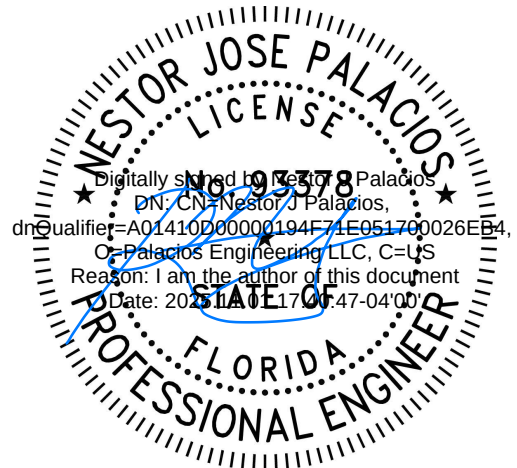


STRUCTURAL CALCULATIONS FOR

10840 SW 67TH AVE [REV-1]

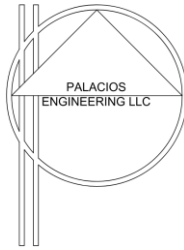
10840 SW 67TH AVE,
MIAMI, FLORIDA 33156



Nestor Jose Palacios, P.E.
FL. Lic. No. 93378

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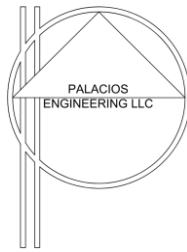


INDEX

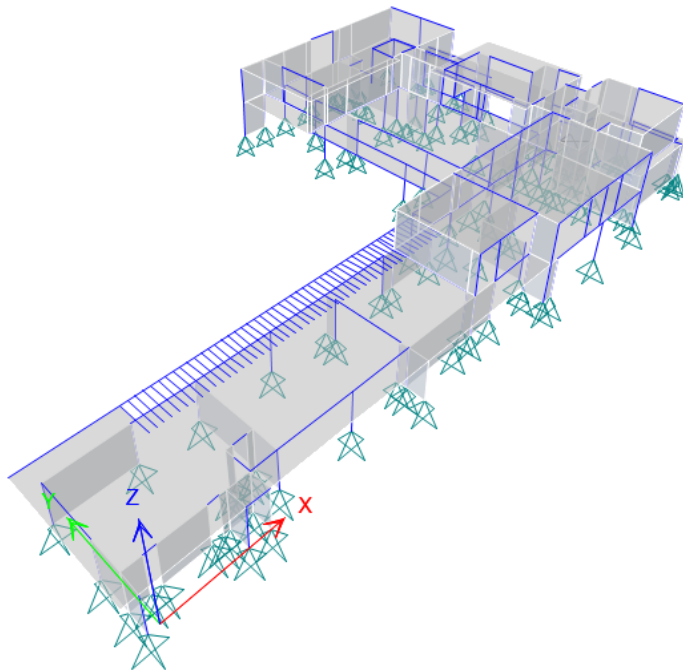
Subject	Page No.
Concrete Beam Design	3
Masonry Walls Design	91

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Concrete Beams Dividing Sheet



CONCRETE BEAM DESIGN REV-1

Model File: 10840 SW 67 ave model, Revision 0
11/1/2025

Table of Contents

1. Design Data	3
1.1 Concrete Frame Design	3

1 Design Data

This chapter provides design data and results.

1.1 Concrete Frame Design

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B2	2	2B-27	111.3691	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	36	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31
Bot (-2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	4	-4.8752	0	UDConS2
Top (+2 Axis) Middle	74.2461	-1.2188	0	UDConS2
Top (+2 Axis) End-J	103.3691	-4.2921	0	UDConS3
Bot (-2 Axis) End-I	4	2.4376	0	UDConS2
Bot (-2 Axis) Middle	74.2461	6.2064	0	UDConS2
Bot (-2 Axis) End-J	103.3691	2.1461	0	UDConS3

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
4.389	4	3.848	74.2461	4.721	103.3691
UDConS2		UDConS3		UDConS3	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1661	1.0244

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
3.8336	74.2461	3.8336	74.2461
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B10	10	2B-10	66.8829	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	60	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0	0	1.5333	0.32	1.5333	0.32
Bot (-2 Axis)	1.5333	0.32	1.5333	0.32	1.5333	0.32

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	0	0	0	UDConS6
Top (+2 Axis) Middle	33.4414	-14.372	0	UDConS1
Top (+2 Axis) End-J	54.8829	-10.117	0	UDConS3
Bot (-2 Axis) End-I	0	57.4879	0	UDConS1
Bot (-2 Axis) Middle	16.7207	40.0709	0	UDConS1
Bot (-2 Axis) End-J	54.8829	5.0585	0	UDConS3

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
12.012	0	16.528	33.4414	17.767	54.8829
UDConS1		UDConS2		UDConS1	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1717	1.7461

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
9.3853	33.4414	9.3853	33.4414
UDConS1		UDConS1	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B11	11	2B-39	554.1875	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	36	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31
Bot (-2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	0	-27.3473	0	UDConS2
Top (+2 Axis) Middle	415.6406	-9.3928	0	UDConS2
Top (+2 Axis) End-J	554.1875	-37.5713	0	UDConS2
Bot (-2 Axis) End-I	0	13.6736	0	UDConS2
Bot (-2 Axis) Middle	369.4583	59.5717	0	UDConS2
Bot (-2 Axis) End-J	438.7318	47.344	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
5.971	0	5.164	230.9115	10.703	554.1875
UDConS1		UDConS1		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B21	21	2B-15	41.2272	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	68	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	1.7467	0.32	1.7467	0.32	0	0
Bot (-2 Axis)	1.7467	0.32	1.7467	0.32	1.7467	0.32

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	8	-2.4339	0	UDConS6
Top (+2 Axis) Middle	24.6136	-6.1834	0	UDConS3
Top (+2 Axis) End-J	41.2272	0	0	UDConS6
Bot (-2 Axis) End-I	8	6.4354	0	UDConS3
Bot (-2 Axis) Middle	24.6136	16.1945	0	UDConS3
Bot (-2 Axis) End-J	41.2272	24.7337	0	UDConS3

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
8.701	8	7.76	24.6136	6.818	41.2272
UDConS3		UDConS3		UDConS3	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1729	1.9883

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
0.2753	41.2272	0.2753	41.2272
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B22	22	2B-15	8.3886	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	68	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0	0			0	0
Bot (-2 Axis)	1.7467	0.32			1.7467	0.32

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	0	0	0	UDConS6
Top (+2 Axis) Middle				
Top (+2 Axis) End-J	0.3886	0	0	UDConS6
Bot (-2 Axis) End-I	0	26.8164	0	UDConS3
Bot (-2 Axis) Middle				
Bot (-2 Axis) End-J	0.3886	25.4573	0	UDConS3

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0.08		0.08

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
41.963	0			41.985	0.3886
UDConS3				UDConS3	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B23	23	2B-16	158.4854	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	36	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31
Bot (-2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	0	-20.5082	0	UDConS2
Top (+2 Axis) Middle	98.4854	-5.127	0	UDConS2
Top (+2 Axis) End-J	128.4854	-5.127	0	UDConS2
Bot (-2 Axis) End-I	0	10.2541	0	UDConS2
Bot (-2 Axis) Middle	68.3169	18.4999	0	UDConS2
Bot (-2 Axis) End-J	113.4854	11.1809	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
9.409	0	8.264	38.1485	5.454	150.4854
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1661	1.0244

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
8.7065	38.1485	8.7065	38.1485
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B24	24	2B-16	10.1396	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	36	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.8933	0.31			0.8933	0.31
Bot (-2 Axis)	0.8933	0.31			0.8933	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	0.6909	-52.5814	0	UDConS2
Top (+2 Axis) Middle				
Top (+2 Axis) End-J	9.25	-28.1229	0	UDConS2
Bot (-2 Axis) End-I	0	21.4474	0	UDConS2
Bot (-2 Axis) Middle				
Bot (-2 Axis) End-J	9.25	10.7237	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0.0987		0.0967

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
34.42	0.6909			34.163	9.25
UDConS2				UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B25	25	2B-17	149.9375	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	20	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.4667	0.29	0.4667	0.29	0.4667	0.29
Bot (-2 Axis)	0.4667	0.29	0.4667	0.29	0.4667	0.29

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	18.7422	-7.4399	0	UDConS2
Top (+2 Axis) Middle	112.4531	-7.4399	0	UDConS2
Top (+2 Axis) End-J	149.9375	-29.7595	0	UDConS2
Bot (-2 Axis) End-I	0	16.4564	0	UDConS2
Bot (-2 Axis) Middle	74.9688	11.6656	0	UDConS2
Bot (-2 Axis) End-J	149.9375	14.8797	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
1.772	18.7422	10.152	112.4531	10.777	149.9375
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1587	0.5554

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
2.29	37.4844	2.29	37.4844
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B26	26	2B-17	31.0625	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	20	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.4667	0.29			0	0
Bot (-2 Axis)	0.4667	0.29			0.4667	0.29

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	12	-22.0965	0	UDConS2
Top (+2 Axis) Middle				
Top (+2 Axis) End-J	31.0625	0	0	UDConS6
Bot (-2 Axis) End-I	12	11.0482	0	UDConS2
Bot (-2 Axis) Middle				
Bot (-2 Axis) End-J	31.0625	22.0866	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0.251		0.2461

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
27.972	12			27.655	31.0625
UDConS2				UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B38	38	2B-19	163.75	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	44	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	1.1067	0.31	1.1067	0.31	1.1067	0.31
Bot (-2 Axis)	1.1067	0.31	1.1067	0.31	1.1067	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	40.9375	-13.4349	0	UDConS2
Top (+2 Axis) Middle	102.3438	-13.4349	0	UDConS2
Top (+2 Axis) End-J	151.75	-53.7396	0	UDConS2
Bot (-2 Axis) End-I	40.9375	13.4349	0	UDConS2
Bot (-2 Axis) Middle	102.3438	13.4349	0	UDConS2
Bot (-2 Axis) End-J	151.75	26.8698	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
4.133	12	6.358	102.3438	11.582	151.75
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1685	1.2637

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
1.4016	81.875	1.4016	81.875
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B39	39	2B-24	182.625	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	51	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	1.2933	0.32	1.2933	0.32	1.2933	0.32
Bot (-2 Axis)	1.2933	0.32	1.2933	0.32	1.2933	0.32

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	45.6563	-3.4769	0	UDConS3
Top (+2 Axis) Middle	114.1406	-3.4769	0	UDConS3
Top (+2 Axis) End-J	170.625	-13.9077	0	UDConS3
Bot (-2 Axis) End-I	45.6563	15.9724	0	UDConS2
Bot (-2 Axis) Middle	91.3125	24.5669	0	UDConS2
Bot (-2 Axis) End-J	136.9688	14.9888	0	UDConS4

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
6.197	6	3.101	114.1406	9.075	170.625
UDConS1		UDConS3		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1701	1.4743

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
3.0378	170.625	3.0378	170.625
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B41	41	2B-14	153.1248	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	35	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.8667	0.31	0.8667	0.31	0.8977	0.32
Bot (-2 Axis)	0.8667	0.31	0.8667	0.31	0.8667	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	19.1406	-31.4905	0	UDConS2
Top (+2 Axis) Middle	95.703	-31.4905	0	UDConS2
Top (+2 Axis) End-J	141.1248	-125.9619	0	UDConS2
Bot (-2 Axis) End-I	0	106.8014	0	UDConS2
Bot (-2 Axis) Middle	38.2812	91.331	0	UDConS2
Bot (-2 Axis) End-J	141.1248	62.9809	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0.0294	0.1258

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
4.85	19.1406	24.939	95.703	36.699	141.1248
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1658	0.9946

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
4.6866	114.8436	4.6866	114.8436
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B15	47	2B-41	191.3878	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
12	36	12	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	1.34	0.31	1.34	0.31	1.34	0.31
Bot (-2 Axis)	1.34	0.31	1.34	0.31	1.34	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	47.8469	-30.5136	0	UDConS2
Top (+2 Axis) Middle	119.6174	-30.5136	0	UDConS2
Top (+2 Axis) End-J	187.3878	-122.0546	0	UDConS2
Bot (-2 Axis) End-I	47.8469	30.5136	0	UDConS2
Bot (-2 Axis) Middle	119.6174	30.5136	0	UDConS2
Bot (-2 Axis) End-J	187.3878	61.0273	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
5.274	4	11.392	119.6174	22.231	187.3878
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1814	1.2394

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
8.0614	47.8469	8.0614	47.8469
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B50	50	2B-15	72.375	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	68	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	1.7467	0.32	1.7467	0.32	1.7467	0.32
Bot (-2 Axis)	1.7467	0.32	1.7467	0.32	1.7467	0.32

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	2	-3.0168	0	UDConS3
Top (+2 Axis) Middle	36.1875	-4.6099	0	UDConS2
Top (+2 Axis) End-J	64.375	-18.4394	0	UDConS2
Bot (-2 Axis) End-I	2	1.8067	0	UDConS6
Bot (-2 Axis) Middle	36.1875	4.6099	0	UDConS2
Bot (-2 Axis) End-J	64.375	9.2197	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
1.884	2	7.727	36.1875	9.324	64.375
UDConS2		UDConS4		UDConS4	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1729	1.9883

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
6.3814	36.1875	6.3814	36.1875
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B51	51	2B-38	41.875	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	12	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.2533	0.26	0.2533	0.26	0	0
Bot (-2 Axis)	0.2533	0.26	0.2533	0.26	0.2533	0.26

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	0	-3.6979	0	UDConS4
Top (+2 Axis) Middle	19.9375	-1.1776	0	UDConS4
Top (+2 Axis) End-J	39.875	0	0	UDConS6
Bot (-2 Axis) End-I	0	1.849	0	UDConS4
Bot (-2 Axis) Middle	19.9375	1.1776	0	UDConS4
Bot (-2 Axis) End-J	39.875	4.7103	0	UDConS4

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
2.73	0	2.53	19.9375	2.331	39.875
UDConS4		UDConS4		UDConS4	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1553	0.3364

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
0.6025	39.875	0.6025	39.875
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B71	70	2B-25	161.7275	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	36	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31
Bot (-2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	8	-4.9079	0	UDConS4
Top (+2 Axis) Middle	101.0797	-2.8307	0	UDConS3
Top (+2 Axis) End-J	153.7275	-11.3226	0	UDConS3
Bot (-2 Axis) End-I	40.4319	18.7462	0	UDConS3
Bot (-2 Axis) Middle	80.8638	22.7592	0	UDConS2
Bot (-2 Axis) End-J	121.2956	8.3883	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
8.434	8	4.466	101.0797	6.219	153.7275
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1661	1.0244

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
3.3593	153.7275	3.3593	153.7275
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B75	74	2B-9	172.1211	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	54	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	1.3733	0.32	1.3733	0.32	1.3733	0.32
Bot (-2 Axis)	1.3733	0.32	1.3733	0.32	1.3733	0.32

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	21.5151	-16.9756	0	UDConS2
Top (+2 Axis) Middle	107.5757	-16.9756	0	UDConS2
Top (+2 Axis) End-J	146.606	-16.9756	0	UDConS2
Bot (-2 Axis) End-I	21.5151	78.0156	0	UDConS2
Bot (-2 Axis) Middle	43.0303	86.4924	0	UDConS2
Bot (-2 Axis) End-J	129.0908	32.4432	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
6.125	0	11.069	107.5757	14.525	164.1211
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1707	1.5648

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
20.0292	164.1211	20.0292	164.1211
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B76	75	2B-9	62.9373	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	54	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	1.3733	0.32	1.3733	0.32	0	0
Bot (-2 Axis)	1.3733	0.32	1.3733	0.32	1.3733	0.32

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	11	-131.3604	0	UDConS2
Top (+2 Axis) Middle	31.4687	-44.1919	0	UDConS2
Top (+2 Axis) End-J	62.9373	0	0	UDConS6
Bot (-2 Axis) End-I	11	65.6802	0	UDConS2
Bot (-2 Axis) Middle	47.203	32.8401	0	UDConS2
Bot (-2 Axis) End-J	62.9373	72.1849	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0.0917	0.087	0.0465

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
51.564	11	50.643	31.4687	42.838	62.9373
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1707	1.5648

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
11.7067	62.9373	11.7067	62.9373
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B77	76	2B-9	101.8753	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	54	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	1.3733	0.32	1.3733	0.32	1.3733	0.32
Bot (-2 Axis)	1.3733	0.32	1.3733	0.32	1.3733	0.32

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	20.6016	-31.4392	0	UDConS2
Top (+2 Axis) Middle	61.8047	-31.4392	0	UDConS2
Top (+2 Axis) End-J	90.8753	-125.7567	0	UDConS2
Bot (-2 Axis) End-I	0	102.7005	0	UDConS2
Bot (-2 Axis) Middle	61.8047	31.4392	0	UDConS2
Bot (-2 Axis) End-J	90.8753	62.8784	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0.1117

