

25 x 35 in

Code: ACI 318-14

Units: English

Run axis: About X-axis

Run option: Investigation

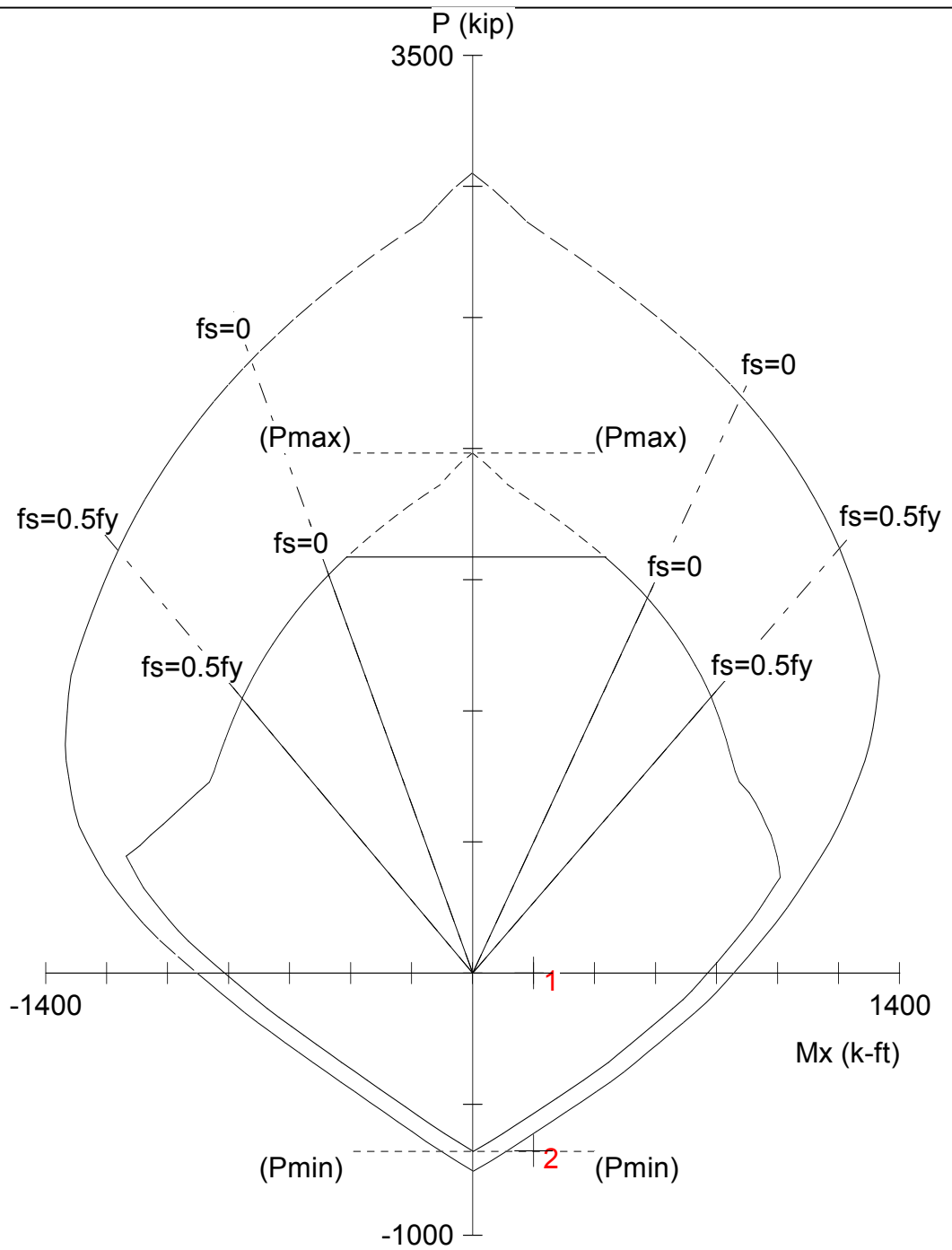
Slenderness: Not considered

Column type: Structural

Bars: ASTM A615

Date: 02/02/19

Time: 08:09:42



File: untitled.col

Project:

Column:

