.074	-86.595	-155.962
N+4.45	C4	ENVOLVENTE MIN	4.5	-309.84	-61.78	-22.59	-3.074	-26.657	-122.031
N+8.90	C5	ENVOLVENTE MAX	0	-39.81	11.47	10.33	6.529	18.287	20.259
N+8.90	C5	ENVOLVENTE MAX	4.45	-20.34	11.47	10.33	6.529	61.278	33.482
N+8.90	C5	ENVOLVENTE MIN	0	-153.39	-12.75	-27.18	-6.625	-60.475	-23.538
N+8.90	C5	ENVOLVENTE MIN	4.45	-127.44	-12.75	-27.18	-6.625	-28.474	-31.074
N+4.45	C5	ENVOLVENTE MAX	0	-161.54	42.57	27.76	1.996	79.263	105.293
N+4.45	C5	ENVOLVENTE MAX	4.5	-141.86	42.57	27.76	1.996	80.215	90.073
N+4.45	C5	ENVOLVENTE MIN	0	-434.16	-43.91	-39.2	-2.017	-96.252	-107.526
N+4.45	C5	ENVOLVENTE MIN	4.5	-407.92	-43.91	-39.2	-2.017	-45.741	-86.273
N+8.90	C6	ENVOLVENTE MAX	0	-33.95	14.36	6.64	14.635	25.243	27.422
N+8.90	C6	ENVOLVENTE MAX	4.45	-14.49	14.36	6.64	14.635	7.342	35.067
N+8.90	C6	ENVOLVENTE MIN	0	-55.82	-13.66	-7.36	-13.891	-26.213	-25.794
N+8.90	C6	ENVOLVENTE MIN	4.45	-25.54	-13.66	-7.36	-13.891	-5.108	-36.568
N+4.45	C6	ENVOLVENTE MAX	0	-205.92	44.47	12.85	1.996	59.203	108.085
N+4.45	C6	ENVOLVENTE MAX	4.5	-186.24	44.47	12.85	1.996	21.989	91.742
N+4.45	C6	ENVOLVENTE MIN	0	-415.49	-44.44	-15.24	-2.017	-62.886	-108.287
N+4.45	C6	ENVOLVENTE MIN	4.5	-389.24	-44.44	-15.24	-2.017	-14.905	-92.091
N+8.90	C7	ENVOLVENTE MAX	0	-44.92	11.81	35.72	3.377	119.276	16.691
N+8.90	C7	ENVOLVENTE MAX	4.45	-20.89	11.81	35.72	3.377	97.534	38.742
N+8.90	C7	ENVOLVENTE MIN	0	-132.8	-12.46	-61.77	-5.583	-177.533	-18.694
N+8.90	C7	ENVOLVENTE MIN	4.45	-100.76	-12.46	-61.77	-5.583	-39.886	-37.827
N+4.45	C7	ENVOLVENTE MAX	0	-169.92	59.25	29.33	3.042	109.959	151.849
N+4.45	C7	ENVOLVENTE MAX	4.5	-145.62	59.25	29.33	3.042	78.248	117.662
N+4.45	C7	ENVOLVENTE MIN	0	-450.61	-60.33	-45.17	-3.074	-133.625	-153.822
N+4.45	C7	ENVOLVENTE MIN	4.5	-418.21	-60.33	-45.17	-3.074	-30.609	-114.776
N+8.90	C8	ENVOLVENTE MAX	0	-33.17	14.54	9.54	12.431	37.204	29.199
N+8.90	C8	ENVOLVENTE MAX	4.45	-13.7	14.54	9.54	12.431	8.884	35.549
N+8.90	C8	ENVOLVENTE MIN	0	-55.47	-13.58	-6.32	-12.761	-20.554	-24.959
N+8.90	C8	ENVOLVENTE MIN	4.45	-25.19	-13.58	-6.32	-12.761	-6.561	-35.582
N+4.45	C8	ENVOLVENTE MAX	0	-230.04	45.6	25.23	1.996	86.477	109.693
N+4.45	C8	ENVOLVENTE MAX	4.5	-210.35	45.6	25.23	1.996	7.175	90.329
N+4.45	C8	ENVOLVENTE MIN	0	-474.05	-43.97	-14.45	-2.017	-70.822	-107.535
N+4.45	C8	ENVOLVENTE MIN	4.5	-447.81	-43.97	-14.45	-2.017	-40.005	-95.502
N+8.90	C9	ENVOLVENTE MAX	0	-37.13	12.33	15.18	6.766	24.237	21.469
N+8.90	C9	ENVOLVENTE MAX	4.45	-17.67	12.33	15.18	6.766	70.832	31.972
N+8.90	C9	ENVOLVENTE MIN	0	-138.82	-11.78	-31.58	-5.881	-70.74	-20.93
N+8.90	C9	ENVOLVENTE MIN	4.45	-112.87	-11.78	-31.58	-5.881	-44.382	-33.887
N+4.45	C9	ENVOLVENTE MAX	0	-150.73	42.86	41.09	1.996	116.204	105.722
N+4.45	C9	ENVOLVENTE MAX	4.5	-131.05	42.86	41.09	1.996	113.757	87.749
N+4.45	C9	ENVOLVENTE MIN	0	-460.8	-43.14	-56.09	-2.017	-138.723	-106.39
N+4.45	C9	ENVOLVENTE MIN	4.5	-434.56	-43.14	-56.09	-2.017	-68.762	-87.146
N+8.90	C10	ENVOLVENTE MAX	0	-36.63	13.84	4.95	10.939	15.573	22.627
N+8.90	C10	ENVOLVENTE MAX	4.45	-12.6	13.84	4.95	10.939	7.894	40.917

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR
BOGOTÁ (CUNDINAMARCA)
DATOS DE SALIDA DEL MODELO

N+8.90	C10	ENVOLVENTE MIN	0	-63.37	-14.1	-6.46	-14.545	-23.793	-23.088
N+8.90	C10	ENVOLVENTE MIN	4.45	-26.27	-14.1	-6.46	-14.545	-9.417	-40.213
N+4.45	C10	ENVOLVENTE MAX	0	-216.03	61.91	36.93	3.042	147.107	155.757
N+4.45	C10	ENVOLVENTE MAX	4.5	-191.73	61.91	36.93	3.042	25.687	122.85
N+4.45	C10	ENVOLVENTE MIN	0	-429.41	-62.03	-38.13	-3.074	-149.492	-156.324
N+4.45	C10	ENVOLVENTE MIN	4.5	-397.01	-62.03	-38.13	-3.074	-22.662	-122.851
N+8.90	C11	ENVOLVENTE MAX	0	-72.63	15.96	19.1	7.594	56.21	20.083
N+8.90	C11	ENVOLVENTE MAX	4.45	-48.6	15.96	19.1	7.594	39.51	54.75
N+8.90	C11	ENVOLVENTE MIN	0	-206.43	-16.57	-36.94	-7.813	-126.275	-21.227
N+8.90	C11	ENVOLVENTE MIN	4.45	-174.39	-16.57	-36.94	-7.813	-30.167	-53.169
N+4.45	C11	ENVOLVENTE MAX	0	-184.34	60.2	61.49	3.042	192.249	153.249
N+4.45	C11	ENVOLVENTE MAX	4.5	-160.04	60.2	61.49	3.042	132.121	117.682
N+4.45	C11	ENVOLVENTE MIN	0	-480.82	-60.34	-77.36	-3.074	-216.343	-153.836
N+4.45	C11	ENVOLVENTE MIN	4.5	-448.42	-60.34	-77.36	-3.074	-84.797	-117.644
N+8.90	C12	ENVOLVENTE MAX	0	-36.45	14.62	6.13	13.328	20.064	23.996
N+8.90	C12	ENVOLVENTE MAX	4.45	-12.42	14.62	6.13	13.328	11.048	42.129
N+8.90	C12	ENVOLVENTE MIN	0	-62.3	-15.31	-7.84	-10.108	-29.244	-27.205
N+8.90	C12	ENVOLVENTE MIN	4.45	-24.92	-15.31	-7.84	-10.108	-12.636	-42.266
N+4.45	C12	ENVOLVENTE MAX	0	-215.36	62.41	45.71	3.042	177.378	156.497
N+4.45	C12	ENVOLVENTE MAX	4.5	-191.06	62.41	45.71	3.042	34.262	127.858
N+4.45	C12	ENVOLVENTE MIN	0	-429.84	-63.69	-46.51	-3.074	-179.359	-158.759
N+4.45	C12	ENVOLVENTE MIN	4.5	-397.44	-63.69	-46.51	-3.074	-32.665	-124.376
N+8.90	C13	ENVOLVENTE MAX	0	-29.5	12.65	8.55	11.995	7.75	29.137
N+8.90	C13	ENVOLVENTE MAX	4.45	-10.04	12.65	8.55	11.995	53.485	15.89
N+8.90	C13	ENVOLVENTE MIN	0	-103.05	-1.28	-21.66	-11.778	-46.903	7.006
N+8.90	C13	ENVOLVENTE MIN	4.45	-77.1	-1.28	-21.66	-11.778	-34.334	-30.367
N+4.45	C13	ENVOLVENTE MAX	0	-80.51	45.79	62.74	1.996	170.931	109.981
N+4.45	C13	ENVOLVENTE MAX	4.5	-60.82	45.79	62.74	1.996	150.803	57.578
N+4.45	C13	ENVOLVENTE MIN	0	-319.47	-33.13	-75.95	-2.017	-191.055	-91.51
N+4.45	C13	ENVOLVENTE MIN	4.5	-293.23	-33.13	-75.95	-2.017	-111.482	-96.092
N+17.00	C14	ENVOLVENTE MAX	0	0.76	2.49	0.56	0.268	1.522	11.527
N+17.00	C14	ENVOLVENTE MAX	8.1	2.69	2.49	0.56	0.268	0.082	11.822
N+17.00	C14	ENVOLVENTE MIN	0	-40.57	-3.08	0	-0.202	-0.009	-13.114
N+17.00	C14	ENVOLVENTE MIN	8.1	-37.99	-3.08	0	-0.202	-2.979	-8.623
N+8.90	C14	ENVOLVENTE MAX	0	-33.86	4.37	16.38	4.562	33.484	13.608
N+8.90	C14	ENVOLVENTE MAX	4.45	-14.39	4.37	16.38	4.562	40.003	15.353
N+8.90	C14	ENVOLVENTE MIN	0	-93.12	-5.5	-16.75	-5.13	-34.622	-17.027
N+8.90	C14	ENVOLVENTE MIN	4.45	-67.17	-5.5	-16.75	-5.13	-39.508	-13.741
N+4.45	C14	ENVOLVENTE MAX	0	-168.16	17.9	33.2	1.996	81.419	66.341
N+4.45	C14	ENVOLVENTE MAX	4.5	-148.48	17.9	33.2	1.996	69.267	21.572
N+4.45	C14	ENVOLVENTE MIN	0	-327.48	-19.53	-33.56	-2.017	-81.781	-68.941
N+4.45	C14	ENVOLVENTE MIN	4.5	-301.23	-19.53	-33.56	-2.017	-67.997	-16.83
N+4.45	C15	ENVOLVENTE MAX	0	-117.15	17.73	43.65	1.996	98.458	66.544
N+4.45	C15	ENVOLVENTE MAX	4.5	-97.47	17.73	43.65	1.996	83.63	17.354
N+4.45	C15	ENVOLVENTE MIN	0	-290.3	-19.14	-38.88	-2.017	-91.359	-68.812
N+4.45	C15	ENVOLVENTE MIN	4.5	-264.06	-19.14	-38.88	-2.017	-97.996	-13.29
N+17.00	C16	ENVOLVENTE MAX	0	-5.17	3.95	0.25	0.253	0.819	13.135
N+17.00	C16	ENVOLVENTE MAX	1.915	-4.71	3.95	0.25	0.253	0.705	5.639
N+17.00	C16	ENVOLVENTE MAX	1.915	-4.71	3.95	0.25	0.253	0.705	5.639
N+17.00	C16	ENVOLVENTE MAX	1.95	-4.7	3.95	0.25	0.253	0.723	5.507
N+17.00	C16	ENVOLVENTE MAX	1.95	4.85	3.29	0.9	0.23	1.784	8.064
N+17.00	C16	ENVOLVENTE MAX	8.1	6.81	3.29	0.9	0.23	0.343	8.891
N+17.00	C16	ENVOLVENTE MIN	0	-76.17	-3.33	-0.53	-0.261	-0.637	-11.71
N+17.00	C16	ENVOLVENTE MIN	1.915	-75.56	-3.33	-0.53	-0.261	-0.029	-5.394
N+17.00	C16	ENVOLVENTE MIN	1.915	-75.56	-3.33	-0.53	-0.261	-0.029	-5.394
N+17.00	C16	ENVOLVENTE MIN	1.95	-75.55	-3.33	-0.53	-0.261	-0.019	-5.284
N+17.00	C16	ENVOLVENTE MIN	1.95	-34.66	-2.66	-0.12	-0.294	-0.376	-7.451
N+17.00	C16	ENVOLVENTE MIN	8.1	-32.7	-2.66	-0.12	-0.294	-3.731	-12.205
N+8.90	C16	ENVOLVENTE MAX	0	-43.4	4.96	28.2	5.071	56.281	12.063
N+8.90	C16	ENVOLVENTE MAX	4.45	-23.93	4.96	28.2	5.071	83.521	16.789
N+8.90	C16	ENVOLVENTE MIN	0	-138.77	-5.07	-39.72	-5.496	-93.254	-12.17
N+8.90	C16	ENVOLVENTE MIN	4.45	-112.82	-5.07	-39.72	-5.496	-69.247	-16.426
N+4.45	C16	ENVOLVENTE MAX	0	-344.34	21.49	36.26	1.996	91.862	71.938
N+4.45	C16	ENVOLVENTE MAX	4.5	-324.65	21.49	36.26	1.996	111.095	29.54
N+4.45	C16	ENVOLVENTE MIN	0	-835.82	-22.88	-49.45	-2.017	-111.44	-74.188
N+4.45	C16	ENVOLVENTE MIN	4.5	-809.57	-22.88	-49.45	-2.017	-71.33	-25.514
N+4.45	C17	ENVOLVENTE MAX	0	-219.63	21.09	56.41	1.996	128.289	71.508
N+4.45	C17	ENVOLVENTE MAX	4.5	-199.95	21.09	56.41	1.996	128.845	23.901
N+4.45	C17	ENVOLVENTE MIN	0	-597.51	-21.31	-57.56	-2.017	-130.194	-72.023
N+4.45	C17	ENVOLVENTE MIN	4.5	-571.27	-21.31	-57.56	-2.017	-125.591	-23.42
N+8.90	C18	ENVOLVENTE MAX	0	-57.19	5.42	41.96	5.217	89.312	12.331
N+8.90	C18	ENVOLVENTE MAX	4.45	-37.73	5.42	41.96	5.217	98.627	17.89
N+8.90	C18	ENVOLVENTE MIN	0	-125.92	-5.54	-42.09	-5.505	-88.804	-13.432
N+8.90	C18	ENVOLVENTE MIN	4.45	-99.97	-5.54	-42.09	-5.505	-97.549	-18.428
N+4.45	C18	ENVOLVENTE MAX	0	-291.67	21.92	58.73	1.996	142.314	72.539
N+4.45	C18	ENVOLVENTE MAX	4.5	-271.98	21.92	58.73	1.996	122.099	26.613
N+4.45	C18	ENVOLVENTE MIN	0	-676.96	-21.85	-58.86	-2.017	-142.854	-72.628
N+4.45	C18	ENVOLVENTE MIN	4.5	-650.72	-21.85	-58.86	-2.017	-122.025	-27.002
N+17.00	C18-1	ENVOLVENTE MAX	0	-15.7	3.83	0.27	0.293	0.868	12.089
N+17.00	C18-1	ENVOLVENTE MAX	1.915	-15.24	3.83	0.27	0.293	0.393	4.802
N+17.00	C18-1	ENVOLVENTE MAX	1.915	-15.24	3.83	0.27	0.293	0.393	4.802
N+17.00	C18-1	ENVOLVENTE MAX	1.95	-15.24	3.83	0.27	0.293	0.403	4.676