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
23.055	20.6016	31.256	61.8047	55.428	90.8753
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1707	1.5648

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
16.3645	41.2031	16.3645	41.2031
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B78	77	2B-9	135.3008	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	54	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	1.3733	0.32	1.3733	0.32	1.3733	0.32
Bot (-2 Axis)	1.3733	0.32	1.3733	0.32	1.3733	0.32

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	8	-42.5888	0	UDConS2
Top (+2 Axis) Middle	90.2005	-24.7418	0	UDConS2
Top (+2 Axis) End-J	112.7507	-24.7418	0	UDConS2
Bot (-2 Axis) End-I	26.5501	24.7418	0	UDConS2
Bot (-2 Axis) Middle	90.2005	72.6142	0	UDConS2
Bot (-2 Axis) End-J	135.3008	98.9671	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
20.068	8	18.399	45.1003	7.012	112.7507
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1707	1.5648

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
10.7067	45.1003	10.7067	45.1003
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B131	130	2B-8	166.1179	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	36	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31
Bot (-2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	8	-25.8051	0	UDConS2
Top (+2 Axis) Middle	103.8237	-6.4513	0	UDConS2
Top (+2 Axis) End-J	158.1179	-8.9396	0	UDConS2
Bot (-2 Axis) End-I	41.5295	23.6499	0	UDConS2
Bot (-2 Axis) Middle	83.059	41.5805	0	UDConS2
Bot (-2 Axis) End-J	124.5884	24.6952	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
17.072	8	5.75	62.2942	12.057	158.1179
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1661	1.0244

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
4.3511	158.1179	4.3511	158.1179
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
ROOF	B281	370	RB-4	131.25	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	72	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	1.8533	0.32	1.8533	0.32	1.8533	0.32
Bot (-2 Axis)	1.8533	0.32	1.8533	0.32	1.8533	0.32

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	23.875	-5.975	0	UDConS2
Top (+2 Axis) Middle	87.5	-5.975	0	UDConS2
Top (+2 Axis) End-J	123.25	-23.9	0	UDConS2
Bot (-2 Axis) End-I	23.875	15.9893	0	UDConS2
Bot (-2 Axis) Middle	43.75	23.0603	0	UDConS2
Bot (-2 Axis) End-J	123.25	11.95	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
6.355	4	7.434	87.5	9.327	123.25
UDConS1		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1734	2.1096

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
4.4229	43.75	4.4229	43.75
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
ROOF	B39	371	RB-5	182.625	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	22	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.52	0.3	0.52	0.3	0.52	0.3
Bot (-2 Axis)	0.52	0.3	0.52	0.3	0.52	0.3

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	6	-16.0798	0	UDConS2
Top (+2 Axis) Middle	114.1406	-7.1145	0	UDConS2
Top (+2 Axis) End-J	170.625	-28.458	0	UDConS2
Bot (-2 Axis) End-I	45.6563	17.1509	0	UDConS2
Bot (-2 Axis) Middle	91.3125	29.5046	0	UDConS2
Bot (-2 Axis) End-J	136.9688	15.6541	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0.0145

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
9.65	6	3.795	114.1406	13.878	170.625
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1598	0.6127

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
2.2435	136.9688	2.2435	136.9688
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B284	380	2B-26	23.125	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	16	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.36	0.28			0.36	0.28
Bot (-2 Axis)	0.36	0.28			0.36	0.28

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	0	-0.3613	0	UDConS3
Top (+2 Axis) Middle				
Top (+2 Axis) End-J	11.125	-2.3224	0	UDConS2
Bot (-2 Axis) End-I	0	0.1806	0	UDConS3
Bot (-2 Axis) Middle				
Bot (-2 Axis) End-J	11.125	1.1612	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0		0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
2.164	0			2.312	11.125
UDConS2				UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1564	0.4432

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
0.5973	11.125	0.5973	11.125
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B286	429	2B-18	181.6909	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	44	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	1.1067	0.31	1.1067	0.31	1.1067	0.31
Bot (-2 Axis)	1.1067	0.31	1.1067	0.31	1.1067	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	45.4227	-1.211	0	UDConS3
Top (+2 Axis) Middle	113.5568	-1.211	0	UDConS3
Top (+2 Axis) End-J	169.6909	-4.8439	0	UDConS3
Bot (-2 Axis) End-I	45.4227	38.1661	0	UDConS2
Bot (-2 Axis) Middle	90.8455	40.8193	0	UDConS2
Bot (-2 Axis) End-J	136.2682	14.3562	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
12.625	8	6.55	113.5568	7.383	136.2682
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1685	1.2637

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
3.8904	45.4227	3.8904	45.4227
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B296	318	2B-29	165.96	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	37	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.92	0.31	0.92	0.31	0.92	0.31
Bot (-2 Axis)	0.92	0.31	0.92	0.31	0.92	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	12	-33.2298	0	UDConS2
Top (+2 Axis) Middle	103.725	-8.3075	0	UDConS2
Top (+2 Axis) End-J	139.215	-8.3075	0	UDConS2
Bot (-2 Axis) End-I	12	16.6149	0	UDConS2
Bot (-2 Axis) Middle	82.98	31.2953	0	UDConS2
Bot (-2 Axis) End-J	124.47	19.1066	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
18.013	12	5.62	62.235	9.32	153.96
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1665	1.0542

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
5.0079	153.96	5.0079	153.96
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B297	343	2B-30	152.6025	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	37	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.92	0.31	0.92	0.31	0.92	0.31
Bot (-2 Axis)	0.92	0.31	0.92	0.31	0.92	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	38.1506	-7.8934	0	UDConS2
Top (+2 Axis) Middle	95.3766	-7.8934	0	UDConS2
Top (+2 Axis) End-J	140.6025	-31.5737	0	UDConS2
Bot (-2 Axis) End-I	38.1506	13.1458	0	UDConS2
Bot (-2 Axis) Middle	76.3013	25.6948	0	UDConS2
Bot (-2 Axis) End-J	140.6025	15.7868	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
7.475	12	4.829	95.3766	17.389	140.6025
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1665	1.0542

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
3.5347	76.3013	3.5347	76.3013
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B298	433	2B-14	152.8752	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	35	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.8667	0.31	0.8667	0.31	0.8667	0.31
Bot (-2 Axis)	0.8667	0.31	0.8667	0.31	0.8667	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	12	-118.3834	0	UDConS2
Top (+2 Axis) Middle	114.6564	-29.5958	0	UDConS2
Top (+2 Axis) End-J	133.7658	-29.5958	0	UDConS2
Bot (-2 Axis) End-I	12	59.1917	0	UDConS2
Bot (-2 Axis) Middle	114.6564	93.7216	0	UDConS2
Bot (-2 Axis) End-J	152.8752	108.0163	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0.1481	0.0281	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
39.411	12	24.791	57.3282	4.505	133.7658
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1658	0.9946

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
4.4266	38.2188	4.4266	38.2188
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B299	436	2B-14	191.3878	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	35	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.8667	0.31	0.8667	0.31	0.8667	0.31
Bot (-2 Axis)	0.8667	0.31	0.8667	0.31	0.8667	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	47.8469	-22.9956	0	UDConS2
Top (+2 Axis) Middle	119.6174	-22.9956	0	UDConS2
Top (+2 Axis) End-J	179.3878	-91.9823	0	UDConS2
Bot (-2 Axis) End-I	47.8469	22.9956	0	UDConS2
Bot (-2 Axis) Middle	95.6939	23.7243	0	UDConS2
Bot (-2 Axis) End-J	179.3878	45.9911	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0.0219

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
7.901	12	9.175	119.6174	24.029	179.3878
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1658	0.9946

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
5.5055	95.6939	5.5055	95.6939
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B302	439	2B-41	362.7997	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
12	36	12	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	1.34	0.31	1.34	0.31	1.34	0.31
Bot (-2 Axis)	1.34	0.31	1.34	0.31	1.34	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	4	-124.2837	0	UDConS2
Top (+2 Axis) Middle	249.4248	-31.0709	0	UDConS2
Top (+2 Axis) End-J	358.7997	-49.8073	0	UDConS2
Bot (-2 Axis) End-I	4	62.1419	0	UDConS2
Bot (-2 Axis) Middle	181.3999	104.1185	0	UDConS2
Bot (-2 Axis) End-J	272.0998	58.545	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
29.422	4	10.626	113.3749	15.435	358.7997
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1814	1.2394

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
13.2158	45.35	13.2158	45.35
UDConS1		UDConS1	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B16	48	2B-15	21	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	68	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	1.7467	0.32			0	0
Bot (-2 Axis)	1.7467	0.32			1.7467	0.32

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	12	-10.426	0	UDConS4
Top (+2 Axis) Middle				
Top (+2 Axis) End-J	21	0	0	UDConS6
Bot (-2 Axis) End-I	12	5.213	0	UDConS4
Bot (-2 Axis) Middle				
Bot (-2 Axis) End-J	21	39.3395	0	UDConS3

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0.0637		0.0617

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
58.706	12			58.196	21
UDConS2				UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1729	1.9883

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
6.3699	21	6.3699	21
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B42	81	2B-15	155.6444	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	68	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	1.7467	0.32	1.7467	0.32	1.7467	0.32
Bot (-2 Axis)	1.7467	0.32	1.7467	0.32	1.7467	0.32

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	19.4555	-10.2821	0	UDConS3
Top (+2 Axis) Middle	116.7333	-10.2821	0	UDConS3
Top (+2 Axis) End-J	155.6444	-11.6039	0	UDConS5
Bot (-2 Axis) End-I	19.4555	74.3895	0	UDConS2
Bot (-2 Axis) Middle	77.8222	128.5303	0	UDConS2
Bot (-2 Axis) End-J	136.1888	54.7124	0	UDConS4

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
21.577	0	26.197	116.7333	28.402	155.6444
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1729	1.9883

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
8.4801	155.6444	8.4801	155.6444
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B44	82	2B-15	59.8428	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	68	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	1.7467	0.32	1.7467	0.32	1.7467	0.32
Bot (-2 Axis)	1.7467	0.32	1.7467	0.32	1.7467	0.32

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	0	-6.3089	0	UDConS5
Top (+2 Axis) Middle	29.9214	-11.1933	0	UDConS3
Top (+2 Axis) End-J	47.8428	-31.1807	0	UDConS2
Bot (-2 Axis) End-I	0	17.8426	0	UDConS4
Bot (-2 Axis) Middle	14.9607	10.2882	0	UDConS4
Bot (-2 Axis) End-J	47.8428	15.5903	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
5.636	0	18.876	29.9214	19.892	47.8428
UDConS4		UDConS4		UDConS4	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1729	1.9883

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
7.0537	47.8428	7.0537	47.8428
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
ROOF	B80	85	RB-6	134.2272	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	22	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.52	0.3	0.52	0.3	0.52	0.3
Bot (-2 Axis)	0.52	0.3	0.52	0.3	0.52	0.3

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	12	-12.7333	0	UDConS2
Top (+2 Axis) Middle	89.4848	-3.4263	0	UDConS2
Top (+2 Axis) End-J	132.2272	-13.7052	0	UDConS2
Bot (-2 Axis) End-I	12	6.3667	0	UDConS2
Bot (-2 Axis) Middle	89.4848	9.889	0	UDConS2
Bot (-2 Axis) End-J	132.2272	6.8526	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
7.349	12	6.749	44.7424	6.253	132.2272
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1598	0.6127

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
2.3919	44.7424	2.3919	44.7424
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
ROOF	B42	86	RB-6	155.6444	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	22	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.52	0.3	0.52	0.3	0.52	0.3
Bot (-2 Axis)	0.52	0.3	0.52	0.3	0.52	0.3

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	2	-14.3336	0	UDConS2
Top (+2 Axis) Middle	94.4674	-3.5834	0	UDConS2
Top (+2 Axis) End-J	147.6444	-12.096	0	UDConS2
Bot (-2 Axis) End-I	37.7869	9.3545	0	UDConS2
Bot (-2 Axis) Middle	75.5739	13.9079	0	UDConS2
Bot (-2 Axis) End-J	113.3608	6.8183	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
7.313	2	2.415	94.4674	6.311	147.6444
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1598	0.6127

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
1.7953	75.5739	1.7953	75.5739
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B81	89	2B-10	125.1171	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	60	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	1.5333	0.32	1.5333	0.32	1.5333	0.32
Bot (-2 Axis)	1.5333	0.32	1.5333	0.32	1.5333	0.32

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	22.8529	-15.9779	0	UDConS1
Top (+2 Axis) Middle	83.4114	-15.9779	0	UDConS1
Top (+2 Axis) End-J	104.2643	-15.9779	0	UDConS1
Bot (-2 Axis) End-I	22.8529	19.0146	0	UDConS1
Bot (-2 Axis) Middle	83.4114	56.897	0	UDConS1
Bot (-2 Axis) End-J	125.1171	63.9115	0	UDConS1

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
11.366	4	9.166	41.7057	2.366	104.2643
UDConS1		UDConS1		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1717	1.7461

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
7.4465	125.1171	7.4465	125.1171
UDConS1		UDConS1	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B43	43	2B-11	61.1995	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	36	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31
Bot (-2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	4	-34.4131	0	UDConS2
Top (+2 Axis) Middle	30.5998	-18.0985	0	UDConS2
Top (+2 Axis) End-J	61.1995	-4.4789	0	UDConS2
Bot (-2 Axis) End-I	4	17.2066	0	UDConS2
Bot (-2 Axis) Middle	45.8996	8.6033	0	UDConS2
Bot (-2 Axis) End-J	61.1995	2.2395	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
7.759	4	6.961	30.5998	4.752	61.1995
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1661	1.0244

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
0.8555	30.5998	0.8555	30.5998
UDConS2		UDConS2	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B48	58	2B-11	11.1755	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	36	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.8933	0.31			0.8933	0.31
Bot (-2 Axis)	0.8933	0.31			0.8933	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	0	-4.2489	0	UDConS2
Top (+2 Axis) Middle				
Top (+2 Axis) End-J	3.1755	-3.3237	0	UDConS2
Bot (-2 Axis) End-I	0	2.1244	0	UDConS2
Bot (-2 Axis) Middle				
Bot (-2 Axis) End-J	3.1755	1.6619	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0		0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
3.544	0			3.448	3.1755
UDConS2				UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1661	1.0244

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
1.1551	3.1755	1.1551	3.1755
UDConS1		UDConS1	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B267	42	2B-6	224.38	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	36	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31
Bot (-2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	8	-45.5409	0	UDConS1
Top (+2 Axis) Middle	160.6825	-11.3852	0	UDConS1
Top (+2 Axis) End-J	216.38	-38.3525	0	UDConS1
Bot (-2 Axis) End-I	8	22.7704	0	UDConS1
Bot (-2 Axis) Middle	117.7832	44.4713	0	UDConS2
Bot (-2 Axis) End-J	216.38	19.1763	0	UDConS1

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
13.698	13.9374	9.004	75.9042	17.642	216.38
UDConS1		UDConS2		UDConS1	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1748	1.0781

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
4.4561	216.38	4.4561	216.38
UDConS4		UDConS4	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B138	142	2B-4	232.918	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	36	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31
Bot (-2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	12	-24.9796	0	UDConS2
Top (+2 Axis) Middle	163.0426	-16.3401	-0.065	UDConS2
Top (+2 Axis) End-J	220.918	-65.3602	-0.005	UDConS2
Bot (-2 Axis) End-I	46.5836	22.3752	0	UDConS2
Bot (-2 Axis) Middle	116.459	59.0318	-0.005	UDConS2
Bot (-2 Axis) End-J	220.918	32.6801	-0.005	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0.0333

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
15.24	12	12.035	163.0426	26.198	220.918
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1674	1.0321

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
4.8035	46.5836	4.8035	46.5836
UDConS4		UDConS4	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B260	182	2B-2	182.6504	1	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	36	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31
Bot (-2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	8	-22.8069	0	UDConS2
Top (+2 Axis) Middle	114.1565	-5.7017	0	UDConS2
Top (+2 Axis) End-J	170.6504	-10.815	0	UDConS2
Bot (-2 Axis) End-I	45.6626	23.9229	0	UDConS2
Bot (-2 Axis) Middle	91.3252	36.6265	0	UDConS2
Bot (-2 Axis) End-J	136.9878	17.3251	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0	0	0

Design Shear Force for Major Shear, V_{u2}

End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
13.879	8	5.187	114.1565	9.839	170.6504
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1685	1.0392

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
2.3392	45.6626	2.3392	45.6626
UDConS3		UDConS3	

ETABS Concrete Frame Design

ACI 318-19 Beam Section Design (Envelope)

Beam Element Details (Envelope)

