

ENGINEERING DATA

BUILDING CODE: IBC 15	Job Number: B42784 Job Name: BRENT LOUGH PROJECT BLDG #1 Job Location: 6762 HIGHWAY 82 GLENWOOD SPRINGS, CO 81601 Builder: TALLY HO CONSTRUCTION RIFLE, CO 81650-9400	DATE: 3/22/23 DESIGNED BY: AA
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BUILDING FRAMING

LEFT ENDWALL FRAME TYPE: Bearing
 RIGHT ENDWALL FRAME TYPE: Bearing
 INTERIOR FRAME TYPE: 4 rigid frames, clear span
 ROOF BRACING: Cable Diagonal Bracing
 LEFT ENDWALL BRACING: Cable Diagonal Bracing
 RIGHT ENDWALL BRACING: Cable Diagonal Bracing
 FRONT SIDEWALL BRACING: Rod Diagonal Bracing
 BACK SIDEWALL BRACING: Rod Diagonal Bracing

LEFT ENDWALL GIRT TYPE: Inset
 RIGHT ENDWALL GIRT TYPE: Inset
 FRONT SIDEWALL GIRT TYPE: Inset
 BACK SIDEWALL GIRT TYPE: Inset

ROOF PANEL: 26 ga. R-Panel
 ROOF PANEL COLOR: Charcoal (CSS)
 ROOF TRIM COLOR: Charcoal (CSS)
 WALL PANEL: 26 ga. R-Panel
 WALL PANEL COLOR: Gray (CSS)
 WALL TRIM COLOR: Charcoal (CSS)

STATE CODE: IBC 15	BUILDING DESCRIPTION
	WIDTH: 60 feet PEAK OFFSET: 30 feet LENGTH: 120 feet EAVE HEIGHT: 20 feet 20 feet ROOF SLOPE: 2.0000:12 2.0:12

DESIGN LOADS

ROOF DEAD LOAD: 2.6 psf
 COLLATERAL LOAD: 1.0 psf
 LIVE LOAD: 20.0 psf
 LIVE LOAD REDUCTION: Yes
 RIGID FRAME LIVE LOAD: 12.0 psf
 ROOF SNOW LOAD FACTORS
 FLAT ROOF SNOW LOAD: 40.00 psf
 SLOPED ROOF SNOW LOAD (P_s): 40 psf

GROUND SNOW LOAD: 47.62 psf
 $I_s = 1.00$ $C_e = 1.00$ $C_t = 1.20$ $C_s = 1.00$
 Terrain Category: C
 Slippery/Unobstructed Roof: Y
 Rain-on-Snow Surcharge = 0.00 psf

FRAME SELF WEIGHT: INCLUDED

WIND LOAD: $V = 115$ mph $V_{sd} = 89$ mph
 CLOSURE TYPE: Closed
 EXPOSURE: C

INTERNAL PRESSURE COEFFICIENT: +0.18 / -0.18
 SEISMIC IMPORTANCE FACTOR: 1.00 SEISMIC DESIGN CATEGORY: C
 SEISMIC COEFFICIENT: 0.507 ($S_s * F_a$) ASSUMED SITE CLASS: D
 RISK CATEGORY: II - Normal
 $S_s = 0.33$ $S_1 = 0.08$ $S_{DS} = 0.34$ $S_{D1} = 0.13$
 SEISMIC RESISTING SYSTEM: Structural Steel System Not Specifically Detailed for Seismic Resistance

ANALYSIS PROCEDURE: Equivalent Lateral Force Procedure
 The minimum lateral seismic force equation is used for buildings located in seismic design category A [Eqn 1.4-1, ASCE7-10 (IBC12/IBC15) or ASCE7-16 (IBC18/IBC21)], in which case C_s and R do not apply and are not used to calculate the base shear, V .