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR
BOGOTÁ (CUNDINAMARCA)
DATOS DE SALIDA DEL MODELO

N+17.00	C18-1	ENVOLVENTE MAX	1.95	-5.46	4.15	0	0.682	0.111	8.181
N+17.00	C18-1	ENVOLVENTE MAX	5.834	-4.54	4.15	0	0.682	0.94	11.452
N+17.00	C18-1	ENVOLVENTE MAX	5.834	4.39	3.17	2.1	0.668	1.395	-0.573
N+17.00	C18-1	ENVOLVENTE MAX	5.834	4.39	3.17	2.1	0.668	1.397	-0.578
N+17.00	C18-1	ENVOLVENTE MAX	5.834	5.32	3.11	1.77	1.901	0.784	4.342
N+17.00	C18-1	ENVOLVENTE MAX	5.836	5.32	3.11	1.77	1.901	0.787	4.349
N+17.00	C18-1	ENVOLVENTE MIN	0	-67.14	-4.62	-0.41	-0.366	-0.984	-13.511
N+17.00	C18-1	ENVOLVENTE MIN	1.915	-66.53	-4.62	-0.41	-0.366	-0.218	-4.703
N+17.00	C18-1	ENVOLVENTE MIN	1.915	-66.53	-4.62	-0.41	-0.366	-0.218	-4.703
N+17.00	C18-1	ENVOLVENTE MIN	1.95	-66.52	-4.62	-0.41	-0.366	-0.205	-4.55
N+17.00	C18-1	ENVOLVENTE MIN	1.95	-41.65	-5.15	-0.38	-0.78	-0.549	-8.563
N+17.00	C18-1	ENVOLVENTE MIN	5.834	-40.41	-5.15	-0.38	-0.78	-0.069	-7.961
N+17.00	C18-1	ENVOLVENTE MIN	5.834	-7.64	-3.54	-1.77	-1.195	-1.647	-4.345
N+17.00	C18-1	ENVOLVENTE MIN	5.834	-7.64	-3.54	-1.77	-1.195	-1.65	-4.342
N+17.00	C18-1	ENVOLVENTE MIN	5.834	-4.67	-6.53	-2.1	-1.499	-0.36	0.578
N+17.00	C18-1	ENVOLVENTE MIN	5.836	-4.67	-6.53	-2.1	-1.499	-0.363	0.59
N+4.45	C19	ENVOLVENTE MAX	0	-221.83	21.19	81.9	1.996	187.836	71.652
N+4.45	C19	ENVOLVENTE MAX	4.5	-202.15	21.19	81.9	1.996	183.7	23.717
N+4.45	C19	ENVOLVENTE MIN	0	-596.59	-21.25	-83.04	-2.017	-189.998	-71.934
N+4.45	C19	ENVOLVENTE MIN	4.5	-570.35	-21.25	-83.04	-2.017	-180.702	-23.712
N+8.90	C20	ENVOLVENTE MAX	0	-43.18	6.22	32.65	5.298	65.249	19.375
N+8.90	C20	ENVOLVENTE MAX	4.45	-23.72	6.22	32.65	5.298	82.646	16.38
N+8.90	C20	ENVOLVENTE MIN	0	-85.31	-4.99	-33.28	-5.532	-65.566	-14.893
N+8.90	C20	ENVOLVENTE MIN	4.45	-59.36	-4.99	-33.28	-5.532	-60.144	-17.35
N+4.45	C20	ENVOLVENTE MAX	0	-210.55	19.57	81.85	1.996	199.2	68.523
N+4.45	C20	ENVOLVENTE MAX	4.5	-190.86	19.57	81.85	1.996	168.522	16.725
N+4.45	C20	ENVOLVENTE MIN	0	-429.73	-17.61	-81.8	-2.017	-199.715	-65.816
N+4.45	C20	ENVOLVENTE MIN	4.5	-403.48	-17.61	-81.8	-2.017	-169.277	-22.829
N+17.00	C20-1	ENVOLVENTE MAX	0	-4.76	4.36	0.18	0.656	0.64	14.616
N+17.00	C20-1	ENVOLVENTE MAX	5.834	-3.37	4.36	0.18	0.656	0.765	7.526
N+17.00	C20-1	ENVOLVENTE MAX	5.834	-1.69	2.56	9.03	1.347	-0.643	2.153
N+17.00	C20-1	ENVOLVENTE MAX	5.836	-1.69	2.56	9.03	1.347	-0.661	2.157
N+17.00	C20-1	ENVOLVENTE MIN	0	-39.45	-3.5	-0.28	-0.529	-0.868	-12.909
N+17.00	C20-1	ENVOLVENTE MIN	5.834	-37.59	-3.5	-0.28	-0.529	-0.412	-10.821
N+17.00	C20-1	ENVOLVENTE MIN	5.834	-9.34	-2.08	-6.25	-1.533	-5.822	-3.28
N+17.00	C20-1	ENVOLVENTE MIN	5.836	-9.34	-2.08	-6.25	-1.533	-5.826	-3.286
N+8.90	C21	ENVOLVENTE MAX	0	-55.09	12.6	15.39	4.886	31.702	32.789
N+8.90	C21	ENVOLVENTE MAX	4.45	-35.62	12.6	15.39	4.886	36.316	72.659
N+8.90	C21	ENVOLVENTE MIN	0	-115.4	-32.74	-15.12	-5.485	-31.244	-73.228
N+8.90	C21	ENVOLVENTE MIN	4.45	-89.45	-32.74	-15.12	-5.485	-37.03	-23.484
N+4.45	C21	ENVOLVENTE MAX	0	-165.94	27.59	32.76	1.996	80.83	78.99
N+4.45	C21	ENVOLVENTE MAX	4.5	-146.26	27.59	32.76	1.996	66.504	71.864
N+4.45	C21	ENVOLVENTE MIN	0	-387.62	-36.39	-32.66	-2.017	-80.508	-92.114
N+4.45	C21	ENVOLVENTE MIN	4.5	-361.38	-36.39	-32.66	-2.017	-66.633	-45.417
N+17.00	C21-1	ENVOLVENTE MAX	0	-7.16	2.1	0.1	0.837	0.39	9.956
N+17.00	C21-1	ENVOLVENTE MAX	6.75	-5.55	2.1	0.1	0.837	0.991	6.201
N+17.00	C21-1	ENVOLVENTE MAX	6.75	-2.11	1.3	9.29	0.214	-0.519	1.672
N+17.00	C21-1	ENVOLVENTE MAX	6.758	-2.11	1.3	9.29	0.214	-0.56	1.685
N+17.00	C21-1	ENVOLVENTE MIN	0	-43.17	-2.67	-0.25	-0.95	-0.717	-11.87
N+17.00	C21-1	ENVOLVENTE MIN	6.75	-41.02	-2.67	-0.25	-0.95	-0.306	-4.275
N+17.00	C21-1	ENVOLVENTE MIN	6.75	-13.34	-1.58	-0.19	-0.225	-6.654	-1.05
N+17.00	C21-1	ENVOLVENTE MIN	6.758	-13.34	-1.58	-0.19	-0.225	-6.715	-1.06
N+4.45	C22	ENVOLVENTE MAX	0	-52.47	46.53	34.1	1.996	83.122	107.055
N+4.45	C22	ENVOLVENTE MAX	4.5	-32.79	46.53	34.1	1.996	71.627	59.37
N+4.45	C22	ENVOLVENTE MIN	0	-201.43	-32.35	-34.49	-2.017	-83.598	-86.214
N+4.45	C22	ENVOLVENTE MIN	4.5	-175.18	-32.35	-34.49	-2.017	-70.316	-102.342
N+8.90	C23	ENVOLVENTE MAX	0	-84.94	28.75	18.38	1.865	56.515	50.146
N+8.90	C23	ENVOLVENTE MAX	4.45	-65.48	28.75	18.38	1.865	28.3	79.348
N+8.90	C23	ENVOLVENTE MIN	0	-238.71	-32.83	-20.07	-1.841	-62.435	-67.712
N+8.90	C23	ENVOLVENTE MIN	4.45	-212.76	-32.83	-20.07	-1.841	-26.725	-78.787
N+4.45	C23	ENVOLVENTE MAX	0	-175.83	24.09	30.71	1.996	79.065	73.784
N+4.45	C23	ENVOLVENTE MAX	4.5	-156.15	24.09	30.71	1.996	58.265	62.009
N+4.45	C23	ENVOLVENTE MIN	0	-384.9	-33.07	-30.24	-2.017	-78.326	-87.172
N+4.45	C23	ENVOLVENTE MIN	4.5	-358.66	-33.07	-30.24	-2.017	-59.631	-35.022
N+17.00	C23-1	ENVOLVENTE MAX	0	-21.65	12.11	3.58	5.598	17.212	59.324
N+17.00	C23-1	ENVOLVENTE MAX	6.75	-16.76	12.11	3.58	5.598	44.294	22.494
N+17.00	C23-1	ENVOLVENTE MAX	6.75	-6	4.31	40.29	3.05	-7.291	3.845
N+17.00	C23-1	ENVOLVENTE MAX	6.758	-6	4.31	40.29	3.05	-7.377	3.881
N+17.00	C23-1	ENVOLVENTE MIN	0	-154.25	-12.05	-7.72	-5.59	-17.167	-58.82
N+17.00	C23-1	ENVOLVENTE MIN	6.75	-147.73	-12.05	-7.72	-5.59	-15.558	-22.455
N+17.00	C23-1	ENVOLVENTE MIN	6.75	-41	-4.3	-6.3	-3.027	-69.855	-3.791
N+17.00	C23-1	ENVOLVENTE MIN	6.758	-41	-4.3	-6.3	-3.027	-70.027	-3.827
N+4.45	C24	ENVOLVENTE MAX	0	-97.12	47.69	19.05	1.996	63.978	108.761
N+4.45	C24	ENVOLVENTE MAX	4.5	-77.44	47.69	19.05	1.996	21.788	101.611
N+4.45	C24	ENVOLVENTE MIN	0	-217.79	-46.33	-19.04	-2.017	-63.985	-106.876
N+4.45	C24	ENVOLVENTE MIN	4.5	-191.55	-46.33	-19.04	-2.017	-21.826	-105.84
N+8.90	C25	ENVOLVENTE MAX	0	-91.21	29.12	26.73	2.982	55.715	63.205
N+8.90	C25	ENVOLVENTE MAX	4.45	-71.74	29.12	26.73	2.982	63.154	71.273
N+8.90	C25	ENVOLVENTE MIN	0	-165.52	-33.68	-26.73	-2.505	-55.85	-78.674
N+8.90	C25	ENVOLVENTE MIN	4.45	-139.57	-33.68	-26.73	-2.505	-63.295	-66.453
N+4.45	C25	ENVOLVENTE MAX	0	-378.44	32.01	37.03	1.996	92.999	85.574
N+4.45	C25	ENVOLVENTE MAX	4.5	-358.76	32.01	37.03	1.996	74.796	79.383