Level	Element	Unique Name	Section ID	Length (in)	LLRF	Type
SECOND FLOOR	B266	201	2B-5	217.4567	0.913	Sway Special

Section Properties

b (in)	h (in)	b _f (in)	d _s (in)	d _{ct} (in)	d _{cb} (in)
8	36	8	0	2.5	2.5

Material Properties

E _c (lb/in ²)	f' _c (lb/in ²)	Lt.Wt Factor (Unitless)	f _y (lb/in ²)	f _{ys} (lb/in ²)
3122018.5	3000	1	60000	60000

Design Code Parameters

ϕ_T	ϕ_{CTied}	$\phi_{CSpiral}$	ϕ_{Vns}	ϕ_{Vs}	ϕ_{Vjoint}
0.9	0.65	0.75	0.75	0.6	0.85

Flexural Reinforcement for Major Axis Moment, M_{u3}

	End-I Rebar Area in ²	End-I Rebar %	Middle Rebar Area in ²	Middle Rebar %	End-J Rebar Area in ²	End-J Rebar %
Top (+2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31
Bot (-2 Axis)	0.8933	0.31	0.8933	0.31	0.8933	0.31

Flexural Design Moment, M_{u3} and Axial Force, P_u

	Station Loc in	Design M _u kip-ft	Design P _u kip	Combo Name
Top (+2 Axis) End-I	8	-64.5536	0	UDConS2
Top (+2 Axis) Middle	152.2197	-16.1384	0	UDConS2
Top (+2 Axis) End-J	209.4567	-57.7538	0	UDConS2
Bot (-2 Axis) End-I	8	32.2768	0	UDConS2
Bot (-2 Axis) Middle	130.474	78.1761	0	UDConS2
Bot (-2 Axis) End-J	173.9654	32.0482	0	UDConS2

Shear Reinforcement for Major Shear, V_{u2}

End-I Rebar A _v /s in ² /ft	Middle Rebar A _v /s in ² /ft	End-J Rebar A _v /s in ² /ft
0.041	0	0.0449

Design Shear Force for Major Shear, V_{u2}

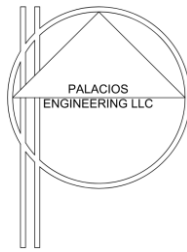
End-I Design V_u kip	End-I Station Loc in	Middle Design V_u kip	Middle Station Loc in	End-J Design V_u kip	End-J Station Loc in
27.175	8	13.925	65.237	27.657	209.4567
UDConS2		UDConS2		UDConS2	

Torsion Reinforcement

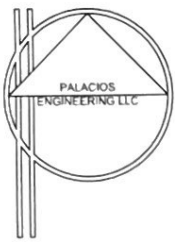
Shear Rebar A_t /s in²/ft	Longitudinal Rebar A_l in²
0.1734	1.0691

Design Torsion Force

Design T_u kip-ft	Station Loc in	Design T_u kip-ft	Station Loc in
1.868	43.4913	1.868	43.4913
UDConS4		UDConS4	



Masonry Wall Design



Project:

10840 SW 67th Ave.

Date:

By:

Subject:

Masonry wall design.

Sheet:

of

Design of Garage CMU walls

Ht = 13'-4"

RDL = 1370 #/ft

RLL = 300 #/ft

DL = 1350 #/ft

LL = 400 #/ft

CMU = 640 #/ft

Σ DL = 3410 #/ft

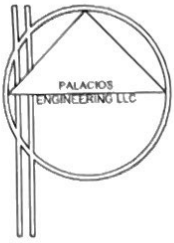
Σ LL = 700 #/ft

Zone (4) = 68 pst.

Zone (5) = 78 pst.

★ Provide $f'm = 1500 \text{ psi}$

- # 6 @ 32" o.c. vert.



Project: 10840 SW 67th Ave.

Date: _____

Subject: Masonry wall design.

By: _____

Sheet: _____ of _____

Design of Ground floor CMU

Ht = 12'-0"

RDL = 1370 #/ft

RLL = 300 #/ft

DL = 1350 #/ft

LL = 400 #/ft

CMU = 690 #/ft

ΣDL = 3410 #/ft

ΣLL = 700 #/ft

Zone ④ = 69 psc.

Zone ⑤ = 80 psc.

★ Provide $F_m = 1500 \text{ psi}$

- #5 @ 32" O.C. vert.

Project Title:
Engineer:
Project ID:
Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: 1ST FLOOR CMU WALLS REV-1

Code References

Governing Code : IBC 2021
Referenced Design Standard(s) : TMS 402-16
Load Combinations Used : ASCE 7-16

General Information

Construction Type : Grouted Hollow Concrete Masonry

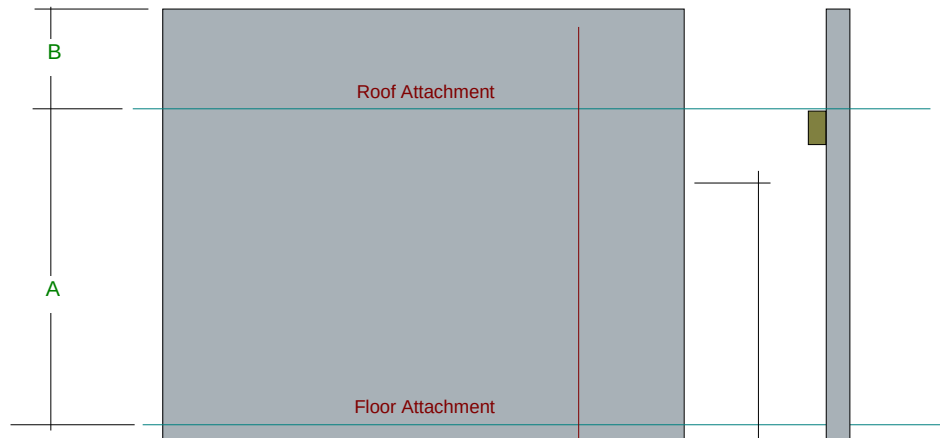
F'm	=	1.50 ksi	Nom. Wall Thickness	8 in	Temp Diff across thickness	=	deg F
Fy - Yield	=	60.0 ksi	Actual Thickness	7.625 in	Min Allow Out-of-plane Defl Ra	=	0.0
Fr - Rupture	=	61.0 psi	Rebar "d" distance	3.8125 in			
Em = f'm *	=	900.0	Lower Level Rebar . . .		Minimum Vertical Steel %	=	0.0020
Max % of ρ bal.	=	0.005670	Bar Size	# 5			
Grout Density	=	140 pcf	Bar Spacing	32 in			
Block Weight		Normal Weight					
Wall Weight	=	51.0 psf					

Wall is grouted at rebar cells only

One-Story Wall Dimensions

A Clear Height	=	12 ft
B Parapet height	=	ft

Wall Support ConditionTop & Bottom Pinned



Vertical Loads

Vertical Uniform Loads . . . Applied per foot of Strip Width

Ledger Load	Eccentricity	in	DL : Dead	Lr : Roof Live	Lf : Floor Live	S : Snow	W : Wind
Concentric Load			3.410		0.70		k/ft k/ft

Lateral Loads

Wind Loads :

Full area WIND load 80.0 psf

Seismic Loads :

Wall Weight Seismic Load Input Method : Direct entry of Lateral Wall Weight
Seismic Wall Lateral Load psf

Fp 1.0 = 0.0 psf

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: 1ST FLOOR CMU WALLS REV-1

DESIGN SUMMARY

Results reported for "Strip Width" of 12.0 in

Governing Load Combination . . .		Actual Values . . .		Allowable Values . . .	
PASS	Moment Capacity Check +0.90D+W	Maximum Bending Stress Ratio0.6506			
		Max Mu	1.642 k-ft	Phi * Mn	2.524 k-ft
PASS	Service Deflection Check +D+0.750L+0.450W	Actual Defl. Ratio L/	868	Allowable Defl. Ratio	150.0
		Max. Deflection	0.1659 in		
PASS	Axial Load Check +1.20D+L+W	Max Pu / Ag	112.786 psi	Max. Allow. Defl.	0.960 in
		Location	5.80 ft	0.2 * f'm	300.0 psi
PASS	Reinforcing Limit Check				
		Actual ρ	0.002541	Max Allow ρ	0.004628
		Maximum Reactions for Load Combination...			
		Top Horizontal	W Only		0.480 k
		Base Horizontal	W Only		0.480 k
		Vertical Reaction	+D+L		4.722 k

Design Maximum Combinations - Moments

Results reported for "Strip Width" = 12 in.

Load Combination	Axial Load		Mcr k-ft	Mu k-ft	Moment Values			ρ Actual	ρ Max Allow	Bar 'd'
	Pu k	0.2*f'm*b*t k			Phi	Phi Mn k-ft	As in^2			
	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.0000	0.0000	0.00
	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.0000	0.0000	0.00
	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.0000	0.0000	0.00
+1.20D+0.50W at 5.60 to 6.00	4.484	13.788	0.46	0.80	0.90	2.79	0.116	0.0025	0.0052	3.81
+1.20D+L+W at 5.60 to 6.00	5.184	13.788	0.46	1.75	0.90	2.96	0.116	0.0025	0.0049	3.81
+0.90D+W at 5.60 to 6.00	3.363	13.788	0.46	1.64	0.90	2.53	0.116	0.0025	0.0056	3.81
	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.0000	0.0000	0.00
	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.0000	0.0000	0.00

Design Maximum Combinations - Deflections

Results reported for "Strip Width" = 12 in.

Load Combination	Axial Load Pu k	Moment Values		I gross in^4	Stiffness		Deflections	
		Mcr k-ft	Mactual k-ft		I cracked in^4	I effective in^4	Deflection in	Defl. Ratio
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0
+D+0.420W at 6.00 to 6.40	3.716	0.46	0.64	342.40	32.94	37.301	0.130	1,105.7
+D+0.750L+0.450W at 6.00 to 6.40	4.241	0.46	0.71	342.40	34.14	37.181	0.166	867.8
+0.60D+0.420W at 6.00 to 6.40	2.230	0.46	0.63	342.40	29.40	33.831	0.131	1,096.6
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0
+0.420W at 6.00 to 6.40	0.000	0.46	0.60	342.40	23.68	28.087	0.135	1,066.1
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0

Reactions - Vertical & Horizontal

Load Combination	Base Horizontal	Top Horizontal	Vertical @ Wall Base
D Only	0.0 k	0.00 k	4.022 k
+D+L	0.0 k	0.00 k	4.722 k
+D+0.750L	0.0 k	0.00 k	4.547 k
+D+0.60W	0.3 k	0.29 k	4.022 k

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: 1ST FLOOR CMU WALLS REV-1

+D+0.750L+0.450W	0.2 k	0.22 k	4.547 k
+0.60D+0.60W	0.3 k	0.29 k	2.413 k
+D+0.70E	0.0 k	0.00 k	4.022 k
+D+0.750L+0.5250E	0.0 k	0.00 k	4.547 k

Reactions - Vertical & Horizontal

Load Combination	Base Horizontal	Top Horizontal	Vertical @ Wall Base
+0.60D+0.70E	0.0 k	0.00 k	2.413 k
L Only	0.0 k	0.00 k	0.700 k
W Only	0.5 k	0.48 k	0.000 k
E Only	0.0 k	0.00 k	0.000 k

Deflections - Service Loads

Load Combination Location	Axial Load (k)	Moments (k-ft)		Inertia (in^4)			Iterated Deflection (in)	
		Mcr	Mu	Igross	Icracked	Ieff	Deflection	Ratio
Overall MAXimum Envelope								
...+D+0.750L+0.450W at 11.60 to 12.00	3.95	0.46	0.00	342.400	33.49	342.400	0.008	999.0
...+D+0.750L+0.450W at 11.20 to 11.60	3.98	0.46	0.13	342.400	33.53	342.400	0.023	999.0
...+D+0.750L+0.450W at 10.80 to 11.20	4.00	0.46	0.21	342.400	33.58	342.400	0.038	999.0
...+D+0.750L+0.450W at 10.40 to 10.80	4.02	0.46	0.28	342.400	33.63	342.400	0.052	999.0
...+D+0.750L+0.450W at 10.00 to 10.40	4.04	0.46	0.35	342.400	33.67	342.400	0.067	999.0
...+D+0.750L+0.450W at 9.60 to 10.00	4.06	0.46	0.42	342.400	33.72	342.400	0.082	999.0
...+D+0.750L+0.450W at 9.20 to 9.60	4.08	0.46	0.47	342.400	33.77	74.454	0.096	999.0
...+D+0.750L+0.450W at 8.80 to 9.20	4.10	0.46	0.52	342.400	33.81	47.694	0.110	999.0
...+D+0.750L+0.450W at 8.40 to 8.80	4.12	0.46	0.57	342.400	33.86	42.166	0.122	999.0
...+D+0.750L+0.450W at 8.00 to 8.40	4.14	0.46	0.61	342.400	33.91	39.810	0.134	999.0
...+D+0.750L+0.450W at 7.60 to 8.00	4.16	0.46	0.64	342.400	33.95	38.576	0.144	997.8
...+D+0.750L+0.450W at 7.20 to 7.60	4.18	0.46	0.67	342.400	34.00	37.873	0.153	942.5
...+D+0.750L+0.450W at 6.80 to 7.20	4.20	0.46	0.69	342.400	34.04	37.468	0.159	904.0
...+D+0.750L+0.450W at 6.40 to 6.80	4.22	0.46	0.70	342.400	34.09	37.254	0.164	879.6
...+D+0.750L+0.450W at 6.00 to 6.40	4.24	0.46	0.71	342.400	34.14	37.181	0.166	867.8
...+D+0.750L+0.450W at 5.60 to 6.00	4.26	0.46	0.71	342.400	34.18	37.228	0.166	867.9
...+D+0.750L+0.450W at 5.20 to 5.60	4.28	0.46	0.70	342.400	34.23	37.394	0.164	879.8
...+D+0.750L+0.450W at 4.80 to 5.20	4.30	0.46	0.69	342.400	34.28	37.702	0.159	904.3
...+D+0.750L+0.450W at 4.40 to 4.80	4.32	0.46	0.67	342.400	34.32	38.201	0.153	942.9
...+D+0.750L+0.450W at 4.00 to 4.40	4.34	0.46	0.64	342.400	34.37	38.998	0.144	998.2
...+D+0.750L+0.450W at 3.60 to 4.00	4.36	0.46	0.61	342.400	34.41	40.325	0.134	999.0
...+D+0.750L+0.450W at 3.20 to 3.60	4.38	0.46	0.57	342.400	34.46	42.765	0.122	999.0
...+D+0.750L+0.450W at 2.80 to 3.20	4.40	0.46	0.52	342.400	34.50	48.319	0.109	999.0
...+D+0.750L+0.450W at 2.40 to 2.80	4.42	0.46	0.47	342.400	34.55	73.573	0.096	999.0
...+D+0.750L+0.450W at 2.00 to 2.40	4.44	0.46	0.42	342.400	34.60	342.400	0.082	999.0
...+D+0.750L+0.450W at 1.60 to 2.00	4.46	0.46	0.35	342.400	34.64	342.400	0.067	999.0
...+D+0.750L+0.450W at 1.20 to 1.60	4.49	0.46	0.29	342.400	34.69	342.400	0.052	999.0
...+D+0.750L+0.450W at 0.80 to 1.20	4.51	0.46	0.21	342.400	34.73	342.400	0.038	999.0
...+D+0.750L+0.450W at 0.40 to 0.80	4.53	0.46	0.13	342.400	34.78	342.400	0.023	999.0
...+D+0.750L+0.450W at 0.00 to 0.40	4.55	0.46	0.00	342.400	34.82	342.400	0.008	999.0
D Only								
...11.60 to 12.00	3.43	0.46	0.00	342.400	32.27	342.400	0.000	0.0
...11.20 to 11.60	3.45	0.46	0.00	342.400	32.32	342.400	0.000	0.0
...10.80 to 11.20	3.47	0.46	0.00	342.400	32.37	342.400	0.000	0.0
...10.40 to 10.80	3.49	0.46	0.00	342.400	32.42	342.400	0.000	0.0

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: 1ST FLOOR CMU WALLS REV-1

... 10.00 to 10.40	3.51	0.46	0.00	342.400	32.46	342.400	0.000	0.0
... 9.60 to 10.00	3.53	0.46	0.00	342.400	32.51	342.400	0.000	0.0
... 9.20 to 9.60	3.55	0.46	0.00	342.400	32.56	342.400	0.000	0.0
... 8.80 to 9.20	3.57	0.46	0.00	342.400	32.61	342.400	0.000	0.0
... 8.40 to 8.80	3.59	0.46	0.00	342.400	32.65	342.400	0.000	0.0