SEISMIC DATA

	C_s	R
INTERIOR FRAME:	0.11	3.00
ROOF:	0.11	3.00
LEFT ENDWALL:	0.11	3.00
RIGHT ENDWALL:	0.11	3.00
FRONT SIDEWALL:	0.11	3.00
BACK SIDEWALL:	0.11	3.00
LONGITUDINAL BASE SHEAR:	11.88	
TRANSVERSE BASE SHEAR:	12.10	

DEFINITIONS/ABBREVIATIONS

Definition of Loading Conditions on Anchor Bolt Reactions Page:
 DL: Dead Load LL: Live Load CO: Collateral Load WP: Wind Pressure
 WS: Wind Suction LLR: Live Load Right WL: Wind from Left WR: Wind from Right
 R: Snow with Rain-on-Snow Surcharge

Definition of other abbreviations on Anchor Bolt Reactions Page & Anchor Bolt Details:

EW: Endwall
 SW: Sidewall
 RF: Rigid Frame
 DJ: Door Jamb

SEISMIC RESISTING SYSTEM ABBREVIATIONS:

OMF = Ordinary Steel Moment Frame
 OCBF = Ordinary Steel Concentrically Braced Frame
 CC = Cantilevered Column System

COMMENTS

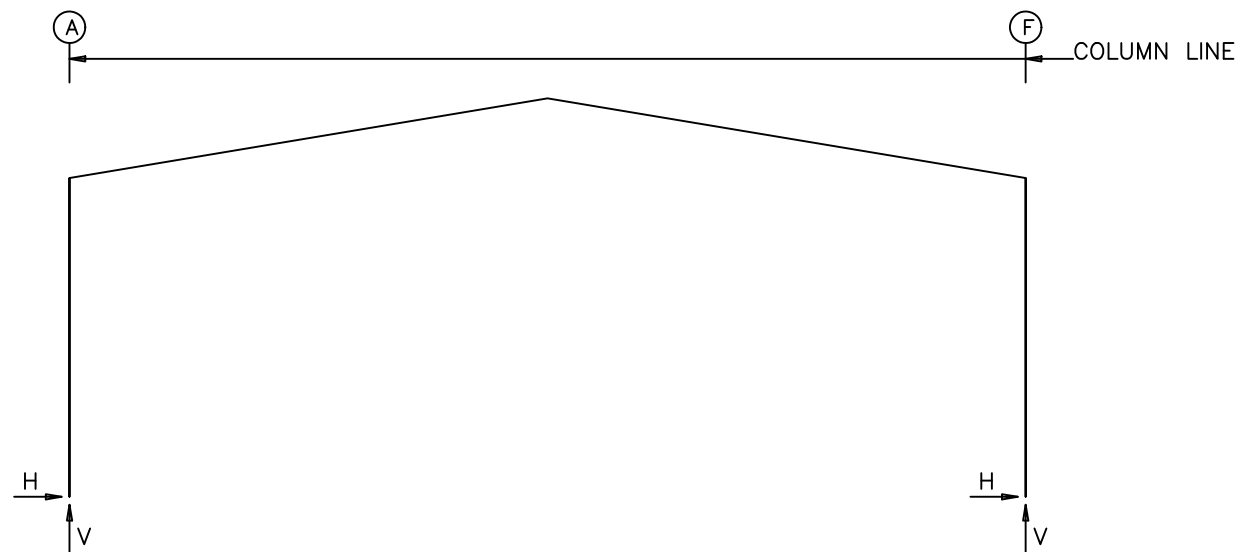
ENGINEER'S SEAL



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PROJECT: BRENT LOUGH PROJECT BLDG #1 6762 HIGHWAY 82 GLENWOOD SPRINGS, CO 81601	JOB NUMBER: B42784	PAGE No. 1
	DESIGN: AA	
	ENGR: DMW	DATE: 3/22/23

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RIGID FRAME: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)						Bolt(in) Qty	Dia	Base_Plate(in)			Grout (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin			Width	Length	Thick	
2*	A	1	17.4	34.1	2	-5.7	-8.1	4	0.750	8.000	12.56	0.500	0.0
2*	F	3	5.7	-8.1	1	-17.4	34.1	4	0.750	8.000	12.56	0.500	0.0
2*		1	-17.4	34.1	5	0.5	-10.6						
2*	Frame lines: 2 3 4 5												

NOTES FOR REACTIONS

- All loading conditions are examined and only maximum/minimum H or V and the corresponding H or V are reported.
- Positive reactions are as shown in the sketch. Foundation loads are in opposite directions.
- Bracing reactions are in the plane of the brace with the H pointing away from the braced bay. The vertical reaction is downward.
- Building reactions are based on the following building data:

Width (ft)	=	60.0
Length (ft)	=	120.0
Eave Height (ft)	=	20.0/ 20.0
Roof Slope (rise/12)	=	2.0/ 20.0
Dead Load (psf)	=	2.6
Collateral Load (psf)	=	1.0
Roof Live Load(psf)	=	20.0
Frame Live Load(psf)	=	12.0
Snow Load (psf)	=	40.0
Wind Speed (mph)	=	115.0
Wind Code	=	IBC 15
Exposure	=	C
Closed/Open	=	C
Importance Wind	=	1.00
Importance Seismic	=	1.00
Seismic Zone	=	C
Seismic Coeff (Fa*Ss)	=	0.51

BUILDING BRACING REACTIONS

Wall Loc	Col Line	Col Line	± Reactions(k)				Panel_Shear (lb/ft)	
			Wind Horz	Wind Vert	Seismic Horz	Seismic Vert	Wind	Seis
L_EW	1	C,D	4.9	14.0	1.4	3.9		
F_SW	F	5,6	6.6	5.9	5.9	5.3		
R_EW	6	D,C	4.1	11.7	1.1	3.2		
B_SW	A	6,5	6.6	5.9	5.9	5.3		

5. Loading conditions are:

1	Dead+Collateral+Snow+Snow_Drift	15	0.6Dead+0.6Wind_Suction+0.6Wind_Long2L
2	0.6Dead+0.6Wind_Left1	16	0.6Dead+0.6Wind_Pressure+0.6Wind_Long2L
3	0.6Dead+0.6Wind_Right1	17	Dead+Collateral+E1UNB_SL_R
4	0.6Dead+0.6Wind_Long1L	18	1.04Dead+1.04Collateral+0.52Seismic_LongR+0.75E2UNB_SL_L
5	0.6Dead+0.6Wind_Long2L	19	Dead+Collateral+E2UNB_SL_L
6	0.6Dead+0.6Wind_Suction+0.6Wind_Long1L	20	Dead+Collateral+0.45Wind_Right2+0.45Wind_Suction+0.75E2UNB_SL_L
7	0.6Dead+0.6Wind_Pressure+0.6Wind_Long1L	21	Dead+Collateral+0.45Wind_Left2+0.45Wind_Suction+0.75E2UNB_SL_R
8	Dead+Collateral+E1UNB_SL_L	22	Dead+Collateral+E2UNB_SL_R
9	0.6Dead+0.6Wind_Left1+0.6Wind_Suction	23	1.04Dead+1.04Collateral+0.52Seismic_LongR+0.75E2UNB_SL_R
10	0.6Dead+0.6Wind_Left1+0.6Wind_Pressure		
11	Dead+Collateral+0.45Wind_Right2+0.45Wind_Suction+0.75E1UNB_SL_L		
12	0.6Dead+0.6Wind_Right1+0.6Wind_Suction		
13	0.6Dead+0.6Wind_Right1+0.6Wind_Pressure		
14	Dead+Collateral+0.45Wind_Left2+0.45Wind_Suction+0.75E1UNB_SL_R		