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR
BOGOTÁ (CUNDINAMARCA)
DATOS DE SALIDA DEL MODELO

N+4.45	C25	ENVOLVENTE MIN	0	-809.04	-38.93	-37.43	-2.017	-93.676	-95.922
N+4.45	C25	ENVOLVENTE MIN	4.5	-782.79	-38.93	-37.43	-2.017	-73.659	-58.608
N+17.00	C25-1	ENVOLVENTE MAX	0	-11.12	2.48	0.38	1.322	0.886	10.312
N+17.00	C25-1	ENVOLVENTE MAX	3.875	-10.19	2.48	0.38	1.322	0.02	1.331
N+17.00	C25-1	ENVOLVENTE MAX	3.875	-10.19	2.48	0.38	1.322	0.02	1.331
N+17.00	C25-1	ENVOLVENTE MAX	3.893	-10.19	2.48	0.38	1.322	0.023	1.307
N+17.00	C25-1	ENVOLVENTE MAX	3.893	-2.73	3.24	1.08	1.963	1.871	4.234
N+17.00	C25-1	ENVOLVENTE MAX	6.75	-2.04	3.24	1.08	1.963	0.525	3.6
N+17.00	C25-1	ENVOLVENTE MAX	6.75	-2.04	3.24	1.08	1.963	0.525	3.6
N+17.00	C25-1	ENVOLVENTE MAX	6.758	-2.04	3.24	1.08	1.963	0.526	3.621
N+17.00	C25-1	ENVOLVENTE MIN	0	-58.69	-2.31	-0.16	-1.159	-0.622	-9.71
N+17.00	C25-1	ENVOLVENTE MIN	3.875	-57.46	-2.31	-0.16	-1.159	-0.802	-1.386
N+17.00	C25-1	ENVOLVENTE MIN	3.875	-57.46	-2.31	-0.16	-1.159	-0.802	-1.386
N+17.00	C25-1	ENVOLVENTE MIN	3.893	-57.45	-2.31	-0.16	-1.159	-0.806	-1.365
N+17.00	C25-1	ENVOLVENTE MIN	3.893	-34.53	-2.67	-0.09	-1.909	0.198	-4.304
N+17.00	C25-1	ENVOLVENTE MIN	6.75	-33.62	-2.67	-0.09	-1.909	-1.573	-5.291
N+17.00	C25-1	ENVOLVENTE MIN	6.75	-33.62	-2.67	-0.09	-1.909	-1.573	-5.291
N+17.00	C25-1	ENVOLVENTE MIN	6.758	-33.62	-2.67	-0.09	-1.909	-1.582	-5.318
N+4.45	C26	ENVOLVENTE MAX	0	-248.51	46.66	21.94	1.996	73.539	107.241
N+4.45	C26	ENVOLVENTE MAX	4.5	-228.83	46.66	21.94	1.996	24.395	98.013
N+4.45	C26	ENVOLVENTE MIN	0	-606.65	-45.14	-21.71	-2.017	-73.354	-105.122
N+4.45	C26	ENVOLVENTE MIN	4.5	-580.41	-45.14	-21.71	-2.017	-25.216	-102.721
N+8.90	C27	ENVOLVENTE MAX	0	-92.14	35.13	24.81	1.933	79.252	74.74
N+8.90	C27	ENVOLVENTE MAX	4.45	-72.68	35.13	24.81	1.933	31.579	79.746
N+8.90	C27	ENVOLVENTE MIN	0	-248.17	-34.11	-23.31	-1.899	-72.387	-72.282
N+8.90	C27	ENVOLVENTE MIN	4.45	-222.22	-34.11	-23.31	-1.899	-31.408	-81.862
N+4.45	C27	ENVOLVENTE MAX	0	-326.68	33.78	41.25	1.996	105.737	88.201
N+4.45	C27	ENVOLVENTE MAX	4.5	-307	33.78	41.25	1.996	73.953	64.878
N+4.45	C27	ENVOLVENTE MIN	0	-668.8	-34.14	-39.31	-2.017	-103.087	-88.85
N+4.45	C27	ENVOLVENTE MIN	4.5	-642.55	-34.14	-39.31	-2.017	-80.009	-63.926
N+17.00	C27-1	ENVOLVENTE MAX	0	-30.05	7.57	6.76	6.197	14.802	26.948
N+17.00	C27-1	ENVOLVENTE MAX	3.875	-27.24	7.57	6.76	6.197	31.105	2.274
N+17.00	C27-1	ENVOLVENTE MAX	3.875	-27.24	7.57	6.76	6.197	31.105	2.274
N+17.00	C27-1	ENVOLVENTE MAX	3.893	-27.23	7.57	6.76	6.197	31.202	2.409
N+17.00	C27-1	ENVOLVENTE MIN	0	-165.68	-7.5	-5.42	-6.175	-13.688	-26.799
N+17.00	C27-1	ENVOLVENTE MIN	3.875	-161.94	-7.5	-5.42	-6.175	-35.183	-2.387
N+17.00	C27-1	ENVOLVENTE MIN	3.875	-161.94	-7.5	-5.42	-6.175	-35.183	-2.387
N+17.00	C27-1	ENVOLVENTE MIN	3.893	-161.92	-7.5	-5.42	-6.175	-35.304	-2.523
N+4.45	C28	ENVOLVENTE MAX	0	-232.21	45.58	26.99	1.996	89.939	105.695
N+4.45	C28	ENVOLVENTE MAX	4.5	-212.53	45.58	26.99	1.996	30.017	99.441
N+4.45	C28	ENVOLVENTE MIN	0	-562.75	-45.62	-26.57	-2.017	-89.593	-105.883
N+4.45	C28	ENVOLVENTE MIN	4.5	-536.5	-45.62	-26.57	-2.017	-31.558	-99.432
N+8.90	C29	ENVOLVENTE MAX	0	-96.91	31.19	35.3	2.307	73.856	69.143
N+8.90	C29	ENVOLVENTE MAX	4.45	-77.45	31.19	35.3	2.307	81.873	68.146
N+8.90	C29	ENVOLVENTE MIN	0	-173.82	-30.58	-34.02	-2.961	-69.577	-68.004
N+8.90	C29	ENVOLVENTE MIN	4.45	-147.87	-30.58	-34.02	-2.961	-83.259	-69.73
N+4.45	C29	ENVOLVENTE MAX	0	-332.93	34.14	54.75	1.996	136.342	88.717
N+4.45	C29	ENVOLVENTE MAX	4.5	-313.25	34.14	54.75	1.996	106.865	66.463
N+4.45	C29	ENVOLVENTE MIN	0	-675.75	-34.66	-53.81	-2.017	-135.288	-89.605
N+4.45	C29	ENVOLVENTE MIN	4.5	-649.51	-34.66	-53.81	-2.017	-110.049	-65.024
N+17.00	C29-1	ENVOLVENTE MAX	0	-15.28	2.05	0.33	0.923	0.97	7.658
N+17.00	C29-1	ENVOLVENTE MAX	3.875	-14.35	2.05	0.33	0.923	0.323	0.622
N+17.00	C29-1	ENVOLVENTE MAX	3.875	-14.35	2.05	0.33	0.923	0.323	0.622
N+17.00	C29-1	ENVOLVENTE MAX	3.893	-14.35	2.05	0.33	0.923	0.33	0.643
N+17.00	C29-1	ENVOLVENTE MIN	0	-63.66	-2.06	-0.34	-1.064	-1.012	-7.673
N+17.00	C29-1	ENVOLVENTE MIN	3.875	-62.43	-2.06	-0.34	-1.064	-0.312	-0.604
N+17.00	C29-1	ENVOLVENTE MIN	3.875	-62.43	-2.06	-0.34	-1.064	-0.312	-0.604
N+17.00	C29-1	ENVOLVENTE MIN	3.893	-62.42	-2.06	-0.34	-1.064	-0.318	-0.625
N+4.45	C30	ENVOLVENTE MAX	0	-245.34	45.58	32.55	1.996	109.138	105.688
N+4.45	C30	ENVOLVENTE MAX	4.5	-225.66	45.58	32.55	1.996	36.817	99.686
N+4.45	C30	ENVOLVENTE MIN	0	-598.93	-45.71	-32.49	-2.017	-109.448	-106.002
N+4.45	C30	ENVOLVENTE MIN	4.5	-572.68	-45.71	-32.49	-2.017	-37.408	-99.42
N+8.90	C31	ENVOLVENTE MAX	0	-89.43	34.68	31.62	1.986	97.469	73.367
N+8.90	C31	ENVOLVENTE MAX	4.45	-69.97	34.68	31.62	1.986	43.725	83.452
N+8.90	C31	ENVOLVENTE MIN	0	-248.7	-35.19	-32.76	-2.049	-102.17	-73.569
N+8.90	C31	ENVOLVENTE MIN	4.45	-222.75	-35.19	-32.76	-2.049	-43.34	-81.393
N+4.45	C31	ENVOLVENTE MAX	0	-331.62	33.75	59.95	1.996	155.255	88.15
N+4.45	C31	ENVOLVENTE MAX	4.5	-311.94	33.75	59.95	1.996	114.316	63.836
N+4.45	C31	ENVOLVENTE MIN	0	-688.4	-33.79	-59.98	-2.017	-155.774	-88.337
N+4.45	C31	ENVOLVENTE MIN	4.5	-662.15	-33.79	-59.98	-2.017	-114.677	-63.829
N+17.00	C31-1	ENVOLVENTE MAX	0	-26.46	11.06	7.55	9.789	18.985	39.508
N+17.00	C31-1	ENVOLVENTE MAX	3.875	-23.66	11.06	7.55	9.789	46.978	3.297
N+17.00	C31-1	ENVOLVENTE MAX	3.875	-23.66	11.06	7.55	9.789	46.978	3.297
N+17.00	C31-1	ENVOLVENTE MAX	3.893	-23.64	11.06	7.55	9.789	47.141	3.5
N+17.00	C31-1	ENVOLVENTE MIN	0	-164.89	-11.16	-9.05	-9.766	-20.215	-39.969
N+17.00	C31-1	ENVOLVENTE MIN	3.875	-161.15	-11.16	-9.05	-9.766	-42.401	-3.349
N+17.00	C31-1	ENVOLVENTE MIN	3.875	-161.15	-11.16	-9.05	-9.766	-42.401	-3.349
N+17.00	C31-1	ENVOLVENTE MIN	3.893	-161.13	-11.16	-9.05	-9.766	-42.537	-3.55
N+4.45	C32	ENVOLVENTE MAX	0	-238.93	46.48	39.02	1.996	130.19	107.02
N+4.45	C32	ENVOLVENTE MAX	4.5	-219.25	46.48	39.02	1.996	45.539	103.777
N+4.45	C32	ENVOLVENTE MIN	0	-599.73	-47.06	-39.23	-2.017	-131.038	-108.001
N+4.45	C32	ENVOLVENTE MIN	4.5	-573.49	-47.06	-39.23	-2.017	-45.423	-102.148