Deflections - Service Loads

Load Combination Location	Axial Load (k)	Moments (k-ft)		Inertia (in ⁴)			Iterated Deflection (in)	
		Mcr	Mu	Igross	Icracked	Ieff	Deflection	Ratio
... 8.00 to 8.40	3.61	0.46	0.00	342.400	32.70	342.400	0.000	0.0
... 7.60 to 8.00	3.63	0.46	0.00	342.400	32.75	342.400	0.000	0.0
... 7.20 to 7.60	3.65	0.46	0.00	342.400	32.79	342.400	0.000	0.0
... 6.80 to 7.20	3.68	0.46	0.00	342.400	32.84	342.400	0.000	0.0
... 6.40 to 6.80	3.70	0.46	0.00	342.400	32.89	342.400	0.000	0.0
... 6.00 to 6.40	3.72	0.46	0.00	342.400	32.94	342.400	0.000	0.0
... 5.60 to 6.00	3.74	0.46	0.00	342.400	32.98	342.400	0.000	0.0
... 5.20 to 5.60	3.76	0.46	0.00	342.400	33.03	342.400	0.000	0.0
... 4.80 to 5.20	3.78	0.46	0.00	342.400	33.08	342.400	0.000	0.0
... 4.40 to 4.80	3.80	0.46	0.00	342.400	33.12	342.400	0.000	0.0
... 4.00 to 4.40	3.82	0.46	0.00	342.400	33.17	342.400	0.000	0.0
... 3.60 to 4.00	3.84	0.46	0.00	342.400	33.22	342.400	0.000	0.0
... 3.20 to 3.60	3.86	0.46	0.00	342.400	33.27	342.400	0.000	0.0
... 2.80 to 3.20	3.88	0.46	0.00	342.400	33.31	342.400	0.000	0.0
... 2.40 to 2.80	3.90	0.46	0.00	342.400	33.36	342.400	0.000	0.0
... 2.00 to 2.40	3.92	0.46	0.00	342.400	33.41	342.400	0.000	0.0
... 1.60 to 2.00	3.94	0.46	0.00	342.400	33.45	342.400	0.000	0.0
... 1.20 to 1.60	3.96	0.46	0.00	342.400	33.50	342.400	0.000	0.0
... 0.80 to 1.20	3.98	0.46	0.00	342.400	33.55	342.400	0.000	0.0
... 0.40 to 0.80	4.00	0.46	0.00	342.400	33.59	342.400	0.000	0.0
... 0.00 to 0.40	4.02	0.46	0.00	342.400	33.64	342.400	0.000	0.0
+D+L								
... 11.60 to 12.00	4.13	0.46	0.00	342.400	33.89	342.400	0.000	0.0
... 11.20 to 11.60	4.15	0.46	0.00	342.400	33.93	342.400	0.000	0.0
... 10.80 to 11.20	4.17	0.46	0.00	342.400	33.98	342.400	0.000	0.0
... 10.40 to 10.80	4.19	0.46	0.00	342.400	34.03	342.400	0.000	0.0
... 10.00 to 10.40	4.21	0.46	0.00	342.400	34.07	342.400	0.000	0.0
... 9.60 to 10.00	4.23	0.46	0.00	342.400	34.12	342.400	0.000	0.0
... 9.20 to 9.60	4.25	0.46	0.00	342.400	34.16	342.400	0.000	0.0
... 8.80 to 9.20	4.27	0.46	0.00	342.400	34.21	342.400	0.000	0.0
... 8.40 to 8.80	4.29	0.46	0.00	342.400	34.26	342.400	0.000	0.0
... 8.00 to 8.40	4.31	0.46	0.00	342.400	34.30	342.400	0.000	0.0
... 7.60 to 8.00	4.33	0.46	0.00	342.400	34.35	342.400	0.000	0.0
... 7.20 to 7.60	4.35	0.46	0.00	342.400	34.39	342.400	0.000	0.0
... 6.80 to 7.20	4.38	0.46	0.00	342.400	34.44	342.400	0.000	0.0
... 6.40 to 6.80	4.40	0.46	0.00	342.400	34.49	342.400	0.000	0.0
... 6.00 to 6.40	4.42	0.46	0.00	342.400	34.53	342.400	0.000	0.0
... 5.60 to 6.00	4.44	0.46	0.00	342.400	34.58	342.400	0.000	0.0
... 5.20 to 5.60	4.46	0.46	0.00	342.400	34.62	342.400	0.000	0.0
... 4.80 to 5.20	4.48	0.46	0.00	342.400	34.67	342.400	0.000	0.0
... 4.40 to 4.80	4.50	0.46	0.00	342.400	34.72	342.400	0.000	0.0
... 4.00 to 4.40	4.52	0.46	0.00	342.400	34.76	342.400	0.000	0.0
... 3.60 to 4.00	4.54	0.46	0.00	342.400	34.81	342.400	0.000	0.0

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: 1ST FLOOR CMU WALLS REV-1

... 3.20 to 3.60	4.56	0.46	0.00	342.400	34.85	342.400	0.000	0.0
... 2.80 to 3.20	4.58	0.46	0.00	342.400	34.90	342.400	0.000	0.0
... 2.40 to 2.80	4.60	0.46	0.00	342.400	34.94	342.400	0.000	0.0
... 2.00 to 2.40	4.62	0.46	0.00	342.400	34.99	342.400	0.000	0.0
... 1.60 to 2.00	4.64	0.46	0.00	342.400	35.04	342.400	0.000	0.0

Deflections - Service Loads

Load Combination Location	Axial Load (k)	Moments (k-ft)		Inertia (in ⁴)			Iterated Deflection (in)	
		Mcr	Mu	Igross	Icracked	Ieff	Deflection	Ratio
... 1.20 to 1.60	4.66	0.46	0.00	342.400	35.08	342.400	0.000	0.0
... 0.80 to 1.20	4.68	0.46	0.00	342.400	35.13	342.400	0.000	0.0
... 0.40 to 0.80	4.70	0.46	0.00	342.400	35.17	342.400	0.000	0.0
... 0.00 to 0.40	4.72	0.46	0.00	342.400	35.22	342.400	0.000	0.0
+D+0.750L								
... 11.60 to 12.00	3.96	0.46	0.00	342.400	33.49	342.400	0.000	0.0
... 11.20 to 11.60	3.98	0.46	0.00	342.400	33.53	342.400	0.000	0.0
... 10.80 to 11.20	4.00	0.46	0.00	342.400	33.58	342.400	0.000	0.0
... 10.40 to 10.80	4.02	0.46	0.00	342.400	33.63	342.400	0.000	0.0
... 10.00 to 10.40	4.04	0.46	0.00	342.400	33.67	342.400	0.000	0.0
... 9.60 to 10.00	4.06	0.46	0.00	342.400	33.72	342.400	0.000	0.0
... 9.20 to 9.60	4.08	0.46	0.00	342.400	33.77	342.400	0.000	0.0
... 8.80 to 9.20	4.10	0.46	0.00	342.400	33.81	342.400	0.000	0.0
... 8.40 to 8.80	4.12	0.46	0.00	342.400	33.86	342.400	0.000	0.0
... 8.00 to 8.40	4.14	0.46	0.00	342.400	33.91	342.400	0.000	0.0
... 7.60 to 8.00	4.16	0.46	0.00	342.400	33.95	342.400	0.000	0.0
... 7.20 to 7.60	4.18	0.46	0.00	342.400	34.00	342.400	0.000	0.0
... 6.80 to 7.20	4.20	0.46	0.00	342.400	34.04	342.400	0.000	0.0
... 6.40 to 6.80	4.22	0.46	0.00	342.400	34.09	342.400	0.000	0.0
... 6.00 to 6.40	4.24	0.46	0.00	342.400	34.14	342.400	0.000	0.0
... 5.60 to 6.00	4.26	0.46	0.00	342.400	34.18	342.400	0.000	0.0
... 5.20 to 5.60	4.28	0.46	0.00	342.400	34.23	342.400	0.000	0.0
... 4.80 to 5.20	4.30	0.46	0.00	342.400	34.28	342.400	0.000	0.0
... 4.40 to 4.80	4.32	0.46	0.00	342.400	34.32	342.400	0.000	0.0
... 4.00 to 4.40	4.34	0.46	0.00	342.400	34.37	342.400	0.000	0.0
... 3.60 to 4.00	4.36	0.46	0.00	342.400	34.41	342.400	0.000	0.0
... 3.20 to 3.60	4.38	0.46	0.00	342.400	34.46	342.400	0.000	0.0
... 2.80 to 3.20	4.40	0.46	0.00	342.400	34.51	342.400	0.000	0.0
... 2.40 to 2.80	4.42	0.46	0.00	342.400	34.55	342.400	0.000	0.0
... 2.00 to 2.40	4.45	0.46	0.00	342.400	34.60	342.400	0.000	0.0
... 1.60 to 2.00	4.47	0.46	0.00	342.400	34.64	342.400	0.000	0.0
... 1.20 to 1.60	4.49	0.46	0.00	342.400	34.69	342.400	0.000	0.0
... 0.80 to 1.20	4.51	0.46	0.00	342.400	34.73	342.400	0.000	0.0
... 0.40 to 0.80	4.53	0.46	0.00	342.400	34.78	342.400	0.000	0.0
... 0.00 to 0.40	4.55	0.46	0.00	342.400	34.83	342.400	0.000	0.0
+D+0.420W								
... 11.60 to 12.00	3.43	0.46	0.00	342.400	32.27	342.400	0.006	999.0
... 11.20 to 11.60	3.45	0.46	0.12	342.400	32.32	342.400	0.018	999.0
... 10.80 to 11.20	3.47	0.46	0.19	342.400	32.37	342.400	0.029	999.0
... 10.40 to 10.80	3.49	0.46	0.26	342.400	32.42	342.400	0.041	999.0
... 10.00 to 10.40	3.51	0.46	0.32	342.400	32.46	342.400	0.052	999.0
... 9.60 to 10.00	3.53	0.46	0.38	342.400	32.51	342.400	0.063	999.0
... 9.20 to 9.60	3.55	0.46	0.43	342.400	32.56	342.400	0.074	999.0

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC#: KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: 1ST FLOOR CMU WALLS REV-1

... 8.80 to 9.20	3.57	0.46	0.48	342.400	32.61	64.509	0.085	999.0
... 8.40 to 8.80	3.59	0.46	0.52	342.400	32.65	46.864	0.095	999.0
... 8.00 to 8.40	3.61	0.46	0.55	342.400	32.70	41.949	0.104	999.0
... 7.60 to 8.00	3.63	0.46	0.58	342.400	32.75	39.697	0.113	999.0
... 7.20 to 7.60	3.65	0.46	0.61	342.400	32.79	38.486	0.119	999.0

Deflections - Service Loads

Load Combination Location	Axial Load (k)	Moments (k-ft)		Inertia (in ⁴)			Iterated Deflection (in)	
		Mcr	Mu	Igross	Icracked	Ieff	Deflection	Ratio
... 6.80 to 7.20	3.68	0.46	0.63	342.400	32.84	37.804	0.125	999.0
... 6.40 to 6.80	3.70	0.46	0.64	342.400	32.89	37.440	0.128	999.0
... 6.00 to 6.40	3.72	0.46	0.64	342.400	32.94	37.301	0.130	999.0
... 5.60 to 6.00	3.74	0.46	0.64	342.400	32.98	37.350	0.130	999.0
... 5.20 to 5.60	3.76	0.46	0.64	342.400	33.03	37.586	0.128	999.0
... 4.80 to 5.20	3.78	0.46	0.63	342.400	33.08	38.047	0.125	999.0
... 4.40 to 4.80	3.80	0.46	0.61	342.400	33.12	38.827	0.119	999.0
... 4.00 to 4.40	3.82	0.46	0.59	342.400	33.17	40.136	0.113	999.0
... 3.60 to 4.00	3.84	0.46	0.56	342.400	33.22	42.481	0.104	999.0
... 3.20 to 3.60	3.86	0.46	0.52	342.400	33.26	47.453	0.095	999.0
... 2.80 to 3.20	3.88	0.46	0.48	342.400	33.31	64.586	0.085	999.0
... 2.40 to 2.80	3.90	0.46	0.43	342.400	33.36	342.400	0.074	999.0
... 2.00 to 2.40	3.92	0.46	0.38	342.400	33.40	342.400	0.063	999.0
... 1.60 to 2.00	3.94	0.46	0.32	342.400	33.45	342.400	0.052	999.0
... 1.20 to 1.60	3.96	0.46	0.26	342.400	33.50	342.400	0.041	999.0
... 0.80 to 1.20	3.98	0.46	0.19	342.400	33.54	342.400	0.029	999.0
... 0.40 to 0.80	4.00	0.46	0.12	342.400	33.59	342.400	0.018	999.0
... 0.00 to 0.40	4.02	0.46	0.00	342.400	33.64	342.400	0.006	999.0
+D+0.750L+0.450W								
... 11.60 to 12.00	3.95	0.46	0.00	342.400	33.49	342.400	0.008	999.0
... 11.20 to 11.60	3.98	0.46	0.13	342.400	33.53	342.400	0.023	999.0
... 10.80 to 11.20	4.00	0.46	0.21	342.400	33.58	342.400	0.038	999.0
... 10.40 to 10.80	4.02	0.46	0.28	342.400	33.63	342.400	0.052	999.0
... 10.00 to 10.40	4.04	0.46	0.35	342.400	33.67	342.400	0.067	999.0
... 9.60 to 10.00	4.06	0.46	0.42	342.400	33.72	342.400	0.082	999.0
... 9.20 to 9.60	4.08	0.46	0.47	342.400	33.77	74.454	0.096	999.0
... 8.80 to 9.20	4.10	0.46	0.52	342.400	33.81	47.694	0.110	999.0
... 8.40 to 8.80	4.12	0.46	0.57	342.400	33.86	42.166	0.122	999.0
... 8.00 to 8.40	4.14	0.46	0.61	342.400	33.91	39.810	0.134	999.0
... 7.60 to 8.00	4.16	0.46	0.64	342.400	33.95	38.576	0.144	997.8
... 7.20 to 7.60	4.18	0.46	0.67	342.400	34.00	37.873	0.153	942.5
... 6.80 to 7.20	4.20	0.46	0.69	342.400	34.04	37.468	0.159	904.0
... 6.40 to 6.80	4.22	0.46	0.70	342.400	34.09	37.254	0.164	879.6
... 6.00 to 6.40	4.24	0.46	0.71	342.400	34.14	37.181	0.166	867.8
... 5.60 to 6.00	4.26	0.46	0.71	342.400	34.18	37.228	0.166	867.9
... 5.20 to 5.60	4.28	0.46	0.70	342.400	34.23	37.394	0.164	879.8
... 4.80 to 5.20	4.30	0.46	0.69	342.400	34.28	37.702	0.159	904.3
... 4.40 to 4.80	4.32	0.46	0.67	342.400	34.32	38.201	0.153	942.9
... 4.00 to 4.40	4.34	0.46	0.64	342.400	34.37	38.998	0.144	998.2
... 3.60 to 4.00	4.36	0.46	0.61	342.400	34.41	40.325	0.134	999.0
... 3.20 to 3.60	4.38	0.46	0.57	342.400	34.46	42.765	0.122	999.0
... 2.80 to 3.20	4.40	0.46	0.52	342.400	34.50	48.319	0.109	999.0
... 2.40 to 2.80	4.42	0.46	0.47	342.400	34.55	73.573	0.096	999.0

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: 1ST FLOOR CMU WALLS REV-1

... 2.00 to 2.40	4.44	0.46	0.42	342.400	34.60	342.400	0.082	999.0
... 1.60 to 2.00	4.46	0.46	0.35	342.400	34.64	342.400	0.067	999.0
... 1.20 to 1.60	4.49	0.46	0.29	342.400	34.69	342.400	0.052	999.0
... 0.80 to 1.20	4.51	0.46	0.21	342.400	34.73	342.400	0.038	999.0
... 0.40 to 0.80	4.53	0.46	0.13	342.400	34.78	342.400	0.023	999.0