ENDWALL COLUMN: MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Column_Reactions(k)						Bolt(in) Qty	Dia	Base_Plate(in)			Grout (in)
		Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin			Width	Length	Thick	
1	A	6	1.0	-1.4	7	-0.9	-1.4	2	0.750	4.000	8.000	0.375	0.0
1	B	1	0.0	3.1	6	1.0	-1.4	4	0.750	8.000	7.938	0.375	0.0
1	C	8	2.0	-3.0	7	-1.8	-3.0	4	0.750	8.000	7.875	0.500	0.0
1	D	9	1.8	-10.4	10	-1.6	-10.4	4	0.750	8.000	7.875	0.500	0.0
1	E	11	1.3	12.5	9	1.8	-10.4	4	0.750	8.000	7.875	0.500	0.0
1	F	12	1.8	-10.4	13	-1.6	-10.4	4	0.750	8.000	7.875	0.500	0.0
1	A	14	1.3	12.5	12	1.8	-10.4	4	0.750	8.000	7.875	0.500	0.0
1	B	15	2.0	-3.0	16	-1.8	-3.0	4	0.750	8.000	7.938	0.375	0.0
1	C	17	0.0	9.3	15	2.0	-3.0	4	0.750	8.000	7.938	0.375	0.0
1	D	1	1.0	-1.4	16	-0.9	-1.4	2	0.750	4.000	8.000	0.375	0.0
6	E	1	0.0	3.1	15	1.0	-1.4	4	0.750	8.000	7.938	0.375	0.0
6	F	6	1.0	2.4	7	-4.8	-4.7	2	0.750	4.000	8.000	0.500	0.0
6	A	18	0.0	4.7	6	2.0	-2.5	4	0.750	8.000	7.938	0.375	0.0
6	B	6	2.0	-2.5	7	-1.8	-2.5	4	0.750	8.000	7.938	0.375	0.0
6	C	19	0.0	7.6	6	2.0	-2.5	4	0.750	8.000	7.938	0.375	0.0
6	D	9	1.8	-8.6	10	-1.6	-8.6	4	0.750	8.000	7.875	0.500	0.0
6	E	20	1.3	10.3	9	1.8	-8.6	4	0.750	8.000	7.875	0.500	0.0
6	F	12	1.8	-8.6	13	-1.6	-8.6	4	0.750	8.000	7.875	0.500	0.0
6	A	21	1.3	10.3	12	1.8	-8.6	4	0.750	8.000	7.938	0.375	0.0
6	B	15	2.0	-2.5	16	-1.8	-2.5	4	0.750	8.000	7.938	0.375	0.0
6	C	22	0.0	7.6	15	2.0	-2.5	4	0.750	8.000	7.938	0.375	0.0
6	D	1	1.0	2.4	16	-4.8	-4.7	2	0.750	4.000	8.000	0.500	0.0
6	E	23	0.0	4.7	6	2.0	-2.5	4	0.750	8.000	7.938	0.375	0.0

GENERAL NOTES

- Foundation design and construction are not the responsibility of SENTINEL Buildings Systems.
- The building reaction data reports the loads which this building places on the foundation.
- Anchor bolts shall be accurately set to a tolerance of +/- 1/8" in both elevation and location.
- Column base plates are designed not to exceed a bearing pressure of 1020 pounds per square inch.
- All walk doors are to be field located with drilled in wedge anchors.
- Total anchor bolt length is embedment + projection.
- All anchor bolts to be ASTM F1554 Gr36 threaded round stock (rolled or cut thread) with plain finish, unless noted.
- When anchor rods are located close to the free edge of the concrete, the tensile and/or shear strength of the anchor rods cannot be fully developed. In these cases, steel reinforcement in the concrete must be sized and developed (not by Sentinel) for the required tensile or shear forces in the anchor rods.
- For buildings classified as closed (Closed/Open = C), Sentinel Building Systems does not investigate the influence of the design wind load on the metal building system with doors and windows left open. The end customer must assure that during times of high winds all overhead doors, sliding doors, large doors (such as bi-fold & hydraulic), walk doors and windows will be closed & latched.
- Metal buildings deflect laterally and vertically with environmental loads. Any attachments to the metal building by others must accommodate this movement or damage to the finish may result.