N+8.90	C33	ENVOLVENTE MAX	0	-56.67	35.66	27.04	4.524	51.265	82.108
N+8.90	C33	ENVOLVENTE MAX	4.45	-37.21	35.66	27.04	4.524	70.599	20.362
N+8.90	C33	ENVOLVENTE MIN	0	-114.73	-9.64	-27.49	-3.995	-52.344	-22.817
N+8.90	C33	ENVOLVENTE MIN	4.45	-88.78	-9.64	-27.49	-3.995	-69.642	-76.837
N+4.45	C33	ENVOLVENTE MAX	0	-192.29	38.09	77.52	1.996	192.792	94.464
N+4.45	C33	ENVOLVENTE MAX	4.5	-172.61	38.09	77.52	1.996	157.09	36.261
N+4.45	C33	ENVOLVENTE MIN	0	-418.25	-24.57	-78.06	-2.017	-194.184	-74.589
N+4.45	C33	ENVOLVENTE MIN	4.5	-392.01	-24.57	-78.06	-2.017	-156.053	-77.258
N+17.00	C33-1	ENVOLVENTE MAX	0	-9.05	2.07	0.32	1.229	0.957	7.199
N+17.00	C33-1	ENVOLVENTE MAX	3.875	-8.13	2.07	0.32	1.229	0.264	0.448
N+17.00	C33-1	ENVOLVENTE MAX	3.875	-8.13	2.07	0.32	1.229	0.264	0.448
N+17.00	C33-1	ENVOLVENTE MAX	3.893	-8.12	2.07	0.32	1.229	0.27	0.469
N+17.00	C33-1	ENVOLVENTE MIN	0	-41.05	-1.68	-0.32	-1.109	-0.975	-6.297
N+17.00	C33-1	ENVOLVENTE MIN	3.875	-39.81	-1.68	-0.32	-1.109	-0.284	-1.042
N+17.00	C33-1	ENVOLVENTE MIN	3.875	-39.81	-1.68	-0.32	-1.109	-0.284	-1.042
N+17.00	C33-1	ENVOLVENTE MIN	3.893	-39.81	-1.68	-0.32	-1.109	-0.29	-1.069
N+8.90	C34	ENVOLVENTE MAX	0	-43.99	4.94	17.18	5.155	35.504	15.199
N+8.90	C34	ENVOLVENTE MAX	4.45	-24.53	4.94	17.18	5.155	39.14	13.995
N+8.90	C34	ENVOLVENTE MIN	0	-97.05	-5.8	-16.22	-4.572	-33.125	-17.109
N+8.90	C34	ENVOLVENTE MIN	4.45	-71.1	-5.8	-16.22	-4.572	-41.039	-12.081
N+4.45	C34	ENVOLVENTE MAX	0	-177.38	17.42	33.78	1.996	82.332	65.759
N+4.45	C34	ENVOLVENTE MAX	4.5	-157.7	17.42	33.78	1.996	67.748	20.768
N+4.45	C34	ENVOLVENTE MIN	0	-331.08	-19.42	-33.07	-2.017	-81.118	-68.768
N+4.45	C34	ENVOLVENTE MIN	4.5	-304.84	-19.42	-33.07	-2.017	-69.699	-14.798
N+17.00	C34-1	ENVOLVENTE MAX	0	-10.2	1.71	0.26	0.882	0.398	6.119
N+17.00	C34-1	ENVOLVENTE MAX	3.337	-9.4	1.71	0.26	0.882	0.057	0.714
N+17.00	C34-1	ENVOLVENTE MAX	3.337	-9.4	1.71	0.26	0.882	0.057	0.714
N+17.00	C34-1	ENVOLVENTE MAX	3.366	-9.39	1.71	0.26	0.882	0.054	0.69
N+17.00	C34-1	ENVOLVENTE MIN	0	-47.05	-1.94	0.02	-0.972	-0.238	-6.569
N+17.00	C34-1	ENVOLVENTE MIN	3.337	-45.99	-1.94	0.02	-0.972	-0.616	-0.405
N+17.00	C34-1	ENVOLVENTE MIN	3.337	-45.99	-1.94	0.02	-0.972	-0.616	-0.405
N+17.00	C34-1	ENVOLVENTE MIN	3.366	-45.98	-1.94	0.02	-0.972	-0.623	-0.374
N+4.45	C35	ENVOLVENTE MAX	0	-101.37	17.7	40.59	1.996	93.875	66.641
N+4.45	C35	ENVOLVENTE MAX	4.5	-81.69	17.7	40.59	1.996	94.277	18.043
N+4.45	C35	ENVOLVENTE MIN	0	-267.08	-19.38	-42.38	-2.017	-96.474	-69.178
N+4.45	C35	ENVOLVENTE MIN	4.5	-240.83	-19.38	-42.38	-2.017	-88.822	-13.038
N+8.90	C36	ENVOLVENTE MAX	0	-55.36	5.41	40.19	5.489	94.273	11.288
N+8.90	C36	ENVOLVENTE MAX	4.45	-35.9	5.41	40.19	5.489	67.791	17.6
N+8.90	C36	ENVOLVENTE MIN	0	-122.48	-5.6	-27.61	-5.205	-55.109	-12.898
N+8.90	C36	ENVOLVENTE MIN	4.45	-96.52	-5.6	-27.61	-5.205	-84.609	-18.344
N+4.45	C36	ENVOLVENTE MAX	0	-356.26	21.63	49.33	1.996	111.175	72.296
N+4.45	C36	ENVOLVENTE MAX	4.5	-336.58	21.63	49.33	1.996	71.603	28.764
N+4.45	C36	ENVOLVENTE MIN	0	-842.92	-22.63	-36.37	-2.017	-92.09	-73.831
N+4.45	C36	ENVOLVENTE MIN	4.5	-816.67	-22.63	-36.37	-2.017	-110.856	-25.809
N+17.00	C36-1	ENVOLVENTE MAX	0	-14.36	2.76	0.03	0.935	0.342	9.086
N+17.00	C36-1	ENVOLVENTE MAX	3.337	-13.56	2.76	0.03	0.935	1.326	1.324
N+17.00	C36-1	ENVOLVENTE MAX	3.337	-13.56	2.76	0.03	0.935	1.326	1.324
N+17.00	C36-1	ENVOLVENTE MAX	3.366	-13.55	2.76	0.03	0.935	1.343	1.393
N+17.00	C36-1	ENVOLVENTE MAX	3.366	-4.28	2.69	-0.39	1.199	-0.44	2.391
N+17.00	C36-1	ENVOLVENTE MAX	5.834	-3.69	2.69	-0.39	1.199	2.066	7.708
N+17.00	C36-1	ENVOLVENTE MAX	5.834	3.04	2.58	1.72	1.462	1.913	-0.348
N+17.00	C36-1	ENVOLVENTE MAX	5.834	3.04	2.58	1.72	1.462	1.916	-0.351
N+17.00	C36-1	ENVOLVENTE MAX	5.834	4.43	2.08	2.1	1.345	1.263	3.306
N+17.00	C36-1	ENVOLVENTE MAX	5.836	4.43	2.08	2.1	1.345	1.261	3.313
N+17.00	C36-1	ENVOLVENTE MIN	0	-63.04	-3.37	-0.58	-0.827	-0.967	-10.239
N+17.00	C36-1	ENVOLVENTE MIN	3.337	-61.97	-3.37	-0.58	-0.827	0.226	-0.459
N+17.00	C36-1	ENVOLVENTE MIN	3.337	-61.97	-3.37	-0.58	-0.827	0.226	-0.459
N+17.00	C36-1	ENVOLVENTE MIN	3.366	-61.97	-3.37	-0.58	-0.827	0.226	-0.51
N+17.00	C36-1	ENVOLVENTE MIN	3.366	-34.25	-3.93	-2.1	-1.117	-3.118	-2.067
N+17.00	C36-1	ENVOLVENTE MIN	5.834	-33.46	-3.93	-2.1	-1.117	0.336	-4.325
N+17.00	C36-1	ENVOLVENTE MIN	5.834	-7.29	-2.68	-2.1	-0.909	-1.65	-3.309
N+17.00	C36-1	ENVOLVENTE MIN	5.834	-7.29	-2.68	-2.1	-0.909	-1.652	-3.306
N+17.00	C36-1	ENVOLVENTE MIN	5.834	-3.48	-6.55	-1.72	-1.765	-1.708	0.351
N+17.00	C36-1	ENVOLVENTE MIN	5.836	-3.48	-6.55	-1.72	-1.765	-1.707	0.361
N+4.45	C37	ENVOLVENTE MAX	0	-247.2	21.32	50.85	1.996	120.072	71.969
N+4.45	C37	ENVOLVENTE MAX	4.5	-227.51	21.32	50.85	1.996	154.173	23.266
N+4.45	C37	ENVOLVENTE MIN	0	-645.12	-21.1	-65.95	-2.017	-142.609	-71.709
N+4.45	C37	ENVOLVENTE MIN	4.5	-618.88	-21.1	-65.95	-2.017	-108.751	-23.978
N+8.90	C38	ENVOLVENTE MAX	0	-57.35	5.34	39.94	5.318	81.81	11.218
N+8.90	C38	ENVOLVENTE MAX	4.45	-37.89	5.34	39.94	5.318	101.828	17.779
N+8.90	C38	ENVOLVENTE MIN	0	-126	-5.43	-46.32	-5.092	-104.32	-11.648
N+8.90	C38	ENVOLVENTE MIN	4.45	-100.05	-5.43	-46.32	-5.092	-95.955	-17.788
N+4.45	C38	ENVOLVENTE MAX	0	-294.76	21.24	55.84	1.996	138.054	71.745
N+4.45	C38	ENVOLVENTE MAX	4.5	-275.07	21.24	55.84	1.996	140.411	28.765
N+4.45	C38	ENVOLVENTE MIN	0	-683.87	-22.66	-64.94	-2.017	-151.836	-73.9
N+4.45	C38	ENVOLVENTE MIN	4.5	-657.63	-22.66	-64.94	-2.017	-113.273	-24.54
N+17.00	C38-1	ENVOLVENTE MAX	0	-15.86	3.31	0.56	0.25	1.194	9.648
N+17.00	C38-1	ENVOLVENTE MAX	1.915	-15.41	3.31	0.56	0.25	0.187	3.42
N+17.00	C38-1	ENVOLVENTE MAX	1.915	-15.41	3.31	0.56	0.25	0.187	3.42
N+17.00	C38-1	ENVOLVENTE MAX	1.95	-15.4	3.31	0.56	0.25	0.171	3.315
N+17.00	C38-1	ENVOLVENTE MAX	1.95	-5.6	3.54	0.38	0.431	0.538	5.723
N+17.00	C38-1	ENVOLVENTE MAX	5.834	-4.68	3.54	0.38	0.431	0.073	4.536