Deflections - Service Loads

Load Combination Location	Axial Load (k)	Moments (k-ft)		Inertia (in ⁴)			Iterated Deflection (in)	
		Mcr	Mu	Igross	Icracked	Ieff	Deflection	Ratio
... 0.00 to 0.40	4.55	0.46	0.00	342.400	34.82	342.400	0.008	999.0
+0.60D+0.420W								
... 11.60 to 12.00	2.06	0.46	0.00	342.400	28.98	342.400	0.006	999.0
... 11.20 to 11.60	2.07	0.46	0.12	342.400	29.01	342.400	0.018	999.0
... 10.80 to 11.20	2.08	0.46	0.19	342.400	29.04	342.400	0.029	999.0
... 10.40 to 10.80	2.09	0.46	0.26	342.400	29.07	342.400	0.041	999.0
... 10.00 to 10.40	2.11	0.46	0.32	342.400	29.10	342.400	0.052	999.0
... 9.60 to 10.00	2.12	0.46	0.37	342.400	29.13	342.400	0.063	999.0
... 9.20 to 9.60	2.13	0.46	0.42	342.400	29.16	342.400	0.074	999.0
... 8.80 to 9.20	2.14	0.46	0.47	342.400	29.19	72.270	0.085	999.0
... 8.40 to 8.80	2.16	0.46	0.51	342.400	29.22	44.645	0.095	999.0
... 8.00 to 8.40	2.17	0.46	0.54	342.400	29.25	38.916	0.105	999.0
... 7.60 to 8.00	2.18	0.46	0.57	342.400	29.28	36.435	0.113	999.0
... 7.20 to 7.60	2.19	0.46	0.59	342.400	29.31	35.128	0.120	999.0
... 6.80 to 7.20	2.21	0.46	0.61	342.400	29.34	34.392	0.126	999.0
... 6.40 to 6.80	2.22	0.46	0.62	342.400	29.37	33.994	0.129	999.0
... 6.00 to 6.40	2.23	0.46	0.63	342.400	29.40	33.831	0.131	999.0
... 5.60 to 6.00	2.24	0.46	0.63	342.400	29.43	33.863	0.131	999.0
... 5.20 to 5.60	2.25	0.46	0.62	342.400	29.46	34.088	0.129	999.0
... 4.80 to 5.20	2.27	0.46	0.61	342.400	29.49	34.550	0.126	999.0
... 4.40 to 4.80	2.28	0.46	0.59	342.400	29.52	35.349	0.120	999.0
... 4.00 to 4.40	2.29	0.46	0.57	342.400	29.55	36.721	0.113	999.0
... 3.60 to 4.00	2.30	0.46	0.54	342.400	29.58	39.262	0.105	999.0
... 3.20 to 3.60	2.32	0.46	0.51	342.400	29.61	45.023	0.095	999.0
... 2.80 to 3.20	2.33	0.46	0.47	342.400	29.64	71.700	0.085	999.0
... 2.40 to 2.80	2.34	0.46	0.42	342.400	29.67	342.400	0.074	999.0
... 2.00 to 2.40	2.35	0.46	0.37	342.400	29.70	342.400	0.063	999.0
... 1.60 to 2.00	2.36	0.46	0.32	342.400	29.73	342.400	0.052	999.0
... 1.20 to 1.60	2.38	0.46	0.26	342.400	29.76	342.400	0.041	999.0
... 0.80 to 1.20	2.39	0.46	0.19	342.400	29.79	342.400	0.029	999.0
... 0.40 to 0.80	2.40	0.46	0.12	342.400	29.82	342.400	0.018	999.0
... 0.00 to 0.40	2.41	0.46	0.00	342.400	29.85	342.400	0.006	999.0
+D+0.70E								
... 11.60 to 12.00	3.43	0.46	0.00	342.400	32.27	342.400	0.000	0.0
... 11.20 to 11.60	3.45	0.46	0.00	342.400	32.32	342.400	0.000	0.0
... 10.80 to 11.20	3.47	0.46	0.00	342.400	32.37	342.400	0.000	0.0
... 10.40 to 10.80	3.49	0.46	0.00	342.400	32.42	342.400	0.000	0.0
... 10.00 to 10.40	3.51	0.46	0.00	342.400	32.46	342.400	0.000	0.0
... 9.60 to 10.00	3.53	0.46	0.00	342.400	32.51	342.400	0.000	0.0
... 9.20 to 9.60	3.55	0.46	0.00	342.400	32.56	342.400	0.000	0.0
... 8.80 to 9.20	3.57	0.46	0.00	342.400	32.61	342.400	0.000	0.0
... 8.40 to 8.80	3.59	0.46	0.00	342.400	32.65	342.400	0.000	0.0
... 8.00 to 8.40	3.61	0.46	0.00	342.400	32.70	342.400	0.000	0.0

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: 1ST FLOOR CMU WALLS REV-1

... 7.60 to 8.00	3.63	0.46	0.00	342.400	32.75	342.400	0.000	0.0
... 7.20 to 7.60	3.65	0.46	0.00	342.400	32.79	342.400	0.000	0.0
... 6.80 to 7.20	3.68	0.46	0.00	342.400	32.84	342.400	0.000	0.0
... 6.40 to 6.80	3.70	0.46	0.00	342.400	32.89	342.400	0.000	0.0
... 6.00 to 6.40	3.72	0.46	0.00	342.400	32.94	342.400	0.000	0.0

Deflections - Service Loads

Load Combination Location	Axial Load (k)	Moments (k-ft)		Inertia (in ⁴)			Iterated Deflection (in)	
		Mcr	Mu	Igross	Icracked	Ieff	Deflection	Ratio
... 5.60 to 6.00	3.74	0.46	0.00	342.400	32.98	342.400	0.000	0.0
... 5.20 to 5.60	3.76	0.46	0.00	342.400	33.03	342.400	0.000	0.0
... 4.80 to 5.20	3.78	0.46	0.00	342.400	33.08	342.400	0.000	0.0
... 4.40 to 4.80	3.80	0.46	0.00	342.400	33.12	342.400	0.000	0.0
... 4.00 to 4.40	3.82	0.46	0.00	342.400	33.17	342.400	0.000	0.0
... 3.60 to 4.00	3.84	0.46	0.00	342.400	33.22	342.400	0.000	0.0
... 3.20 to 3.60	3.86	0.46	0.00	342.400	33.27	342.400	0.000	0.0
... 2.80 to 3.20	3.88	0.46	0.00	342.400	33.31	342.400	0.000	0.0
... 2.40 to 2.80	3.90	0.46	0.00	342.400	33.36	342.400	0.000	0.0
... 2.00 to 2.40	3.92	0.46	0.00	342.400	33.41	342.400	0.000	0.0
... 1.60 to 2.00	3.94	0.46	0.00	342.400	33.45	342.400	0.000	0.0
... 1.20 to 1.60	3.96	0.46	0.00	342.400	33.50	342.400	0.000	0.0
... 0.80 to 1.20	3.98	0.46	0.00	342.400	33.55	342.400	0.000	0.0
... 0.40 to 0.80	4.00	0.46	0.00	342.400	33.59	342.400	0.000	0.0
... 0.00 to 0.40	4.02	0.46	0.00	342.400	33.64	342.400	0.000	0.0
+D+0.750L+0.5250E								
... 11.60 to 12.00	3.96	0.46	0.00	342.400	33.49	342.400	0.000	0.0
... 11.20 to 11.60	3.98	0.46	0.00	342.400	33.53	342.400	0.000	0.0
... 10.80 to 11.20	4.00	0.46	0.00	342.400	33.58	342.400	0.000	0.0
... 10.40 to 10.80	4.02	0.46	0.00	342.400	33.63	342.400	0.000	0.0
... 10.00 to 10.40	4.04	0.46	0.00	342.400	33.67	342.400	0.000	0.0
... 9.60 to 10.00	4.06	0.46	0.00	342.400	33.72	342.400	0.000	0.0
... 9.20 to 9.60	4.08	0.46	0.00	342.400	33.77	342.400	0.000	0.0
... 8.80 to 9.20	4.10	0.46	0.00	342.400	33.81	342.400	0.000	0.0
... 8.40 to 8.80	4.12	0.46	0.00	342.400	33.86	342.400	0.000	0.0
... 8.00 to 8.40	4.14	0.46	0.00	342.400	33.91	342.400	0.000	0.0
... 7.60 to 8.00	4.16	0.46	0.00	342.400	33.95	342.400	0.000	0.0
... 7.20 to 7.60	4.18	0.46	0.00	342.400	34.00	342.400	0.000	0.0
... 6.80 to 7.20	4.20	0.46	0.00	342.400	34.04	342.400	0.000	0.0
... 6.40 to 6.80	4.22	0.46	0.00	342.400	34.09	342.400	0.000	0.0
... 6.00 to 6.40	4.24	0.46	0.00	342.400	34.14	342.400	0.000	0.0
... 5.60 to 6.00	4.26	0.46	0.00	342.400	34.18	342.400	0.000	0.0
... 5.20 to 5.60	4.28	0.46	0.00	342.400	34.23	342.400	0.000	0.0
... 4.80 to 5.20	4.30	0.46	0.00	342.400	34.28	342.400	0.000	0.0
... 4.40 to 4.80	4.32	0.46	0.00	342.400	34.32	342.400	0.000	0.0
... 4.00 to 4.40	4.34	0.46	0.00	342.400	34.37	342.400	0.000	0.0
... 3.60 to 4.00	4.36	0.46	0.00	342.400	34.41	342.400	0.000	0.0
... 3.20 to 3.60	4.38	0.46	0.00	342.400	34.46	342.400	0.000	0.0
... 2.80 to 3.20	4.40	0.46	0.00	342.400	34.51	342.400	0.000	0.0
... 2.40 to 2.80	4.42	0.46	0.00	342.400	34.55	342.400	0.000	0.0
... 2.00 to 2.40	4.45	0.46	0.00	342.400	34.60	342.400	0.000	0.0
... 1.60 to 2.00	4.47	0.46	0.00	342.400	34.64	342.400	0.000	0.0
... 1.20 to 1.60	4.49	0.46	0.00	342.400	34.69	342.400	0.000	0.0

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: 1ST FLOOR CMU WALLS REV-1

... 0.80 to 1.20	4.51	0.46	0.00	342.400	34.73	342.400	0.000	0.0
... 0.40 to 0.80	4.53	0.46	0.00	342.400	34.78	342.400	0.000	0.0
... 0.00 to 0.40	4.55	0.46	0.00	342.400	34.83	342.400	0.000	0.0
+0.60D+0.70E								
... 11.60 to 12.00	2.06	0.46	0.00	342.400	28.98	342.400	0.000	0.0

Deflections - Service Loads

Load Combination Location	Axial Load (k)	Moments (k-ft)		Inertia (in ⁴)			Iterated Deflection (in)	
		Mcr	Mu	Igross	Icracked	Ieff	Deflection	Ratio
... 11.20 to 11.60	2.07	0.46	0.00	342.400	29.01	342.400	0.000	0.0
... 10.80 to 11.20	2.08	0.46	0.00	342.400	29.04	342.400	0.000	0.0
... 10.40 to 10.80	2.09	0.46	0.00	342.400	29.07	342.400	0.000	0.0
... 10.00 to 10.40	2.11	0.46	0.00	342.400	29.10	342.400	0.000	0.0
... 9.60 to 10.00	2.12	0.46	0.00	342.400	29.13	342.400	0.000	0.0
... 9.20 to 9.60	2.13	0.46	0.00	342.400	29.16	342.400	0.000	0.0
... 8.80 to 9.20	2.14	0.46	0.00	342.400	29.19	342.400	0.000	0.0
... 8.40 to 8.80	2.16	0.46	0.00	342.400	29.22	342.400	0.000	0.0
... 8.00 to 8.40	2.17	0.46	0.00	342.400	29.25	342.400	0.000	0.0
... 7.60 to 8.00	2.18	0.46	0.00	342.400	29.28	342.400	0.000	0.0
... 7.20 to 7.60	2.19	0.46	0.00	342.400	29.31	342.400	0.000	0.0
... 6.80 to 7.20	2.21	0.46	0.00	342.400	29.34	342.400	0.000	0.0
... 6.40 to 6.80	2.22	0.46	0.00	342.400	29.37	342.400	0.000	0.0
... 6.00 to 6.40	2.23	0.46	0.00	342.400	29.40	342.400	0.000	0.0
... 5.60 to 6.00	2.24	0.46	0.00	342.400	29.43	342.400	0.000	0.0
... 5.20 to 5.60	2.25	0.46	0.00	342.400	29.46	342.400	0.000	0.0
... 4.80 to 5.20	2.27	0.46	0.00	342.400	29.49	342.400	0.000	0.0
... 4.40 to 4.80	2.28	0.46	0.00	342.400	29.52	342.400	0.000	0.0
... 4.00 to 4.40	2.29	0.46	0.00	342.400	29.55	342.400	0.000	0.0
... 3.60 to 4.00	2.30	0.46	0.00	342.400	29.58	342.400	0.000	0.0
... 3.20 to 3.60	2.32	0.46	0.00	342.400	29.61	342.400	0.000	0.0
... 2.80 to 3.20	2.33	0.46	0.00	342.400	29.64	342.400	0.000	0.0
... 2.40 to 2.80	2.34	0.46	0.00	342.400	29.67	342.400	0.000	0.0
... 2.00 to 2.40	2.35	0.46	0.00	342.400	29.70	342.400	0.000	0.0
... 1.60 to 2.00	2.36	0.46	0.00	342.400	29.73	342.400	0.000	0.0
... 1.20 to 1.60	2.38	0.46	0.00	342.400	29.76	342.400	0.000	0.0
... 0.80 to 1.20	2.39	0.46	0.00	342.400	29.79	342.400	0.000	0.0
... 0.40 to 0.80	2.40	0.46	0.00	342.400	29.82	342.400	0.000	0.0
... 0.00 to 0.40	2.41	0.46	0.00	342.400	29.85	342.400	0.000	0.0
L Only								
... 11.60 to 12.00	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 11.20 to 11.60	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 10.80 to 11.20	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 10.40 to 10.80	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 10.00 to 10.40	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 9.60 to 10.00	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 9.20 to 9.60	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 8.80 to 9.20	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 8.40 to 8.80	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 8.00 to 8.40	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 7.60 to 8.00	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 7.20 to 7.60	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 6.80 to 7.20	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: 1ST FLOOR CMU WALLS REV-1

... 6.40 to 6.80	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 6.00 to 6.40	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 5.60 to 6.00	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 5.20 to 5.60	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 4.80 to 5.20	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0

Deflections - Service Loads

Load Combination Location	Axial Load (k)	Moments (k-ft)		Inertia (in ⁴)			Iterated Deflection (in)	
		Mcr	Mu	Igross	Icracked	Ieff	Deflection	Ratio
... 4.40 to 4.80	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 4.00 to 4.40	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 3.60 to 4.00	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 3.20 to 3.60	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 2.80 to 3.20	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 2.40 to 2.80	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 2.00 to 2.40	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 1.60 to 2.00	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 1.20 to 1.60	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 0.80 to 1.20	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 0.40 to 0.80	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
... 0.00 to 0.40	0.70	0.46	0.00	342.400	25.54	342.400	0.000	0.0
+0.420W								
... 11.60 to 12.00	0.00	0.46	0.00	342.400	23.68	342.400	0.006	999.0
... 11.20 to 11.60	0.00	0.46	0.11	342.400	23.68	342.400	0.018	999.0
... 10.80 to 11.20	0.00	0.46	0.18	342.400	23.68	342.400	0.030	999.0
... 10.40 to 10.80	0.00	0.46	0.25	342.400	23.68	342.400	0.041	999.0
... 10.00 to 10.40	0.00	0.46	0.31	342.400	23.68	342.400	0.053	999.0
... 9.60 to 10.00	0.00	0.46	0.36	342.400	23.68	342.400	0.064	999.0
... 9.20 to 9.60	0.00	0.46	0.41	342.400	23.68	342.400	0.076	999.0
... 8.80 to 9.20	0.00	0.46	0.45	342.400	23.68	342.400	0.087	999.0
... 8.40 to 8.80	0.00	0.46	0.49	342.400	23.68	41.611	0.097	999.0
... 8.00 to 8.40	0.00	0.46	0.52	342.400	23.68	33.912	0.107	999.0
... 7.60 to 8.00	0.00	0.46	0.55	342.400	23.68	31.013	0.116	999.0
... 7.20 to 7.60	0.00	0.46	0.57	342.400	23.68	29.551	0.123	999.0
... 6.80 to 7.20	0.00	0.46	0.59	342.400	23.68	28.738	0.129	999.0
... 6.40 to 6.80	0.00	0.46	0.60	342.400	23.68	28.289	0.133	999.0
... 6.00 to 6.40	0.00	0.46	0.60	342.400	23.68	28.087	0.135	999.0
... 5.60 to 6.00	0.00	0.46	0.60	342.400	23.68	28.087	0.135	999.0
... 5.20 to 5.60	0.00	0.46	0.60	342.400	23.68	28.289	0.133	999.0
... 4.80 to 5.20	0.00	0.46	0.59	342.400	23.68	28.738	0.129	999.0
... 4.40 to 4.80	0.00	0.46	0.57	342.400	23.68	29.551	0.123	999.0
... 4.00 to 4.40	0.00	0.46	0.55	342.400	23.68	31.013	0.116	999.0
... 3.60 to 4.00	0.00	0.46	0.52	342.400	23.68	33.912	0.107	999.0
... 3.20 to 3.60	0.00	0.46	0.49	342.400	23.68	41.611	0.097	999.0
... 2.80 to 3.20	0.00	0.46	0.45	342.400	23.68	342.400	0.087	999.0
... 2.40 to 2.80	0.00	0.46	0.41	342.400	23.68	342.400	0.076	999.0
... 2.00 to 2.40	0.00	0.46	0.36	342.400	23.68	342.400	0.064	999.0
... 1.60 to 2.00	0.00	0.46	0.31	342.400	23.68	342.400	0.053	999.0
... 1.20 to 1.60	0.00	0.46	0.25	342.400	23.68	342.400	0.041	999.0
... 0.80 to 1.20	0.00	0.46	0.18	342.400	23.68	342.400	0.030	999.0
... 0.40 to 0.80	0.00	0.46	0.11	342.400	23.68	342.400	0.018	999.0
... 0.00 to 0.40	0.00	0.46	0.00	342.400	23.68	342.400	0.006	999.0