$f'_c = 4$ ksi

$E_c = 3605$ ksi

$f_c = 3.4$ ksi

$e_u = 0.003$ in/in

Beta1 = 0.85

Confinement: Tied

$\phi(a) = 0.8$, $\phi(b) = 0.9$, $\phi(c) = 0.65$

$f_y = 60$ ksi

$E_s = 29000$ ksi

$e_{yt} = 0.00206897$ in/in

Engineer:

$A_g = 687.5$ in²

$A_s = 12.60$ in²

$X_o = -2.61$ in

$Y_o = 2.94$ in

Min clear spacing = 4.13 in

21 #7 bars

$\rho = 1.83\%$

$I_x = 69007.9$ in⁴

$I_y = 38091.2$ in⁴

Clear cover = N/A

General Information:

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 File Name: untitled.col
 Project:
 Column: Engineer:
 Code: ACI 318-14 Units: English
 Run Option: Investigation Slenderness: Not considered
 Run Axis: X-axis Column Type: Structural

Material Properties:

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 Concrete: Standard Steel: Standard
 f'c = 4 ksi fy = 60 ksi
 Ec = 3605 ksi Es = 29000 ksi
 fc = 3.4 ksi Eps_yt = 0.00206897 in/in
 Eps_u = 0.003 in/in
 Beta1 = 0.85

Section:

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 Exterior Points

No.	X (in)	Y (in)	No.	X (in)	Y (in)	No.	X (in)	Y (in)
1	-15.0	20.0	2	10.0	20.0	3	10.0	-5.0
4	10.0	-10.0	5	5.0	-10.0	6	5.0	-5.0
7	0.0	-5.0	8	0.0	-15.0	9	-15.0	-15.0
10	-15.0	-0.0	11	-10.0	0.0	12	-10.0	5.0
13	-15.0	5.0						

 Interior Points

No.	X (in)	Y (in)	No.	X (in)	Y (in)	No.	X (in)	Y (in)
1	-10.0	15.0	2	-10.0	10.0	3	-5.0	5.0
4	-0.0	5.0	5	0.0	10.0	6	-0.0	15.0

Gross section area, Ag = 687.5 in²
 Ix = 69007.9 in⁴ Iy = 38091.2 in⁴
 rx = 10.0187 in ry = 7.44348 in
 Xo = -2.60606 in Yo = 2.93939 in

Reinforcement:

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 Bar Set: ASTM A615

Size	Diam (in)	Area (in ²)	Size	Diam (in)	Area (in ²)	Size	Diam (in)	Area (in ²)
# 3	0.38	0.11	# 4	0.50	0.20	# 5	0.63	0.31
# 6	0.75	0.44	# 7	0.88	0.60	# 8	1.00	0.79
# 9	1.13	1.00	# 10	1.27	1.27	# 11	1.41	1.56
# 14	1.69	2.25	# 18	2.26	4.00			

Confinement: Tied; #3 ties with #10 bars, #4 with larger bars.
 phi(a) = 0.8, phi(b) = 0.9, phi(c) = 0.65

Pattern: Irregular

Total steel area: As = 12.60 in² at rho = 1.83%
 Minimum clear spacing = 4.13 in

Area in ²	X (in)	Y (in)	Area in ²	X (in)	Y (in)	Area in ²	X (in)	Y (in)
0.60	-12.5	17.5	0.60	-7.5	17.5	0.60	-2.5	17.5
0.60	2.5	17.5	0.60	7.5	17.5	0.60	7.5	12.5
0.60	7.5	7.5	0.60	7.5	2.5	0.60	7.5	-2.5
0.60	7.5	-7.5	0.60	2.5	-2.5	0.60	-2.5	-2.5
0.60	-2.5	-7.5	0.60	-2.5	-12.5	0.60	-7.5	-12.5
0.60	-12.5	-2.5	0.60	-12.5	-7.5	0.60	-12.5	-12.5
0.60	-7.5	2.5	0.60	-12.5	7.5	0.60	-12.5	12.5

Factored Loads and Moments with Corresponding Capacities:

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No.	Pu kip	Mux k-ft	PhiMnx k-ft	PhiMn/Mu NA	depth in	Dt depth in	eps_t	Phi
1	0.00	200.00	770.47	3.852	8.21	32.50	0.00887	0.900
2	-678.00	200.00	5.63	0.028	0.06	32.50	1.60102	0.900 #

Section capacity exceeded. Revise design!

*** End of output ***