N+17.00	C38-1	ENVOLVENTE MAX	5.834	4.17	3.08	1.39	0.541	0.85	-0.584
N+17.00	C38-1	ENVOLVENTE MAX	5.834	4.17	3.08	1.39	0.541	0.851	-0.589
N+17.00	C38-1	ENVOLVENTE MAX	5.834	5.15	2.92	1.05	1.252	0.926	4.352
N+17.00	C38-1	ENVOLVENTE MAX	5.836	5.16	2.92	1.05	1.252	0.927	4.358
N+17.00	C38-1	ENVOLVENTE MIN	0	-67.19	-2.53	-0.17	-0.315	-0.75	-8.215
N+17.00	C38-1	ENVOLVENTE MIN	1.915	-66.58	-2.53	-0.17	-0.315	-0.483	-3.481
N+17.00	C38-1	ENVOLVENTE MIN	1.915	-66.58	-2.53	-0.17	-0.315	-0.483	-3.481
N+17.00	C38-1	ENVOLVENTE MIN	1.95	-66.57	-2.53	-0.17	-0.315	-0.48	-3.403
N+17.00	C38-1	ENVOLVENTE MIN	1.95	-41.69	-2.53	0.02	-0.534	-0.107	-5.291
N+17.00	C38-1	ENVOLVENTE MIN	5.834	-40.45	-2.53	0.02	-0.534	-0.926	-8.029
N+17.00	C38-1	ENVOLVENTE MIN	5.834	-7.4	-3.47	-1.05	-1.064	-1.105	-4.355
N+17.00	C38-1	ENVOLVENTE MIN	5.834	-7.4	-3.46	-1.05	-1.064	-1.106	-4.352
N+17.00	C38-1	ENVOLVENTE MIN	5.834	-4.53	-6.52	-1.39	-0.848	-0.506	0.589
N+17.00	C38-1	ENVOLVENTE MIN	5.836	-4.53	-6.52	-1.39	-0.848	-0.507	0.6
N+4.45	C39	ENVOLVENTE MAX	0	-208.66	21.27	84.13	1.996	191.13	71.921
N+4.45	C39	ENVOLVENTE MAX	4.5	-188.97	21.27	84.13	1.996	187.965	23.875
N+4.45	C39	ENVOLVENTE MIN	0	-596.72	-21.31	-84.45	-2.017	-192.076	-72.04
N+4.45	C39	ENVOLVENTE MIN	4.5	-570.48	-21.31	-84.45	-2.017	-187.452	-23.812
N+8.90	C40	ENVOLVENTE MAX	0	-38.96	5.4	32.85	5.292	64.961	14.518
N+8.90	C40	ENVOLVENTE MAX	4.45	-19.49	5.4	32.85	5.292	82.058	10.241
N+8.90	C40	ENVOLVENTE MIN	0	-88.82	-4.25	-33.52	-5.34	-67.302	-11.521
N+8.90	C40	ENVOLVENTE MIN	4.45	-62.86	-4.25	-33.52	-5.34	-81.423	-12.353
N+4.45	C40	ENVOLVENTE MAX	0	-202.79	19.28	81.4	1.996	198.534	68.509
N+4.45	C40	ENVOLVENTE MAX	4.5	-183.11	19.28	81.4	1.996	170.481	13.511
N+4.45	C40	ENVOLVENTE MIN	0	-427.96	-16.89	-82.49	-2.017	-200.737	-65.037
N+4.45	C40	ENVOLVENTE MIN	4.5	-401.72	-16.89	-82.49	-2.017	-167.785	-20.788
N+17.00	C40-1	ENVOLVENTE MAX	0	-7.28	0.86	0.42	0.25	1.087	2.179
N+17.00	C40-1	ENVOLVENTE MAX	1.915	-6.82	0.86	0.42	0.25	0.336	1.184
N+17.00	C40-1	ENVOLVENTE MAX	1.915	-6.82	0.86	0.42	0.25	0.336	1.184
N+17.00	C40-1	ENVOLVENTE MAX	1.95	-6.82	0.86	0.42	0.25	0.326	1.18
N+17.00	C40-1	ENVOLVENTE MIN	0	-39.54	-0.93	-0.41	-0.312	-1.114	-2.398
N+17.00	C40-1	ENVOLVENTE MIN	1.915	-38.93	-0.93	-0.41	-0.312	-0.366	-1.263
N+17.00	C40-1	ENVOLVENTE MIN	1.915	-38.93	-0.93	-0.41	-0.312	-0.366	-1.263
N+17.00	C40-1	ENVOLVENTE MIN	1.95	-38.92	-0.93	-0.41	-0.312	-0.355	-1.256
N+8.90	C41	ENVOLVENTE MAX	0	-27.23	1.28	16.83	8.153	41.592	-6.029
N+8.90	C41	ENVOLVENTE MAX	4.45	-7.76	1.28	16.83	8.153	13.855	27.248
N+8.90	C41	ENVOLVENTE MIN	0	-79.36	-11.83	-4.06	-8.935	-5.87	-27.026
N+8.90	C41	ENVOLVENTE MIN	4.45	-53.4	-11.83	-4.06	-8.935	-34.991	-13.393
N+4.45	C41	ENVOLVENTE MAX	0	-94.31	33.68	34.84	1.996	83.869	92.486
N+4.45	C41	ENVOLVENTE MAX	4.5	-74.63	33.68	34.84	1.996	39.902	94.543
N+4.45	C41	ENVOLVENTE MIN	0	-268.32	-45.42	-23.82	-2.017	-67.399	-109.836
N+4.45	C41	ENVOLVENTE MIN	4.5	-242.08	-45.42	-23.82	-2.017	-73.035	-59.071
N+8.90	C42	ENVOLVENTE MAX	0	-38.79	18.73	15.93	19.568	66.745	37.599
N+8.90	C42	ENVOLVENTE MAX	4.45	-14.76	18.73	15.93	19.568	3.826	41.376
N+8.90	C42	ENVOLVENTE MIN	0	-63.09	-12.7	-11.46	-17.785	-48.753	-16.136
N+8.90	C42	ENVOLVENTE MIN	4.45	-25.71	-12.7	-11.46	-17.785	-6.356	-46.716
N+4.45	C42	ENVOLVENTE MAX	0	-136.76	66.92	41.25	3.042	109.612	163.664
N+4.45	C42	ENVOLVENTE MAX	4.5	-112.46	66.92	41.25	3.042	43.919	114.629
N+4.45	C42	ENVOLVENTE MIN	0	-280.09	-59.37	-29.7	-3.074	-92.426	-152.532
N+4.45	C42	ENVOLVENTE MIN	4.5	-247.69	-59.37	-29.7	-3.074	-78.706	-137.479
N+8.90	C43	ENVOLVENTE MAX	0	-49.87	12.66	59.41	6.664	165.776	15.766
N+8.90	C43	ENVOLVENTE MAX	4.45	-25.84	12.66	59.41	6.664	19.431	45.39
N+8.90	C43	ENVOLVENTE MIN	0	-163.89	-17.57	-27.73	-5.189	-104.741	-33.954
N+8.90	C43	ENVOLVENTE MIN	4.45	-131.85	-17.57	-27.73	-5.189	-119.751	-41.739
N+4.45	C43	ENVOLVENTE MAX	0	-142.64	58.82	33.82	3.042	95.438	151.736
N+4.45	C43	ENVOLVENTE MAX	4.5	-118.34	58.82	33.82	3.042	63.762	135.65
N+4.45	C43	ENVOLVENTE MIN	0	-344.98	-66.32	-30.67	-3.074	-90.73	-162.778
N+4.45	C43	ENVOLVENTE MIN	4.5	-312.58	-66.32	-30.67	-3.074	-73.214	-112.95
N+8.90	C44	ENVOLVENTE MAX	0	-38.86	14.08	11.87	16.896	47.217	23.273
N+8.90	C44	ENVOLVENTE MAX	4.45	-14.83	14.08	11.87	16.896	4.827	42.369
N+8.90	C44	ENVOLVENTE MIN	0	-63.46	-14.12	-9.77	-18.864	-41.1	-21.922
N+8.90	C44	ENVOLVENTE MIN	4.45	-26.08	-14.12	-9.77	-18.864	-8.053	-40.826
N+4.45	C44	ENVOLVENTE MAX	0	-184.88	62.28	21.59	3.042	82.572	156.83
N+4.45	C44	ENVOLVENTE MAX	4.5	-160.58	62.28	21.59	3.042	39.992	121.808