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: 1ST FLOOR CMU WALLS REV-1

E Only

...11.60 to 12.00	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...11.20 to 11.60	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...10.80 to 11.20	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...10.40 to 10.80	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0

Deflections - Service Loads

Load Combination Location	Axial Load (k)	Moments (k-ft)		Inertia (in^4)			Iterated Deflection (in)	
		Mcr	Mu	Igross	Icracked	Ieff	Deflection	Ratio
...10.00 to 10.40	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...9.60 to 10.00	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...9.20 to 9.60	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...8.80 to 9.20	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...8.40 to 8.80	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...8.00 to 8.40	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...7.60 to 8.00	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...7.20 to 7.60	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...6.80 to 7.20	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...6.40 to 6.80	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...6.00 to 6.40	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...5.60 to 6.00	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...5.20 to 5.60	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...4.80 to 5.20	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...4.40 to 4.80	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...4.00 to 4.40	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...3.60 to 4.00	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...3.20 to 3.60	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...2.80 to 3.20	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...2.40 to 2.80	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...2.00 to 2.40	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...1.60 to 2.00	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...1.20 to 1.60	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...0.80 to 1.20	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...0.40 to 0.80	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0
...0.00 to 0.40	0.00	0.46	0.00	342.400	23.68	342.400	0.000	0.0

Project Title:
Engineer:
Project ID:
Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: GARAGE CMU WALLS REV-1

Code References

Governing Code : IBC 2021
Referenced Design Standard(s) : TMS 402-16
Load Combinations Used : ASCE 7-16

General Information

Construction Type : Grouted Hollow Concrete Masonry

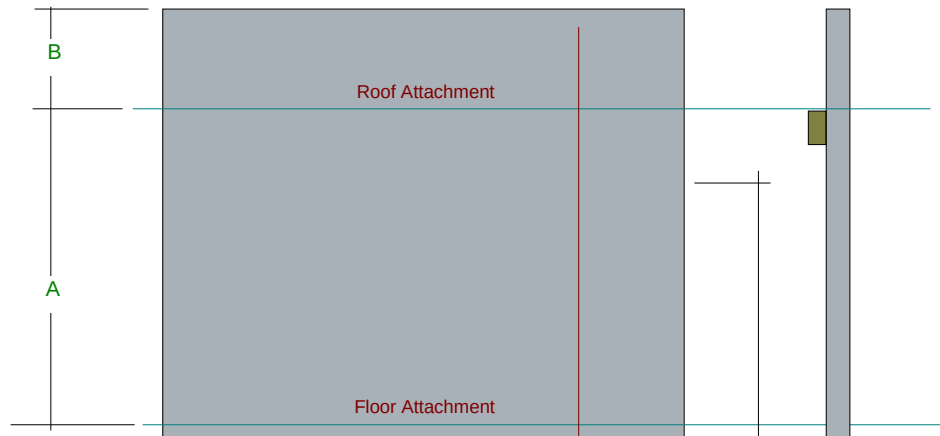
F'm	=	1.50 ksi	Nom. Wall Thickness	8 in	Temp Diff across thickness	=	deg F
Fy - Yield	=	60.0 ksi	Actual Thickness	7.625 in	Min Allow Out-of-plane Defl Ra	=	0.0
Fr - Rupture	=	61.0 psi	Rebar "d" distance	3.8125 in			
Em = f'm *	=	900.0	Lower Level Rebar . . .		Minimum Vertical Steel %	=	0.0020
Max % of ρ bal.	=	0.005669	Bar Size	# 6			
Grout Density	=	140 pcf	Bar Spacing	32 in			
Block Weight		Normal Weight					
Wall Weight	=	51.0 psf					

Wall is grouted at rebar cells only

One-Story Wall Dimensions

A Clear Height	=	13.33 ft
B Parapet height	=	ft

Wall Support ConditionTop & Bottom Pinned



Vertical Loads

Vertical Uniform Loads . . . (Applied per foot of Strip Width)		DL : Dead	Lr : Roof Live	Lf : Floor Live	S : Snow	W : Wind
Ledger Load	Eccentricity	3.410		0.70		k/ft
Concentric Load						k/ft

Lateral Loads

Wind Loads :

Full area WIND load 78.0 psf

Seismic Loads :

Wall Weight Seismic Load Input Method : Direct entry of Lateral Wall Weight
Seismic Wall Lateral Load psf

Fp 1.0 = 0.0 psf

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: GARAGE CMU WALLS REV-1

DESIGN SUMMARY

Results reported for "Strip Width" of 12.0 in

Governing Load Combination . . .		Actual Values . . .		Allowable Values . . .	
PASS	Moment Capacity Check +0.90D+W	Maximum Bending Stress Ratio0.6414			
		Max Mu	2.016 k-ft	Phi * Mn	3.143 k-ft
PASS	Service Deflection Check +D+0.750L+0.450W	Actual Defl. Ratio L/	538	Allowable Defl. Ratio	150.0
		Max. Deflection	0.2976 in		
PASS	Axial Load Check +1.20D+L+W	Max Pu / Ag	113.731 psi	Max. Allow. Defl.	1.066 in
		Location	6.443 ft	0.2 * f'm	300.0 psi
PASS	Reinforcing Limit Check				
		Actual ρ	0.003607	Max Allow ρ	0.004599
		Maximum Reactions for Load Combination...			
		Top Horizontal	W Only		0.5199 k
		Base Horizontal	W Only		0.5199 k
		Vertical Reaction	+D+L		4.790 k

Design Maximum Combinations - Moments

Results reported for "Strip Width" = 12 in.

Load Combination	Axial Load		Mcr k-ft	Mu k-ft	Moment Values			ρ Actual	ρ Max Allow	Bar 'd'
	Pu k	0.2*f'm*b*t k			Phi	Phi Mn k-ft	As in^2			
	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.0000	0.0000	0.00
	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.0000	0.0000	0.00
	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.0000	0.0000	0.00
+1.20D+0.50W at 6.22 to 6.67	4.527	13.788	0.46	1.00	0.90	3.40	0.165	0.0036	0.0051	3.81
+1.20D+L+W at 6.22 to 6.67	5.227	13.788	0.46	2.18	0.90	3.55	0.165	0.0036	0.0049	3.81
+0.90D+W at 6.22 to 6.67	3.395	13.788	0.46	2.02	0.90	3.15	0.165	0.0036	0.0056	3.81
	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.0000	0.0000	0.00
	0.000	0.000	0.00	0.00	0.00	0.00	0.000	0.0000	0.0000	0.00

Design Maximum Combinations - Deflections

Results reported for "Strip Width" = 12 in.

Load Combination	Axial Load Pu k	Moment Values		I gross in^4	Stiffness		Deflections	
		Mcr k-ft	Mactual k-ft		I cracked in^4	I effective in^4	Deflection in	Defl. Ratio
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0
+D+0.420W at 6.67 to 7.11	3.750	0.46	0.80	342.40	39.42	41.477	0.250	639.3
+D+0.750L+0.450W at 6.67 to 7.11	4.275	0.46	0.88	342.40	40.50	41.987	0.298	537.6
+0.60D+0.420W at 6.67 to 7.11	2.250	0.46	0.77	342.40	36.22	38.450	0.246	650.2
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0
+0.420W at 6.67 to 7.11	0.000	0.46	0.73	342.40	31.08	33.569	0.243	658.8
	0.000	0.00	0.00	0.00	0.00	0.000	0.000	0.0

Reactions - Vertical & Horizontal

Load Combination	Base Horizontal	Top Horizontal	Vertical @ Wall Base
D Only	0.0 k	0.00 k	4.090 k
+D+L	0.0 k	0.00 k	4.790 k
+D+0.750L	0.0 k	0.00 k	4.615 k
+D+0.60W	0.3 k	0.31 k	4.090 k

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: GARAGE CMU WALLS REV-1

+D+0.750L+0.450W	0.2 k	0.23 k	4.615 k
+0.60D+0.60W	0.3 k	0.31 k	2.454 k
+D+0.70E	0.0 k	0.00 k	4.090 k
+D+0.750L+0.5250E	0.0 k	0.00 k	4.615 k

Reactions - Vertical & Horizontal

Load Combination	Base Horizontal	Top Horizontal	Vertical @ Wall Base
+0.60D+0.70E	0.0 k	0.00 k	2.454 k
L Only	0.0 k	0.00 k	0.700 k
W Only	0.5 k	0.52 k	0.000 k
E Only	0.0 k	0.00 k	0.000 k

Deflections - Service Loads

Load Combination Location	Axial Load (k)	Moments (k-ft)		Inertia (in^4)			Iterated Deflection (in)	
		Mcr	Mu	Igross	Icracked	Ieff	Deflection	Ratio
Overall MAXimum Envelope								
...+D+0.750L+0.450W at 12.89 to 13.33	3.96	0.46	0.00	342.400	39.85	342.400	0.014	999.0
...+D+0.750L+0.450W at 12.44 to 12.89	3.98	0.46	0.16	342.400	39.89	342.400	0.042	999.0
...+D+0.750L+0.450W at 12.00 to 12.44	4.00	0.46	0.26	342.400	39.94	342.400	0.070	999.0
...+D+0.750L+0.450W at 11.55 to 12.00	4.02	0.46	0.35	342.400	39.99	342.400	0.097	999.0
...+D+0.750L+0.450W at 11.11 to 11.55	4.05	0.46	0.44	342.400	40.04	342.400	0.124	999.0
...+D+0.750L+0.450W at 10.66 to 11.11	4.07	0.46	0.52	342.400	40.08	57.196	0.151	999.0
...+D+0.750L+0.450W at 10.22 to 10.66	4.09	0.46	0.59	342.400	40.13	47.992	0.177	903.1
...+D+0.750L+0.450W at 9.78 to 10.22	4.12	0.46	0.65	342.400	40.18	45.007	0.202	793.4
...+D+0.750L+0.450W at 9.33 to 9.78	4.14	0.46	0.71	342.400	40.22	43.624	0.224	713.7
...+D+0.750L+0.450W at 8.89 to 9.33	4.16	0.46	0.76	342.400	40.27	42.880	0.244	655.0
...+D+0.750L+0.450W at 8.44 to 8.89	4.18	0.46	0.80	342.400	40.32	42.451	0.261	611.7
...+D+0.750L+0.450W at 8.00 to 8.44	4.21	0.46	0.83	342.400	40.36	42.199	0.276	580.2
...+D+0.750L+0.450W at 7.55 to 8.00	4.23	0.46	0.86	342.400	40.41	42.058	0.287	558.3
...+D+0.750L+0.450W at 7.11 to 7.55	4.25	0.46	0.88	342.400	40.46	41.993	0.294	544.3
...+D+0.750L+0.450W at 6.67 to 7.11	4.27	0.46	0.88	342.400	40.50	41.987	0.298	537.6
...+D+0.750L+0.450W at 6.22 to 6.67	4.30	0.46	0.88	342.400	40.55	42.033	0.298	537.6
...+D+0.750L+0.450W at 5.78 to 6.22	4.32	0.46	0.88	342.400	40.60	42.130	0.294	544.4
...+D+0.750L+0.450W at 5.33 to 5.78	4.34	0.46	0.86	342.400	40.64	42.286	0.286	558.4
...+D+0.750L+0.450W at 4.89 to 5.33	4.37	0.46	0.84	342.400	40.69	42.518	0.276	580.4
...+D+0.750L+0.450W at 4.44 to 4.89	4.39	0.46	0.80	342.400	40.73	42.860	0.261	611.9
...+D+0.750L+0.450W at 4.00 to 4.44	4.41	0.46	0.76	342.400	40.78	43.377	0.244	655.2
...+D+0.750L+0.450W at 3.55 to 4.00	4.43	0.46	0.71	342.400	40.83	44.206	0.224	713.9
...+D+0.750L+0.450W at 3.11 to 3.55	4.46	0.46	0.66	342.400	40.87	45.663	0.202	793.6
...+D+0.750L+0.450W at 2.67 to 3.11	4.48	0.46	0.59	342.400	40.92	48.682	0.177	903.2
...+D+0.750L+0.450W at 2.22 to 2.67	4.50	0.46	0.52	342.400	40.96	57.619	0.151	999.0
...+D+0.750L+0.450W at 1.78 to 2.22	4.52	0.46	0.44	342.400	41.01	342.400	0.124	999.0
...+D+0.750L+0.450W at 1.33 to 1.78	4.55	0.46	0.36	342.400	41.05	342.400	0.097	999.0
...+D+0.750L+0.450W at 0.89 to 1.33	4.57	0.46	0.26	342.400	41.10	342.400	0.070	999.0
...+D+0.750L+0.450W at 0.44 to 0.89	4.59	0.46	0.16	342.400	41.15	342.400	0.042	999.0
...+D+0.750L+0.450W at 0.00 to 0.44	4.61	0.46	0.00	342.400	41.19	342.400	0.014	999.0
D Only								
...12.89 to 13.33	3.43	0.46	0.00	342.400	38.76	342.400	0.000	0.0
...12.44 to 12.89	3.46	0.46	0.00	342.400	38.80	342.400	0.000	0.0
...12.00 to 12.44	3.48	0.46	0.00	342.400	38.85	342.400	0.000	0.0
...11.55 to 12.00	3.50	0.46	0.00	342.400	38.90	342.400	0.000	0.0

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: GARAGE CMU WALLS REV-1

... 11.11 to 11.55	3.52	0.46	0.00	342.400	38.95	342.400	0.000	0.0
... 10.66 to 11.11	3.55	0.46	0.00	342.400	38.99	342.400	0.000	0.0
... 10.22 to 10.66	3.57	0.46	0.00	342.400	39.04	342.400	0.000	0.0
... 9.78 to 10.22	3.59	0.46	0.00	342.400	39.09	342.400	0.000	0.0
... 9.33 to 9.78	3.61	0.46	0.00	342.400	39.14	342.400	0.000	0.0