ENGINEER'S SEAL

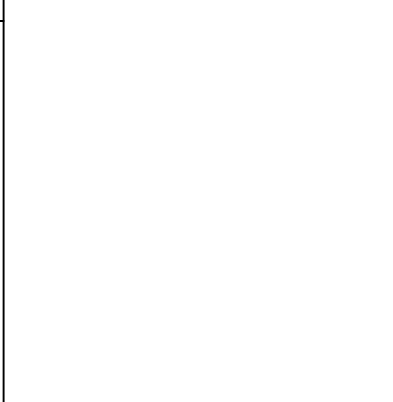
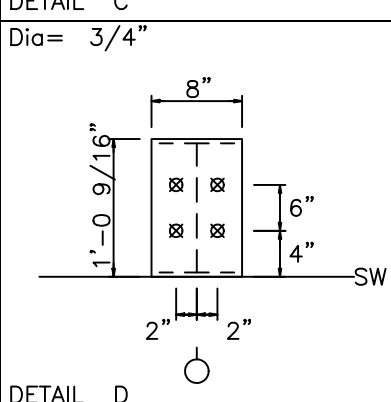
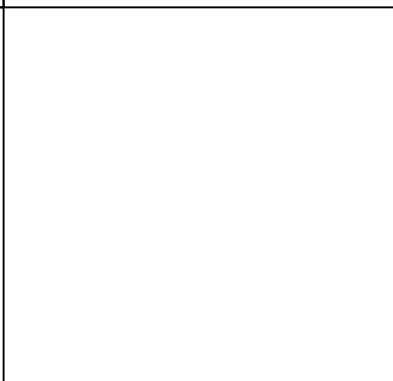
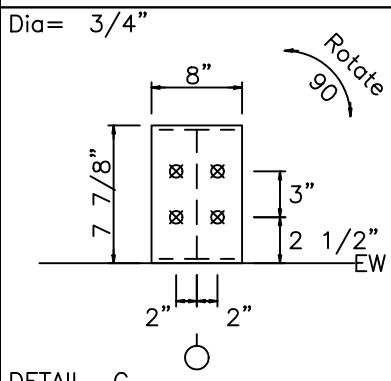
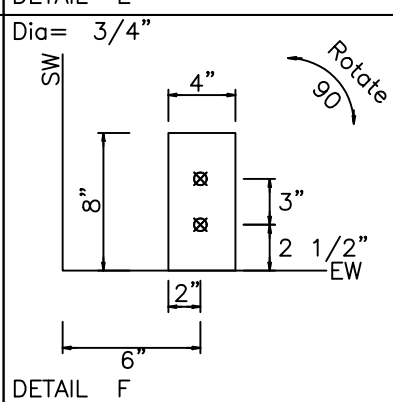
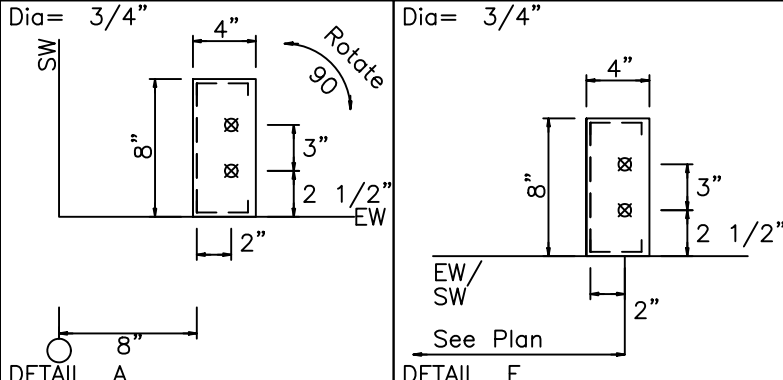
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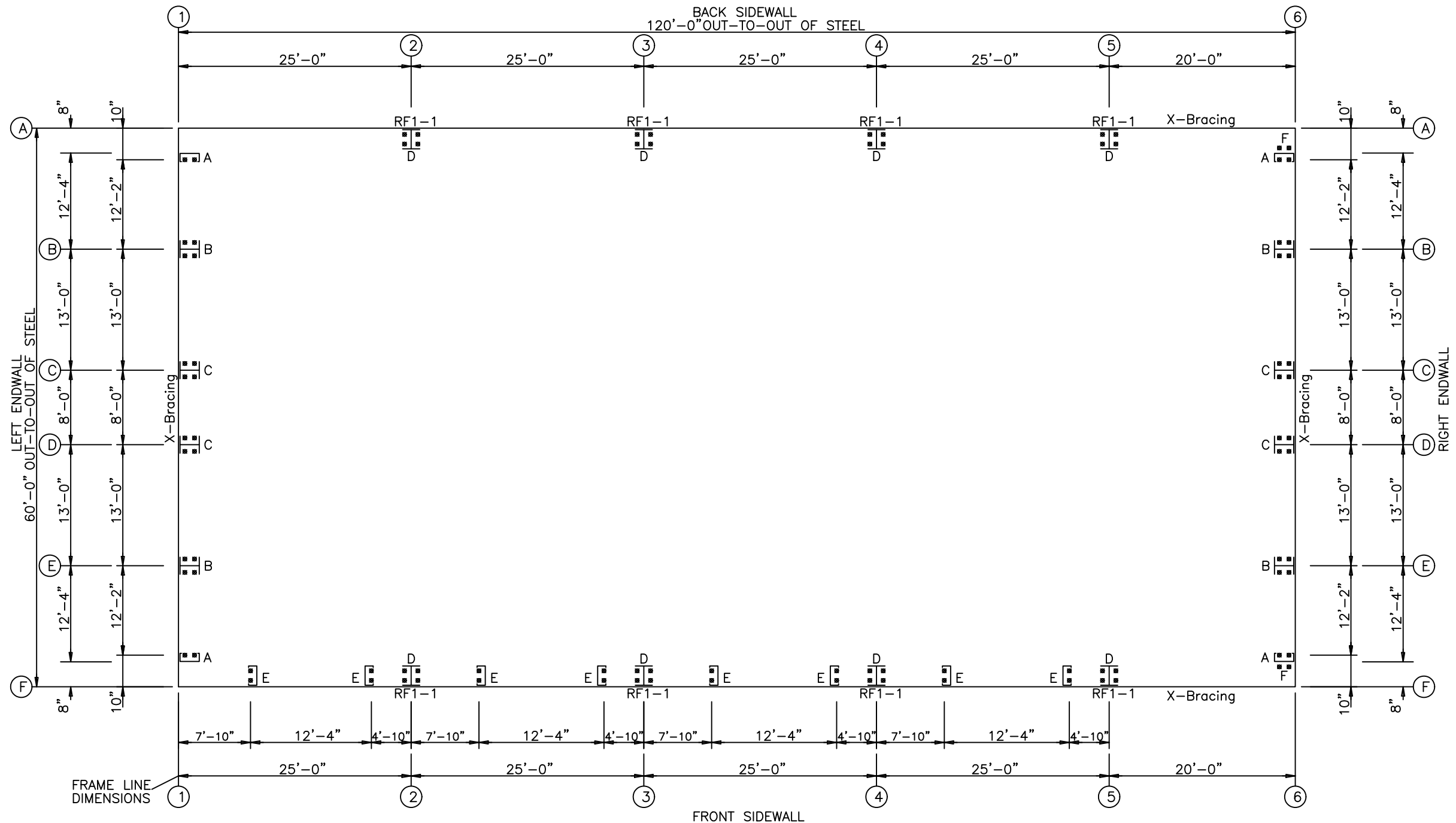
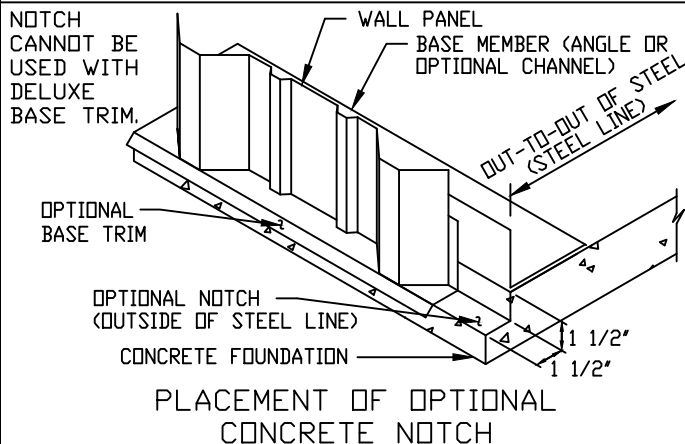
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	ENGR: DMW	DATE: 3/22/23