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR
BOGOTÁ (CUNDINAMARCA)
DATOS DE SALIDA DEL MODELO

N+4.45	C44	ENVOLVENTE MIN	0	-343.39	-61.74	-21.54	-3.074	-82.521	-156.025
N+4.45	C44	ENVOLVENTE MIN	4.5	-310.99	-61.74	-21.54	-3.074	-40.177	-123.446
N+8.90	C45	ENVOLVENTE MAX	0	-50.47	12.79	26.88	5.777	60.512	22.005
N+8.90	C45	ENVOLVENTE MAX	4.45	-31.01	12.79	26.88	5.777	31.215	35.238
N+8.90	C45	ENVOLVENTE MIN	0	-164.5	-13.34	-11.1	-6.089	-18.971	-24.306
N+8.90	C45	ENVOLVENTE MIN	4.45	-138.55	-13.34	-11.1	-6.089	-59.907	-35.071
N+4.45	C45	ENVOLVENTE MAX	0	-171.41	42.72	39.26	1.996	96.249	105.862
N+4.45	C45	ENVOLVENTE MAX	4.5	-151.73	42.72	39.26	1.996	46.036	89.776
N+4.45	C45	ENVOLVENTE MIN	0	-430.81	-43.84	-27.88	-2.017	-79.501	-107.509
N+4.45	C45	ENVOLVENTE MIN	4.5	-404.56	-43.84	-27.88	-2.017	-80.513	-86.399
N+8.90	C46	ENVOLVENTE MAX	0	-33.58	13.93	4.01	7.838	16.513	26.613
N+8.90	C46	ENVOLVENTE MAX	4.45	-14.12	13.93	4.01	7.838	6.725	35.031
N+8.90	C46	ENVOLVENTE MIN	0	-55.98	-13.79	-2.93	-6.929	-7.86	-26.375
N+8.90	C46	ENVOLVENTE MIN	4.45	-25.7	-13.79	-2.93	-6.929	-5.327	-35.387
N+4.45	C46	ENVOLVENTE MAX	0	-207.94	44.72	18.95	1.996	68.946	108.815
N+4.45	C46	ENVOLVENTE MAX	4.5	-188.26	44.72	18.95	1.996	10.989	92.647
N+4.45	C46	ENVOLVENTE MIN	0	-417.98	-44.79	-16.76	-2.017	-65.855	-108.911
N+4.45	C46	ENVOLVENTE MIN	4.5	-391.73	-44.79	-16.76	-2.017	-17.75	-92.441
N+8.90	C47	ENVOLVENTE MAX	0	-74.75	17.83	31.16	6.274	115.261	26.012
N+8.90	C47	ENVOLVENTE MAX	4.45	-50.72	17.83	31.16	6.274	21.68	50.58
N+8.90	C47	ENVOLVENTE MIN	0	-206.56	-15.1	-10.18	-6.16	-27.094	-17.943
N+8.90	C47	ENVOLVENTE MIN	4.45	-174.52	-15.1	-10.18	-6.16	-26.864	-54.631
N+4.45	C47	ENVOLVENTE MAX	0	-222.65	61.31	65.85	3.042	165.264	155.406
N+4.45	C47	ENVOLVENTE MAX	4.5	-198.35	61.31	65.85	3.042	36.761	112.744
N+4.45	C47	ENVOLVENTE MIN	0	-493.77	-58.75	-34.68	-3.074	-119.668	-151.615
N+4.45	C47	ENVOLVENTE MIN	4.5	-461.37	-58.75	-34.68	-3.074	-131.406	-120.515
N+8.90	C48	ENVOLVENTE MAX	0	-34.6	13.38	3.89	5.427	15.559	25.542
N+8.90	C48	ENVOLVENTE MAX	4.45	-15.14	13.38	3.89	5.427	8.175	33.361
N+8.90	C48	ENVOLVENTE MIN	0	-57.98	-11.98	-3.05	-7.257	-8.506	-20.196
N+8.90	C48	ENVOLVENTE MIN	4.45	-27.71	-11.98	-3.05	-7.257	-6.227	-34.234
N+4.45	C48	ENVOLVENTE MAX	0	-134.8	44.39	22.23	1.996	82.689	108.31
N+4.45	C48	ENVOLVENTE MAX	4.5	-115.11	44.39	22.23	1.996	13.846	84.981
N+4.45	C48	ENVOLVENTE MIN	0	-245.27	-42.25	-20.48	-2.017	-80.373	-105.149
N+4.45	C48	ENVOLVENTE MIN	4.5	-219.03	-42.25	-20.48	-2.017	-19.413	-91.429
N+8.90	C49	ENVOLVENTE MAX	0	-35.7	8.87	33.73	6.52	78.529	10.117
N+8.90	C49	ENVOLVENTE MAX	4.45	-16.23	8.87	33.73	6.52	43.673	39.493
N+8.90	C49	ENVOLVENTE MIN	0	-137.33	-16.49	-14.63	-6.026	-22.425	-34.32
N+8.90	C49	ENVOLVENTE MIN	4.45	-111.37	-16.49	-14.63	-6.026	-72.59	-29.792
N+4.45	C49	ENVOLVENTE MAX	0	-169.17	38.59	58.35	1.996	141.638	99.745
N+4.45	C49	ENVOLVENTE MAX	4.5	-149.49	38.59	58.35	1.996	68.04	99.038
N+4.45	C49	ENVOLVENTE MIN	0	-512.84	-46.91	-40.93	-2.017	-116.225	-112.04
N+4.45	C49	ENVOLVENTE MIN	4.5	-486.6	-46.91	-40.93	-2.017	-121.01	-73.896
N+8.90	C50	ENVOLVENTE MAX	0	-38.57	16.63	10.59	23.794	38.961	30.87
N+8.90	C50	ENVOLVENTE MAX	4.45	-14.54	16.63	10.59	23.794	7.463	40.187
N+8.90	C50	ENVOLVENTE MIN	0	-63.18	-13.15	-11.19	-25.492	-43.64	-19.343
N+8.90	C50	ENVOLVENTE MIN	4.45	-25.8	-13.15	-11.19	-25.492	-9.465	-44.123
N+4.45	C50	ENVOLVENTE MAX	0	-225.05	65.08	28.58	3.042	134.321	160.956
N+4.45	C50	ENVOLVENTE MAX	4.5	-200.75	65.08	28.58	3.042	30.023	118.721
N+4.45	C50	ENVOLVENTE MIN	0	-450.24	-60.72	-30.43	-3.074	-137.657	-154.523
N+4.45	C50	ENVOLVENTE MIN	4.5	-417.84	-60.72	-30.43	-3.074	-25.044	-131.918
N+8.90	C51	ENVOLVENTE MAX	0	-38.87	13.5	75.23	4.327	216.903	19.735
N+8.90	C51	ENVOLVENTE MAX	4.45	-14.84	13.5	75.23	4.327	63.21	42.555
N+8.90	C51	ENVOLVENTE MIN	0	-132.39	-14.15	-50.57	-4.97	-161.962	-21.552
N+8.90	C51	ENVOLVENTE MIN	4.45	-100.35	-14.15	-50.57	-4.97	-117.998	-41.467
N+4.45	C51	ENVOLVENTE MAX	0	-137.88	60.69	63.23	3.042	193.78	154.499
N+4.45	C51	ENVOLVENTE MAX	4.5	-113.58	60.69	63.23	3.042	42.872	119.181
N+4.45	C51	ENVOLVENTE MIN	0	-471.64	-60.87	-45.8	-3.074	-168.812	-154.761
N+4.45	C51	ENVOLVENTE MIN	4.5	-439.24	-60.87	-45.8	-3.074	-96.336	-118.624
N+8.90	C52	ENVOLVENTE MAX	0	-38.02	15.07	12.07	24.289	42.948	24.252
N+8.90	C52	ENVOLVENTE MAX	4.45	-13.99	15.07	12.07	24.289	11.171	44.165
N+8.90	C52	ENVOLVENTE MIN	0	-61.99	-15.9	-11.74	-22.82	-43.144	-27.603
N+8.90	C52	ENVOLVENTE MIN	4.45	-24.61	-15.9	-11.74	-22.82	-12.825	-43.787
N+4.45	C52	ENVOLVENTE MAX	0	-215.62	62.38	40.1	3.042	168.281	156.984
N+4.45	C52	ENVOLVENTE MAX	4.5	-191.32	62.38	40.1	3.042	26.564	126.327
N+4.45	C52	ENVOLVENTE MIN	0	-429.34	-63.24	-37.18	-3.074	-164.777	-158.239
N+4.45	C52	ENVOLVENTE MIN	4.5	-396.94	-63.24	-37.18	-3.074	-36.235	-123.731
N+8.90	C53	ENVOLVENTE MAX	0	-13.19	12.89	21.73	14.37	47.006	29.713
N+8.90	C53	ENVOLVENTE MAX	4.45	6.27	12.89	21.73	14.37	32.244	12.679
N+8.90	C53	ENVOLVENTE MIN	0	-80.44	-0.82	-8.02	-14.269	-7.568	7.354
N+8.90	C53	ENVOLVENTE MIN	4.45	-54.49	-0.82	-8.02	-14.269	-53.848	-29.338
N+4.45	C53	ENVOLVENTE MAX	0	-63.4	46.1	75.07	1.996	188.989	110.85
N+4.45	C53	ENVOLVENTE MAX	4.5	-43.72	46.1	75.07	1.996	111.188	57.743
N+4.45	C53	ENVOLVENTE MIN	0	-310.74	-33.24	-62.79	-2.017	-171.435	-91.823
N+4.45	C53	ENVOLVENTE MIN	4.5	-284.49	-33.24	-62.79	-2.017	-148.875	-96.619
N+4.45	C54	ENVOLVENTE MAX	0	-67.23	21.03	36.07	1.996	86.027	71.544
N+4.45	C54	ENVOLVENTE MAX	4.5	-47.54	21.03	36.07	1.996	90.833	16.177
N+4.45	C54	ENVOLVENTE MIN	0	-165.14	-18.76	-40.84	-2.017	-92.976	-68.252
N+4.45	C54	ENVOLVENTE MIN	4.5	-138.9	-18.76	-40.84	-2.017	-76.292	-23.085
N+4.45	C55	ENVOLVENTE MAX	0	-76.54	20.73	43.13	1.996	96.505	70.917
N+4.45	C55	ENVOLVENTE MAX	4.5	-56.86	20.73	43.13	1.996	71.783	16.518
N+4.45	C55	ENVOLVENTE MIN	0	-184.42	-18.86	-34.55	-2.017	-83.714	-68.338
N+4.45	C55	ENVOLVENTE MIN	4.5	-158.17	-18.86	-34.55	-2.017	-97.586	-22.36