Deflections - Service Loads

Load Combination Location	Axial Load (k)	Moments (k-ft)		Inertia (in ⁴)			Iterated Deflection (in)	
		Mcr	Mu	Igross	Icracked	Ieff	Deflection	Ratio
... 8.89 to 9.33	3.64	0.46	0.00	342.400	39.18	342.400	0.000	0.0
... 8.44 to 8.89	3.66	0.46	0.00	342.400	39.23	342.400	0.000	0.0
... 8.00 to 8.44	3.68	0.46	0.00	342.400	39.28	342.400	0.000	0.0
... 7.55 to 8.00	3.70	0.46	0.00	342.400	39.32	342.400	0.000	0.0
... 7.11 to 7.55	3.73	0.46	0.00	342.400	39.37	342.400	0.000	0.0
... 6.67 to 7.11	3.75	0.46	0.00	342.400	39.42	342.400	0.000	0.0
... 6.22 to 6.67	3.77	0.46	0.00	342.400	39.47	342.400	0.000	0.0
... 5.78 to 6.22	3.80	0.46	0.00	342.400	39.51	342.400	0.000	0.0
... 5.33 to 5.78	3.82	0.46	0.00	342.400	39.56	342.400	0.000	0.0
... 4.89 to 5.33	3.84	0.46	0.00	342.400	39.61	342.400	0.000	0.0
... 4.44 to 4.89	3.86	0.46	0.00	342.400	39.65	342.400	0.000	0.0
... 4.00 to 4.44	3.89	0.46	0.00	342.400	39.70	342.400	0.000	0.0
... 3.55 to 4.00	3.91	0.46	0.00	342.400	39.75	342.400	0.000	0.0
... 3.11 to 3.55	3.93	0.46	0.00	342.400	39.80	342.400	0.000	0.0
... 2.67 to 3.11	3.95	0.46	0.00	342.400	39.84	342.400	0.000	0.0
... 2.22 to 2.67	3.98	0.46	0.00	342.400	39.89	342.400	0.000	0.0
... 1.78 to 2.22	4.00	0.46	0.00	342.400	39.94	342.400	0.000	0.0
... 1.33 to 1.78	4.02	0.46	0.00	342.400	39.98	342.400	0.000	0.0
... 0.89 to 1.33	4.04	0.46	0.00	342.400	40.03	342.400	0.000	0.0
... 0.44 to 0.89	4.07	0.46	0.00	342.400	40.08	342.400	0.000	0.0
... 0.00 to 0.44	4.09	0.46	0.00	342.400	40.12	342.400	0.000	0.0
+D+L								
... 12.89 to 13.33	4.13	0.46	0.00	342.400	40.21	342.400	0.000	0.0
... 12.44 to 12.89	4.16	0.46	0.00	342.400	40.26	342.400	0.000	0.0
... 12.00 to 12.44	4.18	0.46	0.00	342.400	40.30	342.400	0.000	0.0
... 11.55 to 12.00	4.20	0.46	0.00	342.400	40.35	342.400	0.000	0.0
... 11.11 to 11.55	4.22	0.46	0.00	342.400	40.40	342.400	0.000	0.0
... 10.66 to 11.11	4.25	0.46	0.00	342.400	40.44	342.400	0.000	0.0
... 10.22 to 10.66	4.27	0.46	0.00	342.400	40.49	342.400	0.000	0.0
... 9.78 to 10.22	4.29	0.46	0.00	342.400	40.54	342.400	0.000	0.0
... 9.33 to 9.78	4.31	0.46	0.00	342.400	40.58	342.400	0.000	0.0
... 8.89 to 9.33	4.34	0.46	0.00	342.400	40.63	342.400	0.000	0.0
... 8.44 to 8.89	4.36	0.46	0.00	342.400	40.67	342.400	0.000	0.0
... 8.00 to 8.44	4.38	0.46	0.00	342.400	40.72	342.400	0.000	0.0
... 7.55 to 8.00	4.40	0.46	0.00	342.400	40.77	342.400	0.000	0.0
... 7.11 to 7.55	4.43	0.46	0.00	342.400	40.81	342.400	0.000	0.0
... 6.67 to 7.11	4.45	0.46	0.00	342.400	40.86	342.400	0.000	0.0
... 6.22 to 6.67	4.47	0.46	0.00	342.400	40.91	342.400	0.000	0.0
... 5.78 to 6.22	4.50	0.46	0.00	342.400	40.95	342.400	0.000	0.0
... 5.33 to 5.78	4.52	0.46	0.00	342.400	41.00	342.400	0.000	0.0
... 4.89 to 5.33	4.54	0.46	0.00	342.400	41.04	342.400	0.000	0.0
... 4.44 to 4.89	4.56	0.46	0.00	342.400	41.09	342.400	0.000	0.0
... 4.00 to 4.44	4.59	0.46	0.00	342.400	41.14	342.400	0.000	0.0

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: GARAGE CMU WALLS REV-1

... 3.55 to 4.00	4.61	0.46	0.00	342.400	41.18	342.400	0.000	0.0
... 3.11 to 3.55	4.63	0.46	0.00	342.400	41.23	342.400	0.000	0.0
... 2.67 to 3.11	4.65	0.46	0.00	342.400	41.27	342.400	0.000	0.0
... 2.22 to 2.67	4.68	0.46	0.00	342.400	41.32	342.400	0.000	0.0
... 1.78 to 2.22	4.70	0.46	0.00	342.400	41.36	342.400	0.000	0.0

Deflections - Service Loads

Load Combination Location	Axial Load (k)	Moments (k-ft)		Inertia (in ⁴)			Iterated Deflection (in)	
		Mcr	Mu	Igross	Icracked	Ieff	Deflection	Ratio
... 1.33 to 1.78	4.72	0.46	0.00	342.400	41.41	342.400	0.000	0.0
... 0.89 to 1.33	4.74	0.46	0.00	342.400	41.46	342.400	0.000	0.0
... 0.44 to 0.89	4.77	0.46	0.00	342.400	41.50	342.400	0.000	0.0
... 0.00 to 0.44	4.79	0.46	0.00	342.400	41.55	342.400	0.000	0.0
+D+0.750L								
... 12.89 to 13.33	3.96	0.46	0.00	342.400	39.85	342.400	0.000	0.0
... 12.44 to 12.89	3.98	0.46	0.00	342.400	39.90	342.400	0.000	0.0
... 12.00 to 12.44	4.00	0.46	0.00	342.400	39.94	342.400	0.000	0.0
... 11.55 to 12.00	4.03	0.46	0.00	342.400	39.99	342.400	0.000	0.0
... 11.11 to 11.55	4.05	0.46	0.00	342.400	40.04	342.400	0.000	0.0
... 10.66 to 11.11	4.07	0.46	0.00	342.400	40.08	342.400	0.000	0.0
... 10.22 to 10.66	4.09	0.46	0.00	342.400	40.13	342.400	0.000	0.0
... 9.78 to 10.22	4.12	0.46	0.00	342.400	40.18	342.400	0.000	0.0
... 9.33 to 9.78	4.14	0.46	0.00	342.400	40.22	342.400	0.000	0.0
... 8.89 to 9.33	4.16	0.46	0.00	342.400	40.27	342.400	0.000	0.0
... 8.44 to 8.89	4.18	0.46	0.00	342.400	40.32	342.400	0.000	0.0
... 8.00 to 8.44	4.21	0.46	0.00	342.400	40.36	342.400	0.000	0.0
... 7.55 to 8.00	4.23	0.46	0.00	342.400	40.41	342.400	0.000	0.0
... 7.11 to 7.55	4.25	0.46	0.00	342.400	40.46	342.400	0.000	0.0
... 6.67 to 7.11	4.27	0.46	0.00	342.400	40.50	342.400	0.000	0.0
... 6.22 to 6.67	4.30	0.46	0.00	342.400	40.55	342.400	0.000	0.0
... 5.78 to 6.22	4.32	0.46	0.00	342.400	40.60	342.400	0.000	0.0
... 5.33 to 5.78	4.34	0.46	0.00	342.400	40.64	342.400	0.000	0.0
... 4.89 to 5.33	4.37	0.46	0.00	342.400	40.69	342.400	0.000	0.0
... 4.44 to 4.89	4.39	0.46	0.00	342.400	40.73	342.400	0.000	0.0
... 4.00 to 4.44	4.41	0.46	0.00	342.400	40.78	342.400	0.000	0.0
... 3.55 to 4.00	4.43	0.46	0.00	342.400	40.83	342.400	0.000	0.0
... 3.11 to 3.55	4.46	0.46	0.00	342.400	40.87	342.400	0.000	0.0
... 2.67 to 3.11	4.48	0.46	0.00	342.400	40.92	342.400	0.000	0.0
... 2.22 to 2.67	4.50	0.46	0.00	342.400	40.96	342.400	0.000	0.0
... 1.78 to 2.22	4.52	0.46	0.00	342.400	41.01	342.400	0.000	0.0
... 1.33 to 1.78	4.55	0.46	0.00	342.400	41.06	342.400	0.000	0.0
... 0.89 to 1.33	4.57	0.46	0.00	342.400	41.10	342.400	0.000	0.0
... 0.44 to 0.89	4.59	0.46	0.00	342.400	41.15	342.400	0.000	0.0
... 0.00 to 0.44	4.61	0.46	0.00	342.400	41.19	342.400	0.000	0.0
+D+0.420W								
... 12.89 to 13.33	3.43	0.46	0.00	342.400	38.75	342.400	0.012	999.0
... 12.44 to 12.89	3.45	0.46	0.15	342.400	38.80	342.400	0.035	999.0
... 12.00 to 12.44	3.48	0.46	0.24	342.400	38.85	342.400	0.058	999.0
... 11.55 to 12.00	3.50	0.46	0.32	342.400	38.90	342.400	0.081	999.0
... 11.11 to 11.55	3.52	0.46	0.40	342.400	38.94	342.400	0.103	999.0
... 10.66 to 11.11	3.55	0.46	0.47	342.400	38.99	83.158	0.126	999.0
... 10.22 to 10.66	3.57	0.46	0.54	342.400	39.04	52.018	0.147	999.0

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: GARAGE CMU WALLS REV-1

... 9.78 to 10.22	3.59	0.46	0.60	342.400	39.09	46.381	0.168	952.0
... 9.33 to 9.78	3.61	0.46	0.65	342.400	39.13	44.079	0.187	854.7
... 8.89 to 9.33	3.64	0.46	0.69	342.400	39.18	42.902	0.204	782.9
... 8.44 to 8.89	3.66	0.46	0.73	342.400	39.23	42.235	0.219	730.0
... 8.00 to 8.44	3.68	0.46	0.76	342.400	39.28	41.843	0.231	691.5

Deflections - Service Loads

Load Combination Location	Axial Load (k)	Moments (k-ft)		Inertia (in ⁴)			Iterated Deflection (in)	
		Mcr	Mu	Igross	Icracked	Ieff	Deflection	Ratio
... 7.55 to 8.00	3.70	0.46	0.78	342.400	39.32	41.617	0.241	664.6
... 7.11 to 7.55	3.73	0.46	0.80	342.400	39.37	41.504	0.247	647.6
... 6.67 to 7.11	3.75	0.46	0.80	342.400	39.42	41.477	0.250	639.3
... 6.22 to 6.67	3.77	0.46	0.80	342.400	39.47	41.523	0.250	639.3
... 5.78 to 6.22	3.80	0.46	0.80	342.400	39.51	41.644	0.247	647.6
... 5.33 to 5.78	3.82	0.46	0.78	342.400	39.56	41.849	0.241	664.7
... 4.89 to 5.33	3.84	0.46	0.76	342.400	39.61	42.167	0.231	691.6
... 4.44 to 4.89	3.86	0.46	0.73	342.400	39.65	42.650	0.219	730.1
... 4.00 to 4.44	3.89	0.46	0.69	342.400	39.70	43.405	0.204	783.0
... 3.55 to 4.00	3.91	0.46	0.65	342.400	39.75	44.664	0.187	854.7
... 3.11 to 3.55	3.93	0.46	0.60	342.400	39.79	47.026	0.168	951.9
... 2.67 to 3.11	3.95	0.46	0.54	342.400	39.84	52.612	0.147	999.0
... 2.22 to 2.67	3.98	0.46	0.48	342.400	39.89	80.867	0.126	999.0
... 1.78 to 2.22	4.00	0.46	0.40	342.400	39.93	342.400	0.103	999.0
... 1.33 to 1.78	4.02	0.46	0.33	342.400	39.98	342.400	0.081	999.0
... 0.89 to 1.33	4.04	0.46	0.24	342.400	40.03	342.400	0.058	999.0
... 0.44 to 0.89	4.07	0.46	0.15	342.400	40.07	342.400	0.035	999.0
... 0.00 to 0.44	4.09	0.46	0.00	342.400	40.12	342.400	0.012	999.0
+D+0.750L+0.450W								
... 12.89 to 13.33	3.96	0.46	0.00	342.400	39.85	342.400	0.014	999.0
... 12.44 to 12.89	3.98	0.46	0.16	342.400	39.89	342.400	0.042	999.0
... 12.00 to 12.44	4.00	0.46	0.26	342.400	39.94	342.400	0.070	999.0
... 11.55 to 12.00	4.02	0.46	0.35	342.400	39.99	342.400	0.097	999.0
... 11.11 to 11.55	4.05	0.46	0.44	342.400	40.04	342.400	0.124	999.0
... 10.66 to 11.11	4.07	0.46	0.52	342.400	40.08	57.196	0.151	999.0
... 10.22 to 10.66	4.09	0.46	0.59	342.400	40.13	47.992	0.177	903.1
... 9.78 to 10.22	4.12	0.46	0.65	342.400	40.18	45.007	0.202	793.4
... 9.33 to 9.78	4.14	0.46	0.71	342.400	40.22	43.624	0.224	713.7
... 8.89 to 9.33	4.16	0.46	0.76	342.400	40.27	42.880	0.244	655.0
... 8.44 to 8.89	4.18	0.46	0.80	342.400	40.32	42.451	0.261	611.7
... 8.00 to 8.44	4.21	0.46	0.83	342.400	40.36	42.199	0.276	580.2
... 7.55 to 8.00	4.23	0.46	0.86	342.400	40.41	42.058	0.287	558.3
... 7.11 to 7.55	4.25	0.46	0.88	342.400	40.46	41.993	0.294	544.3
... 6.67 to 7.11	4.27	0.46	0.88	342.400	40.50	41.987	0.298	537.6
... 6.22 to 6.67	4.30	0.46	0.88	342.400	40.55	42.033	0.298	537.6
... 5.78 to 6.22	4.32	0.46	0.88	342.400	40.60	42.130	0.294	544.4
... 5.33 to 5.78	4.34	0.46	0.86	342.400	40.64	42.286	0.286	558.4
... 4.89 to 5.33	4.37	0.46	0.84	342.400	40.69	42.518	0.276	580.4
... 4.44 to 4.89	4.39	0.46	0.80	342.400	40.73	42.860	0.261	611.9
... 4.00 to 4.44	4.41	0.46	0.76	342.400	40.78	43.377	0.244	655.2
... 3.55 to 4.00	4.43	0.46	0.71	342.400	40.83	44.206	0.224	713.9
... 3.11 to 3.55	4.46	0.46	0.66	342.400	40.87	45.663	0.202	793.6
... 2.67 to 3.11	4.48	0.46	0.59	342.400	40.92	48.682	0.177	903.2

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: GARAGE CMU WALLS REV-1

... 2.22 to 2.67	4.50	0.46	0.52	342.400	40.96	57.619	0.151	999.0
... 1.78 to 2.22	4.52	0.46	0.44	342.400	41.01	342.400	0.124	999.0
... 1.33 to 1.78	4.55	0.46	0.36	342.400	41.05	342.400	0.097	999.0
... 0.89 to 1.33	4.57	0.46	0.26	342.400	41.10	342.400	0.070	999.0
... 0.44 to 0.89	4.59	0.46	0.16	342.400	41.15	342.400	0.042	999.0

Deflections - Service Loads

Load Combination Location	Axial Load (k)	Moments (k-ft)		Inertia (in ⁴)			Iterated Deflection (in)	
		Mcr	Mu	Igross	Icracked	Ieff	Deflection	Ratio
... 0.00 to 0.44	4.61	0.46	0.00	342.400	41.19	342.400	0.014	999.0
+0.60D+0.420W								
... 12.89 to 13.33	2.06	0.46	0.00	342.400	35.80	342.400	0.011	999.0
... 12.44 to 12.89	2.07	0.46	0.14	342.400	35.83	342.400	0.034	999.0
... 12.00 to 12.44	2.09	0.46	0.23	342.400	35.86	342.400	0.056	999.0
... 11.55 to 12.00	2.10	0.46	0.31	342.400	35.89	342.400	0.079	999.0
... 11.11 to 11.55	2.11	0.46	0.39	342.400	35.92	342.400	0.101	999.0
... 10.66 to 11.11	2.13	0.46	0.46	342.400	35.95	194.078	0.123	999.0
... 10.22 to 10.66	2.14	0.46	0.52	342.400	35.98	51.402	0.144	999.0
... 9.78 to 10.22	2.15	0.46	0.57	342.400	36.01	44.210	0.164	973.3
... 9.33 to 9.78	2.17	0.46	0.62	342.400	36.04	41.494	0.183	872.7
... 8.89 to 9.33	2.18	0.46	0.67	342.400	36.07	40.137	0.200	798.6
... 8.44 to 8.89	2.20	0.46	0.70	342.400	36.10	39.372	0.215	743.8
... 8.00 to 8.44	2.21	0.46	0.73	342.400	36.13	38.917	0.227	704.1
... 7.55 to 8.00	2.22	0.46	0.75	342.400	36.16	38.647	0.237	676.3
... 7.11 to 7.55	2.24	0.46	0.76	342.400	36.19	38.501	0.243	658.7
... 6.67 to 7.11	2.25	0.46	0.77	342.400	36.22	38.450	0.246	650.2
... 6.22 to 6.67	2.26	0.46	0.77	342.400	36.25	38.479	0.246	650.2
... 5.78 to 6.22	2.28	0.46	0.77	342.400	36.28	38.590	0.243	658.8
... 5.33 to 5.78	2.29	0.46	0.75	342.400	36.31	38.794	0.236	676.4
... 4.89 to 5.33	2.30	0.46	0.73	342.400	36.34	39.122	0.227	704.1
... 4.44 to 4.89	2.32	0.46	0.70	342.400	36.37	39.635	0.215	743.9
... 4.00 to 4.44	2.33	0.46	0.67	342.400	36.39	40.457	0.200	798.6
... 3.55 to 4.00	2.34	0.46	0.63	342.400	36.42	41.866	0.183	872.7
... 3.11 to 3.55	2.36	0.46	0.58	342.400	36.45	44.617	0.164	973.2
... 2.67 to 3.11	2.37	0.46	0.52	342.400	36.48	51.734	0.144	999.0
... 2.22 to 2.67	2.39	0.46	0.46	342.400	36.51	146.300	0.123	999.0
... 1.78 to 2.22	2.40	0.46	0.39	342.400	36.54	342.400	0.101	999.0
... 1.33 to 1.78	2.41	0.46	0.31	342.400	36.57	342.400	0.079	999.0
... 0.89 to 1.33	2.43	0.46	0.23	342.400	36.60	342.400	0.056	999.0
... 0.44 to 0.89	2.44	0.46	0.14	342.400	36.63	342.400	0.034	999.0
... 0.00 to 0.44	2.45	0.46	0.00	342.400	36.66	342.400	0.011	999.0
+D+0.70E								
... 12.89 to 13.33	3.43	0.46	0.00	342.400	38.76	342.400	0.000	0.0
... 12.44 to 12.89	3.46	0.46	0.00	342.400	38.80	342.400	0.000	0.0
... 12.00 to 12.44	3.48	0.46	0.00	342.400	38.85	342.400	0.000	0.0
... 11.55 to 12.00	3.50	0.46	0.00	342.400	38.90	342.400	0.000	0.0
... 11.11 to 11.55	3.52	0.46	0.00	342.400	38.95	342.400	0.000	0.0
... 10.66 to 11.11	3.55	0.46	0.00	342.400	38.99	342.400	0.000	0.0
... 10.22 to 10.66	3.57	0.46	0.00	342.400	39.04	342.400	0.000	0.0
... 9.78 to 10.22	3.59	0.46	0.00	342.400	39.09	342.400	0.000	0.0
... 9.33 to 9.78	3.61	0.46	0.00	342.400	39.14	342.400	0.000	0.0
... 8.89 to 9.33	3.64	0.46	0.00	342.400	39.18	342.400	0.000	0.0