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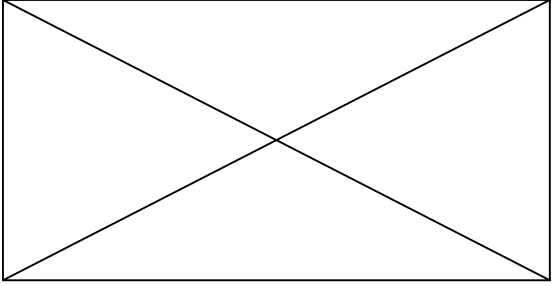
ANCHOR BOLT SUMMARY					
Qty	Locate	Dia (in)	Type	Total Len (in)	Proj (in)
16	Jamb	3/4"	A36	11.5	2.50
40	Endwall	3/4"	A36	11.5	2.50
32	Frame	3/4"	A36	11.5	2.50
4	BraceAnc	3/4"	A36	11.5	2.50



NOTE: OUT-TO-OUT OF STEEL DIMENSIONS DOES NOT INCLUDE OPTIONAL NOTCH. ADD NOTCH DIMENSIONS TO OVERALL MEASUREMENTS AT DESIRED LOCATIONS.



ALL DRAWINGS NOT TO SCALE



NOTE: All Base Plates @ 100'-0" (U.N.)

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