10. VERIFICACIONES

VERIFICACIONES

**VERIFICACIONES DE CORTANTE
PARA VIGAS
C.21.3.3.1 (a)
C.21.3.3.1 (b)**

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)
RESISTENCIA A CORTANTE PARA VIGAS
CHEQUEO PARA LA CONDICIÓN DESCRITA EN C.21.3.3 (a)

F_c = 21.1 MPa
F_y = 420 MPa
φ_{concreto} = 0.75
Estribos φ = 9.5 mm
Av = 71 mm²
Rn = 3.38

M_n = Momentos nominales de la viga en cada extremo restringido de la luz libre.
V_g = Cortante calculado para cargas gravitacionales mayoradas.
V_m = Cortante debido a flexión en curvatura inversa.
V_u = V_m + V_g

V _g	V _u = M _u + M _u / l ₁															
	COMBOS13	COMBOS14	COMBOS15	COMBOS16	COMBOS17	COMBOS18	COMBOS19	COMBOS10	COMBOS11	COMBOS12	COMBOS13	COMBOS14	COMBOS15	COMBOS16	COMBOS17	COMBOS18
(kN)	(kN)															
128.12	43.656	46.764	63.470	66.578	21.628	22.560	87.674	88.606	14.602	17.710	34.416	37.524	14.399	14.130	58.620	59.552
274.64																
11.14	1.365	0.212	6.751	8.306	10.290	9.824	16.764	17.231	2.209	0.654	5.907	7.462	11.134	10.668	15.920	16.387
10.14																
92.73	24.039	27.562	46.599	50.122	5.910	5.881	74.152	75.209	7.753	10.677	29.713	33.237	17.933	16.876	57.266	58.323
165.44																
110.63	29.708	31.316	35.616	37.224	23.378	23.860	43.072	43.554	13.748	15.356	19.656	21.264	7.418	7.900	27.112	27.594
119.52																
10.24																
10.59	0.901	1.949	4.668	7.518	6.401	5.546	12.163	13.018	1.806	1.044	3.763	6.613	7.306	6.451	11.258	12.113
88.72	13.980	19.034	29.316	34.370	9.886	9.473	48.976	50.492	4.942	8.907	19.189	24.243	12.269	10.753	38.849	40.365
71.93																
59.79	5.156	7.990	27.420	30.467	20.214	19.300	54.710	55.624	4.152	3.556	19.208	22.255	28.425	27.511	46.498	47.412
55.74																
11.28	4.960	1.388	5.904	12.253	15.413	13.508	20.801	22.706	5.792	0.556	5.072	11.420	16.245	14.341	19.969	21.873
16.47																
205.16	30.094	35.672	53.138	58.716	26.261	26.130	81.976	83.649	11.635	12.509	29.976	35.554	18.001	16.328	58.813	60.487
92.88																
341.35	58.977	59.371	83.875	84.269	30.752	30.738	113.061	113.179	21.013	21.407	45.911	46.305	20.220	20.207	75.096	75.215
170.76																
15.18	4.381	2.135	9.016	13.577	18.415	17.047	26.243	27.611	5.873	2.056	7.524	12.085	19.907	18.539	24.751	26.119
12.58																
302.35	51.923	56.400	80.407	84.884	20.258	21.602	115.206	116.549	15.888	20.365	44.372	48.850	15.777	14.433	79.171	80.514
159.87																
273.58	27.818	31.603	66.532	70.317	38.851	38.586	113.023	114.158	14.886	14.003	40.976	44.761	41.579	40.444	87.467	88.602
112.24																
10.13	2.518	0.722	7.480	9.275	13.553	13.015	19.772	20.311	3.464	1.669	6.533	8.329	14.500	13.961	18.826	19.364
10.69																
167.42	16.043	20.371	44.752	49.080	16.283	16.177	79.761	81.059	7.553	7.199	29.956	34.283	30.732	29.434	64.964	66.262
81.03																
9.90	5.322	12.379	4.953	13.544	0.739	5.431	2.410	7.961	6.891	11.610	6.126	12.375	1.308	4.242	1.242	6.792
10.94																
76.14	8.220	50.861	5.192	54.120	8.657	26.381	19.518	37.242	17.652	41.429	14.394	44.687	3.222	16.949	10.086	27.810
94.79																
10.36	5.312	10.479	4.461	11.330	0.778	3.959	2.059	6.796	5.911	9.880	5.060	10.731	1.377	3.360	1.460	6.197
10.89																
37.16	13.223	39.620	10.226	42.325	1.596	17.401	11.921	27.806	17.602	35.389	14.385	38.366	2.763	12.122	7.562	22.447
37.30																
10.80	4.357	11.543	3.716	12.184	0.461	5.231	2.596	7.366	5.435	10.466	4.794	11.106	0.617	4.153	1.519	6.289
10.47																
83.72	5.469	56.322	5.470	59.248	17.885	34.049	27.638	43.803	10.976	42.907	8.050	45.833	4.469	20.634	14.222	30.387
126.33																
11.47	4.507	10.422	3.895	11.224	0.731	4.250	2.477	6.956	5.319	9.610	4.507	10.422	1.041	3.438	1.665	6.144
9.80																
123.09	6.436	55.366	9.376	58.306	20.131	34.811	29.931	44.610	7.834	41.096	4.894	44.036	5.862	20.541	15.661	30.340
86.86																
10.36																
10.92	3.544	10.216	3.053	10.706	0.700	4.827	2.335	6.463	4.434	9.326	3.943	9.816	0.309	3.937	1.445	5.573

PROYECTO: CENTRO DE ATENCION ESPECIALIZADA - EL REDENTOR, BOGOTÁ (CUNDINAMARCA), RESISTENCIA A CORTANTE PARA VIGAS CHEQUEO PARA LA CONDICIÓN DESCRITA EN C.21.3.3 (b)

Fc = 21.0 MPa
fy = 420 MPa
φ = 0.75
Estribos Ø = 9.5 mm
Av = 71 mm²
R = 3.38

Zw = Cortante máxima obtenida de las combinaciones de carga de diseño que incluyen E, considerando E, como el doble del prescrito por el reglamento general legalmente adoptado para diseño sismico, vigetas.

COMB053 = 1.2CM + 1.0CV + (-2*(1.0E))+(-2*(0.3E))
COMB054 = 1.2CM + 1.0CV + (-2*(1.0E))+(-1*(0.3E))
COMB055 = 1.2CM + 1.0CV + (-2*(1.0E))+(-2*(0.3E))+E

COMB059 = 1.2CM + 1.0CV + (-2*(0.3E))+(-2*(1.0E))
COMB060 = 1.2CM + 1.0CV + (-2*(0.3E))+(-1*(1.0E))
COMB061 = 1.2CM + 1.0CV + (-2*(0.3E))+(-2*(1.0E))+E

COMB015 = 0.9CM + (2*(0.3E))+(-2*(1.0E))
COMB016 = 0.9CM + (2*(0.3E))+(-1*(1.0E))
COMB017 = 0.9CM + (2*(0.3E))+(-2*(1.0E))+E

Main data table with columns: NIVEL, VIGA, LOCALIZACIÓN, LONGITUD, SECCIÓN, PROPIEDADES DEL ELEMENTO (b, d), MOMENTOS Y FUERZAS (C.M., C.V., SISMO Y -SISMO X, -SISMO Y), COMBINACIONES DE CARGA (COMB053-COMB061), CORTANTE (Zw), y otros parámetros de diseño (S, φVn, φVn).

**VERIFICACIONES DE CORTANTE
PARA COLUMNAS**

C.21.3.3.2 (a)

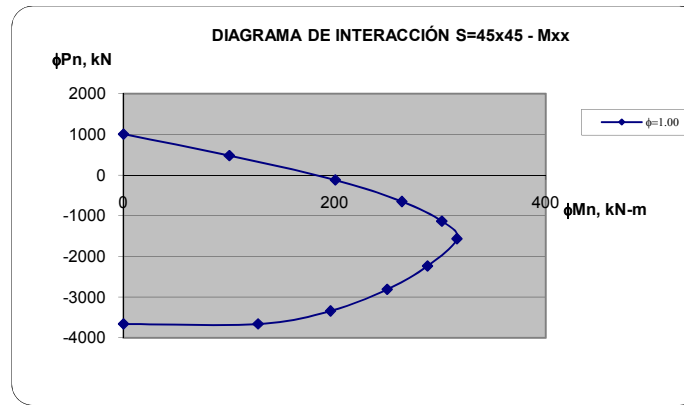
C.21.3.3.2 (b)

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)
RESISTENCIA A CORTANTE PARA COLUMNAS
CHEQUEO PARA LA CONDICIÓN DESCRITA EN C.21.3.3 (a) - COLUMNAS S=45x45 - 6#5+6#5

$f_c = 21.1$ MPa **Estribos $\Phi = 9.5$** mm
 $f_y = 420$ MPa **$A_v = 71$** mm²
 $\Phi_{\text{Cortante}} = 0.75$ **Cantidad de ramas = 3**
 $b_x = 0.45$ m **$S = 0.20$** m
 $b_y = 0.45$ m **Recub. = 0.05** m
 $L_{col} = 4.00$ m

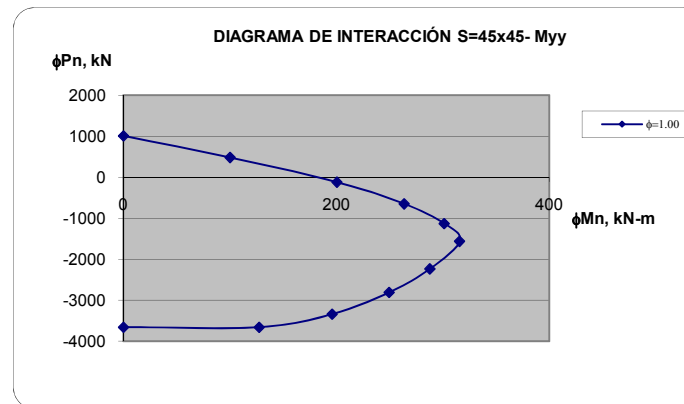
C.21.3.3.2(a) El cortante ΦV_n no debe ser menor que la suma del cortante debido a flexión en curvatura inversa asociado con el desarrollo de los momentos nominales de la columna en cada extremo restringido de la longitud libre.

DATOS PARA LOS DIAGRAMAS DE ITERACIÓN			
No.	Curve 1	0. degrees	
	P	M3	M2
1	-3664.00	0.00	0.00
2	-3664.00	127.50	0.00
3	-3343.00	196.05	0.00
4	-2812.00	249.75	0.00
5	-2237.00	287.97	0.00
6	-1565.00	315.88	0.00
7	-1133.00	301.45	0.00
8	-651.65	263.71	0.00
9	-121.96	200.57	0.00
10	480.07	100.27	0.00
11	1008.00	0.00	0.00



$P_{ua} = -685.99$ kN
 $P_{ub} = -659.75$ kN
 $\Phi M_{na} = 266.41$ kN-m
 $\Phi M_{nb} = 264.35$ kN-m
 $V_{umax} = 132.69$ kN
 $\Phi V_s = 134.19$ kN
 $\Phi V_c = 103.35$ kN
 $\Phi V_n = 237.54$ kN
 $\Phi V_n > V_{umax} = \text{OK}$

DATOS PARA LOS DIAGRAMAS DE ITERACIÓN			
No.	Curve 7	90. degrees	
	P	M3	M2
1	-3664.00	0.00	0.00
2	-3664.00	0.00	127.50
3	-3343.00	0.00	196.05
4	-2812.00	0.00	249.75
5	-2237.00	0.00	287.97
6	-1565.00	0.00	315.88
7	-1133.00	0.00	301.45
8	-651.65	0.00	263.71
9	-121.96	0.00	200.57
10	480.07	0.00	100.27
11	1008.00	0.00	0.00



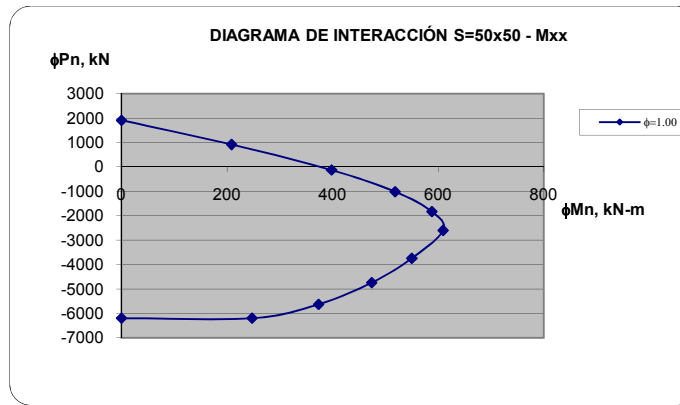
$P_{ua} = -696.97$ kN
 $P_{ub} = -670.72$ kN
 $\Phi M_{na} = 267.27$ kN-m
 $\Phi M_{nb} = 265.21$ kN-m
 $V_{umax} = 133.12$ kN
 $\Phi V_s = 134.19$ kN
 $\Phi V_c = 103.35$ kN
 $\Phi V_n = 237.54$ kN
 $\Phi V_n > V_{umax} = \text{OK}$

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)
RESISTENCIA A CORTANTE PARA COLUMNAS
CHEQUEO PARA LA CONDICIÓN DESCRITA EN C.21.3.3 (a) - COLUMNAS S=50x50 - 8#5+8#5

$f_c = 21.1$ MPa **Estribos $\Phi = 9.5$** mm
 $f_y = 420$ MPa **$A_v = 71$** mm²
 $\Phi_{\text{Cortante}} = 0.75$ **Cantidad de ramas = 3**
 $b_x = 0.50$ m **$S = 0.20$** m
 $b_y = 0.50$ m **Recub. = 0.05** m
 $L_{col} = 4.00$ m

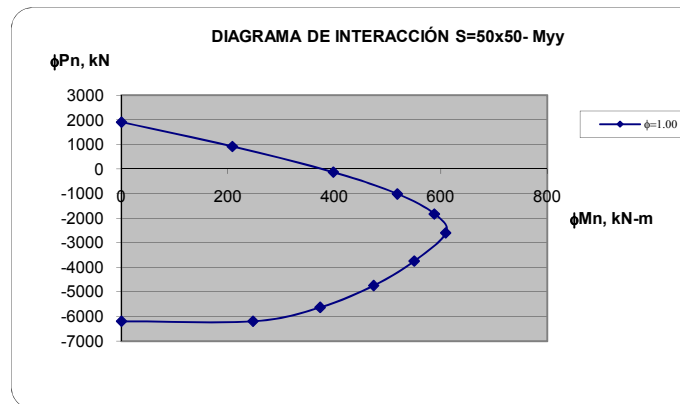
C.21.3.3.2(a) El cortante ΦV_n no debe ser menor que la suma del cortante debido a flexión en curvatura inversa asociado con el desarrollo de los momentos nominales de la columna en cada extremo restringido de la longitud libre.

DATOS PARA LOS DIAGRAMAS DE ITERACIÓN			
No.	Curve 1	0. degrees	
	P	M3	M2
1	-6200.00	0.00	0.00
2	-6200.00	247.52	0.00
3	-5632.00	373.40	0.00
4	-4745.00	474.05	0.00
5	-3749.00	550.21	0.00
6	-2600.00	609.53	0.00
7	-1831.00	588.07	0.00
8	-1018.00	518.57	0.00
9	-131.96	398.12	0.00
10	915.94	208.52	0.00
11	1907.61	0.00	0.00



$P_{ua} = -449.21$ kN
 $P_{ub} = -416.81$ kN
 $\Phi M_{na} = 441.25$ kN-m
 $\Phi M_{nb} = 436.84$ kN-m
 $V_{umax} = 219.52$ kN
 $\Phi V_s = 150.96$ kN
 $\Phi V_c = 129.19$ kN
 $\Phi V_n = 280.16$ kN
 $\Phi V_n > V_{umax} = \text{OK}$

DATOS PARA LOS DIAGRAMAS DE ITERACIÓN			
No.	Curve 7	90. degrees	
	P	M3	M2
1	-6200.00	0.00	0.00
2	-6200.00	0.00	247.52
3	-5632.00	0.00	373.40
4	-4745.00	0.00	474.05
5	-3749.00	0.00	550.21
6	-2600.00	0.00	609.53
7	-1831.00	0.00	588.07
8	-1018.00	0.00	518.57
9	-131.96	0.00	398.12
10	915.94	0.00	208.52
11	1907.61	0.00	0.00



$P_{ua} = -482.12$ kN
 $P_{ub} = -449.72$ kN
 $\Phi M_{na} = 445.72$ kN-m
 $\Phi M_{nb} = 319.04$ kN-m
 $V_{umax} = 191.19$ kN
 $\Phi V_s = 150.96$ kN
 $\Phi V_c = 129.19$ kN
 $\Phi V_n = 280.16$ kN
 $\Phi V_n > V_{umax} = \text{OK}$

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)
RESISTENCIA A CORTANTE PARA COLUMNAS
CHEQUEO PARA LA CONDICIÓN DESCRITA EN C.21.3.3 (b) - COLUMNA S=45x45

$f_c = 21.1$ MPa
 $f_y = 420$ MPa
 $\Phi_{\text{Cortante}} = 0.75$
 $b_x = 0.45$ m
 $b_y = 0.45$ m

Estribos $\Phi = 9.5$ mm
 $A_v = 71$ mm²
Cantidad de ramas = 3
 $S = 0.20$ m
 $\Omega_o = 3.00$
Recub. = 0.05 m

C.21.3.3.2(b) El cortante ΦV_n no debe ser menor que el cortante máximo obtenido de las combinaciones de carga de diseño que incluyan E, con E incrementado por medio de Ω_o .

Para cortante V2

$\Omega_o * V_{um\acute{a}x} = 143.58$ kN
 $\Phi V_s = 134.19$ kN
 $\Phi V_c = 103.35$ kN
 $\Phi V_n = 237.54$ kN
 $\Phi V_n > \Omega_o * V_{um\acute{a}x} = \text{OK}$

Para cortante V3

$\Omega_o * V_{um\acute{a}x} = 222.63$ kN
 $\Phi V_s = 134.19$ kN
 $\Phi V_c = 103.35$ kN
 $\Phi V_n = 237.54$ kN
 $\Phi V_n > \Omega_o * V_{um\acute{a}x} = \text{OK}$

PROYECTO: CENTRO DE ATENCIÓN ESPECIALIZADA - EL REDENTOR, BLOQUE C, BOGOTÁ (CUNDINAMARCA)
RESISTENCIA A CORTANTE PARA COLUMNAS
CHEQUEO PARA LA CONDICIÓN DESCRITA EN C.21.3.3 (b) - COLUMNA S=50X50

$f_c = 21.1$ MPa
 $f_y = 420$ MPa
 $\Phi_{\text{Cortante}} = 0.75$
 $b_x = 0.50$ m
 $b_y = 0.50$ m

Estribos $\Phi = 9.5$ mm
 $A_v = 71$ mm²
Cantidad de ramas = 3
 $S = 0.20$ m
 $\Omega_o = 3.00$
Recub. = 0.05 m

C.21.3.3.2(b) El cortante ΦV_n no debe ser menor que el cortante máximo obtenido de las combinaciones de carga de diseño que incluyan E, con E incrementado por medio de Ω_o .

Para cortante V2

$\Omega_o * V_{um\acute{a}x} = 193.80$ kN
 $\Phi V_s = 150.96$ kN
 $\Phi V_c = 129.19$ kN
 $\Phi V_n = 280.16$ kN
 $\Phi V_n > \Omega_o * V_{um\acute{a}x} = \text{OK}$

Para cortante V3

$\Omega_o * V_{um\acute{a}x} = 220.05$ kN
 $\Phi V_s = 150.96$ kN
 $\Phi V_c = 129.19$ kN
 $\Phi V_n = 280.16$ kN
 $\Phi V_n > \Omega_o * V_{um\acute{a}x} = \text{OK}$