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: GARAGE CMU WALLS REV-1

... 8.44 to 8.89	3.66	0.46	0.00	342.400	39.23	342.400	0.000	0.0
... 8.00 to 8.44	3.68	0.46	0.00	342.400	39.28	342.400	0.000	0.0
... 7.55 to 8.00	3.70	0.46	0.00	342.400	39.32	342.400	0.000	0.0
... 7.11 to 7.55	3.73	0.46	0.00	342.400	39.37	342.400	0.000	0.0
... 6.67 to 7.11	3.75	0.46	0.00	342.400	39.42	342.400	0.000	0.0

Deflections - Service Loads

Load Combination Location	Axial Load (k)	Moments (k-ft)		Inertia (in ⁴)			Iterated Deflection (in)	
		Mcr	Mu	Igross	Icracked	Ieff	Deflection	Ratio
... 6.22 to 6.67	3.77	0.46	0.00	342.400	39.47	342.400	0.000	0.0
... 5.78 to 6.22	3.80	0.46	0.00	342.400	39.51	342.400	0.000	0.0
... 5.33 to 5.78	3.82	0.46	0.00	342.400	39.56	342.400	0.000	0.0
... 4.89 to 5.33	3.84	0.46	0.00	342.400	39.61	342.400	0.000	0.0
... 4.44 to 4.89	3.86	0.46	0.00	342.400	39.65	342.400	0.000	0.0
... 4.00 to 4.44	3.89	0.46	0.00	342.400	39.70	342.400	0.000	0.0
... 3.55 to 4.00	3.91	0.46	0.00	342.400	39.75	342.400	0.000	0.0
... 3.11 to 3.55	3.93	0.46	0.00	342.400	39.80	342.400	0.000	0.0
... 2.67 to 3.11	3.95	0.46	0.00	342.400	39.84	342.400	0.000	0.0
... 2.22 to 2.67	3.98	0.46	0.00	342.400	39.89	342.400	0.000	0.0
... 1.78 to 2.22	4.00	0.46	0.00	342.400	39.94	342.400	0.000	0.0
... 1.33 to 1.78	4.02	0.46	0.00	342.400	39.98	342.400	0.000	0.0
... 0.89 to 1.33	4.04	0.46	0.00	342.400	40.03	342.400	0.000	0.0
... 0.44 to 0.89	4.07	0.46	0.00	342.400	40.08	342.400	0.000	0.0
... 0.00 to 0.44	4.09	0.46	0.00	342.400	40.12	342.400	0.000	0.0
+D+0.750L+0.5250E								
... 12.89 to 13.33	3.96	0.46	0.00	342.400	39.85	342.400	0.000	0.0
... 12.44 to 12.89	3.98	0.46	0.00	342.400	39.90	342.400	0.000	0.0
... 12.00 to 12.44	4.00	0.46	0.00	342.400	39.94	342.400	0.000	0.0
... 11.55 to 12.00	4.03	0.46	0.00	342.400	39.99	342.400	0.000	0.0
... 11.11 to 11.55	4.05	0.46	0.00	342.400	40.04	342.400	0.000	0.0
... 10.66 to 11.11	4.07	0.46	0.00	342.400	40.08	342.400	0.000	0.0
... 10.22 to 10.66	4.09	0.46	0.00	342.400	40.13	342.400	0.000	0.0
... 9.78 to 10.22	4.12	0.46	0.00	342.400	40.18	342.400	0.000	0.0
... 9.33 to 9.78	4.14	0.46	0.00	342.400	40.22	342.400	0.000	0.0
... 8.89 to 9.33	4.16	0.46	0.00	342.400	40.27	342.400	0.000	0.0
... 8.44 to 8.89	4.18	0.46	0.00	342.400	40.32	342.400	0.000	0.0
... 8.00 to 8.44	4.21	0.46	0.00	342.400	40.36	342.400	0.000	0.0
... 7.55 to 8.00	4.23	0.46	0.00	342.400	40.41	342.400	0.000	0.0
... 7.11 to 7.55	4.25	0.46	0.00	342.400	40.46	342.400	0.000	0.0
... 6.67 to 7.11	4.27	0.46	0.00	342.400	40.50	342.400	0.000	0.0
... 6.22 to 6.67	4.30	0.46	0.00	342.400	40.55	342.400	0.000	0.0
... 5.78 to 6.22	4.32	0.46	0.00	342.400	40.60	342.400	0.000	0.0
... 5.33 to 5.78	4.34	0.46	0.00	342.400	40.64	342.400	0.000	0.0
... 4.89 to 5.33	4.37	0.46	0.00	342.400	40.69	342.400	0.000	0.0
... 4.44 to 4.89	4.39	0.46	0.00	342.400	40.73	342.400	0.000	0.0
... 4.00 to 4.44	4.41	0.46	0.00	342.400	40.78	342.400	0.000	0.0
... 3.55 to 4.00	4.43	0.46	0.00	342.400	40.83	342.400	0.000	0.0
... 3.11 to 3.55	4.46	0.46	0.00	342.400	40.87	342.400	0.000	0.0
... 2.67 to 3.11	4.48	0.46	0.00	342.400	40.92	342.400	0.000	0.0
... 2.22 to 2.67	4.50	0.46	0.00	342.400	40.96	342.400	0.000	0.0
... 1.78 to 2.22	4.52	0.46	0.00	342.400	41.01	342.400	0.000	0.0
... 1.33 to 1.78	4.55	0.46	0.00	342.400	41.06	342.400	0.000	0.0

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: GARAGE CMU WALLS REV-1

... 0.89 to 1.33	4.57	0.46	0.00	342.400	41.10	342.400	0.000	0.0
... 0.44 to 0.89	4.59	0.46	0.00	342.400	41.15	342.400	0.000	0.0
... 0.00 to 0.44	4.61	0.46	0.00	342.400	41.19	342.400	0.000	0.0
+0.60D+0.70E								
... 12.89 to 13.33	2.06	0.46	0.00	342.400	35.80	342.400	0.000	0.0

Deflections - Service Loads

Load Combination Location	Axial Load (k)	Moments (k-ft)		Inertia (in ⁴)			Iterated Deflection (in)	
		Mcr	Mu	Igross	Icracked	Ieff	Deflection	Ratio
... 12.44 to 12.89	2.07	0.46	0.00	342.400	35.83	342.400	0.000	0.0
... 12.00 to 12.44	2.09	0.46	0.00	342.400	35.86	342.400	0.000	0.0
... 11.55 to 12.00	2.10	0.46	0.00	342.400	35.89	342.400	0.000	0.0
... 11.11 to 11.55	2.11	0.46	0.00	342.400	35.92	342.400	0.000	0.0
... 10.66 to 11.11	2.13	0.46	0.00	342.400	35.95	342.400	0.000	0.0
... 10.22 to 10.66	2.14	0.46	0.00	342.400	35.98	342.400	0.000	0.0
... 9.78 to 10.22	2.15	0.46	0.00	342.400	36.01	342.400	0.000	0.0
... 9.33 to 9.78	2.17	0.46	0.00	342.400	36.04	342.400	0.000	0.0
... 8.89 to 9.33	2.18	0.46	0.00	342.400	36.07	342.400	0.000	0.0
... 8.44 to 8.89	2.20	0.46	0.00	342.400	36.10	342.400	0.000	0.0
... 8.00 to 8.44	2.21	0.46	0.00	342.400	36.13	342.400	0.000	0.0
... 7.55 to 8.00	2.22	0.46	0.00	342.400	36.16	342.400	0.000	0.0
... 7.11 to 7.55	2.24	0.46	0.00	342.400	36.19	342.400	0.000	0.0
... 6.67 to 7.11	2.25	0.46	0.00	342.400	36.22	342.400	0.000	0.0
... 6.22 to 6.67	2.26	0.46	0.00	342.400	36.25	342.400	0.000	0.0
... 5.78 to 6.22	2.28	0.46	0.00	342.400	36.28	342.400	0.000	0.0
... 5.33 to 5.78	2.29	0.46	0.00	342.400	36.31	342.400	0.000	0.0
... 4.89 to 5.33	2.30	0.46	0.00	342.400	36.34	342.400	0.000	0.0
... 4.44 to 4.89	2.32	0.46	0.00	342.400	36.37	342.400	0.000	0.0
... 4.00 to 4.44	2.33	0.46	0.00	342.400	36.40	342.400	0.000	0.0
... 3.55 to 4.00	2.35	0.46	0.00	342.400	36.43	342.400	0.000	0.0
... 3.11 to 3.55	2.36	0.46	0.00	342.400	36.45	342.400	0.000	0.0
... 2.67 to 3.11	2.37	0.46	0.00	342.400	36.48	342.400	0.000	0.0
... 2.22 to 2.67	2.39	0.46	0.00	342.400	36.51	342.400	0.000	0.0
... 1.78 to 2.22	2.40	0.46	0.00	342.400	36.54	342.400	0.000	0.0
... 1.33 to 1.78	2.41	0.46	0.00	342.400	36.57	342.400	0.000	0.0
... 0.89 to 1.33	2.43	0.46	0.00	342.400	36.60	342.400	0.000	0.0
... 0.44 to 0.89	2.44	0.46	0.00	342.400	36.63	342.400	0.000	0.0
... 0.00 to 0.44	2.45	0.46	0.00	342.400	36.66	342.400	0.000	0.0
L Only								
... 12.89 to 13.33	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 12.44 to 12.89	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 12.00 to 12.44	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 11.55 to 12.00	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 11.11 to 11.55	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 10.66 to 11.11	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 10.22 to 10.66	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 9.78 to 10.22	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 9.33 to 9.78	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 8.89 to 9.33	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 8.44 to 8.89	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 8.00 to 8.44	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 7.55 to 8.00	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: GARAGE CMU WALLS REV-1

... 7.11 to 7.55	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 6.67 to 7.11	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 6.22 to 6.67	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 5.78 to 6.22	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 5.33 to 5.78	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0

Deflections - Service Loads

Load Combination Location	Axial Load (k)	Moments (k-ft)		Inertia (in ⁴)			Iterated Deflection (in)	
		Mcr	Mu	Igross	Icracked	Ieff	Deflection	Ratio
... 4.89 to 5.33	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 4.44 to 4.89	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 4.00 to 4.44	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 3.55 to 4.00	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 3.11 to 3.55	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 2.67 to 3.11	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 2.22 to 2.67	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 1.78 to 2.22	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 1.33 to 1.78	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 0.89 to 1.33	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 0.44 to 0.89	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
... 0.00 to 0.44	0.70	0.46	0.00	342.400	32.73	342.400	0.000	0.0
+0.420W								
... 12.89 to 13.33	0.00	0.46	0.00	342.400	31.08	342.400	0.011	999.0
... 12.44 to 12.89	0.00	0.46	0.14	342.400	31.08	342.400	0.033	999.0
... 12.00 to 12.44	0.00	0.46	0.22	342.400	31.08	342.400	0.055	999.0
... 11.55 to 12.00	0.00	0.46	0.30	342.400	31.08	342.400	0.077	999.0
... 11.11 to 11.55	0.00	0.46	0.37	342.400	31.08	342.400	0.099	999.0
... 10.66 to 11.11	0.00	0.46	0.43	342.400	31.08	342.400	0.120	999.0
... 10.22 to 10.66	0.00	0.46	0.49	342.400	31.08	52.433	0.141	999.0
... 9.78 to 10.22	0.00	0.46	0.54	342.400	31.08	40.926	0.161	993.4
... 9.33 to 9.78	0.00	0.46	0.59	342.400	31.08	37.371	0.180	889.5
... 8.89 to 9.33	0.00	0.46	0.63	342.400	31.08	35.692	0.197	812.7
... 8.44 to 8.89	0.00	0.46	0.66	342.400	31.08	34.760	0.212	755.9
... 8.00 to 8.44	0.00	0.46	0.69	342.400	31.08	34.201	0.224	714.7
... 7.55 to 8.00	0.00	0.46	0.71	342.400	31.08	33.859	0.233	685.9
... 7.11 to 7.55	0.00	0.46	0.72	342.400	31.08	33.661	0.240	667.7
... 6.67 to 7.11	0.00	0.46	0.73	342.400	31.08	33.569	0.243	658.8
... 6.22 to 6.67	0.00	0.46	0.73	342.400	31.08	33.569	0.243	658.8
... 5.78 to 6.22	0.00	0.46	0.72	342.400	31.08	33.661	0.240	667.7
... 5.33 to 5.78	0.00	0.46	0.71	342.400	31.08	33.859	0.233	685.9
... 4.89 to 5.33	0.00	0.46	0.69	342.400	31.08	34.201	0.224	714.7
... 4.44 to 4.89	0.00	0.46	0.66	342.400	31.08	34.760	0.212	755.9
... 4.00 to 4.44	0.00	0.46	0.63	342.400	31.08	35.692	0.197	812.7
... 3.55 to 4.00	0.00	0.46	0.59	342.400	31.08	37.371	0.180	889.5
... 3.11 to 3.55	0.00	0.46	0.54	342.400	31.08	40.926	0.161	993.4
... 2.67 to 3.11	0.00	0.46	0.49	342.400	31.08	52.433	0.141	999.0
... 2.22 to 2.67	0.00	0.46	0.43	342.400	31.08	342.400	0.120	999.0
... 1.78 to 2.22	0.00	0.46	0.37	342.400	31.08	342.400	0.099	999.0
... 1.33 to 1.78	0.00	0.46	0.30	342.400	31.08	342.400	0.077	999.0
... 0.89 to 1.33	0.00	0.46	0.22	342.400	31.08	342.400	0.055	999.0
... 0.44 to 0.89	0.00	0.46	0.14	342.400	31.08	342.400	0.033	999.0
... 0.00 to 0.44	0.00	0.46	0.00	342.400	31.08	342.400	0.011	999.0

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Masonry Slender Wall

Project File: 10840 sw 67TH AVE.ec6

LIC# : KW-06014328, Build:20.25.08.20

NESTOR PALACIOS

(c) ENERCALC, LLC 1982-2025

DESCRIPTION: GARAGE CMU WALLS REV-1

E Only

...12.89 to 13.33	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...12.44 to 12.89	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...12.00 to 12.44	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...11.55 to 12.00	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0

Deflections - Service Loads

Load Combination Location	Axial Load (k)	Moments (k-ft)		Inertia (in ⁴)			Iterated Deflection (in)	
		Mcr	Mu	Igross	Icracked	Ieff	Deflection	Ratio
...11.11 to 11.55	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...10.66 to 11.11	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...10.22 to 10.66	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...9.78 to 10.22	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...9.33 to 9.78	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...8.89 to 9.33	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...8.44 to 8.89	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...8.00 to 8.44	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...7.55 to 8.00	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...7.11 to 7.55	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...6.67 to 7.11	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...6.22 to 6.67	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...5.78 to 6.22	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...5.33 to 5.78	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...4.89 to 5.33	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...4.44 to 4.89	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...4.00 to 4.44	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...3.55 to 4.00	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...3.11 to 3.55	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...2.67 to 3.11	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...2.22 to 2.67	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...1.78 to 2.22	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...1.33 to 1.78	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...0.89 to 1.33	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...0.44 to 0.89	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0
...0.00 to 0.44	0.00	0.46	0.00	342.400	31.08	342.400	0.000	